

**APPENDIX A**  
**NOTICE OF PREPARATION AND SCOPING**  
**MEETING MATERIALS**



**NOP**



CLERK OF THE  
BOARD OF SUPERVISORS

2021 JUN 30 PM 2:47

COUNTY OF SAN BERNARDINO  
CALIFORNIA

City of Ontario  
Planning Department  
303 East B Street  
Ontario, CA 91764  
Telephone: (909) 395-2036  
Fax: (909) 395-2420

**Date:** July 1, 2021

**To:** Property Owners, Responsible and Trustee Agencies/Interested Organizations and Individuals

**Subject:** **Notice of Preparation and Public Scoping Meeting Notice for an Environmental Impact Report for the Proposed Ontario Ranch Business Park Specific Plan Amendment Subsequent Environmental Impact Report**

**Lead Agency:**

CITY OF ONTARIO  
Planning Department  
303 East B Street  
Ontario, CA 91764  
Contact: Alexis Vaughn  
Email: [AVaughn@ontarioca.gov](mailto:AVaughn@ontarioca.gov)

**EIR Consulting Firm:**

KIMLEY-HORN & ASSOCIATES INC.  
3880 Lemon Street  
Suite 420  
Riverside, CA 92501  
Contact: Kevin Thomas

The City of Ontario (City), as the lead agency, has determined that the proposed Ontario Ranch Business Park Specific Plan Amendment project (Project) will require the preparation of a Subsequent Environmental Impact Report (EIR) in compliance with the California Environmental Quality Act (CEQA) (California Public Resources Code, Section (Section) 21000 et seq.). In accordance with Section 15082 of CEQA Guidelines, the City has issued this Notice of Preparation (NOP) to provide responsible agencies, trustee agencies, and other interested parties with information describing the proposed Project and its potential environmental effects. The EIR will be prepared as a Subsequent EIR pursuant to CEQA Guidelines Section 15162, due to the expanded area of the Specific Plan. The Subsequent EIR will tier off of the previously certified Ontario Ranch Business Park Specific Plan EIR (SCH# 2019050018, approved on October 6, 2020).

Due to time limits mandated by state law, your response to this NOP must be submitted as soon as possible but no later than 30 days after receipt of this notice. Please address your response to Alexis Vaughn at the City of Ontario address listed above and provide the name, phone number, and address of a contact person for your response. If your agency or organization will be a responsible or trustee agency for this proposed Project, please so indicate, and provide input in accordance with CEQA Guidelines Section 15096(b).

**PROJECT TITLE** Ontario Ranch Business Park Specific Plan Amendment

CLERK OF THE BOARD

Received on: 06/30/2021

Remove on: 08/06/2021

## PROJECT LOCATION

The proposed Project is located on a 71.69-acre site in the southwest portion of the City of Ontario, within San Bernardino County. The proposed Project site is east of the unimproved right-of-way (ROW) of Sultana Avenue, north of Merrill Avenue, south of Eucalyptus Avenue, and east of Campus Avenue (refer to Exhibit 1, *Vicinity Map*).

The proposed Project site consists of eight parcels that include the Assessor Parcel Numbers (APNs) presented in Table 1.

**Table 1: Assessor Parcel Numbers**

1054-041-01	1054-041-02
1054-031-01	1054-031-02
1054-261-01	1054-261-02
1054-291-01	1054-291-02

Regional access to the Project site is provided by State Route 83 (SR-83; Euclid Avenue), which connects to State Route 60 (SR-60) and Interstate 10 (I-10) to the north, I-15 approximately 5.75 miles to the east, and State Route 71 (SR-71) approximately 3 miles to the southwest. SR-71 connects the project to Interstate 91 (I-91) in unincorporated Riverside County.

## PROJECT SETTING

The Project site is currently occupied by agricultural uses, including a dairy farm and row crops, and vacant land. There are several residential structures located throughout the Project site. The Project site also includes dairy barns, a storage structure, feed storage barns, and numerous livestock corrals. There are large existing retention ponds that collect agricultural waste. The site is currently served by a domestic potable water well located at the northeast corner of the site. There is no identified septic system on the property. The remainder of the Project site is used as irrigated cropland with berms located along the site perimeter. To the north, east, and west of the Project site exists mostly rural farmland, and to the south is the Chino Airport.

## PROJECT DESCRIPTION

The Ontario Ranch Business Park Specific Plan (ORBP SP) was approved in October of 2020 and consisted of a General Plan Amendment (GPA), Specific Plan, Development Plan Review, Tentative Parcel Maps, and a Development Agreement to allow for development of an industrial and business park on eleven parcels covering 85.6 acres in the City. The ORBP SP project included eight warehouse buildings ranging from 46,900 square feet (sf) to 618,353 sf, totaling a maximum development of 1,905,027 sf of warehouse and office uses. The proposed Project would incorporate the abutting approximately 72 acres to the east of the approved ORBP SP site into the overall ORBP SP area.

The Project to be addressed in the EIR includes a GPA, Specific Plan Amendment (SPA), a Development Agreement, Development Plan(s), and Tentative Parcel Map(s) to allow development of approximately 1.6 million square feet of industrial and business park land uses on the 71.69-acre site, as described further below. The Project would allow for the development of six warehouses on six parcels, ranging from 61,300



sf to 530,460 sf in building size. The Project adds two new planning areas (PAs) to the ORBP SP (PAs 3 and 4), and would allow Business Park and Industrial development uses totaling 1,640,690 sf. The expansion of the approved ORBP SP is depicted in Exhibit 2, ***Proposed General Plan Land Uses***.

In addition, in compliance with the Housing Accountability Act (SB 330), a GPA is proposed to increase residential densities on a separate site to replace residential capacity lost due to implementation of the proposed Project.

The following summarizes the discretionary approvals to be evaluated in the EIR as part of the Project review and approval process by the City of Ontario.

***General Plan Amendment (GPA)***. The proposed GPA would amend the Project site's land use designations from 18 acres of Business Park (BP) and 56 acres of Low-Medium Density Residential (LMDR) to approximately 12 acres of BP and 60 acres of Industrial General (IG). As mentioned above, as part of SB330, an additional GPA will be processed concurrently to increase residential density elsewhere in the City to achieve no net loss of residential unit capacity (see further discussion below).

***Ontario Ranch Business Park Specific Plan Amendment (also referenced as a Zone Change herein)***. The SPA would add the Project site to the existing ORBP SP. The SPA proposes a comprehensive land use plan, circulation plan, streetscape plan, infrastructure service plan, grading plan, maintenance plan, phasing plan, design guidelines, development regulations, and implementation measures to guide the development of the 71.69-acre Project site into a master-planned industrial and business park. The SPA consists of two PAs which would accommodate a variety of industrial-serving commercial, low-intensity office, technology, light manufacturing, warehouse/distribution, and other similar uses that are compatible with the Project site's location within Safety Zone 6 of the Chino Airport. Refer to Exhibit 2, ***Proposed General Plan Land Uses***.

The SPA would allow up to 1,640,690 sf of building space for these PAs. PAs 3 and 4 would be located between Eucalyptus Avenue to the north, Merrill Avenue to the south, Sultana Avenue to the west and Campus Avenue to the east.

- Business Park: The SPA would allow for up to 227,951 sf of Business Park building space to be developed on a total of 11.63 acres within PA 3. This PA would be developed with business park buildings that would allow for the development of uses such as offices, technology centers, research and development, enterprises, light manufacturing, and warehouse/distribution uses.
- Industrial: The SPA would allow for up to 1,412,739 sf of Industrial building space to be constructed within PA 4. This PA would comprise 60.06 acres and would allow for the development of uses such as general light industrial, manufacturing, warehouse/distribution, and e-commerce fulfillment center operations.

The land use types proposed by the SPA are summarized below in Table 2, ***Maximum Specific Plan Build-Out Summary***.

**Table 2: Maximum Specific Plan Build-Out Summary**

Planning Area	Maximum Floor Area Ratio	Site Acreage	Maximum Building Square Footage
<b>Phase 2</b>			
Planning Area 3: Business Park	0.45	11.629	227,951 sf
Planning Area 4: General Industrial	0.54	60.059	1,412,739 sf
<b>TOTAL</b>		<b>71.688</b>	<b>1,640,690 sf</b>

***Development Agreement.*** A Development Agreement would be executed between the Project Applicant and the City strictly in relation to the proposed Development Plan and associated Parcel Map for the Project site. California Government Code §§65864-65869.5 authorizes the use of development agreements between any City, County, or City and County, with any person having a legal or equitable interest in real property for the development of the property.

***Development Plan.*** A Development Plan (DP) is proposed to be submitted concurrently with the GPA and SPA. The DP site plan will consist of six industrial concrete tilt-up business park and industrial/warehouse buildings with ancillary office space totaling up to 1,522,240 sf, which is less development than the maximum allowable under the Specific Plan. Each warehouse and its associated parking would be constructed on a separate parcel listed as building 8 through 13. (see Table 3, ***Conceptual Site Plan Summary***, and Exhibit 3, ***Conceptual Site Plan***).

**Table 3: Conceptual Site Plan Summary**

Planning Area	SP Zoning District	Site Acreage	Proposed Conceptual Building Square Footage
Planning Area 3	BP	11.63	83,110 sf
			61,300 sf
			67,380 sf
<b>Subtotal</b>			<b>211,790 sf</b>
Planning Area 4	IG	60.06	352,830 sf
			530,460 sf
			427,160 sf
<b>Subtotal</b>			<b>1,310,450 sf</b>
<b>TOTAL</b>		<b>71.69</b>	<b>1,522,240 sf</b>

Note:

1. PA 3 and PA 4 sf reflect the conceptual site plan which reflects the Tentative Parcel Map to be considered as part of the Project review and approval process. The conceptual site plan reflects current market trends, site conditions, and planned infrastructure. However, the conceptual site plan may be modified provided it does not exceed the maximum building area presented in Table 2 and complies with this Specific Plan and applicable provisions of the City of Ontario Development Code. The ORBP SP, including PAs 3 and 4, has analyzed maximum FAR allowances that are less than those allowable by the respective TOP land use district thresholds.

***Tentative Parcel Map(s).*** A Tentative Parcel Map(s) (TPM) would subdivide the approximately 71.69-acre Development Plan area to provide 6 lots and establish a subdivision of Business Park lots and General Industrial lots.



Phasing and Construction. The Project site is anticipated to be developed in one phase with a completion date by 2023 and expected full occupancy by 2024 (depending on market conditions and other factors). The proposed Project entitlement and construction permitting process is expected to take approximately one and a half years followed by one year of construction and buildout occurring in mid-2022.

Access. Access drives would be provided from all four fronting streets, with a total of 16 driveway access points proposed. Internal drive aisles would provide connectivity throughout the site.

Landscaping and Stormwater Management. The Project will meet the minimum landscape requirement of the Ontario Ranch Business Park Specific Plan. Onsite stormwater treatment would incorporate underground chambers installed within each building's parking area.

Roadway Improvements. The Project includes frontage improvements to the buildout condition identified in the TOP Circulation Element. Full buildout is identified below, with the Project responsible for a half-width improvement only:

- Merrill Avenue: Collector Street, 4 Lanes (98' ROW)
- Campus Avenue: Minor Arterial Street 4 Lanes (108' ROW)
- Eucalyptus Avenue: Collector Street, 4 Lanes (108' ROW)
- Sultana Avenue: Collector Street, 2 Lanes (66' ROW)

Eucalyptus and Merrill Avenues each require additional dedication (21 feet) and half-width improvements, to include curb and gutter 42 feet from centerline and a 12-foot parkway including sidewalk.

Campus Ave will require a 29-foot half-width dedication and a 12-foot parkway including the sidewalk. An additional 23-foot dedication in fee simple for the neighborhood edge is required.

Sultana Avenue is a fully-dedicated paper street; half-width improvements would be required to include curb and gutter 24 feet from centerline and a 13-foot parkway including sidewalk.

Utilities. As part of the Ontario Ranch Business Park Specific Plan, the following infrastructure improvements were required, and the proposed Project will connect to these facilities:

- Recycled water infrastructure is planned to include installing an 8-inch recycled water main in Euclid Avenue connecting the existing IEUA 30-inch 930 Pressure Zone Recycled Water main in Eucalyptus Avenue to an 8-inch recycled water main in Merrill Avenue. The 8-inch recycled water main in Merrill Avenue will extend from Euclid Avenue easterly to Sultana Avenue. An 8-inch recycled water main will be installed in Sultana Avenue connecting the recycled water main in Merrill Avenue to the existing IEUA 30-inch recycled water main in Eucalyptus Avenue.
- A 36-inch sewer main will connect to an existing IEUA interceptor trunk main sewer located in Kimball Avenue to the south, run north in Euclid Avenue to Merrill Avenue, then reduces to a 30-inch sewer main east to Sultana Avenue. The IEUA interceptor trunk sewer main is 54- inches east of Euclid and 60-inches west of Euclid Avenue. A 21-inch sewer main will run from Merrill Avenue north within Euclid Avenue to Eucalyptus Avenue. An eight-inch public sewer main will be located along Sultana Avenue.

- Storm drains in Eucalyptus Avenue and Euclid Avenue north of Merrill Avenue will be constructed. The reinforced concrete box facility in Merrill Avenue will end just north of the existing earthen channel, located between the paved portions of Euclid Avenue and the existing easterly right-of-way. The storm water will then bubble up in the structure and spill out into the existing channel where it will continue to flow south to eventually discharge south of Pine Avenue in the City of Chino.

The Project proposes new on-and offsite public sewer, potable water, and storm drain infrastructure, and would receive Southern California Edison electrical service. There are power poles and overhead facilities located opposite the site along Eucalyptus Avenue and Sultana Avenue. Onsite improvements would include storm drains, water quality systems, a sewer main and sewer lines, water lines, and dry utility connections.

### **Housing Accountability Act (SB 330)**

The Project also includes evaluation of “replacement housing” in accordance with SB 330, the Housing Crisis Act of 2019 (Government Code Section 6300). SB 330 requires in part that, where a development project results in reducing the number of housing units allowed under existing zoning, the City must concurrently rezone other parcels such that there is no “net loss” of the total allowable housing development in the City. The City has evaluated the proposed Project and has determined that the General Plan Amendment and Zone Change would result in the “loss” of approximately 479 low- to moderate-density housing units. Therefore, the City is evaluating replacement sites for rezoning to ensure that there is no net loss in allowable housing density due to the Project.

The proposed Project would eliminate the LMDR housing designation, thereby theoretically eliminating 479 units (as determined by the City’s density determinations to be 8.5 units per acre, based on 56 acres of LMDR residential land within the proposed area to be added to the ORBP SP). Pursuant to SB330, the Project will create an Overlay District on an “SB330 Replacement Site” to increase the residential zoning capacity by 479 units, which will offset the “loss” of residential zoning capacity within the Project site. Refer to Exhibit 4, ***Proposed SB330 Replacement Site***. Due to this offset, the Project would result in a no net loss of residential zoning in the City.

### **Required Entitlements and Approvals**

The City is serving as the CEQA Lead Agency and will consider the EIR for certification and the Project for approval. Additional permits and/or approvals from the following agencies are anticipated to be necessary for implementation of the Project:



**Table 4: Anticipated Permits and Approvals Required**

<b>Lead Agency</b>	<b>Action</b>
City of Ontario City Council	<ul style="list-style-type: none"> <li>• Certification of the Ontario Ranch Business Park Specific Plan Amendment EIR</li> <li>• Adoption of the Mitigation Monitoring and Reporting Program</li> <li>• Approval of the General Plan Amendment</li> <li>• Approval of the Ontario Ranch Business Park Specific Plan Amendment</li> <li>• Approval of the Development Plan Review</li> <li>• Approval of the Tentative Parcel Maps</li> <li>• Approval of a Development Agreement</li> </ul>
<b>Responsible Agencies</b>	<b>Action</b>
San Bernardino County	<ul style="list-style-type: none"> <li>• Well removal permit from County Health Department (if required)</li> </ul>
City of Chino	<ul style="list-style-type: none"> <li>• Street and drainage improvements</li> </ul>
Caltrans	<ul style="list-style-type: none"> <li>• Encroachment permit (if required)</li> </ul>
Santa Ana Regional Water Quality Control Board	<ul style="list-style-type: none"> <li>• Issuance of a National Pollutant Discharge Elimination system (NPDES) Permit</li> </ul>
Inland Empire Utilities Agency	<ul style="list-style-type: none"> <li>• Recycled water and connection to trunk sewer line</li> </ul>
Federal Aviation Administration	<ul style="list-style-type: none"> <li>• Obstruction evaluation</li> </ul>
State Water Resources Control Board	<ul style="list-style-type: none"> <li>• Stormwater Pollution prevention Plan (SWPPP), and Water Quality Monitoring Program (WQMP)</li> </ul>
South Coast Air Quality Management District	<ul style="list-style-type: none"> <li>• Demolition Notification</li> </ul>

**Environmental Issues to be Evaluated in the EIR**

The following issues are anticipated to be addressed in the EIR:

- Agriculture/Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards/Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

The EIR will address the short- and long-term effects of the proposed Project on the environment, including the impacts of any off-site improvements. It will also evaluate the potential for the proposed Project to cause direct and indirect growth-inducing impacts, as well as cumulative impacts. Alternatives to the proposed Project will be evaluated that may reduce impacts that are determined to be significant in the EIR. Mitigation will be proposed for those impacts that are determined to be significant. A mitigation monitoring program will also be developed for any proposed mitigation as required by Section 15097 of the CEQA Guidelines.



**Cortese List Notice:** Pursuant to Public Resources Code Section 21092.6(a), the Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (California Department of Toxic Substances Control list of various hazardous sites).<sup>1</sup>

### **PUBLIC REVIEW PERIOD**

In accordance with CEQA, this NOP will be circulated for a 30-day public review period. Should you have any comments, please provide a written response to this NOP within the 30-day NOP public review period, which runs from July 1 through August 6, 2021. Please indicate a contact person for your agency or organization. Pursuant to CEQA Guidelines Section 15082, responsible and trustee agencies and other interested parties, including members of the public, must submit any comments in response to this notice no later than 30 days after receipt of the notice.

Please send any comments to:

City of Ontario Planning Department, c/o Alexis Vaughn  
303 East B Street, Ontario, CA 91764  
Email: [AVaughn@ontarioca.gov](mailto:AVaughn@ontarioca.gov)  
Telephone: (909) 395-2036  
Fax: (909) 395-2420

### **PUBLIC SCOPING MEETING**

Pursuant to Section 21083.9(a)(2) of CEQA (California Public Resources Code, Section 21000 et seq.), scoping meetings are required for projects that may have statewide, regional, or area-wide environmental significance. A public scoping meeting will be held by the City of Ontario on Wednesday, July 21, 2021, at 5:30 PM via Zoom. To ensure the health and safety of residents, limitation of contact will be enforced to prevent the spread the COVID-19 virus. Therefore, there will be no members of the public in attendance of the scoping meeting. Members of the public, project applicants and consultants, and staff will participate in this meeting via Zoom. The public scoping will begin promptly at 5:30 PM and end no later than 7:30 PM. Verbal and written comments regarding the scope of the environmental issues to be addressed in the EIR will be accepted at the virtual meeting. Written comments can also be mailed to the above-mentioned lead agency address, addressed to Alexis Vaughn, during the NOP 30-day public comment period.

### ***Special Accommodations***

Should you require special accommodations at the public scoping meeting, such as for the hearing impaired or an English translator, please contact the City of Ontario no later than Friday, July 16, 2021 (see contact information above).

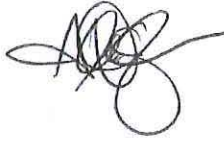
Scoping Meeting Date: Wednesday, July 21, 2021

Scoping Meeting Time: 5:30 PM (beginning promptly at) and ending no later than 7:30 PM

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<sup>1</sup> Department of Toxic Substances Control. EnviroStor. (2021). Retrieved from: <https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=ontario>.

Scoping Meeting Location: Zoom (Link will be made available on the City's website 24 hours prior to the meeting)



Signature:

Name: **Alexis Vaughn, Assistant Planner**





Source: ESRI World Imagery

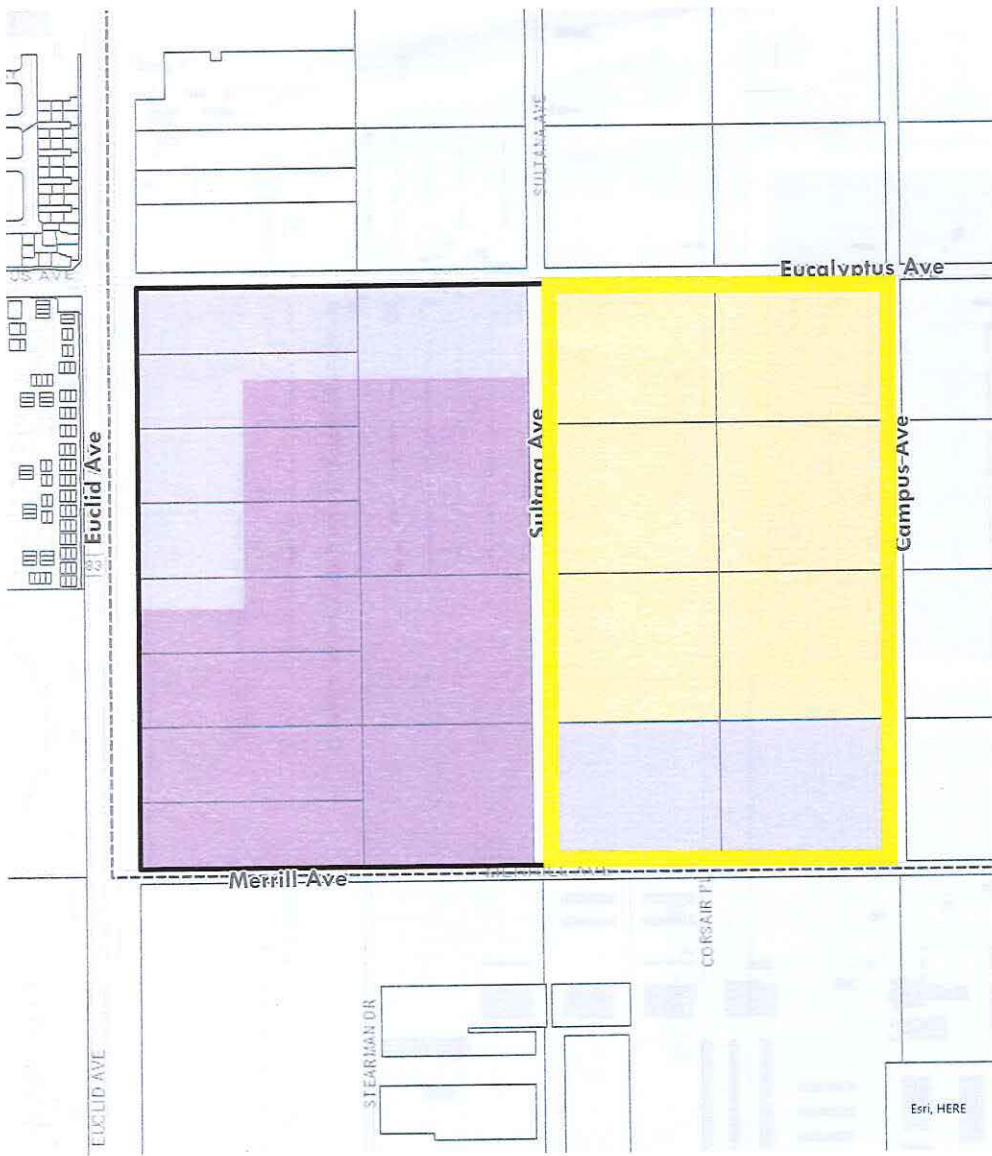
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**EXHIBIT 1: Vicinity Map**  
*Ontario Ranch Business Park Specific  
Plan Amendment*

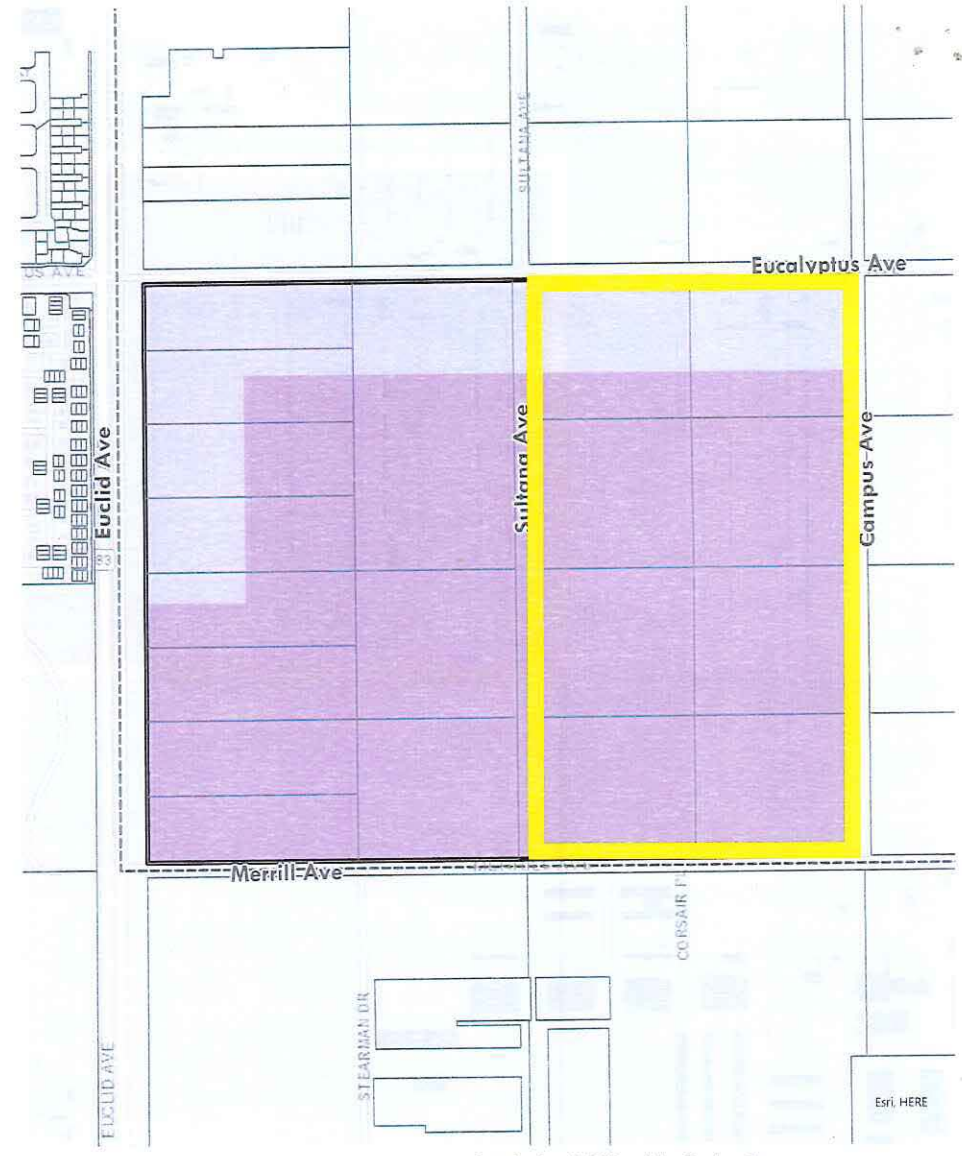


**Kimley»Horn**





**Existing Land Use**

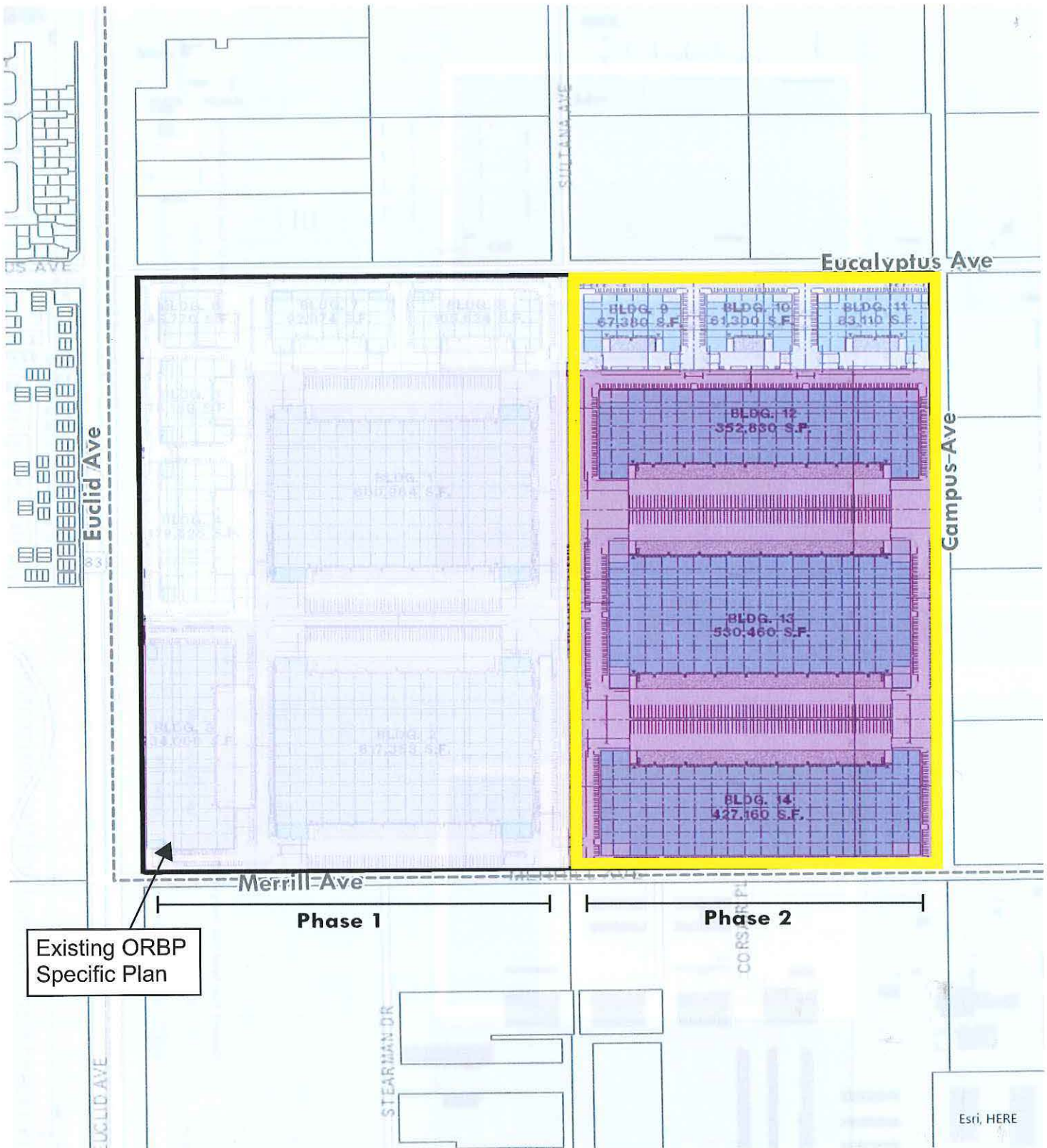


**Proposed Land Use**

Source: Ontario Ranch Business Park Specific Plan Amendment Project Description

\\rivp01\CA\_RIV\1\GIS\195242002 - Ontario Ranch Business Park\NOP 02 Existing and Proposed General Plan Land Uses.mxd

**EXHIBIT 2: Existing and Proposed General Plan Land Use Designations**  
*Ontario Ranch Business Park Specific Plan Amendment*



Existing ORBP  
Specific Plan

Merrill Ave

Phase 1

Phase 2



0 0.05 0.1 0.2 Miles

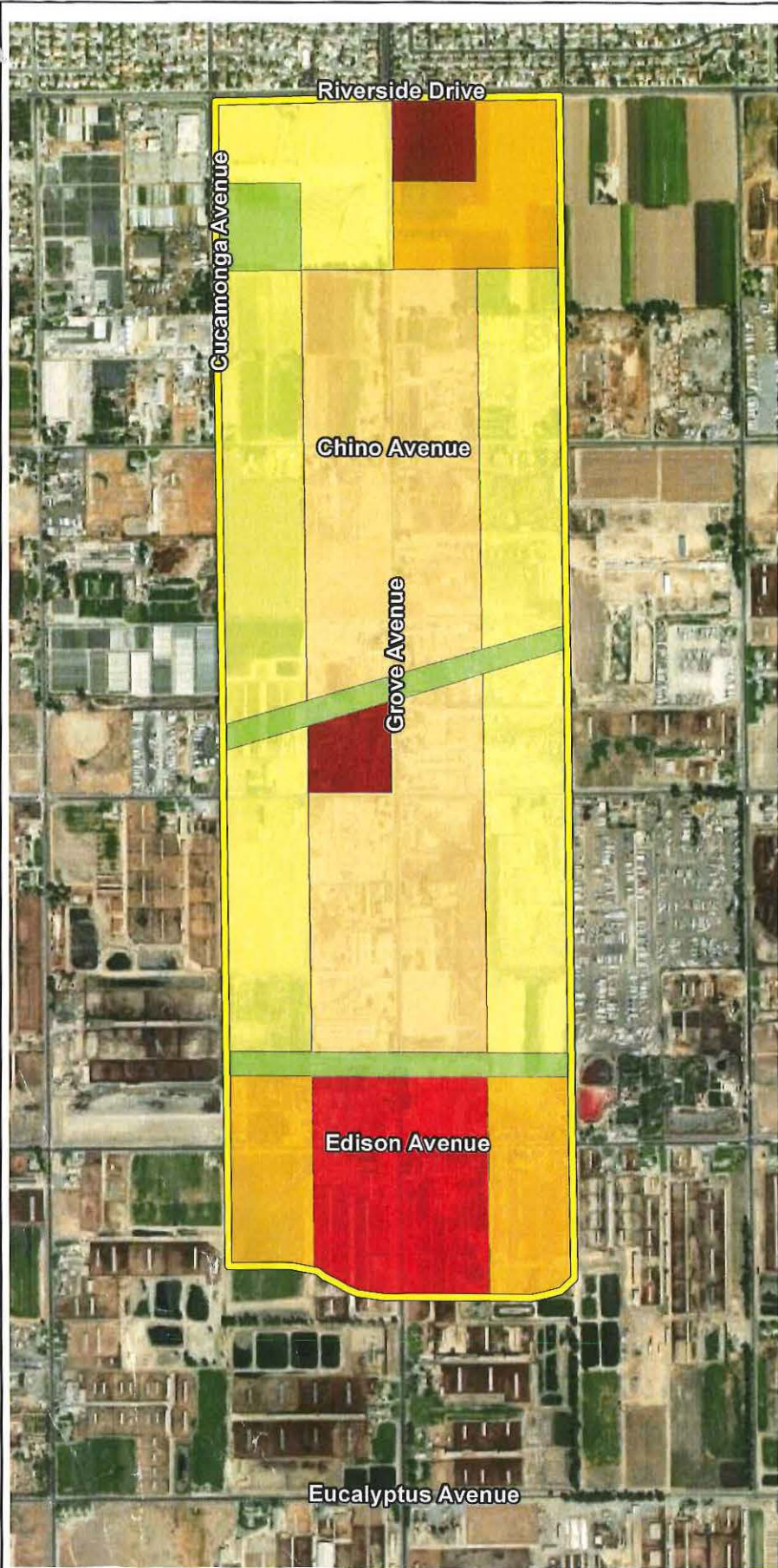
**Ontario Ranch BP Land Use Designations**

- Business Park
- Industrial General
- Project Site

Source: Ontario Ranch Business Park Specific Plan Amendment Project Description

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**Existing TOP Land Use**

-  Low Density Residential
-  Low-Medium Density Residential
-  Medium Density Residential
-  General Commercial
-  Neighborhood Commercial
-  Open Space - Non Recreation

Source: City of Ontario, ESRI World Imagery, (2020)

**EXHIBIT 4: SB 330 Replacement Site**  
*Ontario Ranch Business Park Specific Plan*  
*Amendment*



Not to Scale

**Kimley»Horn**



**NOP MAILING LIST**



State Clearinghouse Office of Planning and Research 1400 Tenth Street, Room 121 Sacramento, CA 95814 ONT-05	City of Ontario Planning Department 303 East B Street Ontario, CA 91764  ONT-05	City of Fontana Planning Department 8353 Sierra Avenue Fontana, CA 92335  ONT-05
City of Chino Community Development 13220 Central Avenue Chino, CA 91710  ONT-05	City of Eastvale Community Development 12363 Limonite, Suite 910 Eastvale, CA 91752  ONT-05	County of San Bernardino Clerk of the Board 385 North Arrowhead, 2nd Floor San Bernardino, CA 92415  ONT-05
San Bernardino Ass'n of Governments Planning Department 1170 West Third Street, 2nd Floor San Bernardino, CA 92410  ONT-05	San Bernardino County Public Works Environmental Management Division 825 East Third Street San Bernardino, CA 92415  ONT-05	California Department of Fish & Game 4665 Lampson Avenue, Suite J Los Alamitos, CA 90720  ONT-05
Army Corps of Engineers Los Angeles District 911 Wilshire Boulevard Los Angeles, CA 90017  ONT-05	Sierra Club San Gorgonio Chapter 4079 Mission Inn Avenue Riverside, CA 92501  ONT-05	Riverside County Planning Department 4080 Lemon Street, 9th Floor Riverside, CA 92502  ONT-05
City of Ontario City Clerk 303 East B Street Ontario, CA 91764  ONT-05	City of Ontario Main Library 215 East C Street Ontario, CA 91764  ONT-05	CALTRAN District # 8 464 West Fourth Street 6th Floor, MS 726 San Bernardino, CA 92401  ONT-05
South Coast Air Quality Management District (SCAQMD) 21865 Copley Drive Diamond Bar, CA 91765  ONT-05	California Department of Fish & Game 3602 Inland Empire Boulevard, Suite C-220 Ontario, CA 91764  ONT-05	Santa Ana Regional Water Quality Control Board 3737 Main Street, Suite 500 Riverside, CA 92501  ONT-05
County of San Bernardino Land Use Services Dept, Adv. Planning Div. 385 North Arrowhead Avenue San Bernardino, CA 92415  ONT-05	Southern California Ass'n of Govts (SCAG) CEQA Review 818 West Seventh Street, 12th Floor Los Angeles, CA 90017  ONT-05	San Bernardino County Flood Control District 825 East Third Street, Room 201 San Bernardino, CA 92415  ONT-05
U.S. Fish & Wildlife Service Ecological Serv-Carlsbad Office 6010 Hidden Valley Road Carlsbad, CA 92011  ONT-05	Endangered Habitats League 8424-A Santa Monica Boulevard Los Angeles, CA 90069  ONT-05	Jurupa Unified School District Facilities Planning Office 4850 Pedley Road Riverside, CA 92509  ONT-05
Inland Empire Utilities Agency Planning Department 6075 Kimball Avenue Chino, CA 91710  ONT-05	Verizon - Engineering 1400 East Phillips Boulevard Building A Pomona, CA 91766  ONT-05	Southern California Edison P.O. Box 800 Rosemead, CA 91770  ONT-05
Chaffey Community College District Business Services 5885 Haven Avenue Rancho Cucamonga, CA 91737  ONT-05	Metropolitan Water District 700 North Alameda Street Los Angeles, CA 90012  ONT-05	San Bernardino County Waste Management Department 222 West Hospitality Lane, 2nd Floor San Bernardino, CA 92415  ONT-05

<p>Southern California Edison Attn: Christian Nelson 1315 East Francis Street Ontario, CA 91761</p>	<p>ONT-05</p>	<p>Southern California Edison Right-of-Way P.O. Box 410 Long Beach, CA 90801</p>	<p>ONT-05</p>	<p>Southern California Gas Company Technical Services Planning Department 1981 W. Lugonia Avenue Redlands, CA 92373</p>	<p>ONT-05</p>
<p>Mountain View School District Facilities Planning Office 2585 South Archibald Avenue Ontario, CA 91761</p>	<p>ONT-05</p>	<p>Chaffey Joint High School District Facilities Planning Office 211 West 5th Street Ontario, CA 91762</p>	<p>ONT-05</p>	<p>Time Warner Lewis McDonald 1500 Auto Center Drive Ontario, CA 91761</p>	<p>ONT-05</p>
<p>OMNITRANS 1700 West Fifth Street San Bernardino, CA 92411</p>	<p>ONT-05</p>	<p>West Valley Materials Recovery Facility 13373 Napa Street Fontana, CA 92335</p>	<p>ONT-05</p>	<p>Jurupa Community Services District 11201 Harrell Street Mira Loma, CA 91752</p>	<p>ONT-05</p>
<p>Native American Heritage Commission 915 Capitol Mall, Room 364 Sacramento, CA 95814</p>	<p>ONT-05</p>	<p>San Bernardino County Environmental Analysis Section 385 North Arrowhead San Bernardino, CA 92415</p>	<p>ONT-05</p>	<p>San Bernardino County Transportation Authority 1170 West Third Street, 2nd Floor San Bernardino, CA 92410</p>	<p>ONT-05</p>
<p>Ontario International Airport Airport Manager 1923 E. Avion Street Ontario, CA 91761</p>	<p>ONT-05</p>	<p>Inland Empire West Resource Conservation District 2816 East 4th Street Ontario, CA 91764</p>	<p>ONT-05</p>	<p>State Water Resources Control Board District 8 3737 Main Street, Suite 500 Riverside, CA 92501-3339</p>	<p>ONT-05</p>
<p>SCE - Third Party Environmental Review - Karen Cadavona 2244 Walnut Grove Ave. Rosemead, CA 91770</p>	<p>ONT-05</p>	<p>SCE - Local Public Affairs - Jennifer Shaw 7951 Redwood Ave. Fontana, CA 92336</p>	<p>ONT-05</p>	<p>City of Rancho Cucamonga Planning Dept 10500 Civic Center Drive Rancho Cucamonga, CA 91729</p>	<p>ONT-05</p>
<p>City of Upland Planning Department 460 North Euclid Avenue Upland, CA 91786</p>	<p>ONT-05</p>	<p>Airport Land Use Commision Riverside County Administrative Center 4080 Lemon Street 14th Floor Riverside, CA 92501</p>	<p>ONT-05</p>	<p>City of Montclair Planning Department 5111 Benito Street Montclair, CA 91763</p>	<p>ONT-05</p>
<p>George Borba &amp; Sons Dairy 7955 Eucalyptus Avenue Onatrio, CA 91762</p>	<p>ONT-05</p>	<p>Stacey Osborne Lozeau/Drury LLP 1939 Harrison Street, Suite 150 Oakland, CA 94612</p>	<p>ONT-05</p>	<p>Komalpreet Toor Lozeau/Drury LLP 1939 Harrison Street, Suite 150 Oakland, CA 94612</p>	<p>ONT-05</p>
<p>Jacob Mathew Caltrans Office of Encroachment Permits 464 West 4th Street, Basement, MS 619 San Bernardino, CA 92401-1400</p>		<p>Chino Airport 7000 Merrill Ave, Chino, CA 91710</p>		<p>Bill Goltermann Real Estate Development Associates, 4450 MacArthur Blvd., Suite 100 Newport Beach, CA 92660</p>	
<p>Gustavo N. Gonzalez City of Eastvale 12363 Limonite Ave., Suite 910 Eastvale, CA 91752</p>		<p>Warren Morelion City of Chno P.O. Box 667 Chino, CA 91708-0667</p>		<p>Lijin Sun, J.D. South Coast Air Quality Management District 21865 Copley Drive, Diamond Bar, CA 91765</p>	



## Interest List

Chuck Stuewe ATP  
Ph: 714-380-0288  
Email: [chuck@chinohillsferrariclub.com](mailto:chuck@chinohillsferrariclub.com)

Theresa Rettinghouse  
Urban Wildlands Paralegal  
Center for Biological Diversity  
1212 Broadway St., Suite 800  
Oakland, CA 94612  
[trettinghouse@biologicaldiversity.org](mailto:trettinghouse@biologicaldiversity.org)  
Ph: 510-844-7100 ext 320

## **NEWSPAPER NOTICE**

**NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT  
AND SCOPING HEARING TO BE PREPARED BY THE CITY OF ONTARIO FOR THE  
ONTARIO RANCH BUSINESS PARK SPECIFIC PLAN AMENDMENT (FILE NO.  
PSPA21-002) AND RELATED GENERAL PLAN AMENDMENT (FILE NO. PGPA21-001)**

Notice is hereby given, that the City of Ontario (Latitude 34°03'N / Longitude 117°37'W) will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the Project identified below. Interested public agencies are invited to comment on the scope of the EIR. A copy of an expanded Notice of Preparation is available for review at the following locations or by or may be viewed online at <https://www.ontarioca.gov/Planning>.

City Hall, Planning Department  
303 East "B" Street  
Ontario, CA 91764

Ontario Main Library  
215 East "C" Street  
Ontario, CA 91764

**Project Location:** The Ontario Ranch Business Park Specific Plan Amendment ("Project" or "Specific Plan Amendment") is located east of the unimproved right-of-way of Sultana Avenue, north of Merrill Avenue, south of Eucalyptus Avenue, and east of Campus Avenue in Ontario, California, 91764. The project consists of 8 parcels: APNs 1054-041-01, -02; 1054-031-01, -02; 1054-261-01, -02; and 1054-291-01, -02. Regional access to the Project site is provided by State Route 83 (SR-83; Euclid Avenue), which connects to State Route 60 (SR-60) and Interstate 10 (I-10) to the north, I-15 approximately 5.75 miles to the east, and State Route 71 (SR-71) approximately 3 miles to the southwest. SR-71 connects the project to Interstate 91 (I-91) in unincorporated Riverside County.

The project site is on an existing operational dairy farm with several residential structures, dairy barns, storage structures and feed storage barns, and numerous livestock corrals. To the north, east, and west of the proposed Project site, exists mostly rural farmland, and to the south is the Chino Airport within the City of Chino.

**Project Description:** The Project includes a General Plan Amendment and Specific Plan, and will include a Development Agreement, Development Plan(s), and Tentative Parcel Map(s) in the future to allow development of approximately 1.6 million square feet (sf) of industrial and business park land uses on the 71.68-acre site, as described further below. The Project is an amendment of the Ontario Ranch Business Park Specific Plan project, which was approved September 15, 2020, to allow for development of an industrial and business park on eleven parcels covering 85.6 acres in the City of Ontario. The Ontario Ranch Business Park Specific Plan project included eight warehouse buildings ranging from 46,900 sf to 618,353 sf, totaling a maximum development of 1,905,027 sf of warehouse and office uses. This Project will amend the Ontario Ranch Business Park Specific Plan project and would annex the abutting approximately 72 acres to the east. The Project consists of two planning areas (PAs) adding to the Ontario Ranch Business Park Specific Plan. PAs 3 and 4 would allow for a total of 1,640,690 sf of industrial and business park uses. The Development Plan currently proposes the construction of six industrial concrete tilt-up warehouse buildings. PA 3 will consist of three buildings utilized for warehousing and ancillary office space, totaling 227,951 sf. PA 4 will consist of industrial and warehousing uses, totaling 1,412,739 sf. The Environmental Impact Report (EIR) will evaluate the Project at a "subsequent level." The EIR will evaluate the total maximum allowable development in the Specific Plan, which is 1,640,690 sf of industrial and business park land uses and associated on-site and off-site infrastructure improvements. The Specific Plan serves to implement The Ontario Plan for the land covered by the Specific Plan and provides zoning regulations for development of the project site through adopted permitted land uses, development standards, infrastructure requirements and implementation requirements for the development within the Specific Plan boundaries. Per the Specific Plan and EIR, the floor area ratios (FARs) analyzed are less than that which The Ontario Plan allows.

Since the proposed Project would rezone land that is currently zoned for residential development, the Project requires compliance with SB330. For SB330 compliance the City will be adopting an Overlay District along Grove Corridor to provide for additional residential housing density “lost” by rezoning the Project site (refer to the NOP at the link above for details).

**Environmental Issues:** An Initial Study has not been prepared for the Project as the City has determined that an EIR will clearly be required for the Project, which is in the discretion of the Lead Agency as set forth in CEQA Guidelines Section 15063(a). Accordingly, the following environmental topics will be analyzed within the forthcoming EIR:

- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards/Hazardous Materials
- Hydrology/Water Quality
- Land Use and Planning
- Noise
- Population/Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities/Service Systems
- Wildfire

The EIR will address the short and long-term effects of the Project on the environment. It will also evaluate the potential for the Project to cause direct and indirect growth-inducing impacts, as well as cumulative impacts. Alternatives to the proposed Project will be evaluated that may reduce impacts that are determined to be significant in the EIR. Mitigation measures may be proposed for those impacts that are determined to be significant. A mitigation monitoring program will also be developed as required by Section 15097 of the CEQA Guidelines.

The environmental determination in this Notice of Preparation is subject to a 30-day public review period per Public Resources Code Section 21080.4 and CEQA Guidelines Section 15082. Public agencies, interested organizations, and individuals have the opportunity to comment on the proposed Project and identify the environmental issues, which have the potential to be affected by the Project, and should therefore be addressed further in the EIR.

A scoping meeting will be held by the City of Ontario on **Wednesday, July 21, 2021, at 5:30 PM** via Zoom.

To ensure the health and safety of our residents by limiting contact that could spread the COVID-19 virus, there will be no members of the public in attendance of the scoping meeting. Members of the public, project applicants and consultants, and staff will participate in this meeting via Zoom.

In place of in-person attendance, members of the public can observe and offer comment at this meeting remotely in one of three ways:

1. **PROVIDE PUBLIC TESTIMONY DURING THE MEETING:** The Zoom meeting link and call-in phone number will be made available on the City's website a minimum of 72 hours prior to the hearing, which can be accessed at <http://www.ontarioca.gov/planning>
2. **E-MAIL:** Please e-mail your comments to the City Contact no later than 4:00 PM on the day of the meeting.
3. **TELEPHONE BEFORE THE MEETING:** Please call the City Contact prior to and no later than 4:00 PM on the day of the meeting to submit your comments on the Project.

If you do not wish to participate in the scoping meeting but would like to comment on the Project, please send your comments, including contact information, to Alexis Vaughn, Assistant Planner, Ontario Planning Department, 303 East "B" Street, Ontario, CA 91764, (909) 395-2416 or [avaughn@ontarioca.gov](mailto:avaughn@ontarioca.gov), no later than Friday, August 20, 2021.

Rudy Zeledon  
Planning Director

**Publish Date: July 18, 2021**



**PUBLIC SCOPING MEETING PRESENTATION**



City of Ontario

Ontario Ranch Business Park  
Specific Plan Amendment Subsequent EIR

July 21, 2021

Scoping Meeting



# Purpose of Scoping Meetings

- ❑ Early public consultation
- ❑ Learn about environmental concerns regarding the project from potentially affected agencies and individuals
- ❑ Opportunity to identify and address issues that might otherwise arise late in the process
- ❑ Help focus the EIR's content and identify alternatives



# CEQA Process

- ❑ The California Environmental Quality Act (CEQA) is required for discretionary approvals.
- ❑ Purpose is to inform decision makers and the public of potential effects of project approval.
- ❑ Expanded NOP provides consultation and focuses subsequent efforts.



# Roles and Responsibilities

*Developer*

Design and submit development proposal

*City Staff*

Review and evaluate Developer's project

Manage EIR Consultant

Make recommendations to Decision Makers

*Environmental Consultant*

Evaluate impacts of project approval on the existing environment

*Decision Makers*

Planning Commission and City Council

Evaluate and approve or disapprove project



# The Project

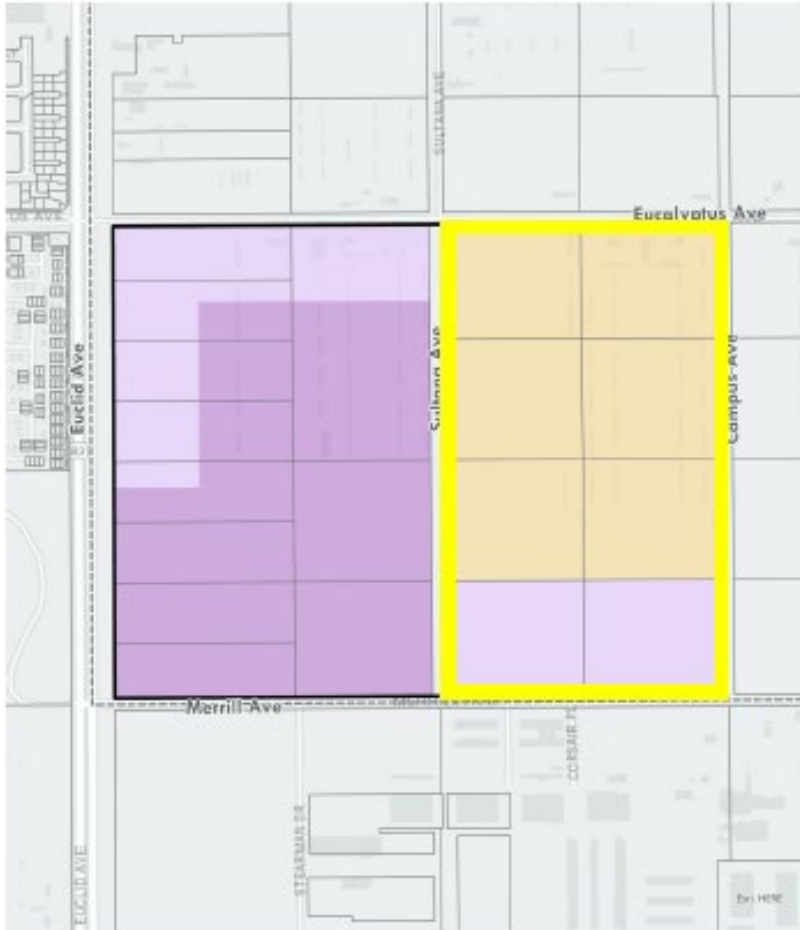
- ❑ The Project is an amendment of the approved Ontario Ranch Business Park Specific Plan, approved October 2020.
- ❑ Proposes a mix of industrial and business park land uses on approximately 71.69 acres.
- ❑ Proposes development and operation of up to:
  - ❑ 1,412,739 square feet of industrial/warehouse uses with ancillary office space
  - ❑ 227,951 square feet of industrial/business park uses
- ❑ Located in the City of Ontario, east of the unimproved right-of-way of Sultana Avenue, north of Merrill Avenue, south of Eucalyptus Avenue, and east of Campus Avenue.

# Project Location





# Land Use Plan – Planning Areas



General Plan Land Use Designations

- Business Park
- Industrial General
- Low-Medium Density
- Project Site

Existing Land Use



Ontario Ranch BP Land Use Designations

- Business Park
- Industrial General
- Project Site

Proposed Land Use





# Proposed Development by Planning Area

Planning Area	Maximum Floor Area Ratio	Site Acreage	Maximum Building Square Footage
<b>Phase 2</b>			
Planning Area 3: Business Park	0.45	11.629	227,951 sf
Planning Area 4: General Industrial	0.54	60.059	1,412,739 sf
<b>TOTAL</b>		<b>71.688</b>	<b>1,640,690 sf</b>

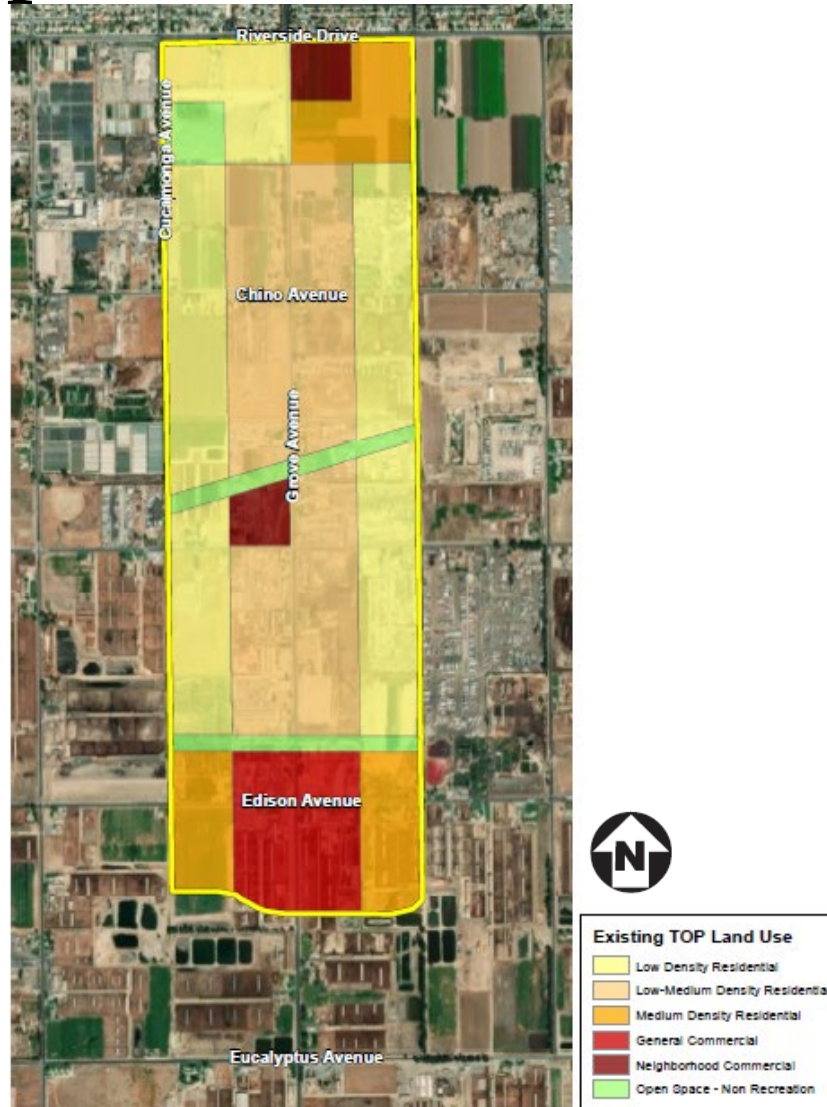


# The Project

- ❑ Discretionary Approvals Necessary:
  - ❑ Certification of the Ontario Ranch Business Park Specific Plan Amendment EIR;
  - ❑ Approval of Policy Plan (Land Use) Amendments;
  - ❑ Adoption of the Ontario Ranch Business Park Specific Plan Amendment;
  - ❑ Approval of SB330 Replacement Site Upzoning
  - ❑ Approval of Parcel Map/Development Plan;
  - ❑ Adoption of a Development Agreement.



# SB330 Replacement Site





# EIR Focus Areas

Based on the NOP and public scoping, the following topics will be addressed in the Project EIR:

- Agriculture/ Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- GHG Emission
- Hazards/ Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire



# Opportunities for Public Involvement

- ❑ Comments on the NOP will be accepted through August 20, 2021.
- ❑ 45-day Draft EIR comment period is anticipated to run during Fall 2021.
- ❑ Responses to EIR comments will be provided to public agencies not less than ten days prior to public hearings.
- ❑ Notices will be provided on dates of Planning Commission and City Council hearings on Final EIR.



# Questions or Comments?

If you have further questions or require additional information, please contact Alexis Vaughn, Assistant Planner, at [AVaughn@ontarioca.gov](mailto:AVaughn@ontarioca.gov).

# Traffic Analysis Study Area



**NOP COMMENT LETTERS**





July 21, 2021

Alexis Vaughn  
Planning Department  
City of Ontario  
303 East B Street  
Ontario, CA 91764

Subject: Notice of Preparation of a Draft Environmental Impact Report  
Ontario Ranch Business Park Specific Plan Amendment Project  
State Clearinghouse No. 2019050018

Dear Alexis Vaughn:

The California Department of Fish and Wildlife (CDFW) received a Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) from the City of Ontario (City) for the Ontario Ranch Business Park Specific Plan Amendment Project (Project) pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.<sup>1</sup>

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

### **CDFW ROLE**

CDFW is California's Trustee Agency for fish and wildlife resources, and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

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<sup>1</sup> CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

CDFW is also submitting comments as a Responsible Agency under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the Project proponent may seek related take authorization as provided by the Fish and Game Code.

## **PROJECT DESCRIPTION SUMMARY**

The proposed Project includes a general plan amendment, specific plan amendment, a development agreement, development plan(s), and tentative parcel map(s) to allow development of approximately 1.6 million square feet (sf) of industrial and business park land uses on 71.69 acres. The proposed Project is located north of Merrill Avenue, south of Eucalyptus Avenue, and east of Campus Avenue, in the City of Ontario, within San Bernardino County, California on eight Assessor Parcel Numbers (APNs): 1054-041-01, 1054-041-02, 1054-031-01, 1054-031-02, 1054-261-01, 1054-261-02, 1054-291-01, and 1054-291-02. The proposed Project would allow for the development of six warehouses on six parcels, ranging from 61,300 sf to 530,460 sf in building size. The proposed Project adds two new planning areas to the existing specific plan, and would allow Business Park and Industrial development uses totaling 1,640,690 sf. The general plan amendment is proposed to increase residential densities on a separate site to replace residential capacity lost due to implementation of the proposed Project.

## **COMMENTS AND RECOMMENDATIONS**

CDFW offers the comments and recommendations below to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

CDFW recommends that the forthcoming DEIR address the following:

### **Assessment of Biological Resources**

Section 15125(c) of the CEQA Guidelines states that knowledge of the regional setting of a project is critical to the assessment of environmental impacts and that special emphasis should be placed on environmental resources that are rare or unique to the region. To enable CDFW staff to adequately review and comment on the project, the DEIR should include a complete assessment of the flora and fauna within and adjacent to the Project footprint, with particular emphasis on identifying rare, threatened, endangered, and other sensitive species and their associated habitats.

The CDFW recommends that the DEIR specifically include:

1. An assessment of the various habitat types located within the project footprint, and a map that identifies the location of each habitat type. CDFW recommends that floristic, alliance- and/or association based mapping and assessment be completed following *The Manual of California Vegetation*, second edition (Sawyer et al. 2009). Adjoining habitat areas should also be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions.
2. A general biological inventory of the fish, amphibian, reptile, bird, and mammal species that are present or have the potential to be present within each habitat type onsite and within adjacent areas that could be affected by the project. CDFW's California Natural Diversity Database (CNDDDB) in Sacramento should be contacted at (916) 322-2493 or CNDDDB@wildlife.ca.gov to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code, in the vicinity of the proposed Project.

Please note that CDFW's CNDDDB is not exhaustive in terms of the data it houses, nor is it an absence database. CDFW recommends that it be used as a starting point in gathering information about the *potential presence* of species within the general area of the project site.

3. A complete, *recent* inventory of rare, threatened, endangered, and other sensitive species located within the Project footprint and within offsite areas with the potential to be affected, including California Species of Special Concern (CSSC) and California Fully Protected Species (Fish and Game Code § 3511). Species to be addressed should include all those which meet the CEQA definition (CEQA Guidelines § 15380). The inventory should address seasonal variations in use of the Project area and should not be limited to resident species. Focused species-specific surveys, completed by a qualified biologist and conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the U.S. Fish and Wildlife Service, where necessary. Note that CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. Some aspects of the proposed Project may warrant periodic updated surveys for certain sensitive taxa, particularly if the Project is proposed to occur over a protracted time frame, or in phases, or if surveys are completed during periods of drought.

#### Burrowing Owl (*Athene cunicularia*)

The Project site has the potential to provide suitable foraging and/or nesting habitat for burrowing owl. Take of individual burrowing owls and their nests is defined by Fish and Game Code section 86, and prohibited by sections 3503, 3503.5 and 3513.

Take is defined in Fish and Game Code section 86 as “hunt, pursue, catch, capture or kill, or attempt to hunt, pursue, catch, capture or kill.”

CDFW recommends that the City follow the recommendations and guidelines provided in the *Staff Report on Burrowing Owl Mitigation* (Department of Fish and Game, March 2012); available for download from CDFW’s website:

<https://www.wildlife.ca.gov/conservation/survey-protocols>. The Staff Report on Burrowing Owl Mitigation, specifies three steps for project impact evaluations:

- a. A habitat assessment;
- b. Surveys; and
- c. An impact assessment

As stated in the Staff Report on Burrowing Owl Mitigation, the three progressive steps are effective in evaluating whether a project will result in impacts to burrowing owls, and the information gained from the steps will inform any subsequent avoidance, minimization, and mitigation measures. Habitat assessments are conducted to evaluate the likelihood that a site supports burrowing owl. Burrowing owl surveys provide information needed to determine the potential effects of proposed projects and activities on burrowing owls, and to avoid take in accordance with Fish and Game Code sections 86, 3503, and 3503.5. Impact assessments evaluate the extent to which burrowing owls and their habitat may be impacted, directly or indirectly, on and within a reasonable distance of a proposed CEQA project activity or non-CEQA project.

### **Analysis of Direct, Indirect, and Cumulative Impacts to Biological Resources**

The DEIR should provide a thorough discussion of the direct, indirect, and cumulative impacts expected to adversely affect biological resources as a result of the Project. To ensure that Project impacts to biological resources are fully analyzed, the following information should be included in the DEIR:

1. A discussion of potential impacts from lighting, noise, human activity (e.g., recreation), defensible space, and wildlife-human interactions created by zoning of development projects or other project activities adjacent to natural areas, exotic and/or invasive species, and drainage. The latter subject should address Project-related changes on drainage patterns and water quality within, upstream, and downstream of the Project site, including: volume, velocity, and frequency of existing and post-Project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and post-Project fate of runoff from the Project site.
2. A discussion of potential indirect Project impacts on biological resources, including resources in areas adjacent to the project footprint, such as nearby public lands (e.g. National Forests, State Parks, etc.), open space, adjacent natural habitats, riparian ecosystems, wildlife corridors, and any designated and/or proposed reserve or

mitigation lands (e.g., preserved lands associated with a Natural Community Conservation Plan, or other conserved lands).

3. A cumulative effects analysis developed as described under CEQA Guidelines section 15130. The DEIR should analyze the cumulative effects of the plan's land use designations, policies and programs on the environment. Please include all potential direct and indirect Project related impacts to riparian areas, wetlands, vernal pools, alluvial fan habitats, wildlife corridors or wildlife movement areas, aquatic habitats, sensitive species and other sensitive habitats, open lands, open space, and adjacent natural habitats in the cumulative effects analysis. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.

### **Alternatives Analysis**

CDFW recommends the DEIR describe and analyze a range of reasonable alternatives to the Project that are potentially feasible, would "feasibly attain most of the basic objectives of the Project," and would avoid or substantially lessen any of the Project's significant effects (CEQA Guidelines § 15126.6[a]). The alternatives analysis should also evaluate a "no project" alternative (CEQA Guidelines § 15126.6[e]). The no Project alternative should evaluate how the changing environment, such as climate change and drought, may affect the community if a new or revised general plan were not adopted.

### **Mitigation Measures for Project Impacts to Biological Resources**

The DEIR should identify mitigation measures and alternatives that are appropriate and adequate to avoid or minimize potential impacts, to the extent feasible. The City should assess all direct, indirect, and cumulative impacts that are expected to occur as a result of the implementation of the Project and its long-term operation and maintenance. When proposing measures to avoid, minimize, or mitigate impacts, CDFW recommends consideration of the following:

1. *Fully Protected Species*: Fully protected species may not be taken or possessed at any time. Project activities described in the DEIR should be designed to completely avoid any fully protected species that have the potential to be present within or adjacent to the Project area. CDFW also recommends that the DEIR fully analyze potential adverse impacts to fully protected species due to habitat modification, loss of foraging habitat, and/or interruption of migratory and breeding behaviors. CDFW recommends that the Lead Agency include in the analysis how appropriate avoidance, minimization, and mitigation measures will reduce indirect impacts to fully protected species.
2. *Sensitive Plant Communities*: CDFW considers sensitive plant communities to be imperiled habitats having both local and regional significance. Plant communities, alliances, and associations with a statewide ranking of S-1, S-2, S-3, and S-4 should

be considered sensitive and declining at the local and regional level. These ranks can be obtained by querying the CNDDDB and are included in *The Manual of California Vegetation* (Sawyer et al. 2009). The DEIR should include measures to fully avoid and otherwise protect sensitive plant communities from project-related direct and indirect impacts.

3. *California Species of Special Concern* (CSSC): CSSC status applies to animals generally not listed under the federal Endangered Species Act or the CESA, but which nonetheless are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. CSSCs should be considered during the environmental review process. CSSC that have the potential or have been documented to occur within or adjacent to the project area, including, but not limited to the burrowing owl.
4. *Mitigation*: CDFW considers adverse project-related impacts to sensitive species and habitats to be significant to both local and regional ecosystems, and the DEIR should include mitigation measures for adverse project-related impacts to these resources. Mitigation measures should emphasize avoidance and reduction of project impacts. For unavoidable impacts, onsite habitat restoration and/or enhancement, and preservation should be evaluated and discussed in detail. Where habitat preservation is not available onsite, offsite land acquisition, management, and preservation should be evaluated and discussed in detail.

The DEIR should include measures to perpetually protect the targeted habitat values within mitigation areas from direct and indirect adverse impacts in order to meet mitigation objectives to offset project-induced qualitative and quantitative losses of biological values. Specific issues that should be addressed include restrictions on access, proposed land dedications, long-term monitoring and management programs, control of illegal dumping, water pollution, increased human intrusion, etc.

If sensitive species and/or their habitat may be impacted from the Project, CDFW recommends the inclusion of specific mitigation in the DEIR. CEQA Guidelines section 15126.4, subdivision (a)(1)(8) states that formulation of feasible mitigation measures should not be deferred until some future date. The Court of Appeal in *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645 struck down mitigation measures which required formulating management plans developed in consultation with State and Federal wildlife agencies after Project approval. Courts have also repeatedly not supported conclusions that impacts are mitigable when essential studies, and therefore impact assessments, are incomplete (*Sundstrom v. County of Mendocino* (1988) 202 Cal. App. 3d. 296; *Gentry v. City of Murrieta* (1995) 36 Cal. App. 4th 1359; *Endangered Habitat League, Inc. v. County of Orange* (2005) 131 Cal. App. 4th 777).

CDFW recommends that the DEIR specify mitigation that is roughly proportional to the level of impacts, in accordance with the provisions of CEQA (CEQA Guidelines,

§§ 15126.4(a)(4)(B), 15064, 15065, and 16355). The mitigation should provide long-term conservation value for the suite of species and habitat being impacted by the Project. Furthermore, in order for mitigation measures to be effective, they need to be specific, enforceable, and feasible actions that will improve environmental conditions.

5. *Habitat Revegetation/Restoration Plans*: Plans for restoration and revegetation should be prepared by persons with expertise in southern California ecosystems and native plant restoration techniques. Plans should identify the assumptions used to develop the proposed restoration strategy. Each plan should include, at a minimum:
  - (a) the location of restoration sites and assessment of appropriate reference sites;
  - (b) the plant species to be used, sources of local propagules, container sizes, and seeding rates;
  - (c) a schematic depicting the mitigation area;
  - (d) a local seed and cuttings and planting schedule;
  - (e) a description of the irrigation methodology;
  - (f) measures to control exotic vegetation on site;
  - (g) specific success criteria;
  - (h) a detailed monitoring program;
  - (i) contingency measures should the success criteria not be met; and
  - (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. Monitoring of restoration areas should extend across a sufficient time frame to ensure that the new habitat is established, self-sustaining, and capable of surviving drought.

CDFW recommends that local onsite propagules from the Project area and nearby vicinity be collected and used for restoration purposes. Onsite seed collection should be initiated in the near future in order to accumulate sufficient propagule material for subsequent use in future years. Onsite vegetation mapping at the alliance and/or association level should be used to develop appropriate restoration goals and local plant palettes. Reference areas should be identified to help guide restoration efforts. Specific restoration plans should be developed for various project components as appropriate.

Restoration objectives should include protecting special habitat elements or re-creating them in areas affected by the Project; examples could include retention of woody material, logs, snags, rocks, and brush piles.

6. *Nesting Birds and Migratory Bird Treaty Act*: Please note that it is the Project proponent's responsibility to comply with all applicable laws related to nesting birds and birds of prey. Fish and Game Code sections 3503, 3503.5, and 3513 afford protective measures as follows: Fish and Game Code section 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by Fish and Game Code or any regulation made pursuant thereto. Fish and Game Code section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by Fish and Game Code or any regulation adopted pursuant thereto. Fish and Game Code section 3513 makes it unlawful to take or possess any migratory nongame bird

except as provided by the rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. § 703 et seq.).

CDFW recommends that the DEIR include the results of avian surveys, as well as specific avoidance and minimization measures to ensure that impacts to nesting birds do not occur. Project-specific avoidance and minimization measures may include, but not be limited to: project phasing and timing, monitoring of project-related noise (where applicable), sound walls, and buffers, where appropriate. The DEIR should also include specific avoidance and minimization measures that will be implemented should a nest be located within the project site. If pre-construction surveys are proposed in the DEIR, the CDFW recommends that they be required no more than three (3) days prior to vegetation clearing or ground disturbance activities, as instances of nesting could be missed if surveys are conducted sooner.

7. *Moving out of Harm's Way*: To avoid direct mortality, CDFW recommends that the lead agency condition the DEIR to require that a CDFW-approved qualified biologist be retained to be onsite prior to and during all ground- and habitat-disturbing activities to move out of harm's way special status species or other wildlife of low or limited mobility that would otherwise be injured or killed from project-related activities. Movement of wildlife out of harm's way should be limited to only those individuals that would otherwise be injured or killed, and individuals should be moved only as far as necessary to ensure their safety (i.e., CDFW does not recommend relocation to other areas). Furthermore, it should be noted that the temporary relocation of onsite wildlife does not constitute effective mitigation for the purposes of offsetting project impacts associated with habitat loss.
8. *Translocation of Species*: CDFW generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species as studies have shown that these efforts are experimental in nature and largely unsuccessful.

### **California Endangered Species Act**

CDFW is responsible for ensuring appropriate conservation of fish and wildlife resources including threatened, endangered, and/or candidate plant and animal species, pursuant to CESA. CDFW recommends that a CESA Incidental Take Permit (ITP) be obtained if the Project has the potential to result in "take" (California Fish and Game Code Section 86 defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") of State-listed CESA species, either through construction or over the life of the project. CESA ITPs are issued to conserve, protect, enhance, and restore State-listed CESA species and their habitats.

CDFW encourages early consultation, as significant modification to the proposed Project and avoidance, minimization, and mitigation measures may be necessary to



obtain a CESA ITP. The California Fish and Game Code requires that CDFW comply with CEQA for issuance of a CESA ITP. CDFW therefore recommends that the DEIR addresses all Project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of CESA.

Based on review of CNDDDB, and/or knowledge of the project site/vicinity/general area, CDFW is aware that the following CESA-listed species have the potential to occur onsite/have previously been reported onsite: tricolored blackbird (*Agelaius tricolor*) and California black rail (*Laterallus jamaicensis coturniculus*).

### **ADDITIONAL COMMENTS AND RECOMMENDATIONS**

To ameliorate the water demands of this Project, CDFW recommends incorporation of water-wise concepts in project landscape design plans. In particular, CDFW recommends xeriscaping with locally native California species, and installing water-efficient and targeted irrigation systems (such as drip irrigation). Local water agencies/districts, and resource conservation districts in your area may be able to provide information on plant nurseries that carry locally native species, and some facilities display drought-tolerant locally native species demonstration gardens (for example the Riverside-Corona Resource Conservation District in Riverside). Information on drought-tolerant landscaping and water-efficient irrigation systems is available on California's Save our Water website: <http://saveourwater.com/what-you-can-do/tips/landscaping/>

### **ENVIRONMENTAL DATA**

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). Information can be submitted online or via completion of the CNDDDB field survey form at the following link: <https://wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The completed form can be mailed electronically to CNDDDB at the following email address: [CNDDDB@wildlife.ca.gov](mailto:CNDDDB@wildlife.ca.gov). The types of information reported to CNDDDB can be found at the following link: <https://wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.


### **FILING FEES**

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.).

## CONCLUSION

CDFW appreciates the opportunity to comment on the NOP of a DEIR for the Ontario Ranch Business Park Specific Plan Amendment Project (SCH No. 2019050018) and recommends that the City of Ontario address the CDFW's comments and concerns in the forthcoming DEIR. If you should have any questions pertaining to the comments provided in this letter, please contact Marina Barton, Environmental Scientist, at (909) 948-9632 or at [marina.barton@wildlife.ca.gov](mailto:marina.barton@wildlife.ca.gov).

Sincerely,

DocuSigned by:  
 for  
84F92FFEEFD24C8...  
Scott Wilson  
Environmental Program Manager

ec: Marina Barton, Environmental Scientist  
Inland Deserts Region  
[marina.barton@wildlife.ca.gov](mailto:marina.barton@wildlife.ca.gov)

HCPB CEQA Coordinator  
Habitat Conservation Planning Branch

Office of Planning and Research, State Clearinghouse, Sacramento  
[state.clearinghouse@opr.ca.gov](mailto:state.clearinghouse@opr.ca.gov)

## REFERENCES

Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens. 2009. A manual of California Vegetation, 2<sup>nd</sup> ed. California Native Plant Society Press, Sacramento, California.  
<http://vegetation.cnps.org/>

California Department of Fish and Game (CDFG). 2012. Staff report on burrowing owl mitigation. State of California, Natural Resources Agency. Available for download at: [http://www.dfg.ca.gov/wildlife/nongame/survey\\_monitor.html](http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html)

EUNICE M. ULLOA  
Mayor

MARC LUCIO  
Mayor Pro Tem



KAREN C. COMSTOCK  
CHRISTOPHER FLORES  
WALT POCOCK  
Council Members

MATTHEW C. BALLANTYNE  
City Manager

## CITY of CHINO

August 2, 2021

Alexis Vaughn, Assistant Planner  
City of Ontario Planning Department  
303 East "B" Street  
Ontario, CA 91764

Re: Notice of Preparation of an EIR: Ontario Ranch Business Park Specific Plan Amendment  
Subsequent Environmental Impact Report

Dear Ms. Vaughn,

This letter is in response to the Notice of Preparation and Public Scoping Meeting Notice for an Environmental Impact Report for the Proposed Ontario Ranch Business Park Specific Plan Amendment Subsequent Environmental Impact Report, made available on July 1, 2021. Thank you for giving the City of Chino the opportunity to review the information and provide comment. The City's comment is outlined below:

### Traffic / Transportation

1. The City requests participation in the scoping and review of the transportation studies prepared as part of this project, as we expect this project to have impacts to Chino's transportation infrastructure which requires review and analysis of both the industrial/business park project, as well as the proposed residential changes identified in the Notice of Preparation.

If you have any questions, please contact Michael Hitz, Principal Planner, by email at [mhitz@cityofchino.org](mailto:mhitz@cityofchino.org), or by phone at 909-334-3448.

Sincerely,

Warren Morelion, AICP  
City Planner

cc: Michael Hitz, AICP, Principal Planner  
Chris Magdosku, P.E., City Engineer  
Dennis Ralls, T.E., Transportation Manager





# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

SENT VIA E-MAIL:

August 3, 2021

[AVaughn@ontarioca.gov](mailto:AVaughn@ontarioca.gov)

Alexis Vaughn, Assistant Planner  
City of Ontario, Planning Department  
303 East B Street  
Ontario, California 91764

## **Notice of Preparation of a Subsequent Environmental Impact Report for the Ontario Ranch Business Park Specific Plan Amendment**

South Coast Air Quality Management District (South Coast AQMD) staff appreciates the opportunity to comment on the above-mentioned document. Our comments are recommendations on the analysis of potential air quality impacts from the Proposed Project that should be included in the Subsequent Environmental Impact Report (EIR). Please send a copy of the Subsequent EIR upon its completion and public release directly to South Coast AQMD as copies of the Subsequent EIR submitted to the State Clearinghouse are not forwarded. **In addition, please send all appendices and technical documents related to the air quality, health risk, and greenhouse gas analyses and electronic versions of all emission calculation spreadsheets, and air quality modeling and health risk assessment input and output files (not PDF files). Any delays in providing all supporting documentation for our review will require additional review time beyond the end of the comment period.**

### **CEQA Air Quality Analysis**

Staff recommends that the Lead Agency use South Coast AQMD's CEQA Air Quality Handbook and website<sup>1</sup> as guidance when preparing the air quality and greenhouse gas analyses. It is also recommended that the Lead Agency use the CalEEMod<sup>2</sup> land use emissions software, which can estimate pollutant emissions from typical land use development and is the only software model maintained by the California Air Pollution Control Officers Association.

South Coast AQMD has developed both regional and localized significance thresholds. South Coast AQMD staff recommends that the Lead Agency quantify criteria pollutant emissions and compare the emissions to South Coast AQMD's CEQA regional pollutant emissions significance thresholds<sup>3</sup> and localized significance thresholds (LSTs)<sup>4</sup> to determine the Proposed Project's air quality impacts. The localized analysis can be conducted by either using the LST screening tables or performing dispersion modeling.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the Proposed Project and all air pollutant sources related to the Proposed Project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road

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<sup>1</sup> South Coast AQMD's CEQA Handbook and other resources for preparing air quality analyses can be found at: <http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook>.

<sup>2</sup> CalEEMod is available free of charge at: [www.caleemod.com](http://www.caleemod.com).

<sup>3</sup> South Coast AQMD's CEQA regional pollutant emissions significance thresholds can be found at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>.

<sup>4</sup> South Coast AQMD's guidance for performing a localized air quality analysis can be found at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds>.

mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips, and hauling trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers and air pollution control devices), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, such as sources that generate or attract vehicular trips, should be included in the analysis. Furthermore, emissions from the overlapping construction and operational activities should be combined and compared to South Coast AQMD's regional air quality CEQA *operational* thresholds to determine the level of significance.

If the Proposed Project generates diesel emissions from long-term construction or attracts diesel-fueled vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the Lead Agency perform a mobile source health risk assessment<sup>5</sup>.

In the event that implementation of the Proposed Project requires a permit from South Coast AQMD, South Coast AQMD should be identified as a Responsible Agency for the Proposed Project in the Subsequent EIR. The assumptions in the air quality analysis in the EIR will be the basis for evaluating the permit under CEQA and imposing permit conditions and limits. Questions on permits should be directed to South Coast AQMD's Engineering and Permitting staff at (909) 396-3385.

The California Air Resources Board's (CARB) *Air Quality and Land Use Handbook: A Community Health Perspective*<sup>6</sup> is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process with additional guidance on strategies to reduce air pollution exposure near high-volume roadways available in CARB's technical advisory<sup>7</sup>.

South Coast AQMD staff is concerned about potential public health impacts of siting warehouses within close proximity of sensitive land uses, especially in communities that are already heavily affected by the existing warehouse and truck activities. The South Coast AQMD's Multiple Air Toxics Exposure Study (MATES IV), completed in May 2015, concluded that the largest contributor to cancer risk from air pollution is diesel particulate matter (DPM) emissions<sup>8</sup>. According to the MATES IV Carcinogenic Risk interactive Map, the area surrounding the Proposed Project has an estimated cancer risk over 1,020 in one million<sup>9</sup>. Operation of warehouses generates and attracts heavy-duty diesel-fueled trucks that emit DPM. When the health impacts from the Proposed Project are added to those existing impacts, residents living in the communities surrounding the Proposed Project will possibly face an even greater exposure to air pollution and bear a disproportionate burden of increasing health risks.

### **Mitigation Measures**

In the event that the Proposed Project results in significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized to minimize these impacts. Any impacts resulting from mitigation measures must also be analyzed. Several resources to assist the Lead Agency with identifying potential mitigation measures for the Proposed Project include South Coast AQMD's CEQA Air Quality Handbook<sup>1</sup>, South Coast AQMD's Mitigation Monitoring and

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<sup>5</sup> South Coast AQMD's guidance for performing a mobile source health risk assessment can be found at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis>.

<sup>6</sup> CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* can be found at: <http://www.arb.ca.gov/ch/handbook.pdf>.

<sup>7</sup> CARB's technical advisory can be found at: <https://www.arb.ca.gov/ch/landuse.htm>.

<sup>8</sup> South Coast AQMD. May 2015. *Multiple Air Toxics Exposure Study in the South Coast Air Basin*. Available at: <http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf>.

<sup>9</sup> South Coast AQMD. MATES INV Estimated Risk. Accessed at: <https://scaqmd-online.maps.arcgis.com/apps/webappviewer/index.html?id=470c30bc6daf4ef6a43f0082973ff45f>.



Reporting Plan for the 2016 Air Quality Management Plan<sup>10</sup>, and Southern California Association of Government's Mitigation Monitoring and Reporting Plan for the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy<sup>11</sup>.

Mitigation measures for operational air quality impacts from mobile sources that the Lead Agency should consider in the Subsequent EIR may include the following:

- Require zero-emissions (ZE) or near-zero emission (NZE) on-road haul trucks such as heavy-duty trucks with natural gas engines that meet the CARB's adopted optional NOx emissions standard at 0.02 grams per brake horsepower-hour (g/bhp-hr), if and when feasible. Given the state's clean truck rules and regulations aiming to accelerate the utilization and market penetration of ZE and NZE trucks such as the Advanced Clean Trucks Rule<sup>12</sup> and the Heavy-Duty Low NOx Omnibus Regulation<sup>13</sup>, ZE and NZE trucks will become increasingly more available to use. The Lead Agency should require a phase-in schedule to incentive the use of these cleaner operating trucks to reduce any significant adverse air quality impacts. South Coast AQMD staff is available to discuss the availability of current and upcoming truck technologies and incentive programs with the Lead Agency. At a minimum, require the use of 2010 model year<sup>14</sup> that meet CARB's 2010 engine emissions standards at 0.01 g/bhp-hr of particulate matter (PM) and 0.20 g/bhp-hr of NOx emissions or newer, cleaner trucks. Include environmental analyses to evaluate and identify sufficient electricity and supportive infrastructures in the Energy and Utilities and Service Systems Sections in the CEQA document, where appropriate. Include the requirement in applicable bid documents, purchase orders, and contracts. Operators shall maintain records of all trucks associated with project construction to document that each truck used meets these emission standards, and make the records available for inspection. The Lead Agency should conduct regular inspections to the maximum extent feasible to ensure compliance.
- Limit the daily number of trucks allowed at the Proposed Project to levels analyzed in the Final CEQA document. If higher daily truck volumes are anticipated to visit the site, the Lead Agency should commit to re-evaluating the Proposed Project through CEQA prior to allowing this higher activity level.
- Provide electric vehicle (EV) charging stations or at a minimum, provide the electrical infrastructure and electrical panels should be appropriately sized. Electrical hookups should be provided for truckers to plug in any onboard auxiliary equipment.

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<sup>10</sup> South Coast AQMD's 2016 Air Quality Management Plan can be found at: <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2017/2017-mar3-035.pdf> (starting on page 86).

<sup>11</sup> Southern California Association of Governments' 2020-2045 RTP/SCS can be found at:

[https://www.connectsocal.org/Documents/PEIR/certified/Exhibit-A\\_ConnectSoCal\\_PEIR.pdf](https://www.connectsocal.org/Documents/PEIR/certified/Exhibit-A_ConnectSoCal_PEIR.pdf).

<sup>12</sup> CARB. June 25, 2020. *Advanced Clean Trucks Rule*. Accessed at: <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks>.

<sup>13</sup> CARB has recently passed a variety of new regulations that require new, cleaner heavy-duty truck technology to be sold and used in state. For example, on August 27, 2020, CARB approved the Heavy-Duty Low NOx Omnibus Regulation, which will require all trucks to meet the adopted emission standard of 0.05 g/hp-hr starting with engine model year 2024. Accessed at: <https://ww2.arb.ca.gov/rulemaking/2020/hdomnibuslownox>.

<sup>14</sup> CARB adopted the statewide Truck and Bus Regulation in 2010. The Regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet particulate matter filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. More information on the CARB's Truck and Bus Regulation is available at: <https://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>.



Mitigation measures for operational air quality impacts from other area sources that the Lead Agency should consider in the Subsequent EIR may include the following:

- Maximize use of solar energy by installing solar energy arrays.
- Use light colored paving and roofing materials.
- Utilize only Energy Star heating, cooling, and lighting devices, and appliances.
- Use of water-based or low VOC cleaning products that go beyond the requirements of South Coast AQMD Rule 1113.

Design considerations for the Proposed Project that the Lead Agency should consider to further reduce air quality and health risk impacts include the following:

- Clearly mark truck routes with trailblazer signs, so that trucks will not travel next to or near sensitive land uses (e.g., residences, schools, day care centers, etc.).
- Design the Proposed Project such that truck entrances and exits are not facing sensitive receptors and trucks will not travel past sensitive land uses to enter or leave the Proposed Project site.
- Design the Proposed Project such that any check-in point for trucks is inside the Proposed Project site to ensure that there are no trucks queuing outside.
- Design the Proposed Project to ensure that truck traffic inside the Proposed Project site is as far away as feasible from sensitive receptors.
- Restrict overnight truck parking in sensitive land uses by providing overnight truck parking inside the Proposed Project site.

On May 7, 2021, South Coast AQMD's Governing Board adopted Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program, and Rule 316 – Fees for Rule 2305. Rules 2305 and 316 are new rules that will reduce regional and local emissions of nitrogen oxides (NOx) and particulate matter (PM), including diesel PM. These emission reductions will reduce public health impacts for communities located near warehouses from mobile sources that are associated with warehouse activities. Also, the emission reductions will help the region attain federal and state ambient air quality standards. Rule 2305 applies to owners and operators of warehouses greater than or equal to 100,000 square feet. Under Rule 2305, operators are subject to an annual WAIRE Points Compliance Obligation that is calculated based on the annual number of truck trips to the warehouse. WAIRE Points can be earned by implementing actions in a prescribed menu in Rule 2305, implementing a site-specific custom plan, or paying a mitigation fee. Warehouse owners are only required to submit limited information reports, but they can opt in to earn Points on behalf of their tenants if they so choose because certain actions to reduce emissions may be better achieved at the warehouse development phase, for instance the installation of solar and charging infrastructure. Rule 316 is a companion fee rule for Rule 2305 to allow South Coast AQMD to recover costs associated with Rule 2305 compliance activities. Since the Proposed Project consists of the development of six warehouses totaling 1,640,690 square feet, the Proposed Project's warehouses owners and operators will be required to comply with Rule 2305 once the warehouses are occupied. Therefore, South Coast AQMD staff recommends that the Lead Agency review South Coast AQMD Rule 2305 to determine the potential WAIRE Points Compliance Obligation for future operators and explore whether additional project requirements and CEQA mitigation measures can be identified and implemented at the Proposed Project that may help future warehouse operators meet their compliance obligation<sup>15</sup>. South Coast AQMD staff is available to answer questions concerning Rule 2305 implementation and compliance by phone or email at (909) 396-3140 or [waire-program@aqmd.gov](mailto:waire-program@aqmd.gov).

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<sup>15</sup> South Coast AQMD Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program. Accessed at: <http://www.aqmd.gov/docs/default-source/rule-book/reg-xxiii/r2305.pdf>.

For implementation guidance documents and compliance and reporting tools, please visit South Coast AQMD's WAIRE Program webpage<sup>16</sup>.

South Coast AQMD staff is available to work with the Lead Agency to ensure that air quality, greenhouse gas, and health risk impacts from the Proposed Project are accurately evaluated and mitigated where feasible. If you have any questions regarding this letter, please contact me at [lsun@aqmd.gov](mailto:lsun@aqmd.gov).

Sincerely,

*Lijin Sun*

Lijin Sun

Program Supervisor, CEQA IGR

Planning, Rule Development & Area Sources

LS

SBC210706-10

Control Number

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<sup>16</sup> South Coast AQMD WAIRE Program. Accessed at: <http://www.aqmd.gov/waire>.

August 6, 2021

Alexis Vaughn  
Assistant Planner  
City of Ontario Planning Department  
303 East B Street  
Ontario, California 91764  
[avaughn@ontarioca.gov](mailto:avaughn@ontarioca.gov)

Dear Alexis Vaughn:

Thank you for providing the California Air Resources Board (CARB) with the opportunity to comment on the Notice of Preparation (NOP) for the Ontario Ranch Business Park Specific Plan Amendment Project (Project) Draft Subsequent Environmental Impact Report (DSEIR), State Clearinghouse No. 2019050018. The DSEIR tiers off of the Ontario Ranch Business Park Specific Plan Amendment Project Final Environmental Impact Report (2020 FEIR) that was approved by the City of Ontario (City) in October of 2020. The 2020 FEIR proposed the development of 1,905,027 square feet of warehouse and office uses on eleven parcels covering approximately 81 acres. The proposed Project, evaluated in the DSEIR, would allow for the expansion of the Project to include an additional 1,640,690 square feet of Business Park and Industrial uses on a neighboring site totaling approximately 72 additional acres.

CARB submitted a comment letter, which is attached to this letter, on the Ontario Ranch Business Park Specific Plan Amendment Project Draft Environmental Impact Report (2020 DEIR) released in February 2020. CARB's comments dated March 27, 2020, highlighted concerns regarding the Project's modeling assumptions when evaluating health risk impacts from on-site Transport Refrigeration Units (TRU) and encouraged the City and applicant to implement all existing and emerging zero-emission technologies to minimize exposure to diesel particulate matter (diesel PM) and nitrogen oxide (NOx) emissions for all neighboring communities, and to minimize the greenhouse gases that contribute to climate change.

Industrial development, such as the proposed expansion of the Project, can result in high daily volumes of heavy-duty diesel truck traffic and operation of on-site equipment (e.g., forklifts and yard tractors) that emit toxic diesel emissions, and contribute to regional air pollution and global climate change.<sup>1</sup> The proposed expansion to the Project will expose nearby communities to elevated levels of air pollution. Residences are located north and west of the Project with the closest residences located approximately 85 feet from the Project's northern boundary. In addition to residences, three schools (Edwin Rhodes Elementary

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1. With regard to greenhouse gas emissions from this project, CARB has been clear that local governments and project proponents have a responsibility to properly mitigate these impacts. CARB's guidance, set out in detail in the Scoping Plan issued in 2017, makes clear that in CARB's expert view, local mitigation is critical to achieving climate goals and reducing greenhouse gases below levels of significance.

School, Howard Cattle Elementary School and Magnolia Junior High School) are located within 2 miles of the Project area. These communities are surrounded by existing toxic diesel PM emission sources, which include existing industrial sources, the Chino Airport, and vehicular traffic along State Route 83, State Route 60 and State Route 71. Due to the Project's proximity to residences and schools already burdened by multiple sources of air pollution, CARB is concerned with the potential cumulative health impacts associated with the construction and operation of the Project. CARB has reviewed the NOP and is concerned about the air pollution and health risk impacts that would result from the proposed expansion to the Project.

## **The DSEIR Should Quantify and Discuss the Potential Cancer Risks from Project Operation**

Since the Project is near residences and schools that are already burdened by multiple air pollution sources, CARB urges the City and applicant to prepare a health risk assessment (HRA) for the Project. The HRA should account for all potential operational health risks from Project-related diesel PM emission sources, including, but not limited to, back-up generators, on-site diesel-powered equipment, and heavy-duty trucks. The HRA should also determine if the operation of the Project in conjunction with past, present, and reasonably foreseeable future projects or activities would result in a cumulative cancer risk impact on nearby residences. To reduce diesel PM exposure and associated cancer risks, CARB urges the City and applicant to include all the air pollution reduction measures listed in CARB's attached comment letter on the 2020 DEIR in the DSEIR.

Since the Project description provided in the NOP does not explicitly state that the proposed industrial land uses would not be used for cold storage, there is a possibility that trucks and trailers visiting the Project-site would be equipped with TRUs.<sup>2</sup> TRUs on trucks and trailers can emit large quantities of diesel exhaust while operating within the Project-site. Residences and other sensitive receptors (e.g., daycare facilities, senior care facilities, and schools) located near where these TRUs could be operating, would be exposed to diesel exhaust emissions that would result in a significant cancer risk impact to the nearby community. If the Project would be used for cold storage, CARB urges the City to model air pollutant emissions from on-site TRUs in the DSEIR, as well as include potential cancer risks from on-site TRUs in the Project's HRA. If the Project will not be used for cold storage, CARB urges the City to include one of the following design measures in the DSEIR:

- A Project design measure requiring contractual language in tenant lease agreements that prohibits tenants from operating TRUs within the Project-site; or
- A condition requiring a restrictive covenant over the parcel that prohibits the applicant's use of TRUs on the property unless the applicant seeks and receives an amendment to its conditional use permit allowing such use.

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<sup>2</sup> TRUs are refrigeration systems powered by integral diesel engines that protect perishable goods during transport in an insulated truck and trailer vans, rail cars, and domestic shipping containers.

The HRA prepared in support of the Project should be based on the latest Office of Environmental Health Hazard Assessment's (OEHHA) guidance (2015 Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments),<sup>3</sup> CARB's Hot Spots Analysis and Reporting Program (HARP2 model), and the South Coast Air Quality Management District's (SCAQMD) CEQA Air Quality Handbook.<sup>4</sup> The Project's mobile diesel PM emissions used to estimate the Project's cancer risk impacts should be based on CARB's latest 2021 Emission Factors model (EMFAC2021). Mobile emission factors can be easily obtained by running the EMFAC2021 Web Database: <https://arb.ca.gov/emfac/>.

The HRA should evaluate and present the existing baseline (current conditions), future baseline (full build-out year, without the Project), and future year with the Project. The health risks modeled under both the existing and the future baselines should reflect all applicable federal, state, and local rules and regulations. By evaluating health risks using both baselines, the public and planners will have a complete understanding of the potential health impacts that would result from the Project.

## **The DSEIR Should Quantify and Discuss the Potential Cancer Risks from Project Construction**

In addition to the health risks associated with operational diesel PM emissions, health risks associated with construction diesel PM emissions should also be included in the air quality section of the DSEIR and the Project's HRA. Construction of the Project would result in short-term diesel PM emissions from the use of both on-road and off-road diesel equipment. The OEHHA guidance recommends assessing cancer risks for construction projects lasting longer than two months. Since construction would very likely occur over a period lasting longer than two months, the HRA prepared for the Project should include health risks for existing residences near the Project-site during construction.

The HRA should account for all diesel PM emission sources related to Project construction, including, but not limited to, off-road mobile equipment, diesel generators, and on-road heavy-duty trucks. As previously stated in Section I of this letter, the cancer risks evaluated in the construction HRA should be based on the latest OEHHA guidance, CARB's HARP2 model, and SCAQMD's CEQA guidance. The cancer risks reported in the HRA should be calculated using the latest emission factors obtained from CARB's latest EMFAC (currently EMFAC 2021) and off-road models.

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3. Office of Environmental Health Hazard Assessment (OEHHA). Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. February 2015. Accessed at: <https://oehha.ca.gov/media/downloads/cnr/2015guidancemanual.pdf>.

4. SCAQMD's 1993 Handbook can be found at: <http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook>.

## Conclusion

To reduce the exposure of toxic diesel PM emissions in disadvantaged communities already impacted by air pollution, the final design of the Project should include all existing and emerging zero-emission technologies to minimize diesel PM and NO<sub>x</sub> emissions, as well as the greenhouse gases that contribute to climate change. CARB encourages the City and applicant to implement the measures listed in CARB's attached comment letter on the 2020 DEIR in the SEIR.

Given the breadth and scope of projects subject to CEQA review throughout California that have air quality and greenhouse gas impacts, coupled with CARB's limited staff resources to substantively respond to all issues associated with a project, CARB must prioritize its substantive comments here based on staff time, resources, and its assessment of impacts. CARB's deliberate decision to substantively comment on some issues does not constitute an admission or concession that it substantively agrees with the lead agency's findings and conclusions on any issues on which CARB does not substantively submit comments.

CARB appreciates the opportunity to comment on the NOP for the Project and can provide assistance on zero-emission technologies and emission reduction strategies, as needed. Please include CARB on your State Clearinghouse list of selected State agencies that will receive the DSEIR as part of the comment period. If you have questions, please contact Stanley Armstrong, Air Pollution Specialist via email at [stanley.armstrong@arb.ca.gov](mailto:stanley.armstrong@arb.ca.gov).

Sincerely,



Richard Boyd, Assistant Division Chief, Transportation and Toxics Division

Attachment

cc: See next page.



cc: State Clearinghouse  
[state.clearinghouse@opr.ca.gov](mailto:state.clearinghouse@opr.ca.gov)

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Stanley Armstrong, Air Pollution Specialist, Risk Reduction Branch

## Attachment A

March 27, 2020

Richard Ayala  
Senior Planner  
City of Ontario  
303 East B Street  
Ontario, California 91761

Dear Richard Ayala:

Thank you for providing the California Air Resources Board (CARB) with the opportunity to comment on the Ontario Ranch Business Park Specific Plan (Project) Draft Environmental Impact Report (DEIR), State Clearinghouse No. 2019050018. The project includes the development of 8 industrial/warehouse buildings totaling 1,905,027 square feet, which includes 200,000 square feet of cold storage space. Once in operation, the Project would introduce up to 4,328 daily vehicle trips, including 796 daily heavy-duty truck trips, along local roadways. The Project is located within the City of Ontario (City), California, which is the lead agency for California Environmental Quality Act (CEQA) purposes.

The industrial uses proposed under the Project would permit warehousing and distribution facilities. Freight facilities, such as warehouse and distribution, can result in high daily volumes of heavy-duty diesel truck traffic and operation of on-site equipment (e.g., forklifts, yard tractors, etc.) which emit toxic diesel emissions and contribute to regional air pollution and global climate change.<sup>1</sup> CARB has reviewed the DEIR and is concerned about the air pollution impacts that would result should the City approve the Project and the land-use change from General Commercial, Office Commercial, Low-Medium Density Residential to Business Park, Industrial to build the proposed industrial/warehouse buildings.

## **I. The Project Would Increase Exposure to Air Pollution in Disadvantaged Communities**

The Project, if approved, will expose nearby disadvantaged communities to elevated levels of air pollution. Residences are located north, east, northeast, and northwest of the Project with the closest residences located approximately 85 feet from the Project's northern boundary. In addition to residences, two elementary schools (Edwin Rhodes Elementary School and Howard Cattle Elementary School), and a high school

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<sup>1</sup> With regard to greenhouse gas emissions from this project, CARB has been clear that local governments and project proponents have a responsibility to properly mitigate these impacts. CARB's guidance, set out in detail in the Scoping Plan issued in 2017, makes clear that in CARB's expert view local mitigation is critical to achieving climate goals and reducing greenhouse gases below levels of significance.

(Magnolia Junior High School) are located within 1 mile of the Project area. The community is surrounded by existing toxic diesel particulate matter (diesel PM) emission sources, which include existing industrial sources, the Chino Airport, and vehicular traffic along State Route 60 (SR-60) and State Route 71 (SR-71). Due to the Project's proximity to residences and schools already disproportionately burdened by multiple sources of air pollution, CARB is concerned with the potential cumulative health impacts associated with the construction and operation of the Project.

The State of California has placed additional emphasis on protecting local communities from the harmful effects of air pollution through the passage of Assembly Bill 617 (AB 617) (Garcia, Chapter 136, Statutes of 2017). AB 617 is a significant piece of air quality legislation that highlights the need for further emission reductions in communities with high exposure burdens, like those in which the Project is located. Diesel PM emissions generated during the construction and operation of the Project would negatively impact the community, which is already disproportionately impacted by air pollution from existing industrial sources, the Chino Airport, and traffic on SR-60 and SR-71.

## **II. The Health Risk Assessment Used Inappropriate Assumptions When Modeling the Project's Health Risk Impacts from On-Site Transport Refrigeration Units**

CARB has reviewed the Project's health risk assessment (HRA) and has concerns regarding the assumptions used to estimate the Project's health impacts from on-site transport refrigeration units (TRU). Based on the Project's traffic analysis, 138 of the total 796 daily trucks serving the Project will be associated with the proposed 200,000 square feet of cold storage space. In the HRA, the City and applicant assumed half of the 138 heavy truck trips (i.e., 69 heavy truck trips) serving the proposed 200,000 square feet of cold storage space would be equipped with TRUs. Given the size of the Project, it is difficult to estimate the number of TRU-equipped trucks and trailers that may access the site. However, it is conceivable that it could be much higher than half of the total truck trips associated with the proposed cold storage space. CARB urges the applicant and City to revise the HRA assuming all of the Project's trucks serving the proposed cold storage space are equipped with TRUs.

The HRA assumed all TRUs visiting the Project site would not idle longer than 30 minutes. Data obtained by CARB indicates that TRUs can operate for as long as 2 hours per visit, which is well above the 30-minute duration assumed in the HRA. Unless the applicant and City restrict TRU idling duration to less than 30 minutes, the Project's HRA should be revised. The revised HRA should assume a TRU idling duration supported by substantial evidence.

The HRA assumed the TRUs accessing the Project site would have an average power rating of 50 horsepower (hp). TRUs with a power rating of less than 25 hp have a particulate matter (PM) emission rate of 0.3 grams per brake horsepower-hour

(g/bhp-hr), whereas TRUs with a power rating greater than 25 hp have a PM emission rate of 0.02 g/bhp-hr. Unless the applicant and City prohibit TRUs with a power rating of less than 25 hp from accessing the Project site, the Project's HRA should be revised to assume a conservative percentage of the TRUs entering the Project site have a power rating of less than 25 hp, supported by substantial evidence.

### **III. Air Pollutant Emissions from On-Road Trucks Reported in the DEIR are not Consistent with the Project's Air Quality Modeling Results**

CARB has reviewed the air pollutant emission rates presented in Chapter 5.2 (Air Quality) and Appendix C (Air Quality Modeling and Reports) of the DEIR. Based on this review, CARB has identified inconsistencies between the air pollutant emission rates shown in Table 5.2-11 and Appendix C. According to Table 5.2-11, on-road trucks would emit 105 pounds per day (ppd) of nitrogen oxides (NO<sub>x</sub>). This NO<sub>x</sub> emission rate was estimated using the California Emissions Estimator Model (CalEEMod). After reviewing the CalEEMod outputs presented in Appendix C (Air Quality) of the DEIR, the operation of Project-related on-road trucks would result in 188 ppd of NO<sub>x</sub>, which is higher than the truck emission rate reported in the air quality section of the DEIR (i.e., Table 5.2-11). Although the DEIR does ultimately conclude the Project would result in a significant and unavoidable impact after mitigation, CARB urges the City and applicant to report accurate air pollutant emission estimates in the FEIR.

### **IV. Recommended Mitigation Measures**

Chapter 5.2 (Air Quality) of the DEIR includes Mitigation Measure AQ-1 through AQ-12 to reduce the Project's impacts on air quality during its construction and operation. These mitigation measures include requiring the use of Tier 4 equipment, the use of paints with a volatile organic compound (VOC) of 25 grams per liter or less during project construction, and the use of electric-powered on-site equipment (e.g., yard trucks/hostlers) and electrified truck/dock bays during project operation. With the implementation of these mitigation measures, the DEIR concluded that the Project would result in a significant and unavoidable impact on air quality. Even where impacts will remain significant and unavoidable after mitigation, CEQA requires that all feasible mitigation measures be incorporated (see California Public Resources Code § 21081; 14 CCR § 15126.2(b)). To meet this requirement, CARB urges the City to implement the emission reduction measures found in Attachment A of this letter that are not already in the DEIR.

### **V. Conclusion**

CARB is concerned about the Project's potential public health impacts. The DEIR does not incorporate conservative modeling assumptions when evaluating health risk impacts from on-site TRUs, has reporting inconsistencies, and does not include all feasible mitigation measures to reduce the Project's construction and operational air pollution



Richard Ayala  
March 27, 2020  
Page 4

emissions. CARB recommends that the City and applicant reanalyze the Project's health risk impacts using conservative assumptions and include the air pollution emission measures provided in Attachment A in the FEIR.

Given the breadth and scope of projects subject to CEQA review throughout California that have air quality and greenhouse gas impacts coupled with CARB's limited staff resources to substantively respond to all issues associated with a project, CARB must prioritize its substantive comments here based on staff time, resources, and its assessment of impacts. CARB's deliberate decision to substantively comment on some issues does not constitute an admission or concession that it substantively agrees with the lead agency's findings and conclusions on any issues on which CARB does not substantively submit comments.

CARB appreciates the opportunity to comment on the DEIR for the Project and can provide assistance on zero-emission technologies and emission reduction strategies, as needed. If you have questions, please contact Stanley Armstrong, Air Pollution Specialist, at (916) 440-8242 or via email at [stanley.armstrong@arb.ca.gov](mailto:stanley.armstrong@arb.ca.gov).

Sincerely,



Richard Boyd, Chief  
Risk Reduction Branch  
Transportation and Toxics Division

Attachment

cc: See next page.

Richard Ayala  
March 27, 2020  
Page 5

cc: State Clearinghouse  
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## ATTACHMENT A

### Recommended Air Pollution Emission Reduction Measures for Warehouses and Distribution Centers

The California Air Resources Board (CARB) recommends developers and government planners use all existing and emerging zero to near-zero emission technologies during project construction and operation to minimize public exposure to air pollution. Below are some measures, currently recommended by CARB, specific to warehouse and distribution center projects. These recommendations are subject to change as new zero-emission technologies become available.

#### Recommended Construction Measures

1. Ensure the cleanest possible construction practices and equipment are used. This includes eliminating the idling of diesel-powered equipment and providing the necessary infrastructure (e.g., electrical hookups) to support zero and near-zero equipment and tools.
2. Implement, and plan accordingly for, the necessary infrastructure to support the zero and near-zero emission technology vehicles and equipment that will be operating on site. Necessary infrastructure may include the physical (e.g., needed footprint), energy, and fueling infrastructure for construction equipment, on-site vehicles and equipment, and medium-heavy and heavy-heavy duty trucks.
3. In construction contracts, include language that requires all off-road diesel-powered equipment used during construction to be equipped with Tier 4 or cleaner engines, except for specialized construction equipment in which Tier 4 engines are not available. In place of Tier 4 engines, off-road equipment can incorporate retrofits, such that, emission reductions achieved equal or exceed that of a Tier 4 engine.
4. In construction contracts, include language that requires all off-road equipment with a power rating below 19 kilowatts (e.g., plate compactors, pressure washers) used during project construction be battery powered.
5. In construction contracts, include language that requires all heavy-duty trucks entering the construction site, during the grading and building construction phases be model year 2014 or later. All heavy-duty haul trucks should also meet CARB's lowest optional low-oxides of nitrogen (NO<sub>x</sub>) standard starting in the year 2022.<sup>1</sup>

---

<sup>1</sup> In 2013, CARB adopted optional low-NO<sub>x</sub> emission standards for on-road heavy-duty engines. CARB encourages engine manufacturers to introduce new technologies to reduce NO<sub>x</sub> emissions below the current mandatory on-road heavy-duty diesel engine emission standards for model year 2010 and later. CARB's optional low-NO<sub>x</sub> emission standard is available at: <https://www.arb.ca.gov/msprog/onroad/optionnox/optionnox.htm>.

6. In construction contracts, include language that requires all construction equipment and fleets to be in compliance with all current air quality regulations. CARB is available to assist in implementing this recommendation.

## **Recommended Operation Measures**

1. Include contractual language in tenant lease agreements that requires tenants to use the cleanest technologies available, and to provide the necessary infrastructure to support zero-emission vehicles and equipment that will be operating on site.
2. Include contractual language in tenant lease agreements that requires all loading/unloading docks and trailer spaces be equipped with electrical hookups for trucks with transport refrigeration units (TRU) or auxiliary power units. This requirement will substantially decrease the amount of time that a TRU powered by a fossil-fueled internal combustion engine can operate at the project site. Use of zero-emission all-electric plug-in TRUs, hydrogen fuel cell transport refrigeration, and cryogenic transport refrigeration are encouraged and can also be included in lease agreements.<sup>2</sup>
3. Include contractual language in tenant lease agreements that requires all TRUs entering the project site be plug-in capable.
4. Include contractual language in tenant lease agreements that requires future tenants to exclusively use zero-emission light and medium-duty delivery trucks and vans.
5. Include contractual language in tenant lease agreements requiring all TRUs, trucks, and cars entering the Project site be zero-emission.
6. Include contractual language in tenant lease agreements that requires all service equipment (e.g., yard hostlers, yard equipment, forklifts, and pallet jacks) used within the project site to be zero-emission. This equipment is widely available.
7. Include contractual language in tenant lease agreements that requires all heavy-duty trucks entering or on the project site to be model year 2014 or later, expedite a transition to zero-emission vehicles, and be fully zero-emission beginning in 2030.

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<sup>2</sup> CARB's Technology Assessment for Transport Refrigerators provides information on the current and projected development of TRUs, including current and anticipated costs. The assessment is available at: [https://www.arb.ca.gov/msprog/tech/techreport/tru\\_07292015.pdf](https://www.arb.ca.gov/msprog/tech/techreport/tru_07292015.pdf).

8. Include contractual language in tenant lease agreements that requires the tenant be in, and monitor compliance with, all current air quality regulations for on-road trucks including CARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation,<sup>3</sup> Periodic Smoke Inspection Program (PSIP),<sup>4</sup> and the Statewide Truck and Bus Regulation.<sup>5</sup>
9. Include contractual language in tenant lease agreements restricting trucks and support equipment from idling longer than 5 minutes while on site.
10. Include contractual language in tenant lease agreements that limits on-site TRU diesel engine runtime to no longer than 15 minutes. If no cold storage operations are planned, include contractual language and permit conditions that prohibit cold storage operations unless a health risk assessment is conducted, and the health impacts fully mitigated.
11. Include rooftop solar panels for each proposed warehouse to the extent feasible, with a capacity that matches the maximum allowed for distributed solar connections to the grid.

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<sup>3</sup>. In December 2008, CARB adopted a regulation to reduce greenhouse gas emissions by improving the fuel efficiency of heavy-duty tractors that pull 53-foot or longer box-type trailers. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the heavy-duty tractors that pull them on California highways. CARB's Heavy-Duty (Tractor-Trailer) Greenhouse Gas Regulation is available at: <https://www.arb.ca.gov/cc/hdghg/hdghg.htm>.

<sup>4</sup>. The PSIP program requires that diesel and bus fleet owners conduct annual smoke opacity inspections of their vehicles and repair those with excessive smoke emissions to ensure compliance. CARB's PSIP program is available at: <https://www.arb.ca.gov/enf/hdvp/hdvp.htm>.

<sup>5</sup>. The regulation requires that newer heavier trucks and buses must meet particulate matter filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent. CARB's Statewide Truck and Bus Regulation is available at: <https://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>.



**APPENDIX B**  
**AIR QUALITY – GREENHOUSE GAS EMISSIONS**

**APPENDIX B1**  
**AIR QUALITY EMISSIONS MODEL DATA**

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Ontario Ranch Business Park - Unmitigated**

**San Bernardino-South Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Office Park	227.95	1000sqft	5.23	227,950.00	0
Refrigerated Warehouse-No Rail	179.13	1000sqft	4.11	179,135.00	0
Unrefrigerated Warehouse-No Rail	913.05	1000sqft	20.96	913,053.00	0
Unrefrigerated Warehouse-No Rail	320.55	1000sqft	7.36	320,551.00	0
Other Asphalt Surfaces	491.00	1000sqft	11.27	491,000.00	0
Parking Lot	1,144.52	1000sqft	26.27	1,144,515.00	0
City Park	4.75	Acre	4.75	206,910.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	32
<b>Climate Zone</b>	10			<b>Operational Year</b>	2024
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	390.98	<b>CH4 Intensity (lb/MW hr)</b>	0.033	<b>N2O Intensity (lb/MW hr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Land uses based on TIA, landscaping shown as City Park, Parking Lot includes drive aisles, parking spaces, and docks. Off-site improvements modeled as Other Asphalt Surfaces

Construction Phase - Anticipated construction schedule

Off-road Equipment - Crushing

Trips and VMT - demo crushed onsite and reused

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Demolition - demo = 10,200 sf, crushed on site reused as base. crushing calcs done outside model

Grading - site is balanced

Vehicle Trips - based on TIA, passenger cars shown under Office Park, trucks shown under refrigerated warehouse. cars: 2908/227.951= 12.75712762830608  
trucks: 748/179.135= 4.175621737795517

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Construction Off-road Equipment Mitigation - incorporate RULE 403

Water Mitigation - comply with building code

Operational Off-Road Equipment - assume 1 yard truck per building, 6 total. Assume 0.03 forklifts per 1000 sf of warehouse rounded up to 50

Fleet Mix - Fleet Mix based on TIA

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	110.00	109.00
tblConstructionPhase	NumDays	1,550.00	425.00
tblConstructionPhase	NumDays	100.00	33.00
tblConstructionPhase	NumDays	155.00	55.00
tblConstructionPhase	NumDays	110.00	165.00
tblConstructionPhase	NumDays	60.00	33.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.65
tblFleetMix	LDA	0.54	1.00
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LDT2	0.17	0.00

## Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	7.1040e-003	0.00
tblFleetMix	LHD2	7.1040e-003	0.19
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MH	4.8300e-003	0.00
tblFleetMix	MH	4.8300e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.16
tblFleetMix	OBUS	5.5400e-004	0.00
tblFleetMix	OBUS	5.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	UBUS	2.5100e-004	0.00
tblFleetMix	UBUS	2.5100e-004	0.00
tblLandUse	LandUseSquareFeet	179,130.00	179,135.00
tblLandUse	LandUseSquareFeet	320,550.00	320,551.00
tblLandUse	LandUseSquareFeet	913,050.00	913,053.00
tblLandUse	LandUseSquareFeet	1,144,520.00	1,144,515.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	50.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblTripsAndVMT	HaulingTripNumber	46.00	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	6.90	40.00

## Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	41.00	100.00
tblVehicleTrips	CW_TTP	33.00	100.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	15.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	82.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	1.64	12.76
tblVehicleTrips	ST_TR	2.12	4.18
tblVehicleTrips	ST_TR	1.74	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.76	12.76
tblVehicleTrips	SU_TR	2.12	4.18
tblVehicleTrips	SU_TR	1.74	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	11.07	12.76
tblVehicleTrips	WD_TR	2.12	4.18
tblVehicleTrips	WD_TR	1.74	0.00

**2.0 Emissions Summary**



Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.1 Overall Construction (Maximum Daily Emission)**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	12.5095	83.3795	114.7274	0.3462	29.1813	3.0374	32.0083	10.2552	2.8209	13.0761	0.0000	35,313.36 63	35,313.36 63	3.2634	2.0719	36,012.37 23
2023	154.5838	50.0202	106.7737	0.3289	23.1409	1.5275	24.6684	6.2203	1.4312	7.6515	0.0000	33,810.45 29	33,810.45 29	2.0504	2.0370	34,468.74 56
2024	152.2889	38.4885	86.9251	0.2982	22.9732	0.9141	23.8873	6.1758	0.8640	7.0398	0.0000	30,920.38 89	30,920.38 89	1.2794	1.9806	31,542.59 60
<b>Maximum</b>	<b>154.5838</b>	<b>83.3795</b>	<b>114.7274</b>	<b>0.3462</b>	<b>29.1813</b>	<b>3.0374</b>	<b>32.0083</b>	<b>10.2552</b>	<b>2.8209</b>	<b>13.0761</b>	<b>0.0000</b>	<b>35,313.36 63</b>	<b>35,313.36 63</b>	<b>3.2634</b>	<b>2.0719</b>	<b>36,012.37 23</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	12.5095	83.3795	114.7274	0.3462	22.0558	3.0374	24.8828	6.4354	2.8209	9.0641	0.0000	35,313.36 63	35,313.36 63	3.2634	2.0719	36,012.37 23
2023	154.5838	50.0202	106.7737	0.3289	21.3821	1.5275	22.9096	5.7886	1.4312	7.2198	0.0000	33,810.45 29	33,810.45 29	2.0504	2.0370	34,468.74 56
2024	152.2889	38.4885	86.9251	0.2982	21.2275	0.9141	22.1416	5.7473	0.8640	6.6113	0.0000	30,920.38 89	30,920.38 89	1.2794	1.9806	31,542.59 60
<b>Maximum</b>	<b>154.5838</b>	<b>83.3795</b>	<b>114.7274</b>	<b>0.3462</b>	<b>22.0558</b>	<b>3.0374</b>	<b>24.8828</b>	<b>6.4354</b>	<b>2.8209</b>	<b>9.0641</b>	<b>0.0000</b>	<b>35,313.36 63</b>	<b>35,313.36 63</b>	<b>3.2634</b>	<b>2.0719</b>	<b>36,012.37 23</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	14.12	0.00	13.19	20.66	0.00	17.55	0.00	0.00	0.00	0.00	0.00	0.00

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	37.3980	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
Energy	0.3665	3.3320	2.7989	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.3797	3,998.3797	0.0766	0.0733	4,022.1401
Mobile	6.5163	127.6182	116.8134	0.9797	63.3579	1.5017	64.8595	17.2164	1.4309	18.6473		104,334.111	104,334.111	2.9585	11.6240	107,872.0144
Offroad	7.6920	64.1433	76.4665	0.1558		3.2701	3.2701		3.0085	3.0085	0.0000	15,083.6441	15,083.6441	4.8784		15,205.6030
<b>Total</b>	<b>51.9728</b>	<b>195.0965</b>	<b>196.4133</b>	<b>1.1555</b>	<b>63.3579</b>	<b>5.0262</b>	<b>68.3840</b>	<b>17.2164</b>	<b>4.6938</b>	<b>21.9102</b>	<b>0.0000</b>	<b>123,416.8530</b>	<b>123,416.8530</b>	<b>7.9154</b>	<b>11.6973</b>	<b>127,100.5224</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	37.3980	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
Energy	0.3665	3.3320	2.7989	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.3797	3,998.3797	0.0766	0.0733	4,022.1401
Mobile	6.5163	127.6182	116.8134	0.9797	63.3579	1.5017	64.8595	17.2164	1.4309	18.6473		104,334.111	104,334.111	2.9585	11.6240	107,872.0144
Offroad	7.6920	64.1433	76.4665	0.1558		3.2701	3.2701		3.0085	3.0085	0.0000	15,083.6441	15,083.6441	4.8784		15,205.6030
<b>Total</b>	<b>51.9728</b>	<b>195.0965</b>	<b>196.4133</b>	<b>1.1555</b>	<b>63.3579</b>	<b>5.0262</b>	<b>68.3840</b>	<b>17.2164</b>	<b>4.6938</b>	<b>21.9102</b>	<b>0.0000</b>	<b>123,416.8530</b>	<b>123,416.8530</b>	<b>7.9154</b>	<b>11.6973</b>	<b>127,100.5224</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2022	7/15/2022	5	33	
2	Site Preparation	Site Preparation	6/1/2022	7/15/2022	5	33	
3	Grading	Grading	7/16/2022	9/30/2022	5	55	
4	Building Construction	Building Construction	8/1/2022	3/15/2024	5	425	

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

5	Paving	Paving	5/1/2023	12/15/2023	5	165
6	Architectural Coating	Architectural Coating	10/1/2023	2/29/2024	5	109

**Acres of Grading (Site Preparation Phase): 49.5**

**Acres of Grading (Grading Phase): 165**

**Acres of Paving: 37.54**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,461,034; Non-Residential Outdoor: 820,345; Striped Parking Area: 98,131 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,440.00	571.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	288.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3043	0.0000	0.3043	0.0461	0.0000	0.0461			0.0000			0.0000
Off-Road	3.1186	28.9444	24.9253	0.0458		1.4227	1.4227		1.3353	1.3353		4,411.3113	4,411.3113	1.0957		4,438.7038
<b>Total</b>	<b>3.1186</b>	<b>28.9444</b>	<b>24.9253</b>	<b>0.0458</b>	<b>0.3043</b>	<b>1.4227</b>	<b>1.7270</b>	<b>0.0461</b>	<b>1.3353</b>	<b>1.3814</b>		<b>4,411.3113</b>	<b>4,411.3113</b>	<b>1.0957</b>		<b>4,438.7038</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0762	0.0483	0.7415	1.8600e-003	0.2012	1.0600e-003	0.2023	0.0534	9.7000e-004	0.0543		188.9222	188.9222	4.9100e-003	4.7000e-003	190.4461
<b>Total</b>	<b>0.0762</b>	<b>0.0483</b>	<b>0.7415</b>	<b>1.8600e-003</b>	<b>0.2012</b>	<b>1.0600e-003</b>	<b>0.2023</b>	<b>0.0534</b>	<b>9.7000e-004</b>	<b>0.0543</b>		<b>188.9222</b>	<b>188.9222</b>	<b>4.9100e-003</b>	<b>4.7000e-003</b>	<b>190.4461</b>



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1187	0.0000	0.1187	0.0180	0.0000	0.0180			0.0000			0.0000
Off-Road	3.1186	28.9444	24.9253	0.0458		1.4227	1.4227		1.3353	1.3353	0.0000	4,411.3113	4,411.3113	1.0957		4,438.7038
<b>Total</b>	<b>3.1186</b>	<b>28.9444</b>	<b>24.9253</b>	<b>0.0458</b>	<b>0.1187</b>	<b>1.4227</b>	<b>1.5414</b>	<b>0.0180</b>	<b>1.3353</b>	<b>1.3533</b>	<b>0.0000</b>	<b>4,411.3113</b>	<b>4,411.3113</b>	<b>1.0957</b>		<b>4,438.7038</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0762	0.0483	0.7415	1.8600e-003	0.1855	1.0600e-003	0.1865	0.0495	9.7000e-004	0.0505		188.9222	188.9222	4.9100e-003	4.7000e-003	190.4461
<b>Total</b>	<b>0.0762</b>	<b>0.0483</b>	<b>0.7415</b>	<b>1.8600e-003</b>	<b>0.1855</b>	<b>1.0600e-003</b>	<b>0.1865</b>	<b>0.0495</b>	<b>9.7000e-004</b>	<b>0.0505</b>		<b>188.9222</b>	<b>188.9222</b>	<b>4.9100e-003</b>	<b>4.7000e-003</b>	<b>190.4461</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Site Preparation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
<b>Total</b>	<b>3.1701</b>	<b>33.0835</b>	<b>19.6978</b>	<b>0.0380</b>	<b>19.6570</b>	<b>1.6126</b>	<b>21.2696</b>	<b>10.1025</b>	<b>1.4836</b>	<b>11.5860</b>		<b>3,686.0619</b>	<b>3,686.0619</b>	<b>1.1922</b>		<b>3,715.8655</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0762	0.0483	0.7415	1.8600e-003	0.2012	1.0600e-003	0.2023	0.0534	9.7000e-004	0.0543		188.9222	188.9222	4.9100e-003	4.7000e-003	190.4461
<b>Total</b>	<b>0.0762</b>	<b>0.0483</b>	<b>0.7415</b>	<b>1.8600e-003</b>	<b>0.2012</b>	<b>1.0600e-003</b>	<b>0.2023</b>	<b>0.0534</b>	<b>9.7000e-004</b>	<b>0.0543</b>		<b>188.9222</b>	<b>188.9222</b>	<b>4.9100e-003</b>	<b>4.7000e-003</b>	<b>190.4461</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Site Preparation - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6662	0.0000	7.6662	3.9400	0.0000	3.9400			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
<b>Total</b>	<b>3.1701</b>	<b>33.0835</b>	<b>19.6978</b>	<b>0.0380</b>	<b>7.6662</b>	<b>1.6126</b>	<b>9.2788</b>	<b>3.9400</b>	<b>1.4836</b>	<b>5.4235</b>	<b>0.0000</b>	<b>3,686.0619</b>	<b>3,686.0619</b>	<b>1.1922</b>		<b>3,715.8655</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0762	0.0483	0.7415	1.8600e-003	0.1855	1.0600e-003	0.1865	0.0495	9.7000e-004	0.0505		188.9222	188.9222	4.9100e-003	4.7000e-003	190.4461
<b>Total</b>	<b>0.0762</b>	<b>0.0483</b>	<b>0.7415</b>	<b>1.8600e-003</b>	<b>0.1855</b>	<b>1.0600e-003</b>	<b>0.1865</b>	<b>0.0495</b>	<b>9.7000e-004</b>	<b>0.0505</b>		<b>188.9222</b>	<b>188.9222</b>	<b>4.9100e-003</b>	<b>4.7000e-003</b>	<b>190.4461</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Grading - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
<b>Total</b>	<b>3.6248</b>	<b>38.8435</b>	<b>29.0415</b>	<b>0.0621</b>	<b>9.2036</b>	<b>1.6349</b>	<b>10.8385</b>	<b>3.6538</b>	<b>1.5041</b>	<b>5.1579</b>		<b>6,011.4105</b>	<b>6,011.4105</b>	<b>1.9442</b>		<b>6,060.0158</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0847	0.0537	0.8239	2.0600e-003	0.2236	1.1700e-003	0.2247	0.0593	1.0800e-003	0.0604		209.9136	209.9136	5.4600e-003	5.2200e-003	211.6067
<b>Total</b>	<b>0.0847</b>	<b>0.0537</b>	<b>0.8239</b>	<b>2.0600e-003</b>	<b>0.2236</b>	<b>1.1700e-003</b>	<b>0.2247</b>	<b>0.0593</b>	<b>1.0800e-003</b>	<b>0.0604</b>		<b>209.9136</b>	<b>209.9136</b>	<b>5.4600e-003</b>	<b>5.2200e-003</b>	<b>211.6067</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Grading - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
<b>Total</b>	<b>3.6248</b>	<b>38.8435</b>	<b>29.0415</b>	<b>0.0621</b>	<b>3.5894</b>	<b>1.6349</b>	<b>5.2243</b>	<b>1.4250</b>	<b>1.5041</b>	<b>2.9291</b>	<b>0.0000</b>	<b>6,011.4105</b>	<b>6,011.4105</b>	<b>1.9442</b>		<b>6,060.0158</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0847	0.0537	0.8239	2.0600e-003	0.2061	1.1700e-003	0.2072	0.0550	1.0800e-003	0.0561		209.9136	209.9136	5.4600e-003	5.2200e-003	211.6067
<b>Total</b>	<b>0.0847</b>	<b>0.0537</b>	<b>0.8239</b>	<b>2.0600e-003</b>	<b>0.2061</b>	<b>1.1700e-003</b>	<b>0.2072</b>	<b>0.0550</b>	<b>1.0800e-003</b>	<b>0.0561</b>		<b>209.9136</b>	<b>209.9136</b>	<b>5.4600e-003</b>	<b>5.2200e-003</b>	<b>211.6067</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
<b>Total</b>	<b>1.7062</b>	<b>15.6156</b>	<b>16.3634</b>	<b>0.0269</b>		<b>0.8090</b>	<b>0.8090</b>		<b>0.7612</b>	<b>0.7612</b>		<b>2,554.3336</b>	<b>2,554.3336</b>	<b>0.6120</b>		<b>2,569.6322</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.9950	25.0040	9.1764	0.1066	3.6583	0.2975	3.9558	1.0534	0.2846	1.3380		11,423.9303	11,423.9303	0.3088	1.6906	11,935.4334
Worker	6.0987	3.8627	59.3222	0.1486	16.0958	0.0845	16.1803	4.2687	0.0778	4.3465		15,113.7783	15,113.7783	0.3930	0.3761	15,235.6842
<b>Total</b>	<b>7.0937</b>	<b>28.8668</b>	<b>68.4986</b>	<b>0.2551</b>	<b>19.7541</b>	<b>0.3820</b>	<b>20.1361</b>	<b>5.3221</b>	<b>0.3624</b>	<b>5.6845</b>		<b>26,537.7086</b>	<b>26,537.7086</b>	<b>0.7017</b>	<b>2.0667</b>	<b>27,171.1175</b>



Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
<b>Total</b>	<b>1.7062</b>	<b>15.6156</b>	<b>16.3634</b>	<b>0.0269</b>		<b>0.8090</b>	<b>0.8090</b>		<b>0.7612</b>	<b>0.7612</b>	<b>0.0000</b>	<b>2,554.3336</b>	<b>2,554.3336</b>	<b>0.6120</b>		<b>2,569.6322</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.9950	25.0040	9.1764	0.1066	3.4239	0.2975	3.7214	0.9959	0.2846	1.2805		11,423.9303	11,423.9303	0.3088	1.6906	11,935.4334
Worker	6.0987	3.8627	59.3222	0.1486	14.8364	0.0845	14.9209	3.9596	0.0778	4.0374		15,113.7783	15,113.7783	0.3930	0.3761	15,235.6842
<b>Total</b>	<b>7.0937</b>	<b>28.8668</b>	<b>68.4986</b>	<b>0.2551</b>	<b>18.2603</b>	<b>0.3820</b>	<b>18.6423</b>	<b>4.9554</b>	<b>0.3624</b>	<b>5.3178</b>		<b>26,537.7086</b>	<b>26,537.7086</b>	<b>0.7017</b>	<b>2.0667</b>	<b>27,171.1175</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>		<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6684	20.0282	8.4041	0.1022	3.6583	0.1505	3.8088	1.0534	0.1440	1.1974		10,958.5281	10,958.5281	0.2864	1.6183	11,447.9341
Worker	5.6307	3.3976	54.3038	0.1438	16.0958	0.0795	16.1753	4.2687	0.0732	4.3419		14,712.0270	14,712.0270	0.3514	0.3460	14,823.9060
<b>Total</b>	<b>6.2990</b>	<b>23.4258</b>	<b>62.7079</b>	<b>0.2459</b>	<b>19.7541</b>	<b>0.2300</b>	<b>19.9841</b>	<b>5.3221</b>	<b>0.2172</b>	<b>5.5393</b>		<b>25,670.5551</b>	<b>25,670.5551</b>	<b>0.6378</b>	<b>1.9642</b>	<b>26,271.8401</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>	<b>0.0000</b>	<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6684	20.0282	8.4041	0.1022	3.4239	0.1505	3.5744	0.9959	0.1440	1.1398		10,958.5281	10,958.5281	0.2864	1.6183	11,447.9341
Worker	5.6307	3.3976	54.3038	0.1438	14.8364	0.0795	14.9159	3.9596	0.0732	4.0328		14,712.0270	14,712.0270	0.3514	0.3460	14,823.9060
<b>Total</b>	<b>6.2990</b>	<b>23.4258</b>	<b>62.7079</b>	<b>0.2459</b>	<b>18.2603</b>	<b>0.2300</b>	<b>18.4903</b>	<b>4.9554</b>	<b>0.2172</b>	<b>5.1726</b>		<b>25,670.5551</b>	<b>25,670.5551</b>	<b>0.6378</b>	<b>1.9642</b>	<b>26,271.8401</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>		<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6530	20.2063	8.2644	0.1008	3.6582	0.1482	3.8064	1.0534	0.1418	1.1951		10,807.5667	10,807.5667	0.2777	1.5958	11,290.0500
Worker	5.2308	3.0163	50.5698	0.1396	16.0958	0.0764	16.1722	4.2687	0.0703	4.3390		14,396.3960	14,396.3960	0.3179	0.3207	14,499.9118
<b>Total</b>	<b>5.8837</b>	<b>23.2227</b>	<b>58.8342</b>	<b>0.2403</b>	<b>19.7540</b>	<b>0.2246</b>	<b>19.9786</b>	<b>5.3221</b>	<b>0.2121</b>	<b>5.5342</b>		<b>25,203.9628</b>	<b>25,203.9628</b>	<b>0.5956</b>	<b>1.9165</b>	<b>25,789.9617</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>	<b>0.0000</b>	<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6530	20.2063	8.2644	0.1008	3.4238	0.1482	3.5720	0.9959	0.1418	1.1376		10,807.5667	10,807.5667	0.2777	1.5958	11,290.0500
Worker	5.2308	3.0163	50.5698	0.1396	14.8364	0.0764	14.9128	3.9596	0.0703	4.0299		14,396.3960	14,396.3960	0.3179	0.3207	14,499.9118
<b>Total</b>	<b>5.8837</b>	<b>23.2227</b>	<b>58.8342</b>	<b>0.2403</b>	<b>18.2602</b>	<b>0.2246</b>	<b>18.4848</b>	<b>4.9554</b>	<b>0.2121</b>	<b>5.1675</b>		<b>25,203.9628</b>	<b>25,203.9628</b>	<b>0.5956</b>	<b>1.9165</b>	<b>25,789.9617</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.6 Paving - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.5961					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.6288</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>		<b>2,207.5841</b>	<b>2,207.5841</b>	<b>0.7140</b>		<b>2,225.4336</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0587	0.0354	0.5657	1.5000e-003	0.1677	8.3000e-004	0.1685	0.0445	7.6000e-004	0.0452		153.2503	153.2503	3.6600e-003	3.6000e-003	154.4157
<b>Total</b>	<b>0.0587</b>	<b>0.0354</b>	<b>0.5657</b>	<b>1.5000e-003</b>	<b>0.1677</b>	<b>8.3000e-004</b>	<b>0.1685</b>	<b>0.0445</b>	<b>7.6000e-004</b>	<b>0.0452</b>		<b>153.2503</b>	<b>153.2503</b>	<b>3.6600e-003</b>	<b>3.6000e-003</b>	<b>154.4157</b>



Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.6 Paving - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.5961					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.6288</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>	<b>0.0000</b>	<b>2,207.584 1</b>	<b>2,207.584 1</b>	<b>0.7140</b>		<b>2,225.433 6</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0587	0.0354	0.5657	1.5000e-003	0.1546	8.3000e-004	0.1554	0.0413	7.6000e-004	0.0420		153.2503	153.2503	3.6600e-003	3.6000e-003	154.4157
<b>Total</b>	<b>0.0587</b>	<b>0.0354</b>	<b>0.5657</b>	<b>1.5000e-003</b>	<b>0.1546</b>	<b>8.3000e-004</b>	<b>0.1554</b>	<b>0.0413</b>	<b>7.6000e-004</b>	<b>0.0420</b>		<b>153.2503</b>	<b>153.2503</b>	<b>3.6600e-003</b>	<b>3.6000e-003</b>	<b>154.4157</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	143.7067					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>143.8984</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1261	0.6795	10.8608	0.0288	3.2192	0.0159	3.2351	0.8537	0.0146	0.8684		2,942.4054	2,942.4054	0.0703	0.0692	2,964.7812
<b>Total</b>	<b>1.1261</b>	<b>0.6795</b>	<b>10.8608</b>	<b>0.0288</b>	<b>3.2192</b>	<b>0.0159</b>	<b>3.2351</b>	<b>0.8537</b>	<b>0.0146</b>	<b>0.8684</b>		<b>2,942.4054</b>	<b>2,942.4054</b>	<b>0.0703</b>	<b>0.0692</b>	<b>2,964.7812</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	143.7067					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>143.8984</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1261	0.6795	10.8608	0.0288	2.9673	0.0159	2.9832	0.7919	0.0146	0.8066		2,942.4054	2,942.4054	0.0703	0.0692	2,964.7812
<b>Total</b>	<b>1.1261</b>	<b>0.6795</b>	<b>10.8608</b>	<b>0.0288</b>	<b>2.9673</b>	<b>0.0159</b>	<b>2.9832</b>	<b>0.7919</b>	<b>0.0146</b>	<b>0.8066</b>		<b>2,942.4054</b>	<b>2,942.4054</b>	<b>0.0703</b>	<b>0.0692</b>	<b>2,964.7812</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	143.7067					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>143.8875</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0462	0.6033	10.1140	0.0279	3.2192	0.0153	3.2344	0.8537	0.0141	0.8678		2,879.2792	2,879.2792	0.0636	0.0641	2,899.9824
<b>Total</b>	<b>1.0462</b>	<b>0.6033</b>	<b>10.1140</b>	<b>0.0279</b>	<b>3.2192</b>	<b>0.0153</b>	<b>3.2344</b>	<b>0.8537</b>	<b>0.0141</b>	<b>0.8678</b>		<b>2,879.2792</b>	<b>2,879.2792</b>	<b>0.0636</b>	<b>0.0641</b>	<b>2,899.9824</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	143.7067					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>143.8875</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0462	0.6033	10.1140	0.0279	2.9673	0.0153	2.9826	0.7919	0.0141	0.8060		2,879.279 2	2,879.279 2	0.0636	0.0641	2,899.982 4
<b>Total</b>	<b>1.0462</b>	<b>0.6033</b>	<b>10.1140</b>	<b>0.0279</b>	<b>2.9673</b>	<b>0.0153</b>	<b>2.9826</b>	<b>0.7919</b>	<b>0.0141</b>	<b>0.8060</b>		<b>2,879.279 2</b>	<b>2,879.279 2</b>	<b>0.0636</b>	<b>0.0641</b>	<b>2,899.982 4</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.5163	127.6182	116.8134	0.9797	63.3579	1.5017	64.8595	17.2164	1.4309	18.6473		104,334.111	104,334.111	2.9585	11.6240	107,872.0144
Unmitigated	6.5163	127.6182	116.8134	0.9797	63.3579	1.5017	64.8595	17.2164	1.4309	18.6473		104,334.111	104,334.111	2.9585	11.6240	107,872.0144

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Office Park	2,907.99	2,907.99	2907.99	17,571,222	17,571,222
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	747.98	747.98	747.98	10,890,576	10,890,576
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
<b>Total</b>	<b>3,655.97</b>	<b>3,655.97</b>	<b>3,655.97</b>	<b>28,461,798</b>	<b>28,461,798</b>

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6



Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Office Park	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.60	8.40	40.00	0.00	0.00	100.00	100	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Office Park	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Parking Lot	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.000000	0.190000	0.160000	0.650000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Natural Gas Mitigated	0.3665	3.3320	2.7989	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.3797	3,998.3797	0.0766	0.0733	4,022.1401
Natural Gas Unmitigated	0.3665	3.3320	2.7989	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.3797	3,998.3797	0.0766	0.0733	4,022.1401

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	1804.86	0.0195	0.1770	0.1486	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.3370	212.3370	4.0700e-003	3.8900e-003	213.5988
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	25388.1	0.2738	2.4890	2.0908	0.0149		0.1892	0.1892		0.1892	0.1892		2,986.8343	2,986.8343	0.0573	0.0548	3,004.5836
Unrefrigerated Warehouse-No Rail	1765.23	0.0190	0.1731	0.1454	1.0400e-003		0.0132	0.0132		0.0132	0.0132		207.6737	207.6737	3.9800e-003	3.8100e-003	208.9078
Unrefrigerated Warehouse-No Rail	5028.05	0.0542	0.4930	0.4141	2.9600e-003		0.0375	0.0375		0.0375	0.0375		591.5347	591.5347	0.0113	0.0108	595.0499
<b>Total</b>		<b>0.3665</b>	<b>3.3320</b>	<b>2.7989</b>	<b>0.0200</b>		<b>0.2532</b>	<b>0.2532</b>		<b>0.2532</b>	<b>0.2532</b>		<b>3,998.3797</b>	<b>3,998.3797</b>	<b>0.0766</b>	<b>0.0733</b>	<b>4,022.1401</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	1.80486	0.0195	0.1770	0.1486	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.3370	212.3370	4.0700e-003	3.8900e-003	213.5988
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	25.3881	0.2738	2.4890	2.0908	0.0149		0.1892	0.1892		0.1892	0.1892		2,986.8343	2,986.8343	0.0573	0.0548	3,004.5836
Unrefrigerated Warehouse-No Rail	1.76523	0.0190	0.1731	0.1454	1.0400e-003		0.0132	0.0132		0.0132	0.0132		207.6737	207.6737	3.9800e-003	3.8100e-003	208.9078
Unrefrigerated Warehouse-No Rail	5.02805	0.0542	0.4930	0.4141	2.9600e-003		0.0375	0.0375		0.0375	0.0375		591.5347	591.5347	0.0113	0.0108	595.0499
<b>Total</b>		<b>0.3665</b>	<b>3.3320</b>	<b>2.7989</b>	<b>0.0200</b>		<b>0.2532</b>	<b>0.2532</b>		<b>0.2532</b>	<b>0.2532</b>		<b>3,998.3797</b>	<b>3,998.3797</b>	<b>0.0766</b>	<b>0.0733</b>	<b>4,022.1401</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	37.3980	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
Unmitigated	37.3980	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	4.2915					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	33.0756					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0309	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
<b>Total</b>	<b>37.3980</b>	<b>3.0400e-003</b>	<b>0.3345</b>	<b>3.0000e-005</b>		<b>1.1900e-003</b>	<b>1.1900e-003</b>		<b>1.1900e-003</b>	<b>1.1900e-003</b>		<b>0.7180</b>	<b>0.7180</b>	<b>1.8700e-003</b>		<b>0.7649</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	4.2915					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	33.0756					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0309	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
<b>Total</b>	<b>37.3980</b>	<b>3.0400e-003</b>	<b>0.3345</b>	<b>3.0000e-005</b>		<b>1.1900e-003</b>	<b>1.1900e-003</b>		<b>1.1900e-003</b>	<b>1.1900e-003</b>		<b>0.7180</b>	<b>0.7180</b>	<b>1.8700e-003</b>		<b>0.7649</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	50	8.00	365	89	0.20	Diesel
Off-Highway Trucks	6	8.00	365	402	0.38	Diesel

**UnMitigated/Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Forklifts	4.7098	44.1761	56.9652	0.0764		2.5512	2.5512		2.3471	2.3471	0.0000	7,401.5415	7,401.5415	2.3938		7,461.3867
Off-Highway Trucks	2.9821	19.9671	19.5014	0.0794		0.7189	0.7189		0.6614	0.6614	0.0000	7,682.1026	7,682.1026	2.4846		7,744.2163
<b>Total</b>	<b>7.6920</b>	<b>64.1433</b>	<b>76.4665</b>	<b>0.1558</b>		<b>3.2701</b>	<b>3.2701</b>		<b>3.0085</b>	<b>3.0085</b>	<b>0.0000</b>	<b>15,083.6441</b>	<b>15,083.6441</b>	<b>4.8784</b>		<b>15,205.6030</b>

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**



Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Ontario Ranch Business Park - Unmitigated**

**San Bernardino-South Coast County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Office Park	227.95	1000sqft	5.23	227,950.00	0
Refrigerated Warehouse-No Rail	179.13	1000sqft	4.11	179,135.00	0
Unrefrigerated Warehouse-No Rail	913.05	1000sqft	20.96	913,053.00	0
Unrefrigerated Warehouse-No Rail	320.55	1000sqft	7.36	320,551.00	0
Other Asphalt Surfaces	491.00	1000sqft	11.27	491,000.00	0
Parking Lot	1,144.52	1000sqft	26.27	1,144,515.00	0
City Park	4.75	Acre	4.75	206,910.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	32
<b>Climate Zone</b>	10			<b>Operational Year</b>	2024
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	390.98	<b>CH4 Intensity (lb/MW hr)</b>	0.033	<b>N2O Intensity (lb/MW hr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Land uses based on TIA, landscaping shown as City Park, Parking Lot includes drive aisles, parking spaces, and docks. Off-site improvements modeled as Other Asphalt Surfaces

Construction Phase - Anticipated construction schedule

Off-road Equipment - Crushing

Trips and VMT - demo crushed onsite and reused

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Demolition - demo = 10,200 sf, crushed on site reused as base. crushing calcs done outside model

Grading - site is balanced

Vehicle Trips - based on TIA, passenger cars shown under Office Park, trucks shown under refrigerated warehouse. cars: 2908/227.951= 12.75712762830608  
trucks: 748/179.135= 4.175621737795517

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Construction Off-road Equipment Mitigation - incorporate RULE 403

Water Mitigation - comply with building code

Operational Off-Road Equipment - assume 1 yard truck per building, 6 total. Assume 0.03 forklifts per 1000 sf of warehouse rounded up to 50

Fleet Mix - Fleet Mix based on TIA

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	110.00	109.00
tblConstructionPhase	NumDays	1,550.00	425.00
tblConstructionPhase	NumDays	100.00	33.00
tblConstructionPhase	NumDays	155.00	55.00
tblConstructionPhase	NumDays	110.00	165.00
tblConstructionPhase	NumDays	60.00	33.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.65
tblFleetMix	LDA	0.54	1.00
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LDT2	0.17	0.00

## Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	7.1040e-003	0.00
tblFleetMix	LHD2	7.1040e-003	0.19
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MH	4.8300e-003	0.00
tblFleetMix	MH	4.8300e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.16
tblFleetMix	OBUS	5.5400e-004	0.00
tblFleetMix	OBUS	5.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	UBUS	2.5100e-004	0.00
tblFleetMix	UBUS	2.5100e-004	0.00
tblLandUse	LandUseSquareFeet	179,130.00	179,135.00
tblLandUse	LandUseSquareFeet	320,550.00	320,551.00
tblLandUse	LandUseSquareFeet	913,050.00	913,053.00
tblLandUse	LandUseSquareFeet	1,144,520.00	1,144,515.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	50.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblTripsAndVMT	HaulingTripNumber	46.00	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	6.90	40.00

## Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	41.00	100.00
tblVehicleTrips	CW_TTP	33.00	100.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	15.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	82.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	1.64	12.76
tblVehicleTrips	ST_TR	2.12	4.18
tblVehicleTrips	ST_TR	1.74	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.76	12.76
tblVehicleTrips	SU_TR	2.12	4.18
tblVehicleTrips	SU_TR	1.74	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	11.07	12.76
tblVehicleTrips	WD_TR	2.12	4.18
tblVehicleTrips	WD_TR	1.74	0.00

**2.0 Emissions Summary**

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.1 Overall Construction (Maximum Daily Emission)**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	12.2274	84.8274	104.3105	0.3321	29.1813	3.0374	32.0092	10.2552	2.8209	13.0761	0.0000	33,880.87 49	33,880.87 49	3.2604	2.0872	34,584.37 09
2023	154.2869	51.3584	95.4022	0.3128	23.1409	1.5281	24.6690	6.2203	1.4318	7.6521	0.0000	32,162.65 37	32,162.65 37	2.0487	2.0555	32,826.41 21
2024	152.0266	39.8073	76.5002	0.2827	22.9732	0.9147	23.8879	6.1758	0.8645	7.0403	0.0000	29,325.86 21	29,325.86 21	1.2783	1.9978	29,953.15 41
<b>Maximum</b>	<b>154.2869</b>	<b>84.8274</b>	<b>104.3105</b>	<b>0.3321</b>	<b>29.1813</b>	<b>3.0374</b>	<b>32.0092</b>	<b>10.2552</b>	<b>2.8209</b>	<b>13.0761</b>	<b>0.0000</b>	<b>33,880.87 49</b>	<b>33,880.87 49</b>	<b>3.2604</b>	<b>2.0872</b>	<b>34,584.37 09</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	12.2274	84.8274	104.3105	0.3321	22.0558	3.0374	24.8838	6.4354	2.8209	9.0650	0.0000	33,880.87 49	33,880.87 49	3.2604	2.0872	34,584.37 09
2023	154.2869	51.3584	95.4022	0.3128	21.3821	1.5281	22.9102	5.7886	1.4318	7.2204	0.0000	32,162.65 37	32,162.65 37	2.0487	2.0555	32,826.41 21
2024	152.0266	39.8073	76.5002	0.2827	21.2275	0.9147	22.1422	5.7473	0.8645	6.6119	0.0000	29,325.86 21	29,325.86 21	1.2783	1.9978	29,953.15 41
<b>Maximum</b>	<b>154.2869</b>	<b>84.8274</b>	<b>104.3105</b>	<b>0.3321</b>	<b>22.0558</b>	<b>3.0374</b>	<b>24.8838</b>	<b>6.4354</b>	<b>2.8209</b>	<b>9.0650</b>	<b>0.0000</b>	<b>33,880.87 49</b>	<b>33,880.87 49</b>	<b>3.2604</b>	<b>2.0872</b>	<b>34,584.37 09</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	14.12	0.00	13.19	20.66	0.00	17.54	0.00	0.00	0.00	0.00	0.00	0.00

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	37.3980	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
Energy	0.3665	3.3320	2.7989	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.3797	3,998.3797	0.0766	0.0733	4,022.1401
Mobile	5.8059	133.9449	101.9093	0.9507	63.3579	1.5026	64.8605	17.2164	1.4318	18.6482		101,348.7700	101,348.7700	2.9589	11.6524	104,895.1712
Offroad	7.6920	64.1433	76.4665	0.1558		3.2701	3.2701		3.0085	3.0085	0.0000	15,083.6441	15,083.6441	4.8784		15,205.6030
<b>Total</b>	<b>51.2624</b>	<b>201.4232</b>	<b>181.5091</b>	<b>1.1266</b>	<b>63.3579</b>	<b>5.0271</b>	<b>68.3850</b>	<b>17.2164</b>	<b>4.6947</b>	<b>21.9111</b>	<b>0.0000</b>	<b>120,431.5118</b>	<b>120,431.5118</b>	<b>7.9158</b>	<b>11.7257</b>	<b>124,123.6792</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	37.3980	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
Energy	0.3665	3.3320	2.7989	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.3797	3,998.3797	0.0766	0.0733	4,022.1401
Mobile	5.8059	133.9449	101.9093	0.9507	63.3579	1.5026	64.8605	17.2164	1.4318	18.6482		101,348.7700	101,348.7700	2.9589	11.6524	104,895.1712
Offroad	7.6920	64.1433	76.4665	0.1558		3.2701	3.2701		3.0085	3.0085	0.0000	15,083.6441	15,083.6441	4.8784		15,205.6030
<b>Total</b>	<b>51.2624</b>	<b>201.4232</b>	<b>181.5091</b>	<b>1.1266</b>	<b>63.3579</b>	<b>5.0271</b>	<b>68.3850</b>	<b>17.2164</b>	<b>4.6947</b>	<b>21.9111</b>	<b>0.0000</b>	<b>120,431.5118</b>	<b>120,431.5118</b>	<b>7.9158</b>	<b>11.7257</b>	<b>124,123.6792</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2022	7/15/2022	5	33	
2	Site Preparation	Site Preparation	6/1/2022	7/15/2022	5	33	
3	Grading	Grading	7/16/2022	9/30/2022	5	55	
4	Building Construction	Building Construction	8/1/2022	3/15/2024	5	425	

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

5	Paving	Paving	5/1/2023	12/15/2023	5	165
6	Architectural Coating	Architectural Coating	10/1/2023	2/29/2024	5	109

**Acres of Grading (Site Preparation Phase): 49.5**

**Acres of Grading (Grading Phase): 165**

**Acres of Paving: 37.54**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,461,034; Non-Residential Outdoor: 820,345; Striped Parking Area: 98,131 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36



Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,440.00	571.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	288.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3043	0.0000	0.3043	0.0461	0.0000	0.0461			0.0000			0.0000
Off-Road	3.1186	28.9444	24.9253	0.0458		1.4227	1.4227		1.3353	1.3353		4,411.3113	4,411.3113	1.0957		4,438.7038
<b>Total</b>	<b>3.1186</b>	<b>28.9444</b>	<b>24.9253</b>	<b>0.0458</b>	<b>0.3043</b>	<b>1.4227</b>	<b>1.7270</b>	<b>0.0461</b>	<b>1.3353</b>	<b>1.3814</b>		<b>4,411.3113</b>	<b>4,411.3113</b>	<b>1.0957</b>		<b>4,438.7038</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0732	0.0508	0.6091	1.6800e-003	0.2012	1.0600e-003	0.2023	0.0534	9.7000e-004	0.0543		171.1060	171.1060	4.9000e-003	4.8500e-003	172.6750
<b>Total</b>	<b>0.0732</b>	<b>0.0508</b>	<b>0.6091</b>	<b>1.6800e-003</b>	<b>0.2012</b>	<b>1.0600e-003</b>	<b>0.2023</b>	<b>0.0534</b>	<b>9.7000e-004</b>	<b>0.0543</b>		<b>171.1060</b>	<b>171.1060</b>	<b>4.9000e-003</b>	<b>4.8500e-003</b>	<b>172.6750</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1187	0.0000	0.1187	0.0180	0.0000	0.0180			0.0000			0.0000
Off-Road	3.1186	28.9444	24.9253	0.0458		1.4227	1.4227		1.3353	1.3353	0.0000	4,411.3113	4,411.3113	1.0957		4,438.7038
<b>Total</b>	<b>3.1186</b>	<b>28.9444</b>	<b>24.9253</b>	<b>0.0458</b>	<b>0.1187</b>	<b>1.4227</b>	<b>1.5414</b>	<b>0.0180</b>	<b>1.3353</b>	<b>1.3533</b>	<b>0.0000</b>	<b>4,411.3113</b>	<b>4,411.3113</b>	<b>1.0957</b>		<b>4,438.7038</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0732	0.0508	0.6091	1.6800e-003	0.1855	1.0600e-003	0.1865	0.0495	9.7000e-004	0.0505		171.1060	171.1060	4.9000e-003	4.8500e-003	172.6750
<b>Total</b>	<b>0.0732</b>	<b>0.0508</b>	<b>0.6091</b>	<b>1.6800e-003</b>	<b>0.1855</b>	<b>1.0600e-003</b>	<b>0.1865</b>	<b>0.0495</b>	<b>9.7000e-004</b>	<b>0.0505</b>		<b>171.1060</b>	<b>171.1060</b>	<b>4.9000e-003</b>	<b>4.8500e-003</b>	<b>172.6750</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Site Preparation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
<b>Total</b>	<b>3.1701</b>	<b>33.0835</b>	<b>19.6978</b>	<b>0.0380</b>	<b>19.6570</b>	<b>1.6126</b>	<b>21.2696</b>	<b>10.1025</b>	<b>1.4836</b>	<b>11.5860</b>		<b>3,686.0619</b>	<b>3,686.0619</b>	<b>1.1922</b>		<b>3,715.8655</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0732	0.0508	0.6091	1.6800e-003	0.2012	1.0600e-003	0.2023	0.0534	9.7000e-004	0.0543		171.1060	171.1060	4.9000e-003	4.8500e-003	172.6750
<b>Total</b>	<b>0.0732</b>	<b>0.0508</b>	<b>0.6091</b>	<b>1.6800e-003</b>	<b>0.2012</b>	<b>1.0600e-003</b>	<b>0.2023</b>	<b>0.0534</b>	<b>9.7000e-004</b>	<b>0.0543</b>		<b>171.1060</b>	<b>171.1060</b>	<b>4.9000e-003</b>	<b>4.8500e-003</b>	<b>172.6750</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Site Preparation - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6662	0.0000	7.6662	3.9400	0.0000	3.9400			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.061 9	3,686.061 9	1.1922		3,715.865 5
<b>Total</b>	<b>3.1701</b>	<b>33.0835</b>	<b>19.6978</b>	<b>0.0380</b>	<b>7.6662</b>	<b>1.6126</b>	<b>9.2788</b>	<b>3.9400</b>	<b>1.4836</b>	<b>5.4235</b>	<b>0.0000</b>	<b>3,686.061 9</b>	<b>3,686.061 9</b>	<b>1.1922</b>		<b>3,715.865 5</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0732	0.0508	0.6091	1.6800e-003	0.1855	1.0600e-003	0.1865	0.0495	9.7000e-004	0.0505		171.1060	171.1060	4.9000e-003	4.8500e-003	172.6750
<b>Total</b>	<b>0.0732</b>	<b>0.0508</b>	<b>0.6091</b>	<b>1.6800e-003</b>	<b>0.1855</b>	<b>1.0600e-003</b>	<b>0.1865</b>	<b>0.0495</b>	<b>9.7000e-004</b>	<b>0.0505</b>		<b>171.1060</b>	<b>171.1060</b>	<b>4.9000e-003</b>	<b>4.8500e-003</b>	<b>172.6750</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Grading - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
<b>Total</b>	<b>3.6248</b>	<b>38.8435</b>	<b>29.0415</b>	<b>0.0621</b>	<b>9.2036</b>	<b>1.6349</b>	<b>10.8385</b>	<b>3.6538</b>	<b>1.5041</b>	<b>5.1579</b>		<b>6,011.4105</b>	<b>6,011.4105</b>	<b>1.9442</b>		<b>6,060.0158</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0814	0.0564	0.6768	1.8700e-003	0.2236	1.1700e-003	0.2247	0.0593	1.0800e-003	0.0604		190.1178	190.1178	5.4400e-003	5.3900e-003	191.8611
<b>Total</b>	<b>0.0814</b>	<b>0.0564</b>	<b>0.6768</b>	<b>1.8700e-003</b>	<b>0.2236</b>	<b>1.1700e-003</b>	<b>0.2247</b>	<b>0.0593</b>	<b>1.0800e-003</b>	<b>0.0604</b>		<b>190.1178</b>	<b>190.1178</b>	<b>5.4400e-003</b>	<b>5.3900e-003</b>	<b>191.8611</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Grading - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
<b>Total</b>	<b>3.6248</b>	<b>38.8435</b>	<b>29.0415</b>	<b>0.0621</b>	<b>3.5894</b>	<b>1.6349</b>	<b>5.2243</b>	<b>1.4250</b>	<b>1.5041</b>	<b>2.9291</b>	<b>0.0000</b>	<b>6,011.4105</b>	<b>6,011.4105</b>	<b>1.9442</b>		<b>6,060.0158</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0814	0.0564	0.6768	1.8700e-003	0.2061	1.1700e-003	0.2072	0.0550	1.0800e-003	0.0561		190.1178	190.1178	5.4400e-003	5.3900e-003	191.8611
<b>Total</b>	<b>0.0814</b>	<b>0.0564</b>	<b>0.6768</b>	<b>1.8700e-003</b>	<b>0.2061</b>	<b>1.1700e-003</b>	<b>0.2072</b>	<b>0.0550</b>	<b>1.0800e-003</b>	<b>0.0561</b>		<b>190.1178</b>	<b>190.1178</b>	<b>5.4400e-003</b>	<b>5.3900e-003</b>	<b>191.8611</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
<b>Total</b>	<b>1.7062</b>	<b>15.6156</b>	<b>16.3634</b>	<b>0.0269</b>		<b>0.8090</b>	<b>0.8090</b>		<b>0.7612</b>	<b>0.7612</b>		<b>2,554.3336</b>	<b>2,554.3336</b>	<b>0.6120</b>		<b>2,569.6322</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.9562	26.2490	9.4994	0.1067	3.6583	0.2984	3.9567	1.0534	0.2855	1.3389		11,436.5311	11,436.5311	0.3068	1.6935	11,948.8605
Worker	5.8587	4.0629	48.7294	0.1346	16.0958	0.0845	16.1803	4.2687	0.0778	4.3465		13,688.4819	13,688.4819	0.3920	0.3883	13,814.0013
<b>Total</b>	<b>6.8149</b>	<b>30.3119</b>	<b>58.2288</b>	<b>0.2412</b>	<b>19.7541</b>	<b>0.3829</b>	<b>20.1370</b>	<b>5.3221</b>	<b>0.3633</b>	<b>5.6854</b>		<b>25,125.0130</b>	<b>25,125.0130</b>	<b>0.6988</b>	<b>2.0818</b>	<b>25,762.8617</b>



Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
<b>Total</b>	<b>1.7062</b>	<b>15.6156</b>	<b>16.3634</b>	<b>0.0269</b>		<b>0.8090</b>	<b>0.8090</b>		<b>0.7612</b>	<b>0.7612</b>	<b>0.0000</b>	<b>2,554.3336</b>	<b>2,554.3336</b>	<b>0.6120</b>		<b>2,569.6322</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.9562	26.2490	9.4994	0.1067	3.4239	0.2984	3.7223	0.9959	0.2855	1.2814		11,436.5311	11,436.5311	0.3068	1.6935	11,948.8605
Worker	5.8587	4.0629	48.7294	0.1346	14.8364	0.0845	14.9209	3.9596	0.0778	4.0374		13,688.4819	13,688.4819	0.3920	0.3883	13,814.0013
<b>Total</b>	<b>6.8149</b>	<b>30.3119</b>	<b>58.2288</b>	<b>0.2412</b>	<b>18.2603</b>	<b>0.3829</b>	<b>18.6432</b>	<b>4.9554</b>	<b>0.3633</b>	<b>5.3187</b>		<b>25,125.0130</b>	<b>25,125.0130</b>	<b>0.6988</b>	<b>2.0818</b>	<b>25,762.8617</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>		<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6218	21.1548	8.6634	0.1024	3.6583	0.1511	3.8094	1.0534	0.1446	1.1980		10,985.1037	10,985.1037	0.2841	1.6233	11,475.9507
Worker	5.4239	3.5724	44.6949	0.1302	16.0958	0.0795	16.1753	4.2687	0.0732	4.3419		13,328.7226	13,328.7226	0.3518	0.3571	13,443.9266
<b>Total</b>	<b>6.0457</b>	<b>24.7272</b>	<b>53.3583</b>	<b>0.2327</b>	<b>19.7541</b>	<b>0.2307</b>	<b>19.9847</b>	<b>5.3221</b>	<b>0.2178</b>	<b>5.5399</b>		<b>24,313.8262</b>	<b>24,313.8262</b>	<b>0.6360</b>	<b>1.9804</b>	<b>24,919.8773</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>	<b>0.0000</b>	<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6218	21.1548	8.6634	0.1024	3.4239	0.1511	3.5750	0.9959	0.1446	1.1404		10,985.1037	10,985.1037	0.2841	1.6233	11,475.9507
Worker	5.4239	3.5724	44.6949	0.1302	14.8364	0.0795	14.9159	3.9596	0.0732	4.0328		13,328.7226	13,328.7226	0.3518	0.3571	13,443.9266
<b>Total</b>	<b>6.0457</b>	<b>24.7272</b>	<b>53.3583</b>	<b>0.2327</b>	<b>18.2603</b>	<b>0.2307</b>	<b>18.4909</b>	<b>4.9554</b>	<b>0.2178</b>	<b>5.1732</b>		<b>24,313.8262</b>	<b>24,313.8262</b>	<b>0.6360</b>	<b>1.9804</b>	<b>24,919.8773</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>		<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6063	21.3405	8.5214	0.1010	3.6582	0.1488	3.8070	1.0534	0.1423	1.1957		10,833.9810	10,833.9810	0.2754	1.6007	11,317.8715
Worker	5.0511	3.1702	41.6682	0.1265	16.0958	0.0764	16.1722	4.2687	0.0703	4.3390		13,045.6118	13,045.6118	0.3189	0.3309	13,152.1923
<b>Total</b>	<b>5.6574</b>	<b>24.5107</b>	<b>50.1896</b>	<b>0.2275</b>	<b>19.7540</b>	<b>0.2252</b>	<b>19.9792</b>	<b>5.3221</b>	<b>0.2127</b>	<b>5.5347</b>		<b>23,879.5928</b>	<b>23,879.5928</b>	<b>0.5943</b>	<b>1.9316</b>	<b>24,470.0638</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>	<b>0.0000</b>	<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6063	21.3405	8.5214	0.1010	3.4238	0.1488	3.5726	0.9959	0.1423	1.1382		10,833.9810	10,833.9810	0.2754	1.6007	11,317.8715
Worker	5.0511	3.1702	41.6682	0.1265	14.8364	0.0764	14.9128	3.9596	0.0703	4.0299		13,045.6118	13,045.6118	0.3189	0.3309	13,152.1923
<b>Total</b>	<b>5.6574</b>	<b>24.5107</b>	<b>50.1896</b>	<b>0.2275</b>	<b>18.2602</b>	<b>0.2252</b>	<b>18.4854</b>	<b>4.9554</b>	<b>0.2127</b>	<b>5.1681</b>		<b>23,879.5928</b>	<b>23,879.5928</b>	<b>0.5943</b>	<b>1.9316</b>	<b>24,470.0638</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.6 Paving - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.5961					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.6288</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>		<b>2,207.5841</b>	<b>2,207.5841</b>	<b>0.7140</b>		<b>2,225.4336</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0565	0.0372	0.4656	1.3600e-003	0.1677	8.3000e-004	0.1685	0.0445	7.6000e-004	0.0452		138.8409	138.8409	3.6600e-003	3.7200e-003	140.0409
<b>Total</b>	<b>0.0565</b>	<b>0.0372</b>	<b>0.4656</b>	<b>1.3600e-003</b>	<b>0.1677</b>	<b>8.3000e-004</b>	<b>0.1685</b>	<b>0.0445</b>	<b>7.6000e-004</b>	<b>0.0452</b>		<b>138.8409</b>	<b>138.8409</b>	<b>3.6600e-003</b>	<b>3.7200e-003</b>	<b>140.0409</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.6 Paving - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.5961					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.6288</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>	<b>0.0000</b>	<b>2,207.584 1</b>	<b>2,207.584 1</b>	<b>0.7140</b>		<b>2,225.433 6</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0565	0.0372	0.4656	1.3600e-003	0.1546	8.3000e-004	0.1554	0.0413	7.6000e-004	0.0420		138.8409	138.8409	3.6600e-003	3.7200e-003	140.0409
<b>Total</b>	<b>0.0565</b>	<b>0.0372</b>	<b>0.4656</b>	<b>1.3600e-003</b>	<b>0.1546</b>	<b>8.3000e-004</b>	<b>0.1554</b>	<b>0.0413</b>	<b>7.6000e-004</b>	<b>0.0420</b>		<b>138.8409</b>	<b>138.8409</b>	<b>3.6600e-003</b>	<b>3.7200e-003</b>	<b>140.0409</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	143.7067					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>143.8984</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0848	0.7145	8.9390	0.0261	3.2192	0.0159	3.2351	0.8537	0.0146	0.8684		2,665.7445	2,665.7445	0.0704	0.0714	2,688.7853
<b>Total</b>	<b>1.0848</b>	<b>0.7145</b>	<b>8.9390</b>	<b>0.0261</b>	<b>3.2192</b>	<b>0.0159</b>	<b>3.2351</b>	<b>0.8537</b>	<b>0.0146</b>	<b>0.8684</b>		<b>2,665.7445</b>	<b>2,665.7445</b>	<b>0.0704</b>	<b>0.0714</b>	<b>2,688.7853</b>



Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	143.7067					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>143.8984</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0848	0.7145	8.9390	0.0261	2.9673	0.0159	2.9832	0.7919	0.0146	0.8066		2,665.7445	2,665.7445	0.0704	0.0714	2,688.7853
<b>Total</b>	<b>1.0848</b>	<b>0.7145</b>	<b>8.9390</b>	<b>0.0261</b>	<b>2.9673</b>	<b>0.0159</b>	<b>2.9832</b>	<b>0.7919</b>	<b>0.0146</b>	<b>0.8066</b>		<b>2,665.7445</b>	<b>2,665.7445</b>	<b>0.0704</b>	<b>0.0714</b>	<b>2,688.7853</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	143.7067					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>143.8875</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0102	0.6340	8.3336	0.0253	3.2192	0.0153	3.2344	0.8537	0.0141	0.8678		2,609.1224	2,609.1224	0.0638	0.0662	2,630.4385
<b>Total</b>	<b>1.0102</b>	<b>0.6340</b>	<b>8.3336</b>	<b>0.0253</b>	<b>3.2192</b>	<b>0.0153</b>	<b>3.2344</b>	<b>0.8537</b>	<b>0.0141</b>	<b>0.8678</b>		<b>2,609.1224</b>	<b>2,609.1224</b>	<b>0.0638</b>	<b>0.0662</b>	<b>2,630.4385</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	143.7067					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>143.8875</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0102	0.6340	8.3336	0.0253	2.9673	0.0153	2.9826	0.7919	0.0141	0.8060		2,609.1224	2,609.1224	0.0638	0.0662	2,630.4385
<b>Total</b>	<b>1.0102</b>	<b>0.6340</b>	<b>8.3336</b>	<b>0.0253</b>	<b>2.9673</b>	<b>0.0153</b>	<b>2.9826</b>	<b>0.7919</b>	<b>0.0141</b>	<b>0.8060</b>		<b>2,609.1224</b>	<b>2,609.1224</b>	<b>0.0638</b>	<b>0.0662</b>	<b>2,630.4385</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.8059	133.9449	101.9093	0.9507	63.3579	1.5026	64.8605	17.2164	1.4318	18.6482		101,348.7700	101,348.7700	2.9589	11.6524	104,895.1712
Unmitigated	5.8059	133.9449	101.9093	0.9507	63.3579	1.5026	64.8605	17.2164	1.4318	18.6482		101,348.7700	101,348.7700	2.9589	11.6524	104,895.1712

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Office Park	2,907.99	2,907.99	2907.99	17,571,222	17,571,222
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	747.98	747.98	747.98	10,890,576	10,890,576
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
<b>Total</b>	<b>3,655.97</b>	<b>3,655.97</b>	<b>3,655.97</b>	<b>28,461,798</b>	<b>28,461,798</b>

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Office Park	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.60	8.40	40.00	0.00	0.00	100.00	100	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Office Park	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Parking Lot	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.000000	0.190000	0.160000	0.650000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.3665	3.3320	2.7989	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.3797	3,998.3797	0.0766	0.0733	4,022.1401
NaturalGas Unmitigated	0.3665	3.3320	2.7989	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.3797	3,998.3797	0.0766	0.0733	4,022.1401

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	1804.86	0.0195	0.1770	0.1486	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.3370	212.3370	4.0700e-003	3.8900e-003	213.5988
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	25388.1	0.2738	2.4890	2.0908	0.0149		0.1892	0.1892		0.1892	0.1892		2,986.8343	2,986.8343	0.0573	0.0548	3,004.5836
Unrefrigerated Warehouse-No Rail	1765.23	0.0190	0.1731	0.1454	1.0400e-003		0.0132	0.0132		0.0132	0.0132		207.6737	207.6737	3.9800e-003	3.8100e-003	208.9078
Unrefrigerated Warehouse-No Rail	5028.05	0.0542	0.4930	0.4141	2.9600e-003		0.0375	0.0375		0.0375	0.0375		591.5347	591.5347	0.0113	0.0108	595.0499
<b>Total</b>		<b>0.3665</b>	<b>3.3320</b>	<b>2.7989</b>	<b>0.0200</b>		<b>0.2532</b>	<b>0.2532</b>		<b>0.2532</b>	<b>0.2532</b>		<b>3,998.3797</b>	<b>3,998.3797</b>	<b>0.0766</b>	<b>0.0733</b>	<b>4,022.1401</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	1.80486	0.0195	0.1770	0.1486	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.3370	212.3370	4.0700e-003	3.8900e-003	213.5988
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	25.3881	0.2738	2.4890	2.0908	0.0149		0.1892	0.1892		0.1892	0.1892		2,986.8343	2,986.8343	0.0573	0.0548	3,004.5836
Unrefrigerated Warehouse-No Rail	1.76523	0.0190	0.1731	0.1454	1.0400e-003		0.0132	0.0132		0.0132	0.0132		207.6737	207.6737	3.9800e-003	3.8100e-003	208.9078
Unrefrigerated Warehouse-No Rail	5.02805	0.0542	0.4930	0.4141	2.9600e-003		0.0375	0.0375		0.0375	0.0375		591.5347	591.5347	0.0113	0.0108	595.0499
<b>Total</b>		<b>0.3665</b>	<b>3.3320</b>	<b>2.7989</b>	<b>0.0200</b>		<b>0.2532</b>	<b>0.2532</b>		<b>0.2532</b>	<b>0.2532</b>		<b>3,998.3797</b>	<b>3,998.3797</b>	<b>0.0766</b>	<b>0.0733</b>	<b>4,022.1401</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**



Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	37.3980	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
Unmitigated	37.3980	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	4.2915					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	33.0756					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0309	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
<b>Total</b>	<b>37.3980</b>	<b>3.0400e-003</b>	<b>0.3345</b>	<b>3.0000e-005</b>		<b>1.1900e-003</b>	<b>1.1900e-003</b>		<b>1.1900e-003</b>	<b>1.1900e-003</b>		<b>0.7180</b>	<b>0.7180</b>	<b>1.8700e-003</b>		<b>0.7649</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	4.2915					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	33.0756					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0309	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
<b>Total</b>	<b>37.3980</b>	<b>3.0400e-003</b>	<b>0.3345</b>	<b>3.0000e-005</b>		<b>1.1900e-003</b>	<b>1.1900e-003</b>		<b>1.1900e-003</b>	<b>1.1900e-003</b>		<b>0.7180</b>	<b>0.7180</b>	<b>1.8700e-003</b>		<b>0.7649</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	50	8.00	365	89	0.20	Diesel
Off-Highway Trucks	6	8.00	365	402	0.38	Diesel

**UnMitigated/Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Forklifts	4.7098	44.1761	56.9652	0.0764		2.5512	2.5512		2.3471	2.3471	0.0000	7,401.5415	7,401.5415	2.3938		7,461.3867
Off-Highway Trucks	2.9821	19.9671	19.5014	0.0794		0.7189	0.7189		0.6614	0.6614	0.0000	7,682.1026	7,682.1026	2.4846		7,744.2163
<b>Total</b>	<b>7.6920</b>	<b>64.1433</b>	<b>76.4665</b>	<b>0.1558</b>		<b>3.2701</b>	<b>3.2701</b>		<b>3.0085</b>	<b>3.0085</b>	<b>0.0000</b>	<b>15,083.6441</b>	<b>15,083.6441</b>	<b>4.8784</b>		<b>15,205.6030</b>

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Ontario Ranch Business Park - Mitigated  
San Bernardino-South Coast County, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Office Park	227.95	1000sqft	5.23	227,950.00	0
Refrigerated Warehouse-No Rail	179.13	1000sqft	4.11	179,135.00	0
Unrefrigerated Warehouse-No Rail	913.05	1000sqft	20.96	913,053.00	0
Unrefrigerated Warehouse-No Rail	320.55	1000sqft	7.36	320,551.00	0
Other Asphalt Surfaces	491.00	1000sqft	11.27	491,000.00	0
Parking Lot	1,144.52	1000sqft	26.27	1,144,515.00	0
City Park	4.75	Acre	4.75	206,910.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	32
<b>Climate Zone</b>	10			<b>Operational Year</b>	2024
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	390.98	<b>CH4 Intensity (lb/MW hr)</b>	0.033	<b>N2O Intensity (lb/MW hr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Land uses based on TIA, landscaping shown as City Park, Parking Lot includes drive aisles, parking spaces, and docks. Off-site improvements modeled as Other Asphalt Surfaces

Construction Phase - Anticipated construction schedule

Off-road Equipment - includes crushing equipment

Trips and VMT - demo crushed onsite and reused

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Demolition - demo = 10,200 sf, crushed on site reused as base. crushing calcs done outside model

Grading - site is balanced

Vehicle Trips - based on TIA, passenger cars shown under Office Park, trucks shown under refrigerated warehouse. cars: 2908/227.951= 12.75712762830608  
trucks: 748/179.135= 4.175621737795517

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Construction Off-road Equipment Mitigation - incorporate RULE 403, Mitigation: Require Tier 4 equipment

Mobile Commute Mitigation - Require TDM Program

Area Mitigation - Require "Super Compliant" Low VOC Paint 10 g/L

Water Mitigation - comply with building code

Operational Off-Road Equipment - assume 1 yard truck per building, 6 total. Assume 0.03 forklifts per 1000 sf of warehouse rounded up to 50 - MITIGATION:  
Require electrical cargo handling equipment

Fleet Mix - Fleet Mix based on TIA

Architectural Coating - Super Compliant VOC paint

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	10.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	10.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	10
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	10
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	110.00	109.00
tblConstructionPhase	NumDays	1,550.00	425.00
tblConstructionPhase	NumDays	100.00	33.00
tblConstructionPhase	NumDays	155.00	55.00
tblConstructionPhase	NumDays	110.00	165.00
tblConstructionPhase	NumDays	60.00	33.00
tblFleetMix	HHD	0.02	0.00

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblFleetMix	HHD	0.02	0.65
tblFleetMix	LDA	0.54	1.00
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	7.1040e-003	0.00
tblFleetMix	LHD2	7.1040e-003	0.19
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MH	4.8300e-003	0.00
tblFleetMix	MH	4.8300e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.16
tblFleetMix	OBUS	5.5400e-004	0.00
tblFleetMix	OBUS	5.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	UBUS	2.5100e-004	0.00
tblFleetMix	UBUS	2.5100e-004	0.00
tblLandUse	LandUseSquareFeet	179,130.00	179,135.00
tblLandUse	LandUseSquareFeet	320,550.00	320,551.00
tblLandUse	LandUseSquareFeet	913,050.00	913,053.00
tblLandUse	LandUseSquareFeet	1,144,520.00	1,144,515.00



Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperFuelType	Diesel	Electrical
tblOperationalOffRoadEquipment	OperFuelType	Diesel	Electrical
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	50.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblTripsAndVMT	HaulingTripNumber	46.00	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	6.90	40.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	41.00	100.00
tblVehicleTrips	CW_TTP	33.00	100.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	15.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	82.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	1.64	12.76
tblVehicleTrips	ST_TR	2.12	4.18
tblVehicleTrips	ST_TR	1.74	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.76	12.76
tblVehicleTrips	SU_TR	2.12	4.18
tblVehicleTrips	SU_TR	1.74	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	11.07	12.76

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblVehicleTrips	WD_TR	2.12	4.18
tblVehicleTrips	WD_TR	1.74	0.00

**2.0 Emissions Summary**

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Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.1 Overall Construction (Maximum Daily Emission)**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	12.5095	83.3795	114.7274	0.3462	29.1813	3.0374	32.0083	10.2552	2.8209	13.0761	0.0000	35,313.36 63	35,313.36 63	3.2634	2.0719	36,012.37 23
2023	29.0033	50.0202	106.7737	0.3289	23.1409	1.5275	24.6684	6.2203	1.4312	7.6515	0.0000	33,810.45 29	33,810.45 29	2.0504	2.0370	34,468.74 56
2024	26.7084	38.4885	86.9251	0.2982	22.9732	0.9141	23.8873	6.1758	0.8640	7.0398	0.0000	30,920.38 89	30,920.38 89	1.2794	1.9806	31,542.59 60
<b>Maximum</b>	<b>29.0033</b>	<b>83.3795</b>	<b>114.7274</b>	<b>0.3462</b>	<b>29.1813</b>	<b>3.0374</b>	<b>32.0083</b>	<b>10.2552</b>	<b>2.8209</b>	<b>13.0761</b>	<b>0.0000</b>	<b>35,313.36 63</b>	<b>35,313.36 63</b>	<b>3.2634</b>	<b>2.0719</b>	<b>36,012.37 23</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	8.2678	34.4552	119.7819	0.3462	22.0558	0.5255	22.5813	6.4354	0.5058	6.9412	0.0000	35,313.36 63	35,313.36 63	3.2634	2.0719	36,012.37 23
2023	26.8441	27.7195	110.7227	0.3289	21.3821	0.3289	21.7110	5.7886	0.3147	6.1033	0.0000	33,810.45 29	33,810.45 29	2.0504	2.0370	34,468.74 56
2024	25.4136	26.1894	88.2409	0.2982	21.2275	0.2846	21.5122	5.7473	0.2709	6.0182	0.0000	30,920.38 89	30,920.38 89	1.2794	1.9806	31,542.59 60
<b>Maximum</b>	<b>26.8441</b>	<b>34.4552</b>	<b>119.7819</b>	<b>0.3462</b>	<b>22.0558</b>	<b>0.5255</b>	<b>22.5813</b>	<b>6.4354</b>	<b>0.5058</b>	<b>6.9412</b>	<b>0.0000</b>	<b>35,313.36 63</b>	<b>35,313.36 63</b>	<b>3.2634</b>	<b>2.0719</b>	<b>36,012.37 23</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	11.28	48.59	-3.35	0.00	14.12	79.21	18.32	20.66	78.67	31.35	0.00	0.00	0.00	0.00	0.00	0.00

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	37.3980	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
Energy	0.3665	3.3320	2.7989	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.3797	3,998.3797	0.0766	0.0733	4,022.1401
Mobile	6.5163	127.6182	116.8134	0.9797	63.3579	1.5017	64.8595	17.2164	1.4309	18.6473		104,334.111	104,334.111	2.9585	11.6240	107,872.0144
Offroad	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>44.2808</b>	<b>130.9532</b>	<b>119.9467</b>	<b>0.9997</b>	<b>63.3579</b>	<b>1.7561</b>	<b>65.1140</b>	<b>17.2164</b>	<b>1.6853</b>	<b>18.9017</b>	<b>0.0000</b>	<b>108,333.2089</b>	<b>108,333.2089</b>	<b>3.0371</b>	<b>11.6973</b>	<b>111,894.9194</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	33.6478	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
Energy	0.3665	3.3320	2.7989	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.3797	3,998.3797	0.0766	0.0733	4,022.1401
Mobile	6.4713	127.4620	112.8796	0.9647	61.4192	1.4941	62.9133	16.7025	1.4239	18.1264		102,789.4606	102,789.4606	2.9461	11.6021	106,320.5491
Offroad	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>40.4856</b>	<b>130.7970</b>	<b>116.0129</b>	<b>0.9847</b>	<b>61.4192</b>	<b>1.7485</b>	<b>63.1677</b>	<b>16.7025</b>	<b>1.6784</b>	<b>18.3808</b>	<b>0.0000</b>	<b>106,788.5584</b>	<b>106,788.5584</b>	<b>3.0247</b>	<b>11.6754</b>	<b>110,343.4541</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>8.57</b>	<b>0.12</b>	<b>3.28</b>	<b>1.50</b>	<b>3.06</b>	<b>0.43</b>	<b>2.99</b>	<b>2.99</b>	<b>0.41</b>	<b>2.76</b>	<b>0.00</b>	<b>1.43</b>	<b>1.43</b>	<b>0.41</b>	<b>0.19</b>	<b>1.39</b>

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2022	7/15/2022	5	33	
2	Site Preparation	Site Preparation	6/1/2022	7/15/2022	5	33	
3	Grading	Grading	7/16/2022	9/30/2022	5	55	
4	Building Construction	Building Construction	8/1/2022	3/15/2024	5	425	

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

5	Paving	Paving	5/1/2023	12/15/2023	5	165
6	Architectural Coating	Architectural Coating	10/1/2023	2/29/2024	5	109

**Acres of Grading (Site Preparation Phase): 49.5**

**Acres of Grading (Grading Phase): 165**

**Acres of Paving: 37.54**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,461,034; Non-Residential Outdoor: 820,345; Striped Parking Area: 98,131 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,440.00	571.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	288.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3043	0.0000	0.3043	0.0461	0.0000	0.0461			0.0000			0.0000
Off-Road	3.1186	28.9444	24.9253	0.0458		1.4227	1.4227		1.3353	1.3353		4,411.3113	4,411.3113	1.0957		4,438.7038
<b>Total</b>	<b>3.1186</b>	<b>28.9444</b>	<b>24.9253</b>	<b>0.0458</b>	<b>0.3043</b>	<b>1.4227</b>	<b>1.7270</b>	<b>0.0461</b>	<b>1.3353</b>	<b>1.3814</b>		<b>4,411.3113</b>	<b>4,411.3113</b>	<b>1.0957</b>		<b>4,438.7038</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0762	0.0483	0.7415	1.8600e-003	0.2012	1.0600e-003	0.2023	0.0534	9.7000e-004	0.0543		188.9222	188.9222	4.9100e-003	4.7000e-003	190.4461
<b>Total</b>	<b>0.0762</b>	<b>0.0483</b>	<b>0.7415</b>	<b>1.8600e-003</b>	<b>0.2012</b>	<b>1.0600e-003</b>	<b>0.2023</b>	<b>0.0534</b>	<b>9.7000e-004</b>	<b>0.0543</b>		<b>188.9222</b>	<b>188.9222</b>	<b>4.9100e-003</b>	<b>4.7000e-003</b>	<b>190.4461</b>



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1187	0.0000	0.1187	0.0180	0.0000	0.0180			0.0000			0.0000
Off-Road	0.9417	5.2282	27.6111	0.0458		0.2417	0.2417		0.2417	0.2417	0.0000	4,411.3113	4,411.3113	1.0957		4,438.7038
<b>Total</b>	<b>0.9417</b>	<b>5.2282</b>	<b>27.6111</b>	<b>0.0458</b>	<b>0.1187</b>	<b>0.2417</b>	<b>0.3604</b>	<b>0.0180</b>	<b>0.2417</b>	<b>0.2597</b>	<b>0.0000</b>	<b>4,411.3113</b>	<b>4,411.3113</b>	<b>1.0957</b>		<b>4,438.7038</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0762	0.0483	0.7415	1.8600e-003	0.1855	1.0600e-003	0.1865	0.0495	9.7000e-004	0.0505		188.9222	188.9222	4.9100e-003	4.7000e-003	190.4461
<b>Total</b>	<b>0.0762</b>	<b>0.0483</b>	<b>0.7415</b>	<b>1.8600e-003</b>	<b>0.1855</b>	<b>1.0600e-003</b>	<b>0.1865</b>	<b>0.0495</b>	<b>9.7000e-004</b>	<b>0.0505</b>		<b>188.9222</b>	<b>188.9222</b>	<b>4.9100e-003</b>	<b>4.7000e-003</b>	<b>190.4461</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Site Preparation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
<b>Total</b>	<b>3.1701</b>	<b>33.0835</b>	<b>19.6978</b>	<b>0.0380</b>	<b>19.6570</b>	<b>1.6126</b>	<b>21.2696</b>	<b>10.1025</b>	<b>1.4836</b>	<b>11.5860</b>		<b>3,686.0619</b>	<b>3,686.0619</b>	<b>1.1922</b>		<b>3,715.8655</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0762	0.0483	0.7415	1.8600e-003	0.2012	1.0600e-003	0.2023	0.0534	9.7000e-004	0.0543		188.9222	188.9222	4.9100e-003	4.7000e-003	190.4461
<b>Total</b>	<b>0.0762</b>	<b>0.0483</b>	<b>0.7415</b>	<b>1.8600e-003</b>	<b>0.2012</b>	<b>1.0600e-003</b>	<b>0.2023</b>	<b>0.0534</b>	<b>9.7000e-004</b>	<b>0.0543</b>		<b>188.9222</b>	<b>188.9222</b>	<b>4.9100e-003</b>	<b>4.7000e-003</b>	<b>190.4461</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Site Preparation - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6662	0.0000	7.6662	3.9400	0.0000	3.9400			0.0000			0.0000
Off-Road	0.4656	2.0175	20.8690	0.0380		0.0621	0.0621		0.0621	0.0621	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
<b>Total</b>	<b>0.4656</b>	<b>2.0175</b>	<b>20.8690</b>	<b>0.0380</b>	<b>7.6662</b>	<b>0.0621</b>	<b>7.7283</b>	<b>3.9400</b>	<b>0.0621</b>	<b>4.0020</b>	<b>0.0000</b>	<b>3,686.0619</b>	<b>3,686.0619</b>	<b>1.1922</b>		<b>3,715.8655</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0762	0.0483	0.7415	1.8600e-003	0.1855	1.0600e-003	0.1865	0.0495	9.7000e-004	0.0505		188.9222	188.9222	4.9100e-003	4.7000e-003	190.4461
<b>Total</b>	<b>0.0762</b>	<b>0.0483</b>	<b>0.7415</b>	<b>1.8600e-003</b>	<b>0.1855</b>	<b>1.0600e-003</b>	<b>0.1865</b>	<b>0.0495</b>	<b>9.7000e-004</b>	<b>0.0505</b>		<b>188.9222</b>	<b>188.9222</b>	<b>4.9100e-003</b>	<b>4.7000e-003</b>	<b>190.4461</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Grading - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
<b>Total</b>	<b>3.6248</b>	<b>38.8435</b>	<b>29.0415</b>	<b>0.0621</b>	<b>9.2036</b>	<b>1.6349</b>	<b>10.8385</b>	<b>3.6538</b>	<b>1.5041</b>	<b>5.1579</b>		<b>6,011.4105</b>	<b>6,011.4105</b>	<b>1.9442</b>		<b>6,060.0158</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0847	0.0537	0.8239	2.0600e-003	0.2236	1.1700e-003	0.2247	0.0593	1.0800e-003	0.0604		209.9136	209.9136	5.4600e-003	5.2200e-003	211.6067
<b>Total</b>	<b>0.0847</b>	<b>0.0537</b>	<b>0.8239</b>	<b>2.0600e-003</b>	<b>0.2236</b>	<b>1.1700e-003</b>	<b>0.2247</b>	<b>0.0593</b>	<b>1.0800e-003</b>	<b>0.0604</b>		<b>209.9136</b>	<b>209.9136</b>	<b>5.4600e-003</b>	<b>5.2200e-003</b>	<b>211.6067</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Grading - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
<b>Total</b>	<b>0.7616</b>	<b>3.3000</b>	<b>32.9991</b>	<b>0.0621</b>	<b>3.5894</b>	<b>0.1015</b>	<b>3.6909</b>	<b>1.4250</b>	<b>0.1015</b>	<b>1.5265</b>	<b>0.0000</b>	<b>6,011.4105</b>	<b>6,011.4105</b>	<b>1.9442</b>		<b>6,060.0158</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0847	0.0537	0.8239	2.0600e-003	0.2061	1.1700e-003	0.2072	0.0550	1.0800e-003	0.0561		209.9136	209.9136	5.4600e-003	5.2200e-003	211.6067
<b>Total</b>	<b>0.0847</b>	<b>0.0537</b>	<b>0.8239</b>	<b>2.0600e-003</b>	<b>0.2061</b>	<b>1.1700e-003</b>	<b>0.2072</b>	<b>0.0550</b>	<b>1.0800e-003</b>	<b>0.0561</b>		<b>209.9136</b>	<b>209.9136</b>	<b>5.4600e-003</b>	<b>5.2200e-003</b>	<b>211.6067</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
<b>Total</b>	<b>1.7062</b>	<b>15.6156</b>	<b>16.3634</b>	<b>0.0269</b>		<b>0.8090</b>	<b>0.8090</b>		<b>0.7612</b>	<b>0.7612</b>		<b>2,554.3336</b>	<b>2,554.3336</b>	<b>0.6120</b>		<b>2,569.6322</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.9950	25.0040	9.1764	0.1066	3.6583	0.2975	3.9558	1.0534	0.2846	1.3380		11,423.9303	11,423.9303	0.3088	1.6906	11,935.4334
Worker	6.0987	3.8627	59.3222	0.1486	16.0958	0.0845	16.1803	4.2687	0.0778	4.3465		15,113.7783	15,113.7783	0.3930	0.3761	15,235.6842
<b>Total</b>	<b>7.0937</b>	<b>28.8668</b>	<b>68.4986</b>	<b>0.2551</b>	<b>19.7541</b>	<b>0.3820</b>	<b>20.1361</b>	<b>5.3221</b>	<b>0.3624</b>	<b>5.6845</b>		<b>26,537.7086</b>	<b>26,537.7086</b>	<b>0.7017</b>	<b>2.0667</b>	<b>27,171.1175</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0269		0.0408	0.0408		0.0408	0.0408	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
<b>Total</b>	<b>0.3278</b>	<b>2.2347</b>	<b>17.4603</b>	<b>0.0269</b>		<b>0.0408</b>	<b>0.0408</b>		<b>0.0408</b>	<b>0.0408</b>	<b>0.0000</b>	<b>2,554.3336</b>	<b>2,554.3336</b>	<b>0.6120</b>		<b>2,569.6322</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.9950	25.0040	9.1764	0.1066	3.4239	0.2975	3.7214	0.9959	0.2846	1.2805		11,423.9303	11,423.9303	0.3088	1.6906	11,935.4334
Worker	6.0987	3.8627	59.3222	0.1486	14.8364	0.0845	14.9209	3.9596	0.0778	4.0374		15,113.7783	15,113.7783	0.3930	0.3761	15,235.6842
<b>Total</b>	<b>7.0937</b>	<b>28.8668</b>	<b>68.4986</b>	<b>0.2551</b>	<b>18.2603</b>	<b>0.3820</b>	<b>18.6423</b>	<b>4.9554</b>	<b>0.3624</b>	<b>5.3178</b>		<b>26,537.7086</b>	<b>26,537.7086</b>	<b>0.7017</b>	<b>2.0667</b>	<b>27,171.1175</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>		<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6684	20.0282	8.4041	0.1022	3.6583	0.1505	3.8088	1.0534	0.1440	1.1974		10,958.5281	10,958.5281	0.2864	1.6183	11,447.9341
Worker	5.6307	3.3976	54.3038	0.1438	16.0958	0.0795	16.1753	4.2687	0.0732	4.3419		14,712.0270	14,712.0270	0.3514	0.3460	14,823.9060
<b>Total</b>	<b>6.2990</b>	<b>23.4258</b>	<b>62.7079</b>	<b>0.2459</b>	<b>19.7541</b>	<b>0.2300</b>	<b>19.9841</b>	<b>5.3221</b>	<b>0.2172</b>	<b>5.5393</b>		<b>25,670.5551</b>	<b>25,670.5551</b>	<b>0.6378</b>	<b>1.9642</b>	<b>26,271.8401</b>



Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0269		0.0408	0.0408		0.0408	0.0408	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>0.3278</b>	<b>2.2347</b>	<b>17.4603</b>	<b>0.0269</b>		<b>0.0408</b>	<b>0.0408</b>		<b>0.0408</b>	<b>0.0408</b>	<b>0.0000</b>	<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6684	20.0282	8.4041	0.1022	3.4239	0.1505	3.5744	0.9959	0.1440	1.1398		10,958.5281	10,958.5281	0.2864	1.6183	11,447.9341
Worker	5.6307	3.3976	54.3038	0.1438	14.8364	0.0795	14.9159	3.9596	0.0732	4.0328		14,712.0270	14,712.0270	0.3514	0.3460	14,823.9060
<b>Total</b>	<b>6.2990</b>	<b>23.4258</b>	<b>62.7079</b>	<b>0.2459</b>	<b>18.2603</b>	<b>0.2300</b>	<b>18.4903</b>	<b>4.9554</b>	<b>0.2172</b>	<b>5.1726</b>		<b>25,670.5551</b>	<b>25,670.5551</b>	<b>0.6378</b>	<b>1.9642</b>	<b>26,271.8401</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>		<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6530	20.2063	8.2644	0.1008	3.6582	0.1482	3.8064	1.0534	0.1418	1.1951		10,807.5667	10,807.5667	0.2777	1.5958	11,290.0500
Worker	5.2308	3.0163	50.5698	0.1396	16.0958	0.0764	16.1722	4.2687	0.0703	4.3390		14,396.3960	14,396.3960	0.3179	0.3207	14,499.9118
<b>Total</b>	<b>5.8837</b>	<b>23.2227</b>	<b>58.8342</b>	<b>0.2403</b>	<b>19.7540</b>	<b>0.2246</b>	<b>19.9786</b>	<b>5.3221</b>	<b>0.2121</b>	<b>5.5342</b>		<b>25,203.9628</b>	<b>25,203.9628</b>	<b>0.5956</b>	<b>1.9165</b>	<b>25,789.9617</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>0.3278</b>	<b>2.2347</b>	<b>17.4603</b>	<b>0.0270</b>		<b>0.0408</b>	<b>0.0408</b>		<b>0.0408</b>	<b>0.0408</b>	<b>0.0000</b>	<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6530	20.2063	8.2644	0.1008	3.4238	0.1482	3.5720	0.9959	0.1418	1.1376		10,807.5667	10,807.5667	0.2777	1.5958	11,290.0500
Worker	5.2308	3.0163	50.5698	0.1396	14.8364	0.0764	14.9128	3.9596	0.0703	4.0299		14,396.3960	14,396.3960	0.3179	0.3207	14,499.9118
<b>Total</b>	<b>5.8837</b>	<b>23.2227</b>	<b>58.8342</b>	<b>0.2403</b>	<b>18.2602</b>	<b>0.2246</b>	<b>18.4848</b>	<b>4.9554</b>	<b>0.2121</b>	<b>5.1675</b>		<b>25,203.9628</b>	<b>25,203.9628</b>	<b>0.5956</b>	<b>1.9165</b>	<b>25,789.9617</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.6 Paving - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.5961					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.6288</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>		<b>2,207.5841</b>	<b>2,207.5841</b>	<b>0.7140</b>		<b>2,225.4336</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0587	0.0354	0.5657	1.5000e-003	0.1677	8.3000e-004	0.1685	0.0445	7.6000e-004	0.0452		153.2503	153.2503	3.6600e-003	3.6000e-003	154.4157
<b>Total</b>	<b>0.0587</b>	<b>0.0354</b>	<b>0.5657</b>	<b>1.5000e-003</b>	<b>0.1677</b>	<b>8.3000e-004</b>	<b>0.1685</b>	<b>0.0445</b>	<b>7.6000e-004</b>	<b>0.0452</b>		<b>153.2503</b>	<b>153.2503</b>	<b>3.6600e-003</b>	<b>3.6000e-003</b>	<b>154.4157</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.6 Paving - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.5961					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8766</b>	<b>1.2154</b>	<b>17.2957</b>	<b>0.0228</b>		<b>0.0374</b>	<b>0.0374</b>		<b>0.0374</b>	<b>0.0374</b>	<b>0.0000</b>	<b>2,207.584 1</b>	<b>2,207.584 1</b>	<b>0.7140</b>		<b>2,225.433 6</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0587	0.0354	0.5657	1.5000e-003	0.1546	8.3000e-004	0.1554	0.0413	7.6000e-004	0.0420		153.2503	153.2503	3.6600e-003	3.6000e-003	154.4157
<b>Total</b>	<b>0.0587</b>	<b>0.0354</b>	<b>0.5657</b>	<b>1.5000e-003</b>	<b>0.1546</b>	<b>8.3000e-004</b>	<b>0.1554</b>	<b>0.0413</b>	<b>7.6000e-004</b>	<b>0.0420</b>		<b>153.2503</b>	<b>153.2503</b>	<b>3.6600e-003</b>	<b>3.6000e-003</b>	<b>154.4157</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.1262					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>18.3179</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1261	0.6795	10.8608	0.0288	3.2192	0.0159	3.2351	0.8537	0.0146	0.8684		2,942.4054	2,942.4054	0.0703	0.0692	2,964.7812
<b>Total</b>	<b>1.1261</b>	<b>0.6795</b>	<b>10.8608</b>	<b>0.0288</b>	<b>3.2192</b>	<b>0.0159</b>	<b>3.2351</b>	<b>0.8537</b>	<b>0.0146</b>	<b>0.8684</b>		<b>2,942.4054</b>	<b>2,942.4054</b>	<b>0.0703</b>	<b>0.0692</b>	<b>2,964.7812</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.1262					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>18.1559</b>	<b>0.1288</b>	<b>1.8324</b>	<b>2.9700e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1261	0.6795	10.8608	0.0288	2.9673	0.0159	2.9832	0.7919	0.0146	0.8066		2,942.4054	2,942.4054	0.0703	0.0692	2,964.7812
<b>Total</b>	<b>1.1261</b>	<b>0.6795</b>	<b>10.8608</b>	<b>0.0288</b>	<b>2.9673</b>	<b>0.0159</b>	<b>2.9832</b>	<b>0.7919</b>	<b>0.0146</b>	<b>0.8066</b>		<b>2,942.4054</b>	<b>2,942.4054</b>	<b>0.0703</b>	<b>0.0692</b>	<b>2,964.7812</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.1262					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>18.3070</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0462	0.6033	10.1140	0.0279	3.2192	0.0153	3.2344	0.8537	0.0141	0.8678		2,879.2792	2,879.2792	0.0636	0.0641	2,899.9824
<b>Total</b>	<b>1.0462</b>	<b>0.6033</b>	<b>10.1140</b>	<b>0.0279</b>	<b>3.2192</b>	<b>0.0153</b>	<b>3.2344</b>	<b>0.8537</b>	<b>0.0141</b>	<b>0.8678</b>		<b>2,879.2792</b>	<b>2,879.2792</b>	<b>0.0636</b>	<b>0.0641</b>	<b>2,899.9824</b>



Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.1262					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>18.1559</b>	<b>0.1288</b>	<b>1.8324</b>	<b>2.9700e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0462	0.6033	10.1140	0.0279	2.9673	0.0153	2.9826	0.7919	0.0141	0.8060		2,879.279 2	2,879.279 2	0.0636	0.0641	2,899.982 4
<b>Total</b>	<b>1.0462</b>	<b>0.6033</b>	<b>10.1140</b>	<b>0.0279</b>	<b>2.9673</b>	<b>0.0153</b>	<b>2.9826</b>	<b>0.7919</b>	<b>0.0141</b>	<b>0.8060</b>		<b>2,879.279 2</b>	<b>2,879.279 2</b>	<b>0.0636</b>	<b>0.0641</b>	<b>2,899.982 4</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

Implement Trip Reduction Program

Market Commute Trip Reduction Option

Employee Vanpool/Shuttle

Provide Riade Sharing Program

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.4713	127.4620	112.8796	0.9647	61.4192	1.4941	62.9133	16.7025	1.4239	18.1264		102,789.4606	102,789.4606	2.9461	11.6021	106,320.5491
Unmitigated	6.5163	127.6182	116.8134	0.9797	63.3579	1.5017	64.8595	17.2164	1.4309	18.6473		104,334.111	104,334.111	2.9585	11.6240	107,872.0144

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Office Park	2,907.99	2,907.99	2907.99	17,571,222	16,642,337
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	747.98	747.98	747.98	10,890,576	10,890,576
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
<b>Total</b>	<b>3,655.97</b>	<b>3,655.97</b>	<b>3,655.97</b>	<b>28,461,798</b>	<b>27,532,913</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Office Park	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.60	8.40	40.00	0.00	0.00	100.00	100	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Office Park	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Parking Lot	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.000000	0.190000	0.160000	0.650000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Natural Gas Mitigated	0.3665	3.3320	2.7989	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.3797	3,998.3797	0.0766	0.0733	4,022.1401
Natural Gas Unmitigated	0.3665	3.3320	2.7989	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.3797	3,998.3797	0.0766	0.0733	4,022.1401

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	1804.86	0.0195	0.1770	0.1486	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.3370	212.3370	4.0700e-003	3.8900e-003	213.5988
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	25388.1	0.2738	2.4890	2.0908	0.0149		0.1892	0.1892		0.1892	0.1892		2,986.8343	2,986.8343	0.0573	0.0548	3,004.5836
Unrefrigerated Warehouse-No Rail	1765.23	0.0190	0.1731	0.1454	1.0400e-003		0.0132	0.0132		0.0132	0.0132		207.6737	207.6737	3.9800e-003	3.8100e-003	208.9078
Unrefrigerated Warehouse-No Rail	5028.05	0.0542	0.4930	0.4141	2.9600e-003		0.0375	0.0375		0.0375	0.0375		591.5347	591.5347	0.0113	0.0108	595.0499
<b>Total</b>		<b>0.3665</b>	<b>3.3320</b>	<b>2.7989</b>	<b>0.0200</b>		<b>0.2532</b>	<b>0.2532</b>		<b>0.2532</b>	<b>0.2532</b>		<b>3,998.3797</b>	<b>3,998.3797</b>	<b>0.0766</b>	<b>0.0733</b>	<b>4,022.1401</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	1.80486	0.0195	0.1770	0.1486	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.3370	212.3370	4.0700e-003	3.8900e-003	213.5988
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	25.3881	0.2738	2.4890	2.0908	0.0149		0.1892	0.1892		0.1892	0.1892		2,986.8343	2,986.8343	0.0573	0.0548	3,004.5836
Unrefrigerated Warehouse-No Rail	1.76523	0.0190	0.1731	0.1454	1.0400e-003		0.0132	0.0132		0.0132	0.0132		207.6737	207.6737	3.9800e-003	3.8100e-003	208.9078
Unrefrigerated Warehouse-No Rail	5.02805	0.0542	0.4930	0.4141	2.9600e-003		0.0375	0.0375		0.0375	0.0375		591.5347	591.5347	0.0113	0.0108	595.0499
<b>Total</b>		<b>0.3665</b>	<b>3.3320</b>	<b>2.7989</b>	<b>0.0200</b>		<b>0.2532</b>	<b>0.2532</b>		<b>0.2532</b>	<b>0.2532</b>		<b>3,998.3797</b>	<b>3,998.3797</b>	<b>0.0766</b>	<b>0.0733</b>	<b>4,022.1401</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	33.6478	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
Unmitigated	37.3980	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	4.2915					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	33.0756					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0309	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
<b>Total</b>	<b>37.3980</b>	<b>3.0400e-003</b>	<b>0.3345</b>	<b>3.0000e-005</b>		<b>1.1900e-003</b>	<b>1.1900e-003</b>		<b>1.1900e-003</b>	<b>1.1900e-003</b>		<b>0.7180</b>	<b>0.7180</b>	<b>1.8700e-003</b>		<b>0.7649</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5413					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	33.0756					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0309	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
<b>Total</b>	<b>33.6478</b>	<b>3.0400e-003</b>	<b>0.3345</b>	<b>3.0000e-005</b>		<b>1.1900e-003</b>	<b>1.1900e-003</b>		<b>1.1900e-003</b>	<b>1.1900e-003</b>		<b>0.7180</b>	<b>0.7180</b>	<b>1.8700e-003</b>		<b>0.7649</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	50	8.00	365	89	0.20	Electrical
Off-Highway Trucks	6	8.00	365	402	0.38	Electrical

**UnMitigated/Mitigated**

Equipment Type	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Forklifts	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Off-Highway Trucks	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Ontario Ranch Business Park - Mitigated**

**San Bernardino-South Coast County, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Office Park	227.95	1000sqft	5.23	227,950.00	0
Refrigerated Warehouse-No Rail	179.13	1000sqft	4.11	179,135.00	0
Unrefrigerated Warehouse-No Rail	913.05	1000sqft	20.96	913,053.00	0
Unrefrigerated Warehouse-No Rail	320.55	1000sqft	7.36	320,551.00	0
Other Asphalt Surfaces	491.00	1000sqft	11.27	491,000.00	0
Parking Lot	1,144.52	1000sqft	26.27	1,144,515.00	0
City Park	4.75	Acre	4.75	206,910.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	32
<b>Climate Zone</b>	10			<b>Operational Year</b>	2024
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	390.98	<b>CH4 Intensity (lb/MW hr)</b>	0.033	<b>N2O Intensity (lb/MW hr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Land uses based on TIA, landscaping shown as City Park, Parking Lot includes drive aisles, parking spaces, and docks. Off-site improvements modeled as Other Asphalt Surfaces

Construction Phase - Anticipated construction schedule

Off-road Equipment - includes crushing equipment

Trips and VMT - demo crushed onsite and reused

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Demolition - demo = 10,200 sf, crushed on site reused as base. crushing calcs done outside model

Grading - site is balanced

Vehicle Trips - based on TIA, passenger cars shown under Office Park, trucks shown under refrigerated warehouse. cars: 2908/227.951= 12.75712762830608  
trucks: 748/179.135= 4.175621737795517

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Construction Off-road Equipment Mitigation - incorporate RULE 403, Mitigation: Require Tier 4 equipment

Mobile Commute Mitigation - Require TDM Program

Area Mitigation - Require "Super Compliant" Low VOC Paint 10 g/L

Water Mitigation - comply with building code

Operational Off-Road Equipment - assume 1 yard truck per building, 6 total. Assume 0.03 forklifts per 1000 sf of warehouse rounded up to 50 - MITIGATION:  
Require electrical cargo handling equipment

Fleet Mix - Fleet Mix based on TIA

Architectural Coating - Super Compliant VOC paint

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	10.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	10.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	10
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	10
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	110.00	109.00
tblConstructionPhase	NumDays	1,550.00	425.00
tblConstructionPhase	NumDays	100.00	33.00
tblConstructionPhase	NumDays	155.00	55.00
tblConstructionPhase	NumDays	110.00	165.00
tblConstructionPhase	NumDays	60.00	33.00
tblFleetMix	HHD	0.02	0.00

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblFleetMix	HHD	0.02	0.65
tblFleetMix	LDA	0.54	1.00
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	7.1040e-003	0.00
tblFleetMix	LHD2	7.1040e-003	0.19
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MH	4.8300e-003	0.00
tblFleetMix	MH	4.8300e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.16
tblFleetMix	OBUS	5.5400e-004	0.00
tblFleetMix	OBUS	5.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	UBUS	2.5100e-004	0.00
tblFleetMix	UBUS	2.5100e-004	0.00
tblLandUse	LandUseSquareFeet	179,130.00	179,135.00
tblLandUse	LandUseSquareFeet	320,550.00	320,551.00
tblLandUse	LandUseSquareFeet	913,050.00	913,053.00
tblLandUse	LandUseSquareFeet	1,144,520.00	1,144,515.00

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperFuelType	Diesel	Electrical
tblOperationalOffRoadEquipment	OperFuelType	Diesel	Electrical
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	50.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblTripsAndVMT	HaulingTripNumber	46.00	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	6.90	40.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	41.00	100.00
tblVehicleTrips	CW_TTP	33.00	100.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	15.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	82.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	1.64	12.76
tblVehicleTrips	ST_TR	2.12	4.18
tblVehicleTrips	ST_TR	1.74	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.76	12.76
tblVehicleTrips	SU_TR	2.12	4.18
tblVehicleTrips	SU_TR	1.74	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	11.07	12.76

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblVehicleTrips	WD_TR	2.12	4.18
tblVehicleTrips	WD_TR	1.74	0.00

**2.0 Emissions Summary**

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Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.1 Overall Construction (Maximum Daily Emission)**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	12.2274	84.8274	104.3105	0.3321	29.1813	3.0374	32.0092	10.2552	2.8209	13.0761	0.0000	33,880.87 49	33,880.87 49	3.2604	2.0872	34,584.37 09
2023	28.7064	51.3584	95.4022	0.3128	23.1409	1.5281	24.6690	6.2203	1.4318	7.6521	0.0000	32,162.65 37	32,162.65 37	2.0487	2.0555	32,826.41 21
2024	26.4461	39.8073	76.5002	0.2827	22.9732	0.9147	23.8879	6.1758	0.8645	7.0403	0.0000	29,325.86 21	29,325.86 21	1.2783	1.9978	29,953.15 41
<b>Maximum</b>	<b>28.7064</b>	<b>84.8274</b>	<b>104.3105</b>	<b>0.3321</b>	<b>29.1813</b>	<b>3.0374</b>	<b>32.0092</b>	<b>10.2552</b>	<b>2.8209</b>	<b>13.0761</b>	<b>0.0000</b>	<b>33,880.87 49</b>	<b>33,880.87 49</b>	<b>3.2604</b>	<b>2.0872</b>	<b>34,584.37 09</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	7.9857	35.9031	109.3650	0.3321	22.0558	0.5264	22.5822	6.4354	0.5067	6.9421	0.0000	33,880.87 49	33,880.87 49	3.2604	2.0872	34,584.37 09
2023	26.5473	29.0577	99.3512	0.3128	21.3821	0.3295	21.7116	5.7886	0.3153	6.1039	0.0000	32,162.65 37	32,162.65 37	2.0487	2.0555	32,826.41 21
2024	25.1513	27.5082	77.8159	0.2827	21.2275	0.2852	21.5128	5.7473	0.2715	6.0188	0.0000	29,325.86 21	29,325.86 21	1.2783	1.9978	29,953.15 41
<b>Maximum</b>	<b>26.5473</b>	<b>35.9031</b>	<b>109.3650</b>	<b>0.3321</b>	<b>22.0558</b>	<b>0.5264</b>	<b>22.5822</b>	<b>6.4354</b>	<b>0.5067</b>	<b>6.9421</b>	<b>0.0000</b>	<b>33,880.87 49</b>	<b>33,880.87 49</b>	<b>3.2604</b>	<b>2.0872</b>	<b>34,584.37 09</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	11.42	47.46	-3.74	0.00	14.12	79.18	18.32	20.66	78.63	31.34	0.00	0.00	0.00	0.00	0.00	0.00

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	37.3980	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
Energy	0.3665	3.3320	2.7989	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.3797	3,998.3797	0.0766	0.0733	4,022.1401
Mobile	5.8059	133.9449	101.9093	0.9507	63.3579	1.5026	64.8605	17.2164	1.4318	18.6482		101,348.7700	101,348.7700	2.9589	11.6524	104,895.1712
Offroad	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>43.5704</b>	<b>137.2799</b>	<b>105.0426</b>	<b>0.9708</b>	<b>63.3579</b>	<b>1.7570</b>	<b>65.1149</b>	<b>17.2164</b>	<b>1.6862</b>	<b>18.9026</b>	<b>0.0000</b>	<b>105,347.8677</b>	<b>105,347.8677</b>	<b>3.0374</b>	<b>11.7257</b>	<b>108,918.0762</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	33.6478	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
Energy	0.3665	3.3320	2.7989	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.3797	3,998.3797	0.0766	0.0733	4,022.1401
Mobile	5.7672	133.7821	98.8811	0.9373	61.4192	1.4950	62.9142	16.7025	1.4248	18.1273		99,964.4881	99,964.4881	2.9484	11.6301	103,503.9682
Offroad	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>39.7815</b>	<b>137.1171</b>	<b>102.0145</b>	<b>0.9573</b>	<b>61.4192</b>	<b>1.7495</b>	<b>63.1686</b>	<b>16.7025</b>	<b>1.6792</b>	<b>18.3817</b>	<b>0.0000</b>	<b>103,963.5858</b>	<b>103,963.5858</b>	<b>3.0269</b>	<b>11.7034</b>	<b>107,526.8732</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>8.70</b>	<b>0.12</b>	<b>2.88</b>	<b>1.38</b>	<b>3.06</b>	<b>0.43</b>	<b>2.99</b>	<b>2.99</b>	<b>0.41</b>	<b>2.76</b>	<b>0.00</b>	<b>1.31</b>	<b>1.31</b>	<b>0.35</b>	<b>0.19</b>	<b>1.28</b>

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2022	7/15/2022	5	33	
2	Site Preparation	Site Preparation	6/1/2022	7/15/2022	5	33	
3	Grading	Grading	7/16/2022	9/30/2022	5	55	
4	Building Construction	Building Construction	8/1/2022	3/15/2024	5	425	

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

5	Paving	Paving	5/1/2023	12/15/2023	5	165
6	Architectural Coating	Architectural Coating	10/1/2023	2/29/2024	5	109

**Acres of Grading (Site Preparation Phase): 49.5**

**Acres of Grading (Grading Phase): 165**

**Acres of Paving: 37.54**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,461,034; Non-Residential Outdoor: 820,345; Striped Parking Area: 98,131 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,440.00	571.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	288.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3043	0.0000	0.3043	0.0461	0.0000	0.0461			0.0000			0.0000
Off-Road	3.1186	28.9444	24.9253	0.0458		1.4227	1.4227		1.3353	1.3353		4,411.3113	4,411.3113	1.0957		4,438.7038
<b>Total</b>	<b>3.1186</b>	<b>28.9444</b>	<b>24.9253</b>	<b>0.0458</b>	<b>0.3043</b>	<b>1.4227</b>	<b>1.7270</b>	<b>0.0461</b>	<b>1.3353</b>	<b>1.3814</b>		<b>4,411.3113</b>	<b>4,411.3113</b>	<b>1.0957</b>		<b>4,438.7038</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0732	0.0508	0.6091	1.6800e-003	0.2012	1.0600e-003	0.2023	0.0534	9.7000e-004	0.0543		171.1060	171.1060	4.9000e-003	4.8500e-003	172.6750
<b>Total</b>	<b>0.0732</b>	<b>0.0508</b>	<b>0.6091</b>	<b>1.6800e-003</b>	<b>0.2012</b>	<b>1.0600e-003</b>	<b>0.2023</b>	<b>0.0534</b>	<b>9.7000e-004</b>	<b>0.0543</b>		<b>171.1060</b>	<b>171.1060</b>	<b>4.9000e-003</b>	<b>4.8500e-003</b>	<b>172.6750</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1187	0.0000	0.1187	0.0180	0.0000	0.0180			0.0000			0.0000
Off-Road	0.9417	5.2282	27.6111	0.0458		0.2417	0.2417		0.2417	0.2417	0.0000	4,411.3113	4,411.3113	1.0957		4,438.7038
<b>Total</b>	<b>0.9417</b>	<b>5.2282</b>	<b>27.6111</b>	<b>0.0458</b>	<b>0.1187</b>	<b>0.2417</b>	<b>0.3604</b>	<b>0.0180</b>	<b>0.2417</b>	<b>0.2597</b>	<b>0.0000</b>	<b>4,411.3113</b>	<b>4,411.3113</b>	<b>1.0957</b>		<b>4,438.7038</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0732	0.0508	0.6091	1.6800e-003	0.1855	1.0600e-003	0.1865	0.0495	9.7000e-004	0.0505		171.1060	171.1060	4.9000e-003	4.8500e-003	172.6750
<b>Total</b>	<b>0.0732</b>	<b>0.0508</b>	<b>0.6091</b>	<b>1.6800e-003</b>	<b>0.1855</b>	<b>1.0600e-003</b>	<b>0.1865</b>	<b>0.0495</b>	<b>9.7000e-004</b>	<b>0.0505</b>		<b>171.1060</b>	<b>171.1060</b>	<b>4.9000e-003</b>	<b>4.8500e-003</b>	<b>172.6750</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Site Preparation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
<b>Total</b>	<b>3.1701</b>	<b>33.0835</b>	<b>19.6978</b>	<b>0.0380</b>	<b>19.6570</b>	<b>1.6126</b>	<b>21.2696</b>	<b>10.1025</b>	<b>1.4836</b>	<b>11.5860</b>		<b>3,686.0619</b>	<b>3,686.0619</b>	<b>1.1922</b>		<b>3,715.8655</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0732	0.0508	0.6091	1.6800e-003	0.2012	1.0600e-003	0.2023	0.0534	9.7000e-004	0.0543		171.1060	171.1060	4.9000e-003	4.8500e-003	172.6750
<b>Total</b>	<b>0.0732</b>	<b>0.0508</b>	<b>0.6091</b>	<b>1.6800e-003</b>	<b>0.2012</b>	<b>1.0600e-003</b>	<b>0.2023</b>	<b>0.0534</b>	<b>9.7000e-004</b>	<b>0.0543</b>		<b>171.1060</b>	<b>171.1060</b>	<b>4.9000e-003</b>	<b>4.8500e-003</b>	<b>172.6750</b>



Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Site Preparation - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.6662	0.0000	7.6662	3.9400	0.0000	3.9400			0.0000			0.0000
Off-Road	0.4656	2.0175	20.8690	0.0380		0.0621	0.0621		0.0621	0.0621	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
<b>Total</b>	<b>0.4656</b>	<b>2.0175</b>	<b>20.8690</b>	<b>0.0380</b>	<b>7.6662</b>	<b>0.0621</b>	<b>7.7283</b>	<b>3.9400</b>	<b>0.0621</b>	<b>4.0020</b>	<b>0.0000</b>	<b>3,686.0619</b>	<b>3,686.0619</b>	<b>1.1922</b>		<b>3,715.8655</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0732	0.0508	0.6091	1.6800e-003	0.1855	1.0600e-003	0.1865	0.0495	9.7000e-004	0.0505		171.1060	171.1060	4.9000e-003	4.8500e-003	172.6750
<b>Total</b>	<b>0.0732</b>	<b>0.0508</b>	<b>0.6091</b>	<b>1.6800e-003</b>	<b>0.1855</b>	<b>1.0600e-003</b>	<b>0.1865</b>	<b>0.0495</b>	<b>9.7000e-004</b>	<b>0.0505</b>		<b>171.1060</b>	<b>171.1060</b>	<b>4.9000e-003</b>	<b>4.8500e-003</b>	<b>172.6750</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Grading - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.2036	0.0000	9.2036	3.6538	0.0000	3.6538			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
<b>Total</b>	<b>3.6248</b>	<b>38.8435</b>	<b>29.0415</b>	<b>0.0621</b>	<b>9.2036</b>	<b>1.6349</b>	<b>10.8385</b>	<b>3.6538</b>	<b>1.5041</b>	<b>5.1579</b>		<b>6,011.4105</b>	<b>6,011.4105</b>	<b>1.9442</b>		<b>6,060.0158</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0814	0.0564	0.6768	1.8700e-003	0.2236	1.1700e-003	0.2247	0.0593	1.0800e-003	0.0604		190.1178	190.1178	5.4400e-003	5.3900e-003	191.8611
<b>Total</b>	<b>0.0814</b>	<b>0.0564</b>	<b>0.6768</b>	<b>1.8700e-003</b>	<b>0.2236</b>	<b>1.1700e-003</b>	<b>0.2247</b>	<b>0.0593</b>	<b>1.0800e-003</b>	<b>0.0604</b>		<b>190.1178</b>	<b>190.1178</b>	<b>5.4400e-003</b>	<b>5.3900e-003</b>	<b>191.8611</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Grading - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5894	0.0000	3.5894	1.4250	0.0000	1.4250			0.0000			0.0000
Off-Road	0.7616	3.3000	32.9991	0.0621		0.1015	0.1015		0.1015	0.1015	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
<b>Total</b>	<b>0.7616</b>	<b>3.3000</b>	<b>32.9991</b>	<b>0.0621</b>	<b>3.5894</b>	<b>0.1015</b>	<b>3.6909</b>	<b>1.4250</b>	<b>0.1015</b>	<b>1.5265</b>	<b>0.0000</b>	<b>6,011.4105</b>	<b>6,011.4105</b>	<b>1.9442</b>		<b>6,060.0158</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0814	0.0564	0.6768	1.8700e-003	0.2061	1.1700e-003	0.2072	0.0550	1.0800e-003	0.0561		190.1178	190.1178	5.4400e-003	5.3900e-003	191.8611
<b>Total</b>	<b>0.0814</b>	<b>0.0564</b>	<b>0.6768</b>	<b>1.8700e-003</b>	<b>0.2061</b>	<b>1.1700e-003</b>	<b>0.2072</b>	<b>0.0550</b>	<b>1.0800e-003</b>	<b>0.0561</b>		<b>190.1178</b>	<b>190.1178</b>	<b>5.4400e-003</b>	<b>5.3900e-003</b>	<b>191.8611</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
<b>Total</b>	<b>1.7062</b>	<b>15.6156</b>	<b>16.3634</b>	<b>0.0269</b>		<b>0.8090</b>	<b>0.8090</b>		<b>0.7612</b>	<b>0.7612</b>		<b>2,554.3336</b>	<b>2,554.3336</b>	<b>0.6120</b>		<b>2,569.6322</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.9562	26.2490	9.4994	0.1067	3.6583	0.2984	3.9567	1.0534	0.2855	1.3389		11,436.5311	11,436.5311	0.3068	1.6935	11,948.8605
Worker	5.8587	4.0629	48.7294	0.1346	16.0958	0.0845	16.1803	4.2687	0.0778	4.3465		13,688.4819	13,688.4819	0.3920	0.3883	13,814.0013
<b>Total</b>	<b>6.8149</b>	<b>30.3119</b>	<b>58.2288</b>	<b>0.2412</b>	<b>19.7541</b>	<b>0.3829</b>	<b>20.1370</b>	<b>5.3221</b>	<b>0.3633</b>	<b>5.6854</b>		<b>25,125.0130</b>	<b>25,125.0130</b>	<b>0.6988</b>	<b>2.0818</b>	<b>25,762.8617</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0269		0.0408	0.0408		0.0408	0.0408	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
<b>Total</b>	<b>0.3278</b>	<b>2.2347</b>	<b>17.4603</b>	<b>0.0269</b>		<b>0.0408</b>	<b>0.0408</b>		<b>0.0408</b>	<b>0.0408</b>	<b>0.0000</b>	<b>2,554.3336</b>	<b>2,554.3336</b>	<b>0.6120</b>		<b>2,569.6322</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.9562	26.2490	9.4994	0.1067	3.4239	0.2984	3.7223	0.9959	0.2855	1.2814		11,436.5311	11,436.5311	0.3068	1.6935	11,948.8605
Worker	5.8587	4.0629	48.7294	0.1346	14.8364	0.0845	14.9209	3.9596	0.0778	4.0374		13,688.4819	13,688.4819	0.3920	0.3883	13,814.0013
<b>Total</b>	<b>6.8149</b>	<b>30.3119</b>	<b>58.2288</b>	<b>0.2412</b>	<b>18.2603</b>	<b>0.3829</b>	<b>18.6432</b>	<b>4.9554</b>	<b>0.3633</b>	<b>5.3187</b>		<b>25,125.0130</b>	<b>25,125.0130</b>	<b>0.6988</b>	<b>2.0818</b>	<b>25,762.8617</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>1.5728</b>	<b>14.3849</b>	<b>16.2440</b>	<b>0.0269</b>		<b>0.6997</b>	<b>0.6997</b>		<b>0.6584</b>	<b>0.6584</b>		<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6218	21.1548	8.6634	0.1024	3.6583	0.1511	3.8094	1.0534	0.1446	1.1980		10,985.1037	10,985.1037	0.2841	1.6233	11,475.9507
Worker	5.4239	3.5724	44.6949	0.1302	16.0958	0.0795	16.1753	4.2687	0.0732	4.3419		13,328.7226	13,328.7226	0.3518	0.3571	13,443.9266
<b>Total</b>	<b>6.0457</b>	<b>24.7272</b>	<b>53.3583</b>	<b>0.2327</b>	<b>19.7541</b>	<b>0.2307</b>	<b>19.9847</b>	<b>5.3221</b>	<b>0.2178</b>	<b>5.5399</b>		<b>24,313.8262</b>	<b>24,313.8262</b>	<b>0.6360</b>	<b>1.9804</b>	<b>24,919.8773</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0269		0.0408	0.0408		0.0408	0.0408	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
<b>Total</b>	<b>0.3278</b>	<b>2.2347</b>	<b>17.4603</b>	<b>0.0269</b>		<b>0.0408</b>	<b>0.0408</b>		<b>0.0408</b>	<b>0.0408</b>	<b>0.0000</b>	<b>2,555.2099</b>	<b>2,555.2099</b>	<b>0.6079</b>		<b>2,570.4061</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6218	21.1548	8.6634	0.1024	3.4239	0.1511	3.5750	0.9959	0.1446	1.1404		10,985.1037	10,985.1037	0.2841	1.6233	11,475.9507
Worker	5.4239	3.5724	44.6949	0.1302	14.8364	0.0795	14.9159	3.9596	0.0732	4.0328		13,328.7226	13,328.7226	0.3518	0.3571	13,443.9266
<b>Total</b>	<b>6.0457</b>	<b>24.7272</b>	<b>53.3583</b>	<b>0.2327</b>	<b>18.2603</b>	<b>0.2307</b>	<b>18.4909</b>	<b>4.9554</b>	<b>0.2178</b>	<b>5.1732</b>		<b>24,313.8262</b>	<b>24,313.8262</b>	<b>0.6360</b>	<b>1.9804</b>	<b>24,919.8773</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>1.4716</b>	<b>13.4438</b>	<b>16.1668</b>	<b>0.0270</b>		<b>0.6133</b>	<b>0.6133</b>		<b>0.5769</b>	<b>0.5769</b>		<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6063	21.3405	8.5214	0.1010	3.6582	0.1488	3.8070	1.0534	0.1423	1.1957		10,833.9810	10,833.9810	0.2754	1.6007	11,317.8715
Worker	5.0511	3.1702	41.6682	0.1265	16.0958	0.0764	16.1722	4.2687	0.0703	4.3390		13,045.6118	13,045.6118	0.3189	0.3309	13,152.1923
<b>Total</b>	<b>5.6574</b>	<b>24.5107</b>	<b>50.1896</b>	<b>0.2275</b>	<b>19.7540</b>	<b>0.2252</b>	<b>19.9792</b>	<b>5.3221</b>	<b>0.2127</b>	<b>5.5347</b>		<b>23,879.5928</b>	<b>23,879.5928</b>	<b>0.5943</b>	<b>1.9316</b>	<b>24,470.0638</b>



Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3278	2.2347	17.4603	0.0270		0.0408	0.0408		0.0408	0.0408	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
<b>Total</b>	<b>0.3278</b>	<b>2.2347</b>	<b>17.4603</b>	<b>0.0270</b>		<b>0.0408</b>	<b>0.0408</b>		<b>0.0408</b>	<b>0.0408</b>	<b>0.0000</b>	<b>2,555.6989</b>	<b>2,555.6989</b>	<b>0.6044</b>		<b>2,570.8077</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.6063	21.3405	8.5214	0.1010	3.4238	0.1488	3.5726	0.9959	0.1423	1.1382		10,833.9810	10,833.9810	0.2754	1.6007	11,317.8715
Worker	5.0511	3.1702	41.6682	0.1265	14.8364	0.0764	14.9128	3.9596	0.0703	4.0299		13,045.6118	13,045.6118	0.3189	0.3309	13,152.1923
<b>Total</b>	<b>5.6574</b>	<b>24.5107</b>	<b>50.1896</b>	<b>0.2275</b>	<b>18.2602</b>	<b>0.2252</b>	<b>18.4854</b>	<b>4.9554</b>	<b>0.2127</b>	<b>5.1681</b>		<b>23,879.5928</b>	<b>23,879.5928</b>	<b>0.5943</b>	<b>1.9316</b>	<b>24,470.0638</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.6 Paving - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.5961					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>1.6288</b>	<b>10.1917</b>	<b>14.5842</b>	<b>0.0228</b>		<b>0.5102</b>	<b>0.5102</b>		<b>0.4694</b>	<b>0.4694</b>		<b>2,207.5841</b>	<b>2,207.5841</b>	<b>0.7140</b>		<b>2,225.4336</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0565	0.0372	0.4656	1.3600e-003	0.1677	8.3000e-004	0.1685	0.0445	7.6000e-004	0.0452		138.8409	138.8409	3.6600e-003	3.7200e-003	140.0409
<b>Total</b>	<b>0.0565</b>	<b>0.0372</b>	<b>0.4656</b>	<b>1.3600e-003</b>	<b>0.1677</b>	<b>8.3000e-004</b>	<b>0.1685</b>	<b>0.0445</b>	<b>7.6000e-004</b>	<b>0.0452</b>		<b>138.8409</b>	<b>138.8409</b>	<b>3.6600e-003</b>	<b>3.7200e-003</b>	<b>140.0409</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.6 Paving - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374	0.0000	2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.5961					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8766</b>	<b>1.2154</b>	<b>17.2957</b>	<b>0.0228</b>		<b>0.0374</b>	<b>0.0374</b>		<b>0.0374</b>	<b>0.0374</b>	<b>0.0000</b>	<b>2,207.584 1</b>	<b>2,207.584 1</b>	<b>0.7140</b>		<b>2,225.433 6</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0565	0.0372	0.4656	1.3600e-003	0.1546	8.3000e-004	0.1554	0.0413	7.6000e-004	0.0420		138.8409	138.8409	3.6600e-003	3.7200e-003	140.0409
<b>Total</b>	<b>0.0565</b>	<b>0.0372</b>	<b>0.4656</b>	<b>1.3600e-003</b>	<b>0.1546</b>	<b>8.3000e-004</b>	<b>0.1554</b>	<b>0.0413</b>	<b>7.6000e-004</b>	<b>0.0420</b>		<b>138.8409</b>	<b>138.8409</b>	<b>3.6600e-003</b>	<b>3.7200e-003</b>	<b>140.0409</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.1262					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>18.3179</b>	<b>1.3030</b>	<b>1.8111</b>	<b>2.9700e-003</b>		<b>0.0708</b>	<b>0.0708</b>		<b>0.0708</b>	<b>0.0708</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0848	0.7145	8.9390	0.0261	3.2192	0.0159	3.2351	0.8537	0.0146	0.8684		2,665.7445	2,665.7445	0.0704	0.0714	2,688.7853
<b>Total</b>	<b>1.0848</b>	<b>0.7145</b>	<b>8.9390</b>	<b>0.0261</b>	<b>3.2192</b>	<b>0.0159</b>	<b>3.2351</b>	<b>0.8537</b>	<b>0.0146</b>	<b>0.8684</b>		<b>2,665.7445</b>	<b>2,665.7445</b>	<b>0.0704</b>	<b>0.0714</b>	<b>2,688.7853</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.1262					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0168		281.8690
<b>Total</b>	<b>18.1559</b>	<b>0.1288</b>	<b>1.8324</b>	<b>2.9700e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0168</b>		<b>281.8690</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0848	0.7145	8.9390	0.0261	2.9673	0.0159	2.9832	0.7919	0.0146	0.8066		2,665.7445	2,665.7445	0.0704	0.0714	2,688.7853
<b>Total</b>	<b>1.0848</b>	<b>0.7145</b>	<b>8.9390</b>	<b>0.0261</b>	<b>2.9673</b>	<b>0.0159</b>	<b>2.9832</b>	<b>0.7919</b>	<b>0.0146</b>	<b>0.8066</b>		<b>2,665.7445</b>	<b>2,665.7445</b>	<b>0.0704</b>	<b>0.0714</b>	<b>2,688.7853</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.1262					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>18.3070</b>	<b>1.2188</b>	<b>1.8101</b>	<b>2.9700e-003</b>		<b>0.0609</b>	<b>0.0609</b>		<b>0.0609</b>	<b>0.0609</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0102	0.6340	8.3336	0.0253	3.2192	0.0153	3.2344	0.8537	0.0141	0.8678		2,609.1224	2,609.1224	0.0638	0.0662	2,630.4385
<b>Total</b>	<b>1.0102</b>	<b>0.6340</b>	<b>8.3336</b>	<b>0.0253</b>	<b>3.2192</b>	<b>0.0153</b>	<b>3.2344</b>	<b>0.8537</b>	<b>0.0141</b>	<b>0.8678</b>		<b>2,609.1224</b>	<b>2,609.1224</b>	<b>0.0638</b>	<b>0.0662</b>	<b>2,630.4385</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.1262					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0297	0.1288	1.8324	2.9700e-003		3.9600e-003	3.9600e-003		3.9600e-003	3.9600e-003	0.0000	281.4481	281.4481	0.0159		281.8443
<b>Total</b>	<b>18.1559</b>	<b>0.1288</b>	<b>1.8324</b>	<b>2.9700e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>		<b>3.9600e-003</b>	<b>3.9600e-003</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0159</b>		<b>281.8443</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0102	0.6340	8.3336	0.0253	2.9673	0.0153	2.9826	0.7919	0.0141	0.8060		2,609.1224	2,609.1224	0.0638	0.0662	2,630.4385
<b>Total</b>	<b>1.0102</b>	<b>0.6340</b>	<b>8.3336</b>	<b>0.0253</b>	<b>2.9673</b>	<b>0.0153</b>	<b>2.9826</b>	<b>0.7919</b>	<b>0.0141</b>	<b>0.8060</b>		<b>2,609.1224</b>	<b>2,609.1224</b>	<b>0.0638</b>	<b>0.0662</b>	<b>2,630.4385</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

Implement Trip Reduction Program

Market Commute Trip Reduction Option

Employee Vanpool/Shuttle

Provide Riade Sharing Program

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.7672	133.7821	98.8811	0.9373	61.4192	1.4950	62.9142	16.7025	1.4248	18.1273		99,964.48 81	99,964.48 81	2.9484	11.6301	103,503.9 682
Unmitigated	5.8059	133.9449	101.9093	0.9507	63.3579	1.5026	64.8605	17.2164	1.4318	18.6482		101,348.7 700	101,348.7 700	2.9589	11.6524	104,895.1 712

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Office Park	2,907.99	2,907.99	2907.99	17,571,222	16,642,337
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	747.98	747.98	747.98	10,890,576	10,890,576
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
<b>Total</b>	<b>3,655.97</b>	<b>3,655.97</b>	<b>3,655.97</b>	<b>28,461,798</b>	<b>27,532,913</b>



Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Office Park	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.60	8.40	40.00	0.00	0.00	100.00	100	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Office Park	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Parking Lot	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.000000	0.190000	0.160000	0.650000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Natural Gas Mitigated	0.3665	3.3320	2.7989	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.3797	3,998.3797	0.0766	0.0733	4,022.1401
Natural Gas Unmitigated	0.3665	3.3320	2.7989	0.0200		0.2532	0.2532		0.2532	0.2532		3,998.3797	3,998.3797	0.0766	0.0733	4,022.1401

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	1804.86	0.0195	0.1770	0.1486	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.3370	212.3370	4.0700e-003	3.8900e-003	213.5988
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	25388.1	0.2738	2.4890	2.0908	0.0149		0.1892	0.1892		0.1892	0.1892		2,986.8343	2,986.8343	0.0573	0.0548	3,004.5836
Unrefrigerated Warehouse-No Rail	1765.23	0.0190	0.1731	0.1454	1.0400e-003		0.0132	0.0132		0.0132	0.0132		207.6737	207.6737	3.9800e-003	3.8100e-003	208.9078
Unrefrigerated Warehouse-No Rail	5028.05	0.0542	0.4930	0.4141	2.9600e-003		0.0375	0.0375		0.0375	0.0375		591.5347	591.5347	0.0113	0.0108	595.0499
<b>Total</b>		<b>0.3665</b>	<b>3.3320</b>	<b>2.7989</b>	<b>0.0200</b>		<b>0.2532</b>	<b>0.2532</b>		<b>0.2532</b>	<b>0.2532</b>		<b>3,998.3797</b>	<b>3,998.3797</b>	<b>0.0766</b>	<b>0.0733</b>	<b>4,022.1401</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.2 Energy by Land Use - NaturalGas**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	1.80486	0.0195	0.1770	0.1486	1.0600e-003		0.0135	0.0135		0.0135	0.0135		212.3370	212.3370	4.0700e-003	3.8900e-003	213.5988
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	25.3881	0.2738	2.4890	2.0908	0.0149		0.1892	0.1892		0.1892	0.1892		2,986.8343	2,986.8343	0.0573	0.0548	3,004.5836
Unrefrigerated Warehouse-No Rail	1.76523	0.0190	0.1731	0.1454	1.0400e-003		0.0132	0.0132		0.0132	0.0132		207.6737	207.6737	3.9800e-003	3.8100e-003	208.9078
Unrefrigerated Warehouse-No Rail	5.02805	0.0542	0.4930	0.4141	2.9600e-003		0.0375	0.0375		0.0375	0.0375		591.5347	591.5347	0.0113	0.0108	595.0499
<b>Total</b>		<b>0.3665</b>	<b>3.3320</b>	<b>2.7989</b>	<b>0.0200</b>		<b>0.2532</b>	<b>0.2532</b>		<b>0.2532</b>	<b>0.2532</b>		<b>3,998.3797</b>	<b>3,998.3797</b>	<b>0.0766</b>	<b>0.0733</b>	<b>4,022.1401</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	33.6478	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
Unmitigated	37.3980	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	4.2915					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	33.0756					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0309	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
<b>Total</b>	<b>37.3980</b>	<b>3.0400e-003</b>	<b>0.3345</b>	<b>3.0000e-005</b>		<b>1.1900e-003</b>	<b>1.1900e-003</b>		<b>1.1900e-003</b>	<b>1.1900e-003</b>		<b>0.7180</b>	<b>0.7180</b>	<b>1.8700e-003</b>		<b>0.7649</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5413					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	33.0756					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0309	3.0400e-003	0.3345	3.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003		0.7180	0.7180	1.8700e-003		0.7649
<b>Total</b>	<b>33.6478</b>	<b>3.0400e-003</b>	<b>0.3345</b>	<b>3.0000e-005</b>		<b>1.1900e-003</b>	<b>1.1900e-003</b>		<b>1.1900e-003</b>	<b>1.1900e-003</b>		<b>0.7180</b>	<b>0.7180</b>	<b>1.8700e-003</b>		<b>0.7649</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	50	8.00	365	89	0.20	Electrical
Off-Highway Trucks	6	8.00	365	402	0.38	Electrical

**UnMitigated/Mitigated**

Equipment Type	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Forklifts	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Off-Highway Trucks	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**



**APPENDIX B2**  
**HEALTH RISK ASSESSMENT DATA**

3.0 Construction Detail

Construction Duration (days)			
2022	2023	2024	Total
147	250	52	449

Construction

Year	PM10 Exhaust Onsite		
	Tons/Year	g/s	Weighted Average On-Site Rate
2022	0.3211	0.009237	5.25E-03
2023	1.35E-01	0.003895	
2024	1.82E-02	0.000525	
		Length(m)	
	SLINE8	489.6	5.25E-03
	0	0.000000	0.00E+00
	0	0.000000	0.00E+00
		489.600000	5.25E-03
Year	PM10 Exhaust Off-Site		
	Tons/Year	g/s	g/s per mile Weighted Average Off-Site Rate
2022	0.02106	0.000606	8.78008E-05 1.03E-04
2023	3.05E-02	0.000877	0.000127115
2024	6.52E-03	0.000188	2.71824E-05

Construction Route

Construction Route	Speed	Length (meters)	Length (Miles)	Emissions (g/sec per mile)	Emission Rate (g/sec)	
West Access Road - Sultana 25 mph - 70%	25	661	0.41	1.03E-04	4.22E-05	SLINE13
Merril W of Site 50 mph - 70%	50	488.7	0.30	1.03E-04	3.12E-05	SLINE14
Euclide South of Merril 45 mph - 20%	45	2399.1	1.49	1.03E-04	1.53E-04	SLINE15
Euclide N of Merril 45 MPH - 50%	45	5326.5	3.31	1.03E-04	3.40E-04	SLINE16
East Access Road Campus 25 MPH - 30%	25	638.4	0.40	1.03E-04	4.07E-05	SLINE17
Merrill East of Site 50 MPH - 30%	50	4412.5	2.74	1.03E-04	2.82E-04	SLINE18
Archibald North of Merrill 55 MPH - 20%	55	1596.6	0.99	1.03E-04	1.02E-04	SLINE19
Archibald South of Merrill 55 MPH - 10%	55	814.7	0.51	1.03E-04	5.20E-05	SLINE20
Limonite West of Hamner 50 MPH - 10%	50	3212.9	2.00	1.03E-04	2.05E-04	SLINE21
Limonite East of Hamner 45 MPH - 10%	45	1002.6	0.62	1.03E-04	6.40E-05	SLINE22
Edison 50 MPH - 20%	50	827.1	0.51	1.03E-04	5.28E-05	SLINE23
Ontario Ranch Road 50 mph - 20%	50	3372.5	2.10	1.03E-04	2.15E-04	SLINE24
Onsite Construction	15	5078.9	3.16	5.25E-03	1.66E-02	SLINE25

On-Site Construction Emissions

Off-Site Construction Emissions

Year	Phase	On-Site Construction Emissions		Year	Phase	Off-Site Construction Emissions	
		tons/yr	Exhaust PM10			tons/yr	Exhaust PM10
2022	Demo	2.05E-01		2022	Demo	1.00E-05	
2022	Site Prep	2.66E-02		2022	Site Prep	2.00E-05	
2022	Grading	4.50E-02		2022	Grading	3.00E-05	
2022	Construct	4.45E-02		2022	Construct	2.10E-02	
	Total	0.3211			Total	0.02106	
2023	Construct	9.10E-02		2023	Construct	2.99E-02	
2023	Paving	4.21E-02		2023	Paving	7.00E-05	
2023	A Coating	2.30E-03		2023	A Coating	5.20E-04	
	Total	1.35E-01			Total	3.05E-02	
2024	Construction	1.69E-02		2024	Construction	6.18E-03	
2024	A Coating	0.00134		2024	A Coating	3.40E-04	
	Total	1.82E-02			Total	6.52E-03	

Refrigeration Unit Emissions	Speed (mph)	Size (hp)	Load Factor	On/Off Cycle Factor	Emissions Factor (g/bhp-hr)	Daily Trucks with TRU (veh/day)	Cooling Time (hr/veh)	Emissions (g/day)	Emissions (g/sec)
Onsite - Driveway 1 & 12	15	50	0.53	0.5	0.02	748	1.64E-02	3.24E+00	3.75E-05
Onsite - Driveway 2 & 13	15	50	0.53	0.5	0.02	748	1.62E-02	3.21E+00	3.72E-05
Onsite - Driveway 3 & 14	15	50	0.53	0.5	0.02	748	1.63E-02	3.23E+00	3.74E-05
Onsite - Driveway 5 & 16	15	50	0.53	0.5	0.02	748	1.63E-02	3.23E+00	3.74E-05
Onsite - Driveway 6 & 17	15	50	0.53	0.5	0.02	748	1.62E-02	3.21E+00	3.72E-05
West Access Road - Sultana 25 mph	25	50	0.53	0.5	0.02	748	1.64E-02	3.26E+00	3.77E-05
Merril W of Site 50 mph	50	50	0.53	0.5	0.02	748	6.07E-03	1.20E+00	1.39E-05
Euclide South of Merril 45 mph	45	50	0.53	0.5	0.02	748	3.31E-02	6.57E+00	7.60E-05
Euclide N of Merril 45 MPH	45	50	0.53	0.5	0.02	748	7.35E-02	1.46E+01	1.69E-04
East Access Road Campus 25 MPH	25	50	0.53	0.5	0.02	748	1.59E-02	3.15E+00	3.64E-05
Merrill East of Site 50 MPH	50	50	0.53	0.5	0.02	748	5.48E-02	1.09E+01	1.26E-04
Archibald North of Merril 55 MPH	55	50	0.53	0.5	0.02	748	1.80E-02	3.58E+00	4.14E-05
Archibald South of Merril 55 MPH	55	50	0.53	0.5	0.02	748	9.20E-03	1.82E+00	2.11E-05
Limonite West of Hamner 50 MPH	50	50	0.53	0.5	0.02	748	3.99E-02	7.91E+00	9.16E-05
Limonite East of Hamner 45 MPH	45	50	0.53	0.5	0.02	748	5.43E-03	1.08E+00	1.25E-05
Edison 50 MPH	50	50	0.53	0.5	0.02	748	4.89E-03	9.68E-01	1.12E-05
Ontario Ranch Road 50 mph	50	50	0.53	0.5	0.02	374	4.19E-02	4.15E+00	4.81E-05

Truck Route Emissions	Speed (mph)	Trips (veh/day)	Emission Factor (g/mi)	Length (meters)	Length (mi/veh)	Emissions (g/day)	Emission Rate (g/sec)	TRU Emission Rate (g/sec)	Total Emission Rate (g/sec)
Onsite - Driveway 1 & 12 - 20%	15	150	0.01473	394.8	0.25	5.41E-01	6.26E-06	3.75E-05	4.38E-05
Onsite - Driveway 2 & 13 - 20%	15	150	0.01473	391.3	0.24	5.36E-01	6.20E-06	3.72E-05	4.34E-05
Onsite - Driveway 3 & 14 - 20%	15	150	0.01473	393.1	0.24	5.38E-01	6.23E-06	3.74E-05	4.36E-05
Onsite - Driveway 5 & 16 - 20%	15	150	0.01473	393.1	0.24	5.38E-01	6.23E-06	3.74E-05	4.36E-05
Onsite - Driveway 6 & 17 - 20%	15	150	0.01473	391.3	0.24	5.36E-01	6.20E-06	3.72E-05	4.34E-05
West Access Road - Sultana 25 mph - 70%	25	524	0.01070	661	0.41	2.30E+00	2.66E-05	3.77E-05	6.43E-05
Merril W of Site 50 mph - 70%	50	524	0.01334	488.7	0.30	2.12E+00	2.45E-05	1.39E-05	3.85E-05
Euclide South of Merril 45 mph - 20%	45	150	0.01135	2399.1	1.49	2.53E+00	2.93E-05	7.60E-05	1.05E-04
Euclide N of Merril 45 MPH - 50%	45	374	0.01135	5326.5	3.31	1.40E+01	1.63E-04	1.69E-04	3.31E-04
East Access Road Campus 25 MPH - 30%	25	224	0.01070	638.4	0.40	9.53E-01	1.10E-05	3.64E-05	4.74E-05
Merrill East of Site 50 MPH - 30%	50	224	0.01334	4412.5	2.74	8.21E+00	9.50E-05	1.26E-04	2.21E-04
Archibald North of Merril 55 MPH - 20%	55	150	0.01621	1596.6	0.99	2.41E+00	2.78E-05	4.14E-05	6.92E-05
Archibald South of Merril 55 MPH - 10%	55	75	0.01621	814.7	0.51	6.14E-01	7.10E-06	2.11E-05	2.82E-05
Limonite West of Hamner 50 MPH - 10%	50	75	0.01334	3212.9	2.00	1.99E+00	2.31E-05	9.16E-05	1.15E-04
Limonite East of Hamner 45 MPH - 10%	45	75	0.01135	1002.6	0.62	5.29E-01	6.12E-06	1.25E-05	1.86E-05
Edison 50 MPH - 20%	50	150	0.01334	827.1	0.51	1.03E+00	1.19E-05	1.12E-05	2.31E-05
Ontario Ranch Road 50 mph - 20%	50	150	0.01334	3372.5	2.10	4.18E+00	4.84E-05	4.81E-05	9.65E-05

SLINE13  
SLINE14  
SLINE15  
SLINE16  
SLINE17  
SLINE18  
SLINE19  
SLINE20  
SLINE21  
SLINE22  
SLINE23  
SLINE24

Loading Dock Idling	Speed (mph)	Trips (veh/day)	Emission Factor (g/hr)	Duration (hr/veh)	Emissions (g/day)	Emission Rate (g/sec)
Loading Dock	Idle	374	0.00188272	0.25	1.76E-01	2.04E-06
TRU Idle	Idle	374	0.265	0.25	2.48E+01	2.87E-04
						2.89E-04

Total Emission Rate

Idling Location	Length (m)	Percentage	Total Emission Rate	Idling Location Emission Rate
Building 8 Idle	47.5	0.040962401	2.89E-04	1.18E-05
Building 9 Idle	31.2	0.02690583	2.89E-04	7.77E-06
Building 10 Idle	46.9	0.040444981	2.89E-04	1.17E-05
Building 11 Idle	258.5	0.222921697	2.89E-04	6.44E-05
N Building 12 Idle	258.5	0.222921697	2.89E-04	6.44E-05
S Building 12 Idle	259.3	0.22361159	2.89E-04	6.46E-05
Building 13 Idle	257.7	0.22231804	2.89E-04	6.42E-05
Total Length	1159.6	1		2.89E-04

SLINE1  
SLINE2  
SLINE3  
SLINE4  
SLINE5  
SLINE6  
SLINE7

Diesel Equipment - Offroad Emissions	Tons/Year	g/s	Onsite Circulation + Offroad Equipment
Offroad Exhaust (PM <sub>10</sub> )	0.5968	0.017168	1.72E-02

3.0 Construction Detail

Construction Duration (days)			
2022	2023	2024	Total
147	250	52	449

Construction

Year	PM10 Exhaust Onsite		
	Tons/Year	g/s	Weighted Average On-Site Rate
2022	0.00707	0.000203	2.07E-04
2023	8.52E-03	0.000245	
2024	1.21E-03	0.000035	
		Length(m)	
	SLINE8	489.6	2.07E-04
	0	0.000000	0.00E+00
	0	0.000000	0.00E+00
		489.600000	2.07E-04
Year	PM10 Exhaust Off-Site		
	Tons/Year	g/s	g/s per mile
2022	0.02106	0.000606	8.78008E-05
2023	3.05E-02	0.000877	0.000127115
2024	6.52E-03	0.000188	2.71824E-05
			Weighted Average Off-Site Rate
			1.03E-04

Construction Route

	Speed	Length (meters)	Length (Miles)	Emissions (g/sec per mile)	Emission Rate (g/sec)	
West Access Road - Sultana 25 mph - 70%	25	661	0.41	1.03E-04	4.22E-05	SLINE13
Merril W of Site 50 mph - 70%	50	488.7	0.30	1.03E-04	3.12E-05	SLINE14
Euclide South of Merril 45 mph - 20%	45	2399.1	1.49	1.03E-04	1.53E-04	SLINE15
Euclide N of Merril 45 MPH - 50%	45	5326.5	3.31	1.03E-04	3.40E-04	SLINE16
East Access Road Campus 25 MPH - 30%	25	638.4	0.40	1.03E-04	4.07E-05	SLINE17
Merrill East of Site 50 MPH - 30%	50	4412.5	2.74	1.03E-04	2.82E-04	SLINE18
Archibald North of Merrill 55 MPH - 20%	55	1596.6	0.99	1.03E-04	1.02E-04	SLINE19
Archibald South of Merrill 55 MPH - 10%	55	814.7	0.51	1.03E-04	5.20E-05	SLINE20
Limonite West of Hamner 50 MPH - 10%	50	3212.9	2.00	1.03E-04	2.05E-04	SLINE21
Limonite East of Hamner 45 MPH - 10%	45	1002.6	0.62	1.03E-04	6.40E-05	SLINE22
Edison 50 MPH - 20%	50	827.1	0.51	1.03E-04	5.28E-05	SLINE23
Ontario Ranch Road 50 mph - 20%	50	3372.5	2.10	1.03E-04	2.15E-04	SLINE24
Onsite Construction	15	5078.9	3.16	2.07E-04	6.54E-04	SLINE25

On-Site Construction Emissions

Off-Site Construction Emissions

Year	Phase	On-Site Construction Emissions		Year	Phase	Off-Site Construction Emissions	
		tons/yr	Exhaust PM10			tons/yr	Exhaust PM10
2022	Demo		1.02E-03	2022	Demo		1.00E-05
2022	Site Prep		1.02E-03	2022	Site Prep		2.00E-05
2022	Grading		2.79E-03	2022	Grading		3.00E-05
2022	Construct		2.24E-03	2022	Construct		2.10E-02
	Total		0.00707		Total		0.02106
2023	Construct		5.30E-03	2023	Construct		2.99E-02
2023	Paving		3.09E-03	2023	Paving		7.00E-05
2023	A Coating		1.30E-04	2023	A Coating		5.20E-04
	Total		8.52E-03		Total		3.05E-02
2024	Construction		1.12E-03	2024	Construction		6.18E-03
2024	A Coating		9.00E-05	2024	A Coating		3.40E-04
	Total		1.21E-03		Total		6.52E-03

Refrigeration Unit Emissions	Speed (mph)	Size (hp)	Load Factor	On/Off Cycle Factor	Emissions Factor (g/bhp-hr)	Daily Trucks with TRU (veh/day)	Cooling Time (hr/veh)	Emissions (g/day)	Emissions (g/sec)
Onsite - Driveway 1 & 12	15	50	0.53	0.5	0.02	748	1.64E-02	3.24E+00	3.75E-05
Onsite - Driveway 2 & 13	15	50	0.53	0.5	0.02	748	1.62E-02	3.21E+00	3.72E-05
Onsite - Driveway 3 & 14	15	50	0.53	0.5	0.02	748	1.63E-02	3.23E+00	3.74E-05
Onsite - Driveway 5 & 16	15	50	0.53	0.5	0.02	748	1.63E-02	3.23E+00	3.74E-05
Onsite - Driveway 6 & 17	15	50	0.53	0.5	0.02	748	1.62E-02	3.21E+00	3.72E-05
West Access Road - Sultana 25 mph	25	50	0.53	0.5	0.02	748	1.64E-02	3.26E+00	3.77E-05
Merrill W of Site 50 mph	50	50	0.53	0.5	0.02	748	6.07E-03	1.20E+00	1.39E-05
Euclide South of Merrill 45 mph	45	50	0.53	0.5	0.02	748	3.31E-02	6.57E+00	7.60E-05
Euclide N of Merrill 45 MPH	45	50	0.53	0.5	0.02	748	7.35E-02	1.46E+01	1.69E-04
East Access Road Campus 25 MPH	25	50	0.53	0.5	0.02	748	1.59E-02	3.15E+00	3.64E-05
Merrill East of Site 50 MPH	50	50	0.53	0.5	0.02	748	5.48E-02	1.09E+01	1.26E-04
Archibald North of Merrill 55 MPH	55	50	0.53	0.5	0.02	748	1.80E-02	3.58E+00	4.14E-05
Archibald South of Merrill 55 MPH	55	50	0.53	0.5	0.02	748	9.20E-03	1.82E+00	2.11E-05
Limonite West of Hamner 50 MPH	50	50	0.53	0.5	0.02	748	3.99E-02	7.91E+00	9.16E-05
Limonite East of Hamner 45 MPH	45	50	0.53	0.5	0.02	748	5.43E-03	1.08E+00	1.25E-05
Edison 50 MPH	50	50	0.53	0.5	0.02	748	4.89E-03	9.68E-01	1.12E-05
Ontario Ranch Road 50 mph	50	50	0.53	0.5	0.02	374	4.19E-02	4.15E+00	4.81E-05

Truck Route Emissions	Speed (mph)	Trips (veh/day)	Emission Factor (g/mi)	Length (meters)	Length (mi/veh)	Emissions (g/day)	Emission Rate (g/sec)	TRU Emission Rate (g/sec)	Total Emission Rate (g/sec)
Onsite - Driveway 1 & 12 - 20%	15	150	0.01473	394.8	0.25	5.41E-01	6.26E-06	3.75E-05	4.38E-05
Onsite - Driveway 2 & 13 - 20%	15	150	0.01473	391.3	0.24	5.36E-01	6.20E-06	3.72E-05	4.34E-05
Onsite - Driveway 3 & 14 - 20%	15	150	0.01473	393.1	0.24	5.38E-01	6.23E-06	3.74E-05	4.36E-05
Onsite - Driveway 5 & 16 - 20%	15	150	0.01473	393.1	0.24	5.38E-01	6.23E-06	3.74E-05	4.36E-05
Onsite - Driveway 6 & 17 - 20%	15	150	0.01473	391.3	0.24	5.36E-01	6.20E-06	3.72E-05	4.34E-05
West Access Road - Sultana 25 mph - 70%	25	524	0.01070	661	0.41	2.30E+00	2.66E-05	3.77E-05	6.43E-05
Merrill W of Site 50 mph - 70%	50	524	0.01334	488.7	0.30	2.12E+00	2.45E-05	1.39E-05	3.85E-05
Euclide South of Merrill 45 mph - 20%	45	150	0.01135	2399.1	1.49	2.53E+00	2.93E-05	7.60E-05	1.05E-04
Euclide N of Merrill 45 MPH - 50%	45	374	0.01135	5326.5	3.31	1.40E+01	1.63E-04	1.69E-04	3.31E-04
East Access Road Campus 25 MPH - 30%	25	224	0.01070	638.4	0.40	9.53E-01	1.10E-05	3.64E-05	4.74E-05
Merrill East of Site 50 MPH - 30%	50	224	0.01334	4412.5	2.74	8.21E+00	9.50E-05	1.26E-04	2.21E-04
Archibald North of Merrill 55 MPH - 20%	55	150	0.01621	1596.6	0.99	2.41E+00	2.78E-05	4.14E-05	6.92E-05
Archibald South of Merrill 55 MPH - 10%	55	75	0.01621	814.7	0.51	6.14E-01	7.10E-06	2.11E-05	2.82E-05
Limonite West of Hamner 50 MPH - 10%	50	75	0.01334	3212.9	2.00	1.99E+00	2.31E-05	9.16E-05	1.15E-04
Limonite East of Hamner 45 MPH - 10%	45	75	0.01135	1002.6	0.62	5.29E-01	6.12E-06	1.25E-05	1.86E-05
Edison 50 MPH - 20%	50	150	0.01334	827.1	0.51	1.03E+00	1.19E-05	1.12E-05	2.31E-05
Ontario Ranch Road 50 mph - 20%	50	150	0.01334	3372.5	2.10	4.18E+00	4.84E-05	4.81E-05	9.65E-05

SLINE13  
SLINE14  
SLINE15  
SLINE16  
SLINE17  
SLINE18  
SLINE19  
SLINE20  
SLINE21  
SLINE22  
SLINE23  
SLINE24

Loading Dock Idling	Speed (mph)	Trips (veh/day)	Emission Factor (g/hr)	Duration (hr/veh)	Emissions (g/day)	Emission Rate (g/sec)
Loading Dock	Idle	374	0.00188272	0.25	1.76E-01	2.04E-06
TRU Idle	Idle	374	0.265	0.25	2.48E+01	2.87E-04
						2.89E-04

Total Emission Rate

Idling Location	Length (m)	Percentage	Total Emission Rate	Idling Location Emission Rate
Building 8 Idle	47.5	0.040962401	2.89E-04	1.18E-05
Building 9 Idle	31.2	0.02690583	2.89E-04	7.77E-06
Building 10 Idle	46.9	0.040444981	2.89E-04	1.17E-05
Building 11 Idle	258.5	0.222921697	2.89E-04	6.44E-05
N Building 12 Idle	258.5	0.222921697	2.89E-04	6.44E-05
S Building 12 Idle	259.3	0.22361159	2.89E-04	6.46E-05
Building 13 Idle	257.7	0.222231804	2.89E-04	6.42E-05
Total Length	1159.6	1		2.89E-04

SLINE1  
SLINE2  
SLINE3  
SLINE4  
SLINE5  
SLINE6  
SLINE7

Diesel Equipment - Offroad Emissions	Tons/Year	g/s
Offroad Exhaust (PM <sub>10</sub> )	0	0.000000

Onsite Circulation + Offroad Equipment  
0.00E+00

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**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.0.0
** Lakes Environmental Software Inc.
** Date: 8/23/2021
** File: C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Unmitigated_Construction\ORBP_Unmitigated_Construction.ADI
**
*****
**
**
*****
** AERMOD Control Pathway
*****
**
**
CO STARTING
  TITLEONE C:\Lakes\AERMOD View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U
  MODELOPT DFAULT CONC
  AVERTIME 1 24 PERIOD
  URBANOPT 2035210 San_Bernardino_County
  POLLUTID PM_10
  RUNORNOT RUN
  ERRORFIL ORBP_Unmitigated_Construction.err
CO FINISHED
**
*****
** AERMOD Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE13
** DESCRSRC West Access Road - Sultana 15 mph
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0000422
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440392.516, 3761134.605, 201.61, 3.15, 12.09
** 440390.843, 3760473.617, 195.36, 3.15, 12.09

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** -----
LOCATION L0008412      VOLUME  440392.483 3761121.605 201.48
LOCATION L0008413      VOLUME  440392.418 3761095.606 201.17
LOCATION L0008414      VOLUME  440392.352 3761069.606 200.87
LOCATION L0008415      VOLUME  440392.286 3761043.606 200.56
LOCATION L0008416      VOLUME  440392.220 3761017.606 200.25
LOCATION L0008417      VOLUME  440392.154 3760991.606 199.95
LOCATION L0008418      VOLUME  440392.089 3760965.606 199.68
LOCATION L0008419      VOLUME  440392.023 3760939.606 199.43
LOCATION L0008420      VOLUME  440391.957 3760913.606 199.16
LOCATION L0008421      VOLUME  440391.891 3760887.606 198.93
LOCATION L0008422      VOLUME  440391.825 3760861.606 198.72
LOCATION L0008423      VOLUME  440391.759 3760835.606 198.48
LOCATION L0008424      VOLUME  440391.694 3760809.606 198.22
LOCATION L0008425      VOLUME  440391.628 3760783.607 197.97
LOCATION L0008426      VOLUME  440391.562 3760757.607 197.71
LOCATION L0008427      VOLUME  440391.496 3760731.607 197.44
LOCATION L0008428      VOLUME  440391.430 3760705.607 197.19
LOCATION L0008429      VOLUME  440391.364 3760679.607 196.95
LOCATION L0008430      VOLUME  440391.299 3760653.607 196.72
LOCATION L0008431      VOLUME  440391.233 3760627.607 196.51
LOCATION L0008432      VOLUME  440391.167 3760601.607 196.30
LOCATION L0008433      VOLUME  440391.101 3760575.607 196.08
LOCATION L0008434      VOLUME  440391.035 3760549.607 195.89
LOCATION L0008435      VOLUME  440390.970 3760523.607 195.68
LOCATION L0008436      VOLUME  440390.904 3760497.607 195.53

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\*\* End of LINE VOLUME Source ID = SLINE13

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** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE14
** DESCRSRC Merril W of SIte 50 mph
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0000312
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440391.194, 3760467.870, 195.22, 3.15, 12.09
** 439902.492, 3760463.238, 193.60, 3.15, 12.09

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** -----
LOCATION L0008437      VOLUME  440378.195 3760467.747 195.12
LOCATION L0008438      VOLUME  440352.196 3760467.500 194.83
LOCATION L0008439      VOLUME  440326.197 3760467.254 194.71
LOCATION L0008440      VOLUME  440300.199 3760467.008 194.61
LOCATION L0008441      VOLUME  440274.200 3760466.761 194.52
LOCATION L0008442      VOLUME  440248.201 3760466.515 194.35
LOCATION L0008443      VOLUME  440222.202 3760466.268 194.19
LOCATION L0008444      VOLUME  440196.203 3760466.022 194.09

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LOCATION L0008445	VOLUME	440170.204	3760465.775	193.96
LOCATION L0008446	VOLUME	440144.206	3760465.529	193.82
LOCATION L0008447	VOLUME	440118.207	3760465.282	193.71
LOCATION L0008448	VOLUME	440092.208	3760465.036	193.66
LOCATION L0008449	VOLUME	440066.209	3760464.790	193.63
LOCATION L0008450	VOLUME	440040.210	3760464.543	193.60
LOCATION L0008451	VOLUME	440014.211	3760464.297	193.59
LOCATION L0008452	VOLUME	439988.213	3760464.050	193.57
LOCATION L0008453	VOLUME	439962.214	3760463.804	193.57
LOCATION L0008454	VOLUME	439936.215	3760463.557	193.63
LOCATION L0008455	VOLUME	439910.216	3760463.311	193.67

\*\* End of LINE VOLUME Source ID = SLINE14

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE15

\*\* DESCRSRC Euclide South of Merril 45 mph

\*\* PREFIX

\*\* Length of Side = 31.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000153

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 439894.728, 3760450.854, 193.57, 3.15, 14.42

\*\* 439882.847, 3758051.793, 175.42, 3.15, 14.42

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LOCATION L0008456	VOLUME	439894.651	3760435.354	193.42
LOCATION L0008457	VOLUME	439894.497	3760404.354	193.22
LOCATION L0008458	VOLUME	439894.344	3760373.355	193.05
LOCATION L0008459	VOLUME	439894.190	3760342.355	192.86
LOCATION L0008460	VOLUME	439894.037	3760311.356	192.61
LOCATION L0008461	VOLUME	439893.883	3760280.356	192.34
LOCATION L0008462	VOLUME	439893.730	3760249.356	192.06
LOCATION L0008463	VOLUME	439893.576	3760218.357	191.79
LOCATION L0008464	VOLUME	439893.423	3760187.357	191.52
LOCATION L0008465	VOLUME	439893.269	3760156.357	191.32
LOCATION L0008466	VOLUME	439893.116	3760125.358	191.16
LOCATION L0008467	VOLUME	439892.962	3760094.358	191.03
LOCATION L0008468	VOLUME	439892.809	3760063.359	190.90
LOCATION L0008469	VOLUME	439892.655	3760032.359	190.76
LOCATION L0008470	VOLUME	439892.502	3760001.359	190.60
LOCATION L0008471	VOLUME	439892.348	3759970.360	190.44
LOCATION L0008472	VOLUME	439892.195	3759939.360	190.27
LOCATION L0008473	VOLUME	439892.041	3759908.360	190.10
LOCATION L0008474	VOLUME	439891.888	3759877.361	189.91
LOCATION L0008475	VOLUME	439891.734	3759846.361	189.67
LOCATION L0008476	VOLUME	439891.581	3759815.362	189.41
LOCATION L0008477	VOLUME	439891.427	3759784.362	189.14
LOCATION L0008478	VOLUME	439891.274	3759753.362	188.87



LOCATION L0008479	VOLUME	439891.120	3759722.363	188.57
LOCATION L0008480	VOLUME	439890.967	3759691.363	188.30
LOCATION L0008481	VOLUME	439890.813	3759660.364	188.05
LOCATION L0008482	VOLUME	439890.660	3759629.364	187.78
LOCATION L0008483	VOLUME	439890.506	3759598.364	187.52
LOCATION L0008484	VOLUME	439890.352	3759567.365	187.26
LOCATION L0008485	VOLUME	439890.199	3759536.365	187.01
LOCATION L0008486	VOLUME	439890.045	3759505.365	186.78
LOCATION L0008487	VOLUME	439889.892	3759474.366	186.59
LOCATION L0008488	VOLUME	439889.738	3759443.366	186.40
LOCATION L0008489	VOLUME	439889.585	3759412.367	186.20
LOCATION L0008490	VOLUME	439889.431	3759381.367	185.98
LOCATION L0008491	VOLUME	439889.278	3759350.367	185.79
LOCATION L0008492	VOLUME	439889.124	3759319.368	185.62
LOCATION L0008493	VOLUME	439888.971	3759288.368	185.43
LOCATION L0008494	VOLUME	439888.817	3759257.368	185.17
LOCATION L0008495	VOLUME	439888.664	3759226.369	184.88
LOCATION L0008496	VOLUME	439888.510	3759195.369	184.57
LOCATION L0008497	VOLUME	439888.357	3759164.370	184.29
LOCATION L0008498	VOLUME	439888.203	3759133.370	183.99
LOCATION L0008499	VOLUME	439888.050	3759102.370	183.75
LOCATION L0008500	VOLUME	439887.896	3759071.371	183.55
LOCATION L0008501	VOLUME	439887.743	3759040.371	183.39
LOCATION L0008502	VOLUME	439887.589	3759009.372	183.24
LOCATION L0008503	VOLUME	439887.436	3758978.372	183.05
LOCATION L0008504	VOLUME	439887.282	3758947.372	182.83
LOCATION L0008505	VOLUME	439887.129	3758916.373	182.56
LOCATION L0008506	VOLUME	439886.975	3758885.373	182.21
LOCATION L0008507	VOLUME	439886.822	3758854.373	181.90
LOCATION L0008508	VOLUME	439886.668	3758823.374	181.56
LOCATION L0008509	VOLUME	439886.515	3758792.374	181.26
LOCATION L0008510	VOLUME	439886.361	3758761.375	181.04
LOCATION L0008511	VOLUME	439886.208	3758730.375	180.85
LOCATION L0008512	VOLUME	439886.054	3758699.375	180.68
LOCATION L0008513	VOLUME	439885.901	3758668.376	180.48
LOCATION L0008514	VOLUME	439885.747	3758637.376	180.25
LOCATION L0008515	VOLUME	439885.594	3758606.376	180.00
LOCATION L0008516	VOLUME	439885.440	3758575.377	179.78
LOCATION L0008517	VOLUME	439885.287	3758544.377	179.58
LOCATION L0008518	VOLUME	439885.133	3758513.378	179.37
LOCATION L0008519	VOLUME	439884.980	3758482.378	179.09
LOCATION L0008520	VOLUME	439884.826	3758451.378	178.77
LOCATION L0008521	VOLUME	439884.673	3758420.379	178.42
LOCATION L0008522	VOLUME	439884.519	3758389.379	178.08
LOCATION L0008523	VOLUME	439884.366	3758358.379	177.78
LOCATION L0008524	VOLUME	439884.212	3758327.380	177.48
LOCATION L0008525	VOLUME	439884.059	3758296.380	177.24
LOCATION L0008526	VOLUME	439883.905	3758265.381	177.02
LOCATION L0008527	VOLUME	439883.752	3758234.381	176.77

LOCATION L0008528	VOLUME	439883.598	3758203.381	176.52
LOCATION L0008529	VOLUME	439883.444	3758172.382	176.26
LOCATION L0008530	VOLUME	439883.291	3758141.382	176.00
LOCATION L0008531	VOLUME	439883.137	3758110.383	175.77
LOCATION L0008532	VOLUME	439882.984	3758079.383	175.59

\*\* End of LINE VOLUME Source ID = SLINE15

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE16

\*\* DESCRSRC Euclide N of Merril 45 MPH

\*\* PREFIX

\*\* Length of Side = 36.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.00034

\*\* Vertical Dimension = 5.78

\*\* SZINIT = 2.69

\*\* Nodes = 4

\*\* 439893.985, 3760466.447, 193.63, 2.89, 16.74

\*\* 439902.153, 3763463.230, 227.18, 2.89, 16.74

\*\* 439912.548, 3763601.338, 228.39, 2.89, 16.74

\*\* 439915.518, 3765792.495, 254.78, 2.89, 16.74

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LOCATION L0008533	VOLUME	439894.034	3760484.447	193.85
LOCATION L0008534	VOLUME	439894.132	3760520.446	194.19
LOCATION L0008535	VOLUME	439894.230	3760556.446	194.55
LOCATION L0008536	VOLUME	439894.328	3760592.446	194.87
LOCATION L0008537	VOLUME	439894.427	3760628.446	195.19
LOCATION L0008538	VOLUME	439894.525	3760664.446	195.50
LOCATION L0008539	VOLUME	439894.623	3760700.446	195.83
LOCATION L0008540	VOLUME	439894.721	3760736.446	196.22
LOCATION L0008541	VOLUME	439894.819	3760772.445	196.64
LOCATION L0008542	VOLUME	439894.917	3760808.445	197.09
LOCATION L0008543	VOLUME	439895.015	3760844.445	197.60
LOCATION L0008544	VOLUME	439895.113	3760880.445	198.09
LOCATION L0008545	VOLUME	439895.211	3760916.445	198.56
LOCATION L0008546	VOLUME	439895.310	3760952.445	199.00
LOCATION L0008547	VOLUME	439895.408	3760988.445	199.46
LOCATION L0008548	VOLUME	439895.506	3761024.445	199.92
LOCATION L0008549	VOLUME	439895.604	3761060.444	200.35
LOCATION L0008550	VOLUME	439895.702	3761096.444	200.72
LOCATION L0008551	VOLUME	439895.800	3761132.444	201.08
LOCATION L0008552	VOLUME	439895.898	3761168.444	201.46
LOCATION L0008553	VOLUME	439895.996	3761204.444	201.79
LOCATION L0008554	VOLUME	439896.095	3761240.444	202.06
LOCATION L0008555	VOLUME	439896.193	3761276.444	202.40
LOCATION L0008556	VOLUME	439896.291	3761312.443	202.79
LOCATION L0008557	VOLUME	439896.389	3761348.443	203.17
LOCATION L0008558	VOLUME	439896.487	3761384.443	203.62
LOCATION L0008559	VOLUME	439896.585	3761420.443	204.07

LOCATION	L0008560	VOLUME	439896.683	3761456.443	204.49
LOCATION	L0008561	VOLUME	439896.781	3761492.443	204.90
LOCATION	L0008562	VOLUME	439896.879	3761528.443	205.33
LOCATION	L0008563	VOLUME	439896.978	3761564.443	205.74
LOCATION	L0008564	VOLUME	439897.076	3761600.442	206.09
LOCATION	L0008565	VOLUME	439897.174	3761636.442	206.37
LOCATION	L0008566	VOLUME	439897.272	3761672.442	206.67
LOCATION	L0008567	VOLUME	439897.370	3761708.442	206.97
LOCATION	L0008568	VOLUME	439897.468	3761744.442	207.28
LOCATION	L0008569	VOLUME	439897.566	3761780.442	207.61
LOCATION	L0008570	VOLUME	439897.664	3761816.442	207.93
LOCATION	L0008571	VOLUME	439897.763	3761852.441	208.24
LOCATION	L0008572	VOLUME	439897.861	3761888.441	208.54
LOCATION	L0008573	VOLUME	439897.959	3761924.441	208.86
LOCATION	L0008574	VOLUME	439898.057	3761960.441	209.18
LOCATION	L0008575	VOLUME	439898.155	3761996.441	209.49
LOCATION	L0008576	VOLUME	439898.253	3762032.441	209.76
LOCATION	L0008577	VOLUME	439898.351	3762068.441	210.03
LOCATION	L0008578	VOLUME	439898.449	3762104.441	210.31
LOCATION	L0008579	VOLUME	439898.547	3762140.440	210.55
LOCATION	L0008580	VOLUME	439898.646	3762176.440	210.85
LOCATION	L0008581	VOLUME	439898.744	3762212.440	211.26
LOCATION	L0008582	VOLUME	439898.842	3762248.440	211.77
LOCATION	L0008583	VOLUME	439898.940	3762284.440	212.37
LOCATION	L0008584	VOLUME	439899.038	3762320.440	212.95
LOCATION	L0008585	VOLUME	439899.136	3762356.440	213.47
LOCATION	L0008586	VOLUME	439899.234	3762392.439	213.94
LOCATION	L0008587	VOLUME	439899.332	3762428.439	214.41
LOCATION	L0008588	VOLUME	439899.431	3762464.439	214.87
LOCATION	L0008589	VOLUME	439899.529	3762500.439	215.27
LOCATION	L0008590	VOLUME	439899.627	3762536.439	215.67
LOCATION	L0008591	VOLUME	439899.725	3762572.439	216.08
LOCATION	L0008592	VOLUME	439899.823	3762608.439	216.52
LOCATION	L0008593	VOLUME	439899.921	3762644.439	217.01
LOCATION	L0008594	VOLUME	439900.019	3762680.438	217.48
LOCATION	L0008595	VOLUME	439900.117	3762716.438	217.98
LOCATION	L0008596	VOLUME	439900.215	3762752.438	218.46
LOCATION	L0008597	VOLUME	439900.314	3762788.438	218.96
LOCATION	L0008598	VOLUME	439900.412	3762824.438	219.46
LOCATION	L0008599	VOLUME	439900.510	3762860.438	219.99
LOCATION	L0008600	VOLUME	439900.608	3762896.438	220.50
LOCATION	L0008601	VOLUME	439900.706	3762932.437	220.93
LOCATION	L0008602	VOLUME	439900.804	3762968.437	221.31
LOCATION	L0008603	VOLUME	439900.902	3763004.437	221.71
LOCATION	L0008604	VOLUME	439901.000	3763040.437	222.07
LOCATION	L0008605	VOLUME	439901.098	3763076.437	222.48
LOCATION	L0008606	VOLUME	439901.197	3763112.437	222.92
LOCATION	L0008607	VOLUME	439901.295	3763148.437	223.40
LOCATION	L0008608	VOLUME	439901.393	3763184.437	223.91

LOCATION L0008609	VOLUME	439901.491	3763220.436	224.44
LOCATION L0008610	VOLUME	439901.589	3763256.436	224.97
LOCATION L0008611	VOLUME	439901.687	3763292.436	225.41
LOCATION L0008612	VOLUME	439901.785	3763328.436	225.83
LOCATION L0008613	VOLUME	439901.883	3763364.436	226.22
LOCATION L0008614	VOLUME	439901.982	3763400.436	226.57
LOCATION L0008615	VOLUME	439902.080	3763436.436	226.88
LOCATION L0008616	VOLUME	439902.844	3763472.410	227.21
LOCATION L0008617	VOLUME	439905.546	3763508.308	227.55
LOCATION L0008618	VOLUME	439908.248	3763544.206	227.87
LOCATION L0008619	VOLUME	439910.950	3763580.105	228.17
LOCATION L0008620	VOLUME	439912.568	3763616.045	228.46
LOCATION L0008621	VOLUME	439912.617	3763652.045	228.76
LOCATION L0008622	VOLUME	439912.665	3763688.045	229.12
LOCATION L0008623	VOLUME	439912.714	3763724.045	229.40
LOCATION L0008624	VOLUME	439912.763	3763760.045	229.65
LOCATION L0008625	VOLUME	439912.812	3763796.045	229.92
LOCATION L0008626	VOLUME	439912.861	3763832.045	230.22
LOCATION L0008627	VOLUME	439912.909	3763868.045	230.54
LOCATION L0008628	VOLUME	439912.958	3763904.045	230.93
LOCATION L0008629	VOLUME	439913.007	3763940.045	231.41
LOCATION L0008630	VOLUME	439913.056	3763976.044	231.93
LOCATION L0008631	VOLUME	439913.105	3764012.044	232.48
LOCATION L0008632	VOLUME	439913.153	3764048.044	233.06
LOCATION L0008633	VOLUME	439913.202	3764084.044	233.63
LOCATION L0008634	VOLUME	439913.251	3764120.044	234.17
LOCATION L0008635	VOLUME	439913.300	3764156.044	234.76
LOCATION L0008636	VOLUME	439913.349	3764192.044	235.34
LOCATION L0008637	VOLUME	439913.397	3764228.044	235.93
LOCATION L0008638	VOLUME	439913.446	3764264.044	236.50
LOCATION L0008639	VOLUME	439913.495	3764300.044	237.09
LOCATION L0008640	VOLUME	439913.544	3764336.044	237.65
LOCATION L0008641	VOLUME	439913.593	3764372.044	238.14
LOCATION L0008642	VOLUME	439913.641	3764408.044	238.51
LOCATION L0008643	VOLUME	439913.690	3764444.044	238.76
LOCATION L0008644	VOLUME	439913.739	3764480.044	238.94
LOCATION L0008645	VOLUME	439913.788	3764516.044	239.14
LOCATION L0008646	VOLUME	439913.837	3764552.044	239.32
LOCATION L0008647	VOLUME	439913.885	3764588.044	239.55
LOCATION L0008648	VOLUME	439913.934	3764624.044	239.91
LOCATION L0008649	VOLUME	439913.983	3764660.044	240.33
LOCATION L0008650	VOLUME	439914.032	3764696.044	240.78
LOCATION L0008651	VOLUME	439914.081	3764732.044	241.22
LOCATION L0008652	VOLUME	439914.129	3764768.044	241.87
LOCATION L0008653	VOLUME	439914.178	3764804.044	242.52
LOCATION L0008654	VOLUME	439914.227	3764840.044	243.09
LOCATION L0008655	VOLUME	439914.276	3764876.044	243.65
LOCATION L0008656	VOLUME	439914.324	3764912.044	244.15
LOCATION L0008657	VOLUME	439914.373	3764948.044	244.65

LOCATION	L0008658	VOLUME	439914.422	3764984.044	245.21
LOCATION	L0008659	VOLUME	439914.471	3765020.044	245.75
LOCATION	L0008660	VOLUME	439914.520	3765056.043	246.10
LOCATION	L0008661	VOLUME	439914.568	3765092.043	246.38
LOCATION	L0008662	VOLUME	439914.617	3765128.043	246.65
LOCATION	L0008663	VOLUME	439914.666	3765164.043	246.95
LOCATION	L0008664	VOLUME	439914.715	3765200.043	247.30
LOCATION	L0008665	VOLUME	439914.764	3765236.043	247.82
LOCATION	L0008666	VOLUME	439914.812	3765272.043	248.35
LOCATION	L0008667	VOLUME	439914.861	3765308.043	248.96
LOCATION	L0008668	VOLUME	439914.910	3765344.043	249.57
LOCATION	L0008669	VOLUME	439914.959	3765380.043	250.15
LOCATION	L0008670	VOLUME	439915.008	3765416.043	250.77
LOCATION	L0008671	VOLUME	439915.056	3765452.043	251.36
LOCATION	L0008672	VOLUME	439915.105	3765488.043	251.81
LOCATION	L0008673	VOLUME	439915.154	3765524.043	252.12
LOCATION	L0008674	VOLUME	439915.203	3765560.043	252.55
LOCATION	L0008675	VOLUME	439915.252	3765596.043	252.94
LOCATION	L0008676	VOLUME	439915.300	3765632.043	253.19
LOCATION	L0008677	VOLUME	439915.349	3765668.043	253.63
LOCATION	L0008678	VOLUME	439915.398	3765704.043	254.14
LOCATION	L0008679	VOLUME	439915.447	3765740.043	254.48
LOCATION	L0008680	VOLUME	439915.496	3765776.043	254.77

\*\* End of LINE VOLUME Source ID = SLINE16

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE17

\*\* DESCRSRC East Access Road Campus 25 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000407

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440788.002, 3761131.581, 201.87, 3.15, 12.09

\*\* 440792.839, 3760493.155, 196.84, 3.15, 12.09

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LOCATION	L0008681	VOLUME	440788.101	3761118.581	201.62
LOCATION	L0008682	VOLUME	440788.297	3761092.582	201.37
LOCATION	L0008683	VOLUME	440788.494	3761066.583	201.14
LOCATION	L0008684	VOLUME	440788.691	3761040.584	200.92
LOCATION	L0008685	VOLUME	440788.888	3761014.584	200.72
LOCATION	L0008686	VOLUME	440789.085	3760988.585	200.51
LOCATION	L0008687	VOLUME	440789.282	3760962.586	200.30
LOCATION	L0008688	VOLUME	440789.479	3760936.587	200.11
LOCATION	L0008689	VOLUME	440789.676	3760910.587	199.91
LOCATION	L0008690	VOLUME	440789.873	3760884.588	199.74
LOCATION	L0008691	VOLUME	440790.070	3760858.589	199.60

LOCATION L0008692	VOLUME	440790.267	3760832.590	199.52
LOCATION L0008693	VOLUME	440790.464	3760806.590	199.45
LOCATION L0008694	VOLUME	440790.661	3760780.591	199.30
LOCATION L0008695	VOLUME	440790.858	3760754.592	198.99
LOCATION L0008696	VOLUME	440791.055	3760728.593	198.81
LOCATION L0008697	VOLUME	440791.252	3760702.593	198.61
LOCATION L0008698	VOLUME	440791.449	3760676.594	198.40
LOCATION L0008699	VOLUME	440791.646	3760650.595	198.19
LOCATION L0008700	VOLUME	440791.843	3760624.595	197.97
LOCATION L0008701	VOLUME	440792.040	3760598.596	197.72
LOCATION L0008702	VOLUME	440792.237	3760572.597	197.45
LOCATION L0008703	VOLUME	440792.434	3760546.598	197.22
LOCATION L0008704	VOLUME	440792.631	3760520.598	197.02
LOCATION L0008705	VOLUME	440792.828	3760494.599	196.88

\*\* End of LINE VOLUME Source ID = SLINE17

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE18

\*\* DESCRSRC Merrill East of Site 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000282

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 4

\*\* 440792.839, 3760468.972, 196.77, 3.15, 12.09

\*\* 443966.833, 3760482.272, 204.47, 3.15, 12.09

\*\* 444151.831, 3760416.979, 202.33, 3.15, 12.09

\*\* 445194.110, 3760409.724, 201.48, 3.15, 12.09

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LOCATION L0008706	VOLUME	440805.838	3760469.026	196.69
LOCATION L0008707	VOLUME	440831.838	3760469.135	196.70
LOCATION L0008708	VOLUME	440857.838	3760469.244	196.88
LOCATION L0008709	VOLUME	440883.838	3760469.353	197.13
LOCATION L0008710	VOLUME	440909.838	3760469.462	197.39
LOCATION L0008711	VOLUME	440935.837	3760469.571	197.56
LOCATION L0008712	VOLUME	440961.837	3760469.680	197.64
LOCATION L0008713	VOLUME	440987.837	3760469.789	197.74
LOCATION L0008714	VOLUME	441013.837	3760469.898	197.89
LOCATION L0008715	VOLUME	441039.836	3760470.007	198.06
LOCATION L0008716	VOLUME	441065.836	3760470.116	198.25
LOCATION L0008717	VOLUME	441091.836	3760470.225	198.46
LOCATION L0008718	VOLUME	441117.836	3760470.334	198.59
LOCATION L0008719	VOLUME	441143.836	3760470.443	198.64
LOCATION L0008720	VOLUME	441169.835	3760470.552	198.63
LOCATION L0008721	VOLUME	441195.835	3760470.661	198.95
LOCATION L0008722	VOLUME	441221.835	3760470.770	198.86
LOCATION L0008723	VOLUME	441247.835	3760470.879	198.67

LOCATION L0008724	VOLUME	441273.834	3760470.988	198.71
LOCATION L0008725	VOLUME	441299.834	3760471.096	198.79
LOCATION L0008726	VOLUME	441325.834	3760471.205	198.90
LOCATION L0008727	VOLUME	441351.834	3760471.314	198.98
LOCATION L0008728	VOLUME	441377.833	3760471.423	199.10
LOCATION L0008729	VOLUME	441403.833	3760471.532	199.23
LOCATION L0008730	VOLUME	441429.833	3760471.641	199.30
LOCATION L0008731	VOLUME	441455.833	3760471.750	199.33
LOCATION L0008732	VOLUME	441481.833	3760471.859	199.62
LOCATION L0008733	VOLUME	441507.832	3760471.968	199.82
LOCATION L0008734	VOLUME	441533.832	3760472.077	199.93
LOCATION L0008735	VOLUME	441559.832	3760472.186	199.99
LOCATION L0008736	VOLUME	441585.832	3760472.295	200.00
LOCATION L0008737	VOLUME	441611.831	3760472.404	200.07
LOCATION L0008738	VOLUME	441637.831	3760472.513	200.18
LOCATION L0008739	VOLUME	441663.831	3760472.622	200.19
LOCATION L0008740	VOLUME	441689.831	3760472.731	200.18
LOCATION L0008741	VOLUME	441715.830	3760472.840	200.15
LOCATION L0008742	VOLUME	441741.830	3760472.949	200.10
LOCATION L0008743	VOLUME	441767.830	3760473.058	200.08
LOCATION L0008744	VOLUME	441793.830	3760473.167	200.09
LOCATION L0008745	VOLUME	441819.830	3760473.275	200.09
LOCATION L0008746	VOLUME	441845.829	3760473.384	200.08
LOCATION L0008747	VOLUME	441871.829	3760473.493	200.12
LOCATION L0008748	VOLUME	441897.829	3760473.602	200.15
LOCATION L0008749	VOLUME	441923.829	3760473.711	200.22
LOCATION L0008750	VOLUME	441949.828	3760473.820	200.29
LOCATION L0008751	VOLUME	441975.828	3760473.929	200.11
LOCATION L0008752	VOLUME	442001.828	3760474.038	199.94
LOCATION L0008753	VOLUME	442027.828	3760474.147	200.38
LOCATION L0008754	VOLUME	442053.828	3760474.256	200.42
LOCATION L0008755	VOLUME	442079.827	3760474.365	200.43
LOCATION L0008756	VOLUME	442105.827	3760474.474	200.40
LOCATION L0008757	VOLUME	442131.827	3760474.583	200.37
LOCATION L0008758	VOLUME	442157.827	3760474.692	200.38
LOCATION L0008759	VOLUME	442183.826	3760474.801	200.40
LOCATION L0008760	VOLUME	442209.826	3760474.910	200.40
LOCATION L0008761	VOLUME	442235.826	3760475.019	200.44
LOCATION L0008762	VOLUME	442261.826	3760475.128	200.55
LOCATION L0008763	VOLUME	442287.825	3760475.237	200.67
LOCATION L0008764	VOLUME	442313.825	3760475.346	200.80
LOCATION L0008765	VOLUME	442339.825	3760475.455	200.98
LOCATION L0008766	VOLUME	442365.825	3760475.563	201.07
LOCATION L0008767	VOLUME	442391.825	3760475.672	201.05
LOCATION L0008768	VOLUME	442417.824	3760475.781	201.12
LOCATION L0008769	VOLUME	442443.824	3760475.890	201.14
LOCATION L0008770	VOLUME	442469.824	3760475.999	201.12
LOCATION L0008771	VOLUME	442495.824	3760476.108	201.09
LOCATION L0008772	VOLUME	442521.823	3760476.217	201.06

LOCATION L0008773	VOLUME	442547.823	3760476.326	201.01
LOCATION L0008774	VOLUME	442573.823	3760476.435	200.96
LOCATION L0008775	VOLUME	442599.823	3760476.544	200.85
LOCATION L0008776	VOLUME	442625.823	3760476.653	200.70
LOCATION L0008777	VOLUME	442651.822	3760476.762	200.64
LOCATION L0008778	VOLUME	442677.822	3760476.871	200.61
LOCATION L0008779	VOLUME	442703.822	3760476.980	200.62
LOCATION L0008780	VOLUME	442729.822	3760477.089	200.73
LOCATION L0008781	VOLUME	442755.821	3760477.198	200.85
LOCATION L0008782	VOLUME	442781.821	3760477.307	200.82
LOCATION L0008783	VOLUME	442807.821	3760477.416	200.80
LOCATION L0008784	VOLUME	442833.821	3760477.525	200.83
LOCATION L0008785	VOLUME	442859.820	3760477.634	200.98
LOCATION L0008786	VOLUME	442885.820	3760477.742	201.07
LOCATION L0008787	VOLUME	442911.820	3760477.851	201.13
LOCATION L0008788	VOLUME	442937.820	3760477.960	201.24
LOCATION L0008789	VOLUME	442963.820	3760478.069	201.34
LOCATION L0008790	VOLUME	442989.819	3760478.178	201.66
LOCATION L0008791	VOLUME	443015.819	3760478.287	201.87
LOCATION L0008792	VOLUME	443041.819	3760478.396	201.68
LOCATION L0008793	VOLUME	443067.819	3760478.505	201.58
LOCATION L0008794	VOLUME	443093.818	3760478.614	201.61
LOCATION L0008795	VOLUME	443119.818	3760478.723	201.69
LOCATION L0008796	VOLUME	443145.818	3760478.832	201.82
LOCATION L0008797	VOLUME	443171.818	3760478.941	202.12
LOCATION L0008798	VOLUME	443197.817	3760479.050	202.75
LOCATION L0008799	VOLUME	443223.817	3760479.159	203.08
LOCATION L0008800	VOLUME	443249.817	3760479.268	203.11
LOCATION L0008801	VOLUME	443275.817	3760479.377	203.19
LOCATION L0008802	VOLUME	443301.817	3760479.486	203.21
LOCATION L0008803	VOLUME	443327.816	3760479.595	203.34
LOCATION L0008804	VOLUME	443353.816	3760479.704	203.23
LOCATION L0008805	VOLUME	443379.816	3760479.813	203.32
LOCATION L0008806	VOLUME	443405.816	3760479.922	203.44
LOCATION L0008807	VOLUME	443431.815	3760480.030	203.41
LOCATION L0008808	VOLUME	443457.815	3760480.139	203.39
LOCATION L0008809	VOLUME	443483.815	3760480.248	203.40
LOCATION L0008810	VOLUME	443509.815	3760480.357	203.34
LOCATION L0008811	VOLUME	443535.815	3760480.466	203.32
LOCATION L0008812	VOLUME	443561.814	3760480.575	203.18
LOCATION L0008813	VOLUME	443587.814	3760480.684	203.18
LOCATION L0008814	VOLUME	443613.814	3760480.793	203.46
LOCATION L0008815	VOLUME	443639.814	3760480.902	203.54
LOCATION L0008816	VOLUME	443665.813	3760481.011	203.63
LOCATION L0008817	VOLUME	443691.813	3760481.120	203.67
LOCATION L0008818	VOLUME	443717.813	3760481.229	203.73
LOCATION L0008819	VOLUME	443743.813	3760481.338	203.77
LOCATION L0008820	VOLUME	443769.812	3760481.447	203.85
LOCATION L0008821	VOLUME	443795.812	3760481.556	204.00



LOCATION	L0008822	VOLUME	443821.812	3760481.665	204.17
LOCATION	L0008823	VOLUME	443847.812	3760481.774	204.20
LOCATION	L0008824	VOLUME	443873.812	3760481.883	204.53
LOCATION	L0008825	VOLUME	443899.811	3760481.992	203.97
LOCATION	L0008826	VOLUME	443925.811	3760482.101	204.05
LOCATION	L0008827	VOLUME	443951.811	3760482.210	204.58
LOCATION	L0008828	VOLUME	443977.185	3760478.619	204.36
LOCATION	L0008829	VOLUME	444001.703	3760469.965	203.93
LOCATION	L0008830	VOLUME	444026.220	3760461.312	203.42
LOCATION	L0008831	VOLUME	444050.738	3760452.659	203.27
LOCATION	L0008832	VOLUME	444075.256	3760444.005	203.00
LOCATION	L0008833	VOLUME	444099.774	3760435.352	202.74
LOCATION	L0008834	VOLUME	444124.291	3760426.699	202.61
LOCATION	L0008835	VOLUME	444148.809	3760418.045	202.42
LOCATION	L0008836	VOLUME	444174.626	3760416.820	202.24
LOCATION	L0008837	VOLUME	444200.625	3760416.639	202.16
LOCATION	L0008838	VOLUME	444226.625	3760416.458	202.11
LOCATION	L0008839	VOLUME	444252.624	3760416.277	202.08
LOCATION	L0008840	VOLUME	444278.623	3760416.096	202.08
LOCATION	L0008841	VOLUME	444304.623	3760415.915	202.08
LOCATION	L0008842	VOLUME	444330.622	3760415.734	202.05
LOCATION	L0008843	VOLUME	444356.621	3760415.553	202.09
LOCATION	L0008844	VOLUME	444382.621	3760415.372	202.09
LOCATION	L0008845	VOLUME	444408.620	3760415.191	201.88
LOCATION	L0008846	VOLUME	444434.620	3760415.010	201.81
LOCATION	L0008847	VOLUME	444460.619	3760414.830	201.86
LOCATION	L0008848	VOLUME	444486.618	3760414.649	201.93
LOCATION	L0008849	VOLUME	444512.618	3760414.468	201.96
LOCATION	L0008850	VOLUME	444538.617	3760414.287	202.07
LOCATION	L0008851	VOLUME	444564.616	3760414.106	202.19
LOCATION	L0008852	VOLUME	444590.616	3760413.925	202.08
LOCATION	L0008853	VOLUME	444616.615	3760413.744	198.42
LOCATION	L0008854	VOLUME	444642.615	3760413.563	197.62
LOCATION	L0008855	VOLUME	444668.614	3760413.382	201.81
LOCATION	L0008856	VOLUME	444694.613	3760413.201	202.20
LOCATION	L0008857	VOLUME	444720.613	3760413.020	201.98
LOCATION	L0008858	VOLUME	444746.612	3760412.839	201.80
LOCATION	L0008859	VOLUME	444772.611	3760412.658	201.20
LOCATION	L0008860	VOLUME	444798.611	3760412.477	200.69
LOCATION	L0008861	VOLUME	444824.610	3760412.296	201.48
LOCATION	L0008862	VOLUME	444850.609	3760412.115	201.42
LOCATION	L0008863	VOLUME	444876.609	3760411.934	201.16
LOCATION	L0008864	VOLUME	444902.608	3760411.753	201.20
LOCATION	L0008865	VOLUME	444928.608	3760411.572	201.45
LOCATION	L0008866	VOLUME	444954.607	3760411.391	201.75
LOCATION	L0008867	VOLUME	444980.606	3760411.210	201.86
LOCATION	L0008868	VOLUME	445006.606	3760411.029	201.80
LOCATION	L0008869	VOLUME	445032.605	3760410.848	201.77
LOCATION	L0008870	VOLUME	445058.604	3760410.667	201.77

LOCATION	L0008871	VOLUME	445084.604	3760410.486	201.74
LOCATION	L0008872	VOLUME	445110.603	3760410.305	201.77
LOCATION	L0008873	VOLUME	445136.603	3760410.124	201.91
LOCATION	L0008874	VOLUME	445162.602	3760409.943	201.80
LOCATION	L0008875	VOLUME	445188.601	3760409.762	201.42

\*\* End of LINE VOLUME Source ID = SLINE18

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE19

\*\* DESCRSRC Archibald North of Merrill 55 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000102

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445197.002, 3760432.429, 201.58, 3.15, 12.09

\*\* 445203.414, 3762029.057, 216.23, 3.15, 12.09

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LOCATION	L0008876	VOLUME	445197.054	3760445.429	201.61
LOCATION	L0008877	VOLUME	445197.159	3760471.429	201.78
LOCATION	L0008878	VOLUME	445197.263	3760497.429	201.94
LOCATION	L0008879	VOLUME	445197.368	3760523.429	202.11
LOCATION	L0008880	VOLUME	445197.472	3760549.428	202.26
LOCATION	L0008881	VOLUME	445197.576	3760575.428	202.43
LOCATION	L0008882	VOLUME	445197.681	3760601.428	202.62
LOCATION	L0008883	VOLUME	445197.785	3760627.428	202.85
LOCATION	L0008884	VOLUME	445197.890	3760653.428	203.09
LOCATION	L0008885	VOLUME	445197.994	3760679.427	203.34
LOCATION	L0008886	VOLUME	445198.098	3760705.427	203.60
LOCATION	L0008887	VOLUME	445198.203	3760731.427	203.84
LOCATION	L0008888	VOLUME	445198.307	3760757.427	204.09
LOCATION	L0008889	VOLUME	445198.412	3760783.427	204.31
LOCATION	L0008890	VOLUME	445198.516	3760809.426	204.58
LOCATION	L0008891	VOLUME	445198.621	3760835.426	204.84
LOCATION	L0008892	VOLUME	445198.725	3760861.426	205.09
LOCATION	L0008893	VOLUME	445198.829	3760887.426	205.36
LOCATION	L0008894	VOLUME	445198.934	3760913.426	205.59
LOCATION	L0008895	VOLUME	445199.038	3760939.425	205.83
LOCATION	L0008896	VOLUME	445199.143	3760965.425	206.10
LOCATION	L0008897	VOLUME	445199.247	3760991.425	206.35
LOCATION	L0008898	VOLUME	445199.351	3761017.425	206.59
LOCATION	L0008899	VOLUME	445199.456	3761043.424	206.83
LOCATION	L0008900	VOLUME	445199.560	3761069.424	207.07
LOCATION	L0008901	VOLUME	445199.665	3761095.424	207.30
LOCATION	L0008902	VOLUME	445199.769	3761121.424	207.55
LOCATION	L0008903	VOLUME	445199.874	3761147.424	207.81
LOCATION	L0008904	VOLUME	445199.978	3761173.423	208.02

LOCATION L0008905	VOLUME	445200.082	3761199.423	208.30
LOCATION L0008906	VOLUME	445200.187	3761225.423	208.72
LOCATION L0008907	VOLUME	445200.291	3761251.423	209.11
LOCATION L0008908	VOLUME	445200.396	3761277.423	209.39
LOCATION L0008909	VOLUME	445200.500	3761303.422	209.67
LOCATION L0008910	VOLUME	445200.604	3761329.422	209.96
LOCATION L0008911	VOLUME	445200.709	3761355.422	210.20
LOCATION L0008912	VOLUME	445200.813	3761381.422	210.41
LOCATION L0008913	VOLUME	445200.918	3761407.422	210.60
LOCATION L0008914	VOLUME	445201.022	3761433.421	210.77
LOCATION L0008915	VOLUME	445201.127	3761459.421	210.92
LOCATION L0008916	VOLUME	445201.231	3761485.421	211.13
LOCATION L0008917	VOLUME	445201.335	3761511.421	211.35
LOCATION L0008918	VOLUME	445201.440	3761537.420	211.52
LOCATION L0008919	VOLUME	445201.544	3761563.420	211.70
LOCATION L0008920	VOLUME	445201.649	3761589.420	211.90
LOCATION L0008921	VOLUME	445201.753	3761615.420	212.09
LOCATION L0008922	VOLUME	445201.857	3761641.420	212.27
LOCATION L0008923	VOLUME	445201.962	3761667.419	212.45
LOCATION L0008924	VOLUME	445202.066	3761693.419	212.61
LOCATION L0008925	VOLUME	445202.171	3761719.419	212.77
LOCATION L0008926	VOLUME	445202.275	3761745.419	213.00
LOCATION L0008927	VOLUME	445202.380	3761771.419	213.31
LOCATION L0008928	VOLUME	445202.484	3761797.418	213.59
LOCATION L0008929	VOLUME	445202.588	3761823.418	213.87
LOCATION L0008930	VOLUME	445202.693	3761849.418	214.14
LOCATION L0008931	VOLUME	445202.797	3761875.418	214.43
LOCATION L0008932	VOLUME	445202.902	3761901.418	214.72
LOCATION L0008933	VOLUME	445203.006	3761927.417	215.03
LOCATION L0008934	VOLUME	445203.110	3761953.417	215.33
LOCATION L0008935	VOLUME	445203.215	3761979.417	215.64
LOCATION L0008936	VOLUME	445203.319	3762005.417	215.92

\*\* End of LINE VOLUME Source ID = SLINE19

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE20

\*\* DESCRSRC Archibald South of Merrill 55 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000052

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445190.590, 3760393.956, 201.32, 3.15, 12.09

\*\* 445213.033, 3759579.612, 197.47, 3.15, 12.09

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LOCATION L0008937	VOLUME	445190.948	3760380.961	201.25
LOCATION L0008938	VOLUME	445191.664	3760354.971	201.07

LOCATION L0008939	VOLUME	445192.381	3760328.981	200.90
LOCATION L0008940	VOLUME	445193.097	3760302.991	200.72
LOCATION L0008941	VOLUME	445193.813	3760277.001	200.57
LOCATION L0008942	VOLUME	445194.529	3760251.011	200.42
LOCATION L0008943	VOLUME	445195.246	3760225.021	200.27
LOCATION L0008944	VOLUME	445195.962	3760199.030	200.12
LOCATION L0008945	VOLUME	445196.678	3760173.040	199.96
LOCATION L0008946	VOLUME	445197.394	3760147.050	199.80
LOCATION L0008947	VOLUME	445198.111	3760121.060	199.64
LOCATION L0008948	VOLUME	445198.827	3760095.070	199.49
LOCATION L0008949	VOLUME	445199.543	3760069.080	199.32
LOCATION L0008950	VOLUME	445200.259	3760043.090	199.14
LOCATION L0008951	VOLUME	445200.976	3760017.100	198.96
LOCATION L0008952	VOLUME	445201.692	3759991.109	198.82
LOCATION L0008953	VOLUME	445202.408	3759965.119	198.64
LOCATION L0008954	VOLUME	445203.125	3759939.129	198.60
LOCATION L0008955	VOLUME	445203.841	3759913.139	198.65
LOCATION L0008956	VOLUME	445204.557	3759887.149	198.74
LOCATION L0008957	VOLUME	445205.273	3759861.159	198.79
LOCATION L0008958	VOLUME	445205.990	3759835.169	198.62
LOCATION L0008959	VOLUME	445206.706	3759809.178	198.12
LOCATION L0008960	VOLUME	445207.422	3759783.188	198.27
LOCATION L0008961	VOLUME	445208.138	3759757.198	198.31
LOCATION L0008962	VOLUME	445208.855	3759731.208	198.20
LOCATION L0008963	VOLUME	445209.571	3759705.218	198.10
LOCATION L0008964	VOLUME	445210.287	3759679.228	197.99
LOCATION L0008965	VOLUME	445211.003	3759653.238	197.83
LOCATION L0008966	VOLUME	445211.720	3759627.248	197.71
LOCATION L0008967	VOLUME	445212.436	3759601.257	197.57

\*\* End of LINE VOLUME Source ID = SLINE20

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE21

\*\* DESCRSRC Limonite West of Hamner 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000205

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445208.816, 3759586.179, 197.53, 3.15, 12.09

\*\* 448421.656, 3759563.991, 203.23, 3.15, 12.09

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LOCATION L0008968	VOLUME	445221.815	3759586.089	197.44
LOCATION L0008969	VOLUME	445247.815	3759585.910	197.38
LOCATION L0008970	VOLUME	445273.814	3759585.730	197.39
LOCATION L0008971	VOLUME	445299.813	3759585.551	197.38
LOCATION L0008972	VOLUME	445325.813	3759585.371	197.43

LOCATION L0008973	VOLUME	445351.812	3759585.192	197.43
LOCATION L0008974	VOLUME	445377.812	3759585.012	197.46
LOCATION L0008975	VOLUME	445403.811	3759584.833	197.48
LOCATION L0008976	VOLUME	445429.810	3759584.653	197.56
LOCATION L0008977	VOLUME	445455.810	3759584.473	197.63
LOCATION L0008978	VOLUME	445481.809	3759584.294	197.63
LOCATION L0008979	VOLUME	445507.808	3759584.114	197.63
LOCATION L0008980	VOLUME	445533.808	3759583.935	197.73
LOCATION L0008981	VOLUME	445559.807	3759583.755	197.78
LOCATION L0008982	VOLUME	445585.807	3759583.576	197.85
LOCATION L0008983	VOLUME	445611.806	3759583.396	198.20
LOCATION L0008984	VOLUME	445637.805	3759583.217	198.31
LOCATION L0008985	VOLUME	445663.805	3759583.037	198.15
LOCATION L0008986	VOLUME	445689.804	3759582.857	198.11
LOCATION L0008987	VOLUME	445715.803	3759582.678	198.45
LOCATION L0008988	VOLUME	445741.803	3759582.498	198.66
LOCATION L0008989	VOLUME	445767.802	3759582.319	198.70
LOCATION L0008990	VOLUME	445793.802	3759582.139	198.86
LOCATION L0008991	VOLUME	445819.801	3759581.960	198.90
LOCATION L0008992	VOLUME	445845.800	3759581.780	198.97
LOCATION L0008993	VOLUME	445871.800	3759581.601	199.06
LOCATION L0008994	VOLUME	445897.799	3759581.421	199.08
LOCATION L0008995	VOLUME	445923.798	3759581.241	199.07
LOCATION L0008996	VOLUME	445949.798	3759581.062	199.03
LOCATION L0008997	VOLUME	445975.797	3759580.882	198.99
LOCATION L0008998	VOLUME	446001.797	3759580.703	198.83
LOCATION L0008999	VOLUME	446027.796	3759580.523	199.03
LOCATION L0009000	VOLUME	446053.795	3759580.344	199.25
LOCATION L0009001	VOLUME	446079.795	3759580.164	199.31
LOCATION L0009002	VOLUME	446105.794	3759579.985	199.37
LOCATION L0009003	VOLUME	446131.794	3759579.805	199.47
LOCATION L0009004	VOLUME	446157.793	3759579.625	199.58
LOCATION L0009005	VOLUME	446183.792	3759579.446	199.71
LOCATION L0009006	VOLUME	446209.792	3759579.266	199.83
LOCATION L0009007	VOLUME	446235.791	3759579.087	199.95
LOCATION L0009008	VOLUME	446261.790	3759578.907	200.08
LOCATION L0009009	VOLUME	446287.790	3759578.728	200.22
LOCATION L0009010	VOLUME	446313.789	3759578.548	200.33
LOCATION L0009011	VOLUME	446339.789	3759578.369	200.38
LOCATION L0009012	VOLUME	446365.788	3759578.189	200.38
LOCATION L0009013	VOLUME	446391.787	3759578.010	200.27
LOCATION L0009014	VOLUME	446417.787	3759577.830	200.16
LOCATION L0009015	VOLUME	446443.786	3759577.650	200.42
LOCATION L0009016	VOLUME	446469.785	3759577.471	200.88
LOCATION L0009017	VOLUME	446495.785	3759577.291	201.11
LOCATION L0009018	VOLUME	446521.784	3759577.112	201.23
LOCATION L0009019	VOLUME	446547.784	3759576.932	201.36
LOCATION L0009020	VOLUME	446573.783	3759576.753	201.49
LOCATION L0009021	VOLUME	446599.782	3759576.573	201.61

LOCATION L0009022	VOLUME	446625.782	3759576.394	201.74
LOCATION L0009023	VOLUME	446651.781	3759576.214	201.85
LOCATION L0009024	VOLUME	446677.781	3759576.034	201.97
LOCATION L0009025	VOLUME	446703.780	3759575.855	202.14
LOCATION L0009026	VOLUME	446729.779	3759575.675	202.28
LOCATION L0009027	VOLUME	446755.779	3759575.496	202.28
LOCATION L0009028	VOLUME	446781.778	3759575.316	202.08
LOCATION L0009029	VOLUME	446807.777	3759575.137	201.79
LOCATION L0009030	VOLUME	446833.777	3759574.957	201.68
LOCATION L0009031	VOLUME	446859.776	3759574.778	201.57
LOCATION L0009032	VOLUME	446885.776	3759574.598	201.31
LOCATION L0009033	VOLUME	446911.775	3759574.418	201.16
LOCATION L0009034	VOLUME	446937.774	3759574.239	201.14
LOCATION L0009035	VOLUME	446963.774	3759574.059	201.13
LOCATION L0009036	VOLUME	446989.773	3759573.880	201.19
LOCATION L0009037	VOLUME	447015.772	3759573.700	201.32
LOCATION L0009038	VOLUME	447041.772	3759573.521	201.43
LOCATION L0009039	VOLUME	447067.771	3759573.341	201.44
LOCATION L0009040	VOLUME	447093.771	3759573.162	201.34
LOCATION L0009041	VOLUME	447119.770	3759572.982	201.26
LOCATION L0009042	VOLUME	447145.769	3759572.802	201.16
LOCATION L0009043	VOLUME	447171.769	3759572.623	201.03
LOCATION L0009044	VOLUME	447197.768	3759572.443	200.91
LOCATION L0009045	VOLUME	447223.767	3759572.264	200.58
LOCATION L0009046	VOLUME	447249.767	3759572.084	200.58
LOCATION L0009047	VOLUME	447275.766	3759571.905	200.77
LOCATION L0009048	VOLUME	447301.766	3759571.725	200.92
LOCATION L0009049	VOLUME	447327.765	3759571.546	201.04
LOCATION L0009050	VOLUME	447353.764	3759571.366	201.18
LOCATION L0009051	VOLUME	447379.764	3759571.186	201.29
LOCATION L0009052	VOLUME	447405.763	3759571.007	201.34
LOCATION L0009053	VOLUME	447431.763	3759570.827	201.32
LOCATION L0009054	VOLUME	447457.762	3759570.648	201.23
LOCATION L0009055	VOLUME	447483.761	3759570.468	201.12
LOCATION L0009056	VOLUME	447509.761	3759570.289	201.01
LOCATION L0009057	VOLUME	447535.760	3759570.109	200.91
LOCATION L0009058	VOLUME	447561.759	3759569.930	200.62
LOCATION L0009059	VOLUME	447587.759	3759569.750	200.50
LOCATION L0009060	VOLUME	447613.758	3759569.570	200.62
LOCATION L0009061	VOLUME	447639.758	3759569.391	201.05
LOCATION L0009062	VOLUME	447665.757	3759569.211	201.09
LOCATION L0009063	VOLUME	447691.756	3759569.032	201.13
LOCATION L0009064	VOLUME	447717.756	3759568.852	201.12
LOCATION L0009065	VOLUME	447743.755	3759568.673	201.07
LOCATION L0009066	VOLUME	447769.754	3759568.493	201.07
LOCATION L0009067	VOLUME	447795.754	3759568.314	201.09
LOCATION L0009068	VOLUME	447821.753	3759568.134	201.07
LOCATION L0009069	VOLUME	447847.753	3759567.954	200.98
LOCATION L0009070	VOLUME	447873.752	3759567.775	200.98

LOCATION L0009071	VOLUME	447899.751	3759567.595	201.05
LOCATION L0009072	VOLUME	447925.751	3759567.416	201.13
LOCATION L0009073	VOLUME	447951.750	3759567.236	201.25
LOCATION L0009074	VOLUME	447977.750	3759567.057	201.37
LOCATION L0009075	VOLUME	448003.749	3759566.877	201.43
LOCATION L0009076	VOLUME	448029.748	3759566.698	201.49
LOCATION L0009077	VOLUME	448055.748	3759566.518	201.63
LOCATION L0009078	VOLUME	448081.747	3759566.339	201.71
LOCATION L0009079	VOLUME	448107.746	3759566.159	201.76
LOCATION L0009080	VOLUME	448133.746	3759565.979	201.75
LOCATION L0009081	VOLUME	448159.745	3759565.800	201.70
LOCATION L0009082	VOLUME	448185.745	3759565.620	201.68
LOCATION L0009083	VOLUME	448211.744	3759565.441	201.71
LOCATION L0009084	VOLUME	448237.743	3759565.261	201.78
LOCATION L0009085	VOLUME	448263.743	3759565.082	201.95
LOCATION L0009086	VOLUME	448289.742	3759564.902	202.15
LOCATION L0009087	VOLUME	448315.741	3759564.723	202.31
LOCATION L0009088	VOLUME	448341.741	3759564.543	202.55
LOCATION L0009089	VOLUME	448367.740	3759564.363	202.83
LOCATION L0009090	VOLUME	448393.740	3759564.184	203.08
LOCATION L0009091	VOLUME	448419.739	3759564.004	203.22

\*\* End of LINE VOLUME Source ID = SLINE21

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE22

\*\* DESCRSRC Limonite East of Hamner 45 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000064

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 448433.751, 3759567.438, 203.30, 3.15, 12.09

\*\* 449436.212, 3759550.509, 204.35, 3.15, 12.09

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LOCATION L0009092	VOLUME	448446.749	3759567.219	203.28
LOCATION L0009093	VOLUME	448472.745	3759566.780	203.20
LOCATION L0009094	VOLUME	448498.741	3759566.341	203.07
LOCATION L0009095	VOLUME	448524.738	3759565.902	203.02
LOCATION L0009096	VOLUME	448550.734	3759565.463	202.91
LOCATION L0009097	VOLUME	448576.730	3759565.024	202.89
LOCATION L0009098	VOLUME	448602.727	3759564.585	203.21
LOCATION L0009099	VOLUME	448628.723	3759564.146	203.51
LOCATION L0009100	VOLUME	448654.719	3759563.707	203.50
LOCATION L0009101	VOLUME	448680.715	3759563.268	203.48
LOCATION L0009102	VOLUME	448706.712	3759562.829	203.56
LOCATION L0009103	VOLUME	448732.708	3759562.389	203.67
LOCATION L0009104	VOLUME	448758.704	3759561.950	203.86

LOCATION L0009105	VOLUME	448784.701	3759561.511	203.99
LOCATION L0009106	VOLUME	448810.697	3759561.072	203.90
LOCATION L0009107	VOLUME	448836.693	3759560.633	203.95
LOCATION L0009108	VOLUME	448862.689	3759560.194	203.89
LOCATION L0009109	VOLUME	448888.686	3759559.755	203.57
LOCATION L0009110	VOLUME	448914.682	3759559.316	203.51
LOCATION L0009111	VOLUME	448940.678	3759558.877	203.83
LOCATION L0009112	VOLUME	448966.675	3759558.438	203.93
LOCATION L0009113	VOLUME	448992.671	3759557.999	204.17
LOCATION L0009114	VOLUME	449018.667	3759557.560	204.56
LOCATION L0009115	VOLUME	449044.663	3759557.121	204.89
LOCATION L0009116	VOLUME	449070.660	3759556.682	205.18
LOCATION L0009117	VOLUME	449096.656	3759556.243	205.41
LOCATION L0009118	VOLUME	449122.652	3759555.804	205.48
LOCATION L0009119	VOLUME	449148.649	3759555.365	205.25
LOCATION L0009120	VOLUME	449174.645	3759554.926	205.78
LOCATION L0009121	VOLUME	449200.641	3759554.487	206.53
LOCATION L0009122	VOLUME	449226.638	3759554.048	205.42
LOCATION L0009123	VOLUME	449252.634	3759553.609	204.31
LOCATION L0009124	VOLUME	449278.630	3759553.170	202.22
LOCATION L0009125	VOLUME	449304.626	3759552.731	201.60
LOCATION L0009126	VOLUME	449330.623	3759552.292	203.11
LOCATION L0009127	VOLUME	449356.619	3759551.853	204.32
LOCATION L0009128	VOLUME	449382.615	3759551.414	205.11
LOCATION L0009129	VOLUME	449408.612	3759550.975	205.53
LOCATION L0009130	VOLUME	449434.608	3759550.536	204.55

\*\* End of LINE VOLUME Source ID = SLINE22

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE23

\*\* DESCRSRC Edison 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000528

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445228.172, 3762001.993, 216.23, 3.15, 12.09

\*\* 446055.217, 3762005.931, 218.73, 3.15, 12.09

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LOCATION L0009131	VOLUME	445241.172	3762002.055	216.17
LOCATION L0009132	VOLUME	445267.171	3762002.179	216.48
LOCATION L0009133	VOLUME	445293.171	3762002.302	216.54
LOCATION L0009134	VOLUME	445319.171	3762002.426	217.04
LOCATION L0009135	VOLUME	445345.171	3762002.550	217.35
LOCATION L0009136	VOLUME	445371.170	3762002.674	217.64
LOCATION L0009137	VOLUME	445397.170	3762002.798	217.99
LOCATION L0009138	VOLUME	445423.170	3762002.922	218.27



LOCATION L0009139	VOLUME	445449.169	3762003.045	218.44
LOCATION L0009140	VOLUME	445475.169	3762003.169	218.50
LOCATION L0009141	VOLUME	445501.169	3762003.293	218.44
LOCATION L0009142	VOLUME	445527.169	3762003.417	218.23
LOCATION L0009143	VOLUME	445553.168	3762003.541	218.19
LOCATION L0009144	VOLUME	445579.168	3762003.664	218.14
LOCATION L0009145	VOLUME	445605.168	3762003.788	218.09
LOCATION L0009146	VOLUME	445631.167	3762003.912	218.10
LOCATION L0009147	VOLUME	445657.167	3762004.036	218.06
LOCATION L0009148	VOLUME	445683.167	3762004.160	217.91
LOCATION L0009149	VOLUME	445709.166	3762004.283	217.70
LOCATION L0009150	VOLUME	445735.166	3762004.407	217.28
LOCATION L0009151	VOLUME	445761.166	3762004.531	216.90
LOCATION L0009152	VOLUME	445787.166	3762004.655	216.96
LOCATION L0009153	VOLUME	445813.165	3762004.779	217.38
LOCATION L0009154	VOLUME	445839.165	3762004.902	217.69
LOCATION L0009155	VOLUME	445865.165	3762005.026	217.94
LOCATION L0009156	VOLUME	445891.164	3762005.150	218.24
LOCATION L0009157	VOLUME	445917.164	3762005.274	218.05
LOCATION L0009158	VOLUME	445943.164	3762005.398	218.24
LOCATION L0009159	VOLUME	445969.164	3762005.521	218.48
LOCATION L0009160	VOLUME	445995.163	3762005.645	218.61
LOCATION L0009161	VOLUME	446021.163	3762005.769	218.61
LOCATION L0009162	VOLUME	446047.163	3762005.893	218.63

\*\* End of LINE VOLUME Source ID = SLINE23

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE24

\*\* DESCRSRC Ontario Ranch Road 50 MPH

\*\* PREFIX

\*\* Length of Side = 31.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000215

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 8

\*\* 446065.063, 3762013.808, 218.80, 3.15, 14.42

\*\* 446293.485, 3762124.081, 220.01, 3.15, 14.42

\*\* 446500.247, 3762297.366, 221.42, 3.15, 14.42

\*\* 446722.761, 3762397.793, 222.35, 3.15, 14.42

\*\* 446819.250, 3762403.701, 222.18, 3.15, 14.42

\*\* 448441.834, 3762389.917, 225.33, 3.15, 14.42

\*\* 448792.344, 3762411.577, 226.13, 3.15, 14.42

\*\* 449294.479, 3762594.709, 233.70, 3.15, 14.42

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LOCATION L0009163	VOLUME	446079.022	3762020.547	218.95
LOCATION L0009164	VOLUME	446106.939	3762034.024	219.27
LOCATION L0009165	VOLUME	446134.856	3762047.501	219.30
LOCATION L0009166	VOLUME	446162.773	3762060.978	219.54

LOCATION L0009167	VOLUME	446190.690	3762074.455	219.63
LOCATION L0009168	VOLUME	446218.607	3762087.933	219.78
LOCATION L0009169	VOLUME	446246.524	3762101.410	219.88
LOCATION L0009170	VOLUME	446274.441	3762114.887	220.00
LOCATION L0009171	VOLUME	446301.037	3762130.410	220.13
LOCATION L0009172	VOLUME	446324.796	3762150.322	220.33
LOCATION L0009173	VOLUME	446348.555	3762170.234	220.43
LOCATION L0009174	VOLUME	446372.314	3762190.147	220.66
LOCATION L0009175	VOLUME	446396.073	3762210.059	220.91
LOCATION L0009176	VOLUME	446419.833	3762229.972	220.98
LOCATION L0009177	VOLUME	446443.592	3762249.884	221.28
LOCATION L0009178	VOLUME	446467.351	3762269.797	221.28
LOCATION L0009179	VOLUME	446491.110	3762289.709	221.36
LOCATION L0009180	VOLUME	446517.636	3762305.215	221.68
LOCATION L0009181	VOLUME	446545.892	3762317.967	221.71
LOCATION L0009182	VOLUME	446574.147	3762330.720	221.88
LOCATION L0009183	VOLUME	446602.403	3762343.472	221.99
LOCATION L0009184	VOLUME	446630.658	3762356.225	222.17
LOCATION L0009185	VOLUME	446658.914	3762368.977	222.43
LOCATION L0009186	VOLUME	446687.169	3762381.730	222.48
LOCATION L0009187	VOLUME	446715.425	3762394.482	222.88
LOCATION L0009188	VOLUME	446745.669	3762399.196	222.92
LOCATION L0009189	VOLUME	446776.612	3762401.090	222.76
LOCATION L0009190	VOLUME	446807.554	3762402.985	222.19
LOCATION L0009191	VOLUME	446838.531	3762403.537	221.88
LOCATION L0009192	VOLUME	446869.530	3762403.274	221.96
LOCATION L0009193	VOLUME	446900.529	3762403.010	221.98
LOCATION L0009194	VOLUME	446931.528	3762402.747	222.17
LOCATION L0009195	VOLUME	446962.527	3762402.484	222.50
LOCATION L0009196	VOLUME	446993.525	3762402.220	222.57
LOCATION L0009197	VOLUME	447024.524	3762401.957	222.59
LOCATION L0009198	VOLUME	447055.523	3762401.694	222.70
LOCATION L0009199	VOLUME	447086.522	3762401.430	222.95
LOCATION L0009200	VOLUME	447117.521	3762401.167	223.14
LOCATION L0009201	VOLUME	447148.520	3762400.904	223.29
LOCATION L0009202	VOLUME	447179.519	3762400.640	223.34
LOCATION L0009203	VOLUME	447210.518	3762400.377	223.38
LOCATION L0009204	VOLUME	447241.516	3762400.114	223.28
LOCATION L0009205	VOLUME	447272.515	3762399.850	223.39
LOCATION L0009206	VOLUME	447303.514	3762399.587	223.48
LOCATION L0009207	VOLUME	447334.513	3762399.324	223.41
LOCATION L0009208	VOLUME	447365.512	3762399.060	223.31
LOCATION L0009209	VOLUME	447396.511	3762398.797	223.21
LOCATION L0009210	VOLUME	447427.510	3762398.534	223.15
LOCATION L0009211	VOLUME	447458.509	3762398.270	223.11
LOCATION L0009212	VOLUME	447489.507	3762398.007	222.98
LOCATION L0009213	VOLUME	447520.506	3762397.743	222.80
LOCATION L0009214	VOLUME	447551.505	3762397.480	222.72
LOCATION L0009215	VOLUME	447582.504	3762397.217	222.66

LOCATION	L0009216	VOLUME	447613.503	3762396.953	222.54
LOCATION	L0009217	VOLUME	447644.502	3762396.690	222.38
LOCATION	L0009218	VOLUME	447675.501	3762396.427	222.48
LOCATION	L0009219	VOLUME	447706.500	3762396.163	222.63
LOCATION	L0009220	VOLUME	447737.499	3762395.900	222.78
LOCATION	L0009221	VOLUME	447768.497	3762395.637	222.92
LOCATION	L0009222	VOLUME	447799.496	3762395.373	223.06
LOCATION	L0009223	VOLUME	447830.495	3762395.110	223.18
LOCATION	L0009224	VOLUME	447861.494	3762394.847	223.30
LOCATION	L0009225	VOLUME	447892.493	3762394.583	223.39
LOCATION	L0009226	VOLUME	447923.492	3762394.320	223.49
LOCATION	L0009227	VOLUME	447954.491	3762394.057	223.66
LOCATION	L0009228	VOLUME	447985.490	3762393.793	223.82
LOCATION	L0009229	VOLUME	448016.488	3762393.530	223.93
LOCATION	L0009230	VOLUME	448047.487	3762393.267	224.04
LOCATION	L0009231	VOLUME	448078.486	3762393.003	224.13
LOCATION	L0009232	VOLUME	448109.485	3762392.740	224.28
LOCATION	L0009233	VOLUME	448140.484	3762392.477	224.42
LOCATION	L0009234	VOLUME	448171.483	3762392.213	224.59
LOCATION	L0009235	VOLUME	448202.482	3762391.950	224.77
LOCATION	L0009236	VOLUME	448233.481	3762391.687	224.90
LOCATION	L0009237	VOLUME	448264.480	3762391.423	225.07
LOCATION	L0009238	VOLUME	448295.478	3762391.160	225.24
LOCATION	L0009239	VOLUME	448326.477	3762390.897	225.33
LOCATION	L0009240	VOLUME	448357.476	3762390.633	225.38
LOCATION	L0009241	VOLUME	448388.475	3762390.370	225.39
LOCATION	L0009242	VOLUME	448419.474	3762390.107	225.36
LOCATION	L0009243	VOLUME	448450.457	3762390.450	225.32
LOCATION	L0009244	VOLUME	448481.398	3762392.362	225.21
LOCATION	L0009245	VOLUME	448512.339	3762394.274	225.02
LOCATION	L0009246	VOLUME	448543.280	3762396.186	224.88
LOCATION	L0009247	VOLUME	448574.221	3762398.098	224.77
LOCATION	L0009248	VOLUME	448605.162	3762400.010	224.69
LOCATION	L0009249	VOLUME	448636.103	3762401.922	224.54
LOCATION	L0009250	VOLUME	448667.044	3762403.834	224.41
LOCATION	L0009251	VOLUME	448697.984	3762405.746	224.44
LOCATION	L0009252	VOLUME	448728.925	3762407.658	224.73
LOCATION	L0009253	VOLUME	448759.866	3762409.570	225.55
LOCATION	L0009254	VOLUME	448790.807	3762411.482	225.87
LOCATION	L0009255	VOLUME	448820.021	3762421.671	225.69
LOCATION	L0009256	VOLUME	448849.145	3762432.293	226.70
LOCATION	L0009257	VOLUME	448878.268	3762442.914	227.66
LOCATION	L0009258	VOLUME	448907.392	3762453.536	228.07
LOCATION	L0009259	VOLUME	448936.516	3762464.158	229.27
LOCATION	L0009260	VOLUME	448965.639	3762474.779	229.74
LOCATION	L0009261	VOLUME	448994.763	3762485.401	230.27
LOCATION	L0009262	VOLUME	449023.886	3762496.022	233.06
LOCATION	L0009263	VOLUME	449053.010	3762506.644	234.84
LOCATION	L0009264	VOLUME	449082.133	3762517.265	235.04

LOCATION L0009265	VOLUME	449111.257	3762527.887	232.42
LOCATION L0009266	VOLUME	449140.381	3762538.508	227.42
LOCATION L0009267	VOLUME	449169.504	3762549.130	226.85
LOCATION L0009268	VOLUME	449198.628	3762559.751	227.04
LOCATION L0009269	VOLUME	449227.751	3762570.373	227.98
LOCATION L0009270	VOLUME	449256.875	3762580.995	232.17
LOCATION L0009271	VOLUME	449285.999	3762591.616	233.05

\*\* End of LINE VOLUME Source ID = SLINE24

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE25

\*\* DESCRSRC Onsite Construction

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0166

\*\* Vertical Dimension = 7.65

\*\* SZINIT = 3.56

\*\* Nodes = 16

\*\* 440391.592, 3761147.692, 201.79, 0.00, 12.09

\*\* 440392.555, 3761231.507, 202.60, 0.00, 12.09

\*\* 440451.322, 3761231.507, 202.67, 0.00, 12.09

\*\* 440450.359, 3760484.879, 195.14, 0.00, 12.09

\*\* 440509.126, 3760483.915, 195.24, 0.00, 12.09

\*\* 440503.345, 3761232.471, 202.87, 0.00, 12.09

\*\* 440565.002, 3761234.398, 203.21, 0.00, 12.09

\*\* 440562.112, 3760488.732, 195.43, 0.00, 12.09

\*\* 440619.916, 3760488.732, 195.62, 0.00, 12.09

\*\* 440620.879, 3761236.324, 203.37, 0.00, 12.09

\*\* 440680.897, 3761235.538, 203.52, 0.00, 12.09

\*\* 440671.518, 3760485.715, 195.76, 0.00, 12.09

\*\* 440735.960, 3760484.644, 196.24, 0.00, 12.09

\*\* 440731.863, 3761239.386, 203.39, 0.00, 12.09

\*\* 440781.658, 3761237.299, 203.18, 0.00, 12.09

\*\* 440785.619, 3761146.729, 202.07, 0.00, 12.09

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LOCATION L0009272	VOLUME	440391.741	3761160.692	201.86
LOCATION L0009273	VOLUME	440392.040	3761186.690	202.14
LOCATION L0009274	VOLUME	440392.339	3761212.688	202.40
LOCATION L0009275	VOLUME	440399.735	3761231.507	202.56
LOCATION L0009276	VOLUME	440425.735	3761231.507	202.47
LOCATION L0009277	VOLUME	440451.322	3761231.095	202.53
LOCATION L0009278	VOLUME	440451.288	3761205.095	202.12
LOCATION L0009279	VOLUME	440451.255	3761179.095	201.86
LOCATION L0009280	VOLUME	440451.221	3761153.095	201.66
LOCATION L0009281	VOLUME	440451.188	3761127.095	201.47
LOCATION L0009282	VOLUME	440451.154	3761101.095	201.16
LOCATION L0009283	VOLUME	440451.120	3761075.095	200.86
LOCATION L0009284	VOLUME	440451.087	3761049.095	200.57

LOCATION	L0009285	VOLUME	440451.053	3761023.095	200.30
LOCATION	L0009286	VOLUME	440451.020	3760997.095	200.06
LOCATION	L0009287	VOLUME	440450.986	3760971.095	199.81
LOCATION	L0009288	VOLUME	440450.953	3760945.095	199.58
LOCATION	L0009289	VOLUME	440450.919	3760919.095	199.36
LOCATION	L0009290	VOLUME	440450.886	3760893.095	199.16
LOCATION	L0009291	VOLUME	440450.852	3760867.095	198.94
LOCATION	L0009292	VOLUME	440450.818	3760841.095	198.69
LOCATION	L0009293	VOLUME	440450.785	3760815.095	198.44
LOCATION	L0009294	VOLUME	440450.751	3760789.095	198.19
LOCATION	L0009295	VOLUME	440450.718	3760763.095	197.89
LOCATION	L0009296	VOLUME	440450.684	3760737.095	197.59
LOCATION	L0009297	VOLUME	440450.651	3760711.095	197.29
LOCATION	L0009298	VOLUME	440450.617	3760685.095	197.01
LOCATION	L0009299	VOLUME	440450.584	3760659.096	196.75
LOCATION	L0009300	VOLUME	440450.550	3760633.096	196.50
LOCATION	L0009301	VOLUME	440450.517	3760607.096	196.25
LOCATION	L0009302	VOLUME	440450.483	3760581.096	196.03
LOCATION	L0009303	VOLUME	440450.449	3760555.096	195.82
LOCATION	L0009304	VOLUME	440450.416	3760529.096	195.47
LOCATION	L0009305	VOLUME	440450.382	3760503.096	195.13
LOCATION	L0009306	VOLUME	440458.141	3760484.751	195.15
LOCATION	L0009307	VOLUME	440484.137	3760484.325	195.17
LOCATION	L0009308	VOLUME	440509.118	3760484.923	195.24
LOCATION	L0009309	VOLUME	440508.917	3760510.923	195.31
LOCATION	L0009310	VOLUME	440508.716	3760536.922	195.77
LOCATION	L0009311	VOLUME	440508.516	3760562.921	195.97
LOCATION	L0009312	VOLUME	440508.315	3760588.920	196.17
LOCATION	L0009313	VOLUME	440508.114	3760614.919	196.42
LOCATION	L0009314	VOLUME	440507.913	3760640.919	196.70
LOCATION	L0009315	VOLUME	440507.713	3760666.918	196.98
LOCATION	L0009316	VOLUME	440507.512	3760692.917	197.27
LOCATION	L0009317	VOLUME	440507.311	3760718.916	197.58
LOCATION	L0009318	VOLUME	440507.110	3760744.916	197.89
LOCATION	L0009319	VOLUME	440506.909	3760770.915	198.20
LOCATION	L0009320	VOLUME	440506.709	3760796.914	198.46
LOCATION	L0009321	VOLUME	440506.508	3760822.913	198.66
LOCATION	L0009322	VOLUME	440506.307	3760848.912	198.83
LOCATION	L0009323	VOLUME	440506.106	3760874.912	199.06
LOCATION	L0009324	VOLUME	440505.906	3760900.911	199.27
LOCATION	L0009325	VOLUME	440505.705	3760926.910	199.51
LOCATION	L0009326	VOLUME	440505.504	3760952.909	199.74
LOCATION	L0009327	VOLUME	440505.303	3760978.909	199.96
LOCATION	L0009328	VOLUME	440505.103	3761004.908	200.19
LOCATION	L0009329	VOLUME	440504.902	3761030.907	200.44
LOCATION	L0009330	VOLUME	440504.701	3761056.906	200.74
LOCATION	L0009331	VOLUME	440504.500	3761082.905	201.07
LOCATION	L0009332	VOLUME	440504.300	3761108.905	201.40
LOCATION	L0009333	VOLUME	440504.099	3761134.904	201.70

LOCATION	L0009334	VOLUME	440503.898	3761160.903	201.93
LOCATION	L0009335	VOLUME	440503.697	3761186.902	202.11
LOCATION	L0009336	VOLUME	440503.496	3761212.902	202.35
LOCATION	L0009337	VOLUME	440509.772	3761232.672	202.73
LOCATION	L0009338	VOLUME	440535.760	3761233.484	202.82
LOCATION	L0009339	VOLUME	440561.747	3761234.296	203.10
LOCATION	L0009340	VOLUME	440564.914	3761211.655	202.93
LOCATION	L0009341	VOLUME	440564.813	3761185.655	202.56
LOCATION	L0009342	VOLUME	440564.713	3761159.655	202.37
LOCATION	L0009343	VOLUME	440564.612	3761133.655	202.30
LOCATION	L0009344	VOLUME	440564.511	3761107.656	202.16
LOCATION	L0009345	VOLUME	440564.410	3761081.656	201.88
LOCATION	L0009346	VOLUME	440564.310	3761055.656	201.44
LOCATION	L0009347	VOLUME	440564.209	3761029.656	200.89
LOCATION	L0009348	VOLUME	440564.108	3761003.656	200.61
LOCATION	L0009349	VOLUME	440564.007	3760977.657	200.37
LOCATION	L0009350	VOLUME	440563.906	3760951.657	200.14
LOCATION	L0009351	VOLUME	440563.806	3760925.657	199.90
LOCATION	L0009352	VOLUME	440563.705	3760899.657	199.63
LOCATION	L0009353	VOLUME	440563.604	3760873.657	199.36
LOCATION	L0009354	VOLUME	440563.503	3760847.658	199.12
LOCATION	L0009355	VOLUME	440563.403	3760821.658	199.06
LOCATION	L0009356	VOLUME	440563.302	3760795.658	198.89
LOCATION	L0009357	VOLUME	440563.201	3760769.658	198.62
LOCATION	L0009358	VOLUME	440563.100	3760743.658	198.25
LOCATION	L0009359	VOLUME	440563.000	3760717.659	197.87
LOCATION	L0009360	VOLUME	440562.899	3760691.659	197.62
LOCATION	L0009361	VOLUME	440562.798	3760665.659	197.34
LOCATION	L0009362	VOLUME	440562.697	3760639.659	197.04
LOCATION	L0009363	VOLUME	440562.596	3760613.659	196.76
LOCATION	L0009364	VOLUME	440562.496	3760587.660	196.50
LOCATION	L0009365	VOLUME	440562.395	3760561.660	196.27
LOCATION	L0009366	VOLUME	440562.294	3760535.660	196.01
LOCATION	L0009367	VOLUME	440562.193	3760509.660	195.52
LOCATION	L0009368	VOLUME	440567.184	3760488.732	195.46
LOCATION	L0009369	VOLUME	440593.184	3760488.732	195.59
LOCATION	L0009370	VOLUME	440619.184	3760488.732	195.65
LOCATION	L0009371	VOLUME	440619.948	3760514.000	195.86
LOCATION	L0009372	VOLUME	440619.982	3760540.000	196.36
LOCATION	L0009373	VOLUME	440620.015	3760566.000	196.61
LOCATION	L0009374	VOLUME	440620.049	3760592.000	196.86
LOCATION	L0009375	VOLUME	440620.082	3760618.000	197.09
LOCATION	L0009376	VOLUME	440620.116	3760644.000	197.33
LOCATION	L0009377	VOLUME	440620.149	3760670.000	197.59
LOCATION	L0009378	VOLUME	440620.183	3760696.000	197.79
LOCATION	L0009379	VOLUME	440620.216	3760722.000	197.20
LOCATION	L0009380	VOLUME	440620.250	3760748.000	196.49
LOCATION	L0009381	VOLUME	440620.283	3760774.000	197.92
LOCATION	L0009382	VOLUME	440620.317	3760800.000	199.24

LOCATION L0009383	VOLUME	440620.350	3760826.000	199.53
LOCATION L0009384	VOLUME	440620.384	3760852.000	199.81
LOCATION L0009385	VOLUME	440620.417	3760878.000	200.03
LOCATION L0009386	VOLUME	440620.451	3760904.000	200.26
LOCATION L0009387	VOLUME	440620.484	3760930.000	200.53
LOCATION L0009388	VOLUME	440620.518	3760956.000	200.80
LOCATION L0009389	VOLUME	440620.551	3760982.000	201.05
LOCATION L0009390	VOLUME	440620.585	3761008.000	201.30
LOCATION L0009391	VOLUME	440620.618	3761034.000	201.58
LOCATION L0009392	VOLUME	440620.652	3761060.000	201.84
LOCATION L0009393	VOLUME	440620.685	3761086.000	202.05
LOCATION L0009394	VOLUME	440620.719	3761112.000	202.28
LOCATION L0009395	VOLUME	440620.752	3761138.000	202.47
LOCATION L0009396	VOLUME	440620.786	3761164.000	202.64
LOCATION L0009397	VOLUME	440620.819	3761190.000	202.93
LOCATION L0009398	VOLUME	440620.853	3761216.000	203.13
LOCATION L0009399	VOLUME	440626.554	3761236.250	203.35
LOCATION L0009400	VOLUME	440652.552	3761235.909	203.44
LOCATION L0009401	VOLUME	440678.550	3761235.568	203.47
LOCATION L0009402	VOLUME	440680.601	3761211.887	203.27
LOCATION L0009403	VOLUME	440680.276	3761185.889	203.12
LOCATION L0009404	VOLUME	440679.951	3761159.891	202.41
LOCATION L0009405	VOLUME	440679.625	3761133.893	201.66
LOCATION L0009406	VOLUME	440679.300	3761107.895	201.23
LOCATION L0009407	VOLUME	440678.975	3761081.897	200.97
LOCATION L0009408	VOLUME	440678.650	3761055.899	200.72
LOCATION L0009409	VOLUME	440678.325	3761029.901	200.47
LOCATION L0009410	VOLUME	440678.000	3761003.903	200.25
LOCATION L0009411	VOLUME	440677.674	3760977.905	199.97
LOCATION L0009412	VOLUME	440677.349	3760951.907	199.76
LOCATION L0009413	VOLUME	440677.024	3760925.909	199.58
LOCATION L0009414	VOLUME	440676.699	3760899.911	199.35
LOCATION L0009415	VOLUME	440676.374	3760873.913	199.06
LOCATION L0009416	VOLUME	440676.048	3760847.915	198.82
LOCATION L0009417	VOLUME	440675.723	3760821.917	198.63
LOCATION L0009418	VOLUME	440675.398	3760795.919	198.39
LOCATION L0009419	VOLUME	440675.073	3760769.921	196.81
LOCATION L0009420	VOLUME	440674.748	3760743.923	196.13
LOCATION L0009421	VOLUME	440674.423	3760717.925	197.29
LOCATION L0009422	VOLUME	440674.097	3760691.927	197.95
LOCATION L0009423	VOLUME	440673.772	3760665.929	197.74
LOCATION L0009424	VOLUME	440673.447	3760639.931	197.49
LOCATION L0009425	VOLUME	440673.122	3760613.934	197.26
LOCATION L0009426	VOLUME	440672.797	3760587.936	197.03
LOCATION L0009427	VOLUME	440672.472	3760561.938	196.80
LOCATION L0009428	VOLUME	440672.146	3760535.940	196.54
LOCATION L0009429	VOLUME	440671.821	3760509.942	196.02
LOCATION L0009430	VOLUME	440673.289	3760485.685	195.82
LOCATION L0009431	VOLUME	440699.286	3760485.253	195.93

LOCATION	L0009432	VOLUME	440725.282	3760484.822	196.10
LOCATION	L0009433	VOLUME	440735.877	3760499.965	196.30
LOCATION	L0009434	VOLUME	440735.735	3760525.964	196.65
LOCATION	L0009435	VOLUME	440735.594	3760551.964	196.99
LOCATION	L0009436	VOLUME	440735.453	3760577.964	197.21
LOCATION	L0009437	VOLUME	440735.312	3760603.963	197.43
LOCATION	L0009438	VOLUME	440735.171	3760629.963	197.60
LOCATION	L0009439	VOLUME	440735.030	3760655.963	197.83
LOCATION	L0009440	VOLUME	440734.889	3760681.962	198.05
LOCATION	L0009441	VOLUME	440734.747	3760707.962	198.20
LOCATION	L0009442	VOLUME	440734.606	3760733.961	198.27
LOCATION	L0009443	VOLUME	440734.465	3760759.961	198.42
LOCATION	L0009444	VOLUME	440734.324	3760785.961	199.14
LOCATION	L0009445	VOLUME	440734.183	3760811.960	199.39
LOCATION	L0009446	VOLUME	440734.042	3760837.960	199.64
LOCATION	L0009447	VOLUME	440733.901	3760863.959	199.84
LOCATION	L0009448	VOLUME	440733.760	3760889.959	200.04
LOCATION	L0009449	VOLUME	440733.618	3760915.959	200.26
LOCATION	L0009450	VOLUME	440733.477	3760941.958	200.49
LOCATION	L0009451	VOLUME	440733.336	3760967.958	200.70
LOCATION	L0009452	VOLUME	440733.195	3760993.958	200.93
LOCATION	L0009453	VOLUME	440733.054	3761019.957	201.19
LOCATION	L0009454	VOLUME	440732.913	3761045.957	201.44
LOCATION	L0009455	VOLUME	440732.772	3761071.956	201.69
LOCATION	L0009456	VOLUME	440732.631	3761097.956	201.94
LOCATION	L0009457	VOLUME	440732.489	3761123.956	202.17
LOCATION	L0009458	VOLUME	440732.348	3761149.955	202.37
LOCATION	L0009459	VOLUME	440732.207	3761175.955	202.70
LOCATION	L0009460	VOLUME	440732.066	3761201.955	203.00
LOCATION	L0009461	VOLUME	440731.925	3761227.954	203.26
LOCATION	L0009462	VOLUME	440746.418	3761238.776	203.29
LOCATION	L0009463	VOLUME	440772.395	3761237.687	202.99
LOCATION	L0009464	VOLUME	440782.389	3761220.587	202.73
LOCATION	L0009465	VOLUME	440783.525	3761194.611	202.41
LOCATION	L0009466	VOLUME	440784.661	3761168.636	202.13

\*\* End of LINE VOLUME Source ID = SLINE25

\*\* Source Parameters \*\*

\*\* LINE VOLUME Source ID = SLINE13

SRCPARAM	L0008412	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008413	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008414	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008415	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008416	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008417	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008418	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008419	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008420	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008421	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008422	0.000001688	3.15	12.09	2.93



SRCPARAM	L0008423	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008424	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008425	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008426	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008427	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008428	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008429	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008430	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008431	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008432	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008433	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008434	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008435	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008436	0.000001688	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE14

SRCPARAM	L0008437	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008438	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008439	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008440	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008441	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008442	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008443	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008444	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008445	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008446	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008447	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008448	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008449	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008450	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008451	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008452	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008453	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008454	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008455	0.000001642	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE15

SRCPARAM	L0008456	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008457	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008458	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008459	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008460	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008461	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008462	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008463	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008464	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008465	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008466	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008467	0.000001987	3.15	14.42	2.93



SRCPARAM	L0008517	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008518	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008519	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008520	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008521	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008522	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008523	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008524	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008525	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008526	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008527	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008528	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008529	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008530	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008531	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008532	0.000001987	3.15	14.42	2.93

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\*\* LINE VOLUME Source ID = SLINE16

SRCPARAM	L0008533	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008534	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008535	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008536	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008537	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008538	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008539	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008540	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008541	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008542	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008543	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008544	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008545	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008546	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008547	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008548	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008549	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008550	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008551	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008552	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008553	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008554	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008555	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008556	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008557	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008558	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008559	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008560	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008561	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008562	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008563	0.000002297	2.89	16.74	2.69





SRCPARAM	L0008662	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008663	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008664	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008665	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008666	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008667	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008668	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008669	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008670	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008671	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008672	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008673	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008674	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008675	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008676	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008677	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008678	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008679	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008680	0.000002297	2.89	16.74	2.69

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\*\* LINE VOLUME Source ID = SLINE17

SRCPARAM	L0008681	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008682	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008683	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008684	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008685	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008686	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008687	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008688	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008689	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008690	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008691	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008692	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008693	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008694	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008695	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008696	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008697	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008698	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008699	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008700	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008701	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008702	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008703	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008704	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008705	0.000001628	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE18

SRCPARAM	L0008706	0.000001659	3.15	12.09	2.93
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SRCPARAM	L0008854	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008855	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008856	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008857	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008858	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008859	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008860	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008861	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008862	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008863	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008864	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008865	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008866	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008867	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008868	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008869	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008870	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008871	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008872	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008873	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008874	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008875	0.000001659	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE19

SRCPARAM	L0008876	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008877	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008878	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008879	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008880	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008881	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008882	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008883	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008884	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008885	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008886	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008887	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008888	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008889	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008890	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008891	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008892	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008893	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008894	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008895	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008896	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008897	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008898	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008899	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008900	0.000001672	3.15	12.09	2.93

SRCPARAM	L0008901	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008902	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008903	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008904	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008905	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008906	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008907	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008908	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008909	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008910	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008911	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008912	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008913	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008914	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008915	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008916	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008917	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008918	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008919	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008920	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008921	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008922	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008923	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008924	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008925	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008926	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008927	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008928	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008929	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008930	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008931	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008932	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008933	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008934	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008935	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008936	0.000001672	3.15	12.09	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE20

SRCPARAM	L0008937	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008938	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008939	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008940	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008941	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008942	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008943	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008944	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008945	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008946	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008947	0.000001677	3.15	12.09	2.93

SRCPARAM	L0008948	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008949	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008950	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008951	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008952	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008953	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008954	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008955	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008956	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008957	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008958	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008959	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008960	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008961	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008962	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008963	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008964	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008965	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008966	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008967	0.000001677	3.15	12.09	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE21

SRCPARAM	L0008968	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008969	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008970	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008971	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008972	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008973	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008974	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008975	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008976	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008977	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008978	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008979	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008980	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008981	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008982	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008983	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008984	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008985	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008986	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008987	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008988	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008989	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008990	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008991	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008992	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008993	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008994	0.000001653	3.15	12.09	2.93





```

** LINE VOLUME Source ID = SLINE22
SRCPARAM L0009092 0.000001641 3.15 12.09 2.93
SRCPARAM L0009093 0.000001641 3.15 12.09 2.93
SRCPARAM L0009094 0.000001641 3.15 12.09 2.93
SRCPARAM L0009095 0.000001641 3.15 12.09 2.93
SRCPARAM L0009096 0.000001641 3.15 12.09 2.93
SRCPARAM L0009097 0.000001641 3.15 12.09 2.93
SRCPARAM L0009098 0.000001641 3.15 12.09 2.93
SRCPARAM L0009099 0.000001641 3.15 12.09 2.93
SRCPARAM L0009100 0.000001641 3.15 12.09 2.93
SRCPARAM L0009101 0.000001641 3.15 12.09 2.93
SRCPARAM L0009102 0.000001641 3.15 12.09 2.93
SRCPARAM L0009103 0.000001641 3.15 12.09 2.93
SRCPARAM L0009104 0.000001641 3.15 12.09 2.93
SRCPARAM L0009105 0.000001641 3.15 12.09 2.93
SRCPARAM L0009106 0.000001641 3.15 12.09 2.93
SRCPARAM L0009107 0.000001641 3.15 12.09 2.93
SRCPARAM L0009108 0.000001641 3.15 12.09 2.93
SRCPARAM L0009109 0.000001641 3.15 12.09 2.93
SRCPARAM L0009110 0.000001641 3.15 12.09 2.93
SRCPARAM L0009111 0.000001641 3.15 12.09 2.93
SRCPARAM L0009112 0.000001641 3.15 12.09 2.93
SRCPARAM L0009113 0.000001641 3.15 12.09 2.93
SRCPARAM L0009114 0.000001641 3.15 12.09 2.93
SRCPARAM L0009115 0.000001641 3.15 12.09 2.93
SRCPARAM L0009116 0.000001641 3.15 12.09 2.93
SRCPARAM L0009117 0.000001641 3.15 12.09 2.93
SRCPARAM L0009118 0.000001641 3.15 12.09 2.93
SRCPARAM L0009119 0.000001641 3.15 12.09 2.93
SRCPARAM L0009120 0.000001641 3.15 12.09 2.93
SRCPARAM L0009121 0.000001641 3.15 12.09 2.93
SRCPARAM L0009122 0.000001641 3.15 12.09 2.93
SRCPARAM L0009123 0.000001641 3.15 12.09 2.93
SRCPARAM L0009124 0.000001641 3.15 12.09 2.93
SRCPARAM L0009125 0.000001641 3.15 12.09 2.93
SRCPARAM L0009126 0.000001641 3.15 12.09 2.93
SRCPARAM L0009127 0.000001641 3.15 12.09 2.93
SRCPARAM L0009128 0.000001641 3.15 12.09 2.93
SRCPARAM L0009129 0.000001641 3.15 12.09 2.93
SRCPARAM L0009130 0.000001641 3.15 12.09 2.93

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** LINE VOLUME Source ID = SLINE23
SRCPARAM L0009131 0.00000165 3.15 12.09 2.93
SRCPARAM L0009132 0.00000165 3.15 12.09 2.93
SRCPARAM L0009133 0.00000165 3.15 12.09 2.93
SRCPARAM L0009134 0.00000165 3.15 12.09 2.93
SRCPARAM L0009135 0.00000165 3.15 12.09 2.93
SRCPARAM L0009136 0.00000165 3.15 12.09 2.93
SRCPARAM L0009137 0.00000165 3.15 12.09 2.93

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SRCPARAM	L0009138	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009139	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009140	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009141	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009142	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009143	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009144	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009145	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009146	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009147	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009148	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009149	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009150	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009151	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009152	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009153	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009154	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009155	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009156	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009157	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009158	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009159	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009160	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009161	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009162	0.00000165	3.15	12.09	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE24

SRCPARAM	L0009163	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009164	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009165	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009166	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009167	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009168	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009169	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009170	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009171	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009172	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009173	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009174	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009175	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009176	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009177	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009178	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009179	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009180	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009181	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009182	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009183	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009184	0.000001972	3.15	14.42	2.93





SRCPARAM	L0009234	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009235	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009236	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009237	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009238	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009239	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009240	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009241	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009242	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009243	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009244	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009245	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009246	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009247	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009248	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009249	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009250	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009251	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009252	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009253	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009254	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009255	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009256	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009257	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009258	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009259	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009260	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009261	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009262	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009263	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009264	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009265	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009266	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009267	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009268	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009269	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009270	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009271	0.000001972	3.15	14.42	2.93

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\*\* LINE VOLUME Source ID = SLINE25

SRCPARAM	L0009272	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009273	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009274	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009275	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009276	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009277	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009278	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009279	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009280	0.0000851282	0.00	12.09	3.56







SRCPARAM	L0009428	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009429	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009430	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009431	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009432	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009433	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009434	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009435	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009436	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009437	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009438	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009439	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009440	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009441	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009442	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009443	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009444	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009445	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009446	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009447	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009448	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009449	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009450	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009451	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009452	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009453	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009454	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009455	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009456	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009457	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009458	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009459	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009460	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009461	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009462	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009463	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009464	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009465	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009466	0.0000851282	0.00	12.09	3.56

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URBANSRC ALL

SRCGROUP ALL

SO FINISHED

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\*\* AERMOD Receptor Pathway

\*\*\*\*\*

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RE STARTING
  INCLUDED ORBP_Unmitigated_Construction.rou
RE FINISHED
**
*****
** AERMOD Meteorology Pathway
*****
**
**
ME STARTING
  SURFFILE ..\KCNO_V9_ADJU\KCNO_v9.SFC
  PROFFILE ..\KCNO_V9_ADJU\KCNO_v9.PFL
  SURFDATA 3179 2012
  UAIRDATA 3190 2012
  PROFBASE 198.0 METERS
ME FINISHED
**
*****
** AERMOD Output Pathway
*****
**
**
OU STARTING
  RECTABLE ALLAVE 1ST
  RECTABLE 1 1ST
  RECTABLE 24 1ST
** Auto-Generated Plotfiles
  PLOTFILE 1 ALL 1ST ORBP_UNMITIGATED_CONSTRUCTION.AD\01H1GALL.PLT 31
  PLOTFILE 24 ALL 1ST ORBP_UNMITIGATED_CONSTRUCTION.AD\24H1GALL.PLT 32
  PLOTFILE PERIOD ALL ORBP_UNMITIGATED_CONSTRUCTION.AD\PE00GALL.PLT 33
  SUMMFILE ORBP_Unmitigated_Construction.sum
OU FINISHED
**
*****
** Project Parameters
*****
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
**

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**
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**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.0.0
** Lakes Environmental Software Inc.
** Date: 8/23/2021
** File: C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Unmitigated_Construction\ORBP_Unmitigated_Construction.ADI
**
*****
**
**
*****
** AERMOD Control Pathway
*****
**
**
CO STARTING
  TITLEONE C:\Lakes\AERMOD View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U
  MODELOPT DFAULT CONC
  AVERTIME 1 24 PERIOD
  URBANOPT 2035210 San_Bernardino_County
  POLLUTID PM_10
  RUNORNOT RUN
  ERRORFIL ORBP_Unmitigated_Construction.err
CO FINISHED
**
*****
** AERMOD Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE13
** DESCRSRC West Access Road - Sultana 15 mph
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0000422
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440392.516, 3761134.605, 201.61, 3.15, 12.09
** 440390.843, 3760473.617, 195.36, 3.15, 12.09

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** -----
LOCATION L0008412      VOLUME  440392.483 3761121.605 201.48
LOCATION L0008413      VOLUME  440392.418 3761095.606 201.17
LOCATION L0008414      VOLUME  440392.352 3761069.606 200.87
LOCATION L0008415      VOLUME  440392.286 3761043.606 200.56
LOCATION L0008416      VOLUME  440392.220 3761017.606 200.25
LOCATION L0008417      VOLUME  440392.154 3760991.606 199.95
LOCATION L0008418      VOLUME  440392.089 3760965.606 199.68
LOCATION L0008419      VOLUME  440392.023 3760939.606 199.43
LOCATION L0008420      VOLUME  440391.957 3760913.606 199.16
LOCATION L0008421      VOLUME  440391.891 3760887.606 198.93
LOCATION L0008422      VOLUME  440391.825 3760861.606 198.72
LOCATION L0008423      VOLUME  440391.759 3760835.606 198.48
LOCATION L0008424      VOLUME  440391.694 3760809.606 198.22
LOCATION L0008425      VOLUME  440391.628 3760783.607 197.97
LOCATION L0008426      VOLUME  440391.562 3760757.607 197.71
LOCATION L0008427      VOLUME  440391.496 3760731.607 197.44
LOCATION L0008428      VOLUME  440391.430 3760705.607 197.19
LOCATION L0008429      VOLUME  440391.364 3760679.607 196.95
LOCATION L0008430      VOLUME  440391.299 3760653.607 196.72
LOCATION L0008431      VOLUME  440391.233 3760627.607 196.51
LOCATION L0008432      VOLUME  440391.167 3760601.607 196.30
LOCATION L0008433      VOLUME  440391.101 3760575.607 196.08
LOCATION L0008434      VOLUME  440391.035 3760549.607 195.89
LOCATION L0008435      VOLUME  440390.970 3760523.607 195.68
LOCATION L0008436      VOLUME  440390.904 3760497.607 195.53

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\*\* End of LINE VOLUME Source ID = SLINE13

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** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE14
** DESCRSRC Merril W of Site 50 mph
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0000312
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440391.194, 3760467.870, 195.22, 3.15, 12.09
** 439902.492, 3760463.238, 193.60, 3.15, 12.09

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** -----
LOCATION L0008437      VOLUME  440378.195 3760467.747 195.12
LOCATION L0008438      VOLUME  440352.196 3760467.500 194.83
LOCATION L0008439      VOLUME  440326.197 3760467.254 194.71
LOCATION L0008440      VOLUME  440300.199 3760467.008 194.61
LOCATION L0008441      VOLUME  440274.200 3760466.761 194.52
LOCATION L0008442      VOLUME  440248.201 3760466.515 194.35
LOCATION L0008443      VOLUME  440222.202 3760466.268 194.19
LOCATION L0008444      VOLUME  440196.203 3760466.022 194.09

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LOCATION	L0008445	VOLUME	440170.204	3760465.775	193.96
LOCATION	L0008446	VOLUME	440144.206	3760465.529	193.82
LOCATION	L0008447	VOLUME	440118.207	3760465.282	193.71
LOCATION	L0008448	VOLUME	440092.208	3760465.036	193.66
LOCATION	L0008449	VOLUME	440066.209	3760464.790	193.63
LOCATION	L0008450	VOLUME	440040.210	3760464.543	193.60
LOCATION	L0008451	VOLUME	440014.211	3760464.297	193.59
LOCATION	L0008452	VOLUME	439988.213	3760464.050	193.57
LOCATION	L0008453	VOLUME	439962.214	3760463.804	193.57
LOCATION	L0008454	VOLUME	439936.215	3760463.557	193.63
LOCATION	L0008455	VOLUME	439910.216	3760463.311	193.67

\*\* End of LINE VOLUME Source ID = SLINE14

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE15

\*\* DESCRSRC Euclide South of Merril 45 mph

\*\* PREFIX

\*\* Length of Side = 31.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000153

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 439894.728, 3760450.854, 193.57, 3.15, 14.42

\*\* 439882.847, 3758051.793, 175.42, 3.15, 14.42

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LOCATION	L0008456	VOLUME	439894.651	3760435.354	193.42
LOCATION	L0008457	VOLUME	439894.497	3760404.354	193.22
LOCATION	L0008458	VOLUME	439894.344	3760373.355	193.05
LOCATION	L0008459	VOLUME	439894.190	3760342.355	192.86
LOCATION	L0008460	VOLUME	439894.037	3760311.356	192.61
LOCATION	L0008461	VOLUME	439893.883	3760280.356	192.34
LOCATION	L0008462	VOLUME	439893.730	3760249.356	192.06
LOCATION	L0008463	VOLUME	439893.576	3760218.357	191.79
LOCATION	L0008464	VOLUME	439893.423	3760187.357	191.52
LOCATION	L0008465	VOLUME	439893.269	3760156.357	191.32
LOCATION	L0008466	VOLUME	439893.116	3760125.358	191.16
LOCATION	L0008467	VOLUME	439892.962	3760094.358	191.03
LOCATION	L0008468	VOLUME	439892.809	3760063.359	190.90
LOCATION	L0008469	VOLUME	439892.655	3760032.359	190.76
LOCATION	L0008470	VOLUME	439892.502	3760001.359	190.60
LOCATION	L0008471	VOLUME	439892.348	3759970.360	190.44
LOCATION	L0008472	VOLUME	439892.195	3759939.360	190.27
LOCATION	L0008473	VOLUME	439892.041	3759908.360	190.10
LOCATION	L0008474	VOLUME	439891.888	3759877.361	189.91
LOCATION	L0008475	VOLUME	439891.734	3759846.361	189.67
LOCATION	L0008476	VOLUME	439891.581	3759815.362	189.41
LOCATION	L0008477	VOLUME	439891.427	3759784.362	189.14
LOCATION	L0008478	VOLUME	439891.274	3759753.362	188.87

LOCATION L0008479	VOLUME	439891.120	3759722.363	188.57
LOCATION L0008480	VOLUME	439890.967	3759691.363	188.30
LOCATION L0008481	VOLUME	439890.813	3759660.364	188.05
LOCATION L0008482	VOLUME	439890.660	3759629.364	187.78
LOCATION L0008483	VOLUME	439890.506	3759598.364	187.52
LOCATION L0008484	VOLUME	439890.352	3759567.365	187.26
LOCATION L0008485	VOLUME	439890.199	3759536.365	187.01
LOCATION L0008486	VOLUME	439890.045	3759505.365	186.78
LOCATION L0008487	VOLUME	439889.892	3759474.366	186.59
LOCATION L0008488	VOLUME	439889.738	3759443.366	186.40
LOCATION L0008489	VOLUME	439889.585	3759412.367	186.20
LOCATION L0008490	VOLUME	439889.431	3759381.367	185.98
LOCATION L0008491	VOLUME	439889.278	3759350.367	185.79
LOCATION L0008492	VOLUME	439889.124	3759319.368	185.62
LOCATION L0008493	VOLUME	439888.971	3759288.368	185.43
LOCATION L0008494	VOLUME	439888.817	3759257.368	185.17
LOCATION L0008495	VOLUME	439888.664	3759226.369	184.88
LOCATION L0008496	VOLUME	439888.510	3759195.369	184.57
LOCATION L0008497	VOLUME	439888.357	3759164.370	184.29
LOCATION L0008498	VOLUME	439888.203	3759133.370	183.99
LOCATION L0008499	VOLUME	439888.050	3759102.370	183.75
LOCATION L0008500	VOLUME	439887.896	3759071.371	183.55
LOCATION L0008501	VOLUME	439887.743	3759040.371	183.39
LOCATION L0008502	VOLUME	439887.589	3759009.372	183.24
LOCATION L0008503	VOLUME	439887.436	3758978.372	183.05
LOCATION L0008504	VOLUME	439887.282	3758947.372	182.83
LOCATION L0008505	VOLUME	439887.129	3758916.373	182.56
LOCATION L0008506	VOLUME	439886.975	3758885.373	182.21
LOCATION L0008507	VOLUME	439886.822	3758854.373	181.90
LOCATION L0008508	VOLUME	439886.668	3758823.374	181.56
LOCATION L0008509	VOLUME	439886.515	3758792.374	181.26
LOCATION L0008510	VOLUME	439886.361	3758761.375	181.04
LOCATION L0008511	VOLUME	439886.208	3758730.375	180.85
LOCATION L0008512	VOLUME	439886.054	3758699.375	180.68
LOCATION L0008513	VOLUME	439885.901	3758668.376	180.48
LOCATION L0008514	VOLUME	439885.747	3758637.376	180.25
LOCATION L0008515	VOLUME	439885.594	3758606.376	180.00
LOCATION L0008516	VOLUME	439885.440	3758575.377	179.78
LOCATION L0008517	VOLUME	439885.287	3758544.377	179.58
LOCATION L0008518	VOLUME	439885.133	3758513.378	179.37
LOCATION L0008519	VOLUME	439884.980	3758482.378	179.09
LOCATION L0008520	VOLUME	439884.826	3758451.378	178.77
LOCATION L0008521	VOLUME	439884.673	3758420.379	178.42
LOCATION L0008522	VOLUME	439884.519	3758389.379	178.08
LOCATION L0008523	VOLUME	439884.366	3758358.379	177.78
LOCATION L0008524	VOLUME	439884.212	3758327.380	177.48
LOCATION L0008525	VOLUME	439884.059	3758296.380	177.24
LOCATION L0008526	VOLUME	439883.905	3758265.381	177.02
LOCATION L0008527	VOLUME	439883.752	3758234.381	176.77

LOCATION L0008528	VOLUME	439883.598	3758203.381	176.52
LOCATION L0008529	VOLUME	439883.444	3758172.382	176.26
LOCATION L0008530	VOLUME	439883.291	3758141.382	176.00
LOCATION L0008531	VOLUME	439883.137	3758110.383	175.77
LOCATION L0008532	VOLUME	439882.984	3758079.383	175.59

\*\* End of LINE VOLUME Source ID = SLINE15

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE16

\*\* DESCRSRC Euclide N of Merril 45 MPH

\*\* PREFIX

\*\* Length of Side = 36.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.00034

\*\* Vertical Dimension = 5.78

\*\* SZINIT = 2.69

\*\* Nodes = 4

\*\* 439893.985, 3760466.447, 193.63, 2.89, 16.74

\*\* 439902.153, 3763463.230, 227.18, 2.89, 16.74

\*\* 439912.548, 3763601.338, 228.39, 2.89, 16.74

\*\* 439915.518, 3765792.495, 254.78, 2.89, 16.74

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LOCATION L0008533	VOLUME	439894.034	3760484.447	193.85
LOCATION L0008534	VOLUME	439894.132	3760520.446	194.19
LOCATION L0008535	VOLUME	439894.230	3760556.446	194.55
LOCATION L0008536	VOLUME	439894.328	3760592.446	194.87
LOCATION L0008537	VOLUME	439894.427	3760628.446	195.19
LOCATION L0008538	VOLUME	439894.525	3760664.446	195.50
LOCATION L0008539	VOLUME	439894.623	3760700.446	195.83
LOCATION L0008540	VOLUME	439894.721	3760736.446	196.22
LOCATION L0008541	VOLUME	439894.819	3760772.445	196.64
LOCATION L0008542	VOLUME	439894.917	3760808.445	197.09
LOCATION L0008543	VOLUME	439895.015	3760844.445	197.60
LOCATION L0008544	VOLUME	439895.113	3760880.445	198.09
LOCATION L0008545	VOLUME	439895.211	3760916.445	198.56
LOCATION L0008546	VOLUME	439895.310	3760952.445	199.00
LOCATION L0008547	VOLUME	439895.408	3760988.445	199.46
LOCATION L0008548	VOLUME	439895.506	3761024.445	199.92
LOCATION L0008549	VOLUME	439895.604	3761060.444	200.35
LOCATION L0008550	VOLUME	439895.702	3761096.444	200.72
LOCATION L0008551	VOLUME	439895.800	3761132.444	201.08
LOCATION L0008552	VOLUME	439895.898	3761168.444	201.46
LOCATION L0008553	VOLUME	439895.996	3761204.444	201.79
LOCATION L0008554	VOLUME	439896.095	3761240.444	202.06
LOCATION L0008555	VOLUME	439896.193	3761276.444	202.40
LOCATION L0008556	VOLUME	439896.291	3761312.443	202.79
LOCATION L0008557	VOLUME	439896.389	3761348.443	203.17
LOCATION L0008558	VOLUME	439896.487	3761384.443	203.62
LOCATION L0008559	VOLUME	439896.585	3761420.443	204.07

LOCATION L0008560	VOLUME	439896.683	3761456.443	204.49
LOCATION L0008561	VOLUME	439896.781	3761492.443	204.90
LOCATION L0008562	VOLUME	439896.879	3761528.443	205.33
LOCATION L0008563	VOLUME	439896.978	3761564.443	205.74
LOCATION L0008564	VOLUME	439897.076	3761600.442	206.09
LOCATION L0008565	VOLUME	439897.174	3761636.442	206.37
LOCATION L0008566	VOLUME	439897.272	3761672.442	206.67
LOCATION L0008567	VOLUME	439897.370	3761708.442	206.97
LOCATION L0008568	VOLUME	439897.468	3761744.442	207.28
LOCATION L0008569	VOLUME	439897.566	3761780.442	207.61
LOCATION L0008570	VOLUME	439897.664	3761816.442	207.93
LOCATION L0008571	VOLUME	439897.763	3761852.441	208.24
LOCATION L0008572	VOLUME	439897.861	3761888.441	208.54
LOCATION L0008573	VOLUME	439897.959	3761924.441	208.86
LOCATION L0008574	VOLUME	439898.057	3761960.441	209.18
LOCATION L0008575	VOLUME	439898.155	3761996.441	209.49
LOCATION L0008576	VOLUME	439898.253	3762032.441	209.76
LOCATION L0008577	VOLUME	439898.351	3762068.441	210.03
LOCATION L0008578	VOLUME	439898.449	3762104.441	210.31
LOCATION L0008579	VOLUME	439898.547	3762140.440	210.55
LOCATION L0008580	VOLUME	439898.646	3762176.440	210.85
LOCATION L0008581	VOLUME	439898.744	3762212.440	211.26
LOCATION L0008582	VOLUME	439898.842	3762248.440	211.77
LOCATION L0008583	VOLUME	439898.940	3762284.440	212.37
LOCATION L0008584	VOLUME	439899.038	3762320.440	212.95
LOCATION L0008585	VOLUME	439899.136	3762356.440	213.47
LOCATION L0008586	VOLUME	439899.234	3762392.439	213.94
LOCATION L0008587	VOLUME	439899.332	3762428.439	214.41
LOCATION L0008588	VOLUME	439899.431	3762464.439	214.87
LOCATION L0008589	VOLUME	439899.529	3762500.439	215.27
LOCATION L0008590	VOLUME	439899.627	3762536.439	215.67
LOCATION L0008591	VOLUME	439899.725	3762572.439	216.08
LOCATION L0008592	VOLUME	439899.823	3762608.439	216.52
LOCATION L0008593	VOLUME	439899.921	3762644.439	217.01
LOCATION L0008594	VOLUME	439900.019	3762680.438	217.48
LOCATION L0008595	VOLUME	439900.117	3762716.438	217.98
LOCATION L0008596	VOLUME	439900.215	3762752.438	218.46
LOCATION L0008597	VOLUME	439900.314	3762788.438	218.96
LOCATION L0008598	VOLUME	439900.412	3762824.438	219.46
LOCATION L0008599	VOLUME	439900.510	3762860.438	219.99
LOCATION L0008600	VOLUME	439900.608	3762896.438	220.50
LOCATION L0008601	VOLUME	439900.706	3762932.437	220.93
LOCATION L0008602	VOLUME	439900.804	3762968.437	221.31
LOCATION L0008603	VOLUME	439900.902	3763004.437	221.71
LOCATION L0008604	VOLUME	439901.000	3763040.437	222.07
LOCATION L0008605	VOLUME	439901.098	3763076.437	222.48
LOCATION L0008606	VOLUME	439901.197	3763112.437	222.92
LOCATION L0008607	VOLUME	439901.295	3763148.437	223.40
LOCATION L0008608	VOLUME	439901.393	3763184.437	223.91

LOCATION L0008609	VOLUME	439901.491	3763220.436	224.44
LOCATION L0008610	VOLUME	439901.589	3763256.436	224.97
LOCATION L0008611	VOLUME	439901.687	3763292.436	225.41
LOCATION L0008612	VOLUME	439901.785	3763328.436	225.83
LOCATION L0008613	VOLUME	439901.883	3763364.436	226.22
LOCATION L0008614	VOLUME	439901.982	3763400.436	226.57
LOCATION L0008615	VOLUME	439902.080	3763436.436	226.88
LOCATION L0008616	VOLUME	439902.844	3763472.410	227.21
LOCATION L0008617	VOLUME	439905.546	3763508.308	227.55
LOCATION L0008618	VOLUME	439908.248	3763544.206	227.87
LOCATION L0008619	VOLUME	439910.950	3763580.105	228.17
LOCATION L0008620	VOLUME	439912.568	3763616.045	228.46
LOCATION L0008621	VOLUME	439912.617	3763652.045	228.76
LOCATION L0008622	VOLUME	439912.665	3763688.045	229.12
LOCATION L0008623	VOLUME	439912.714	3763724.045	229.40
LOCATION L0008624	VOLUME	439912.763	3763760.045	229.65
LOCATION L0008625	VOLUME	439912.812	3763796.045	229.92
LOCATION L0008626	VOLUME	439912.861	3763832.045	230.22
LOCATION L0008627	VOLUME	439912.909	3763868.045	230.54
LOCATION L0008628	VOLUME	439912.958	3763904.045	230.93
LOCATION L0008629	VOLUME	439913.007	3763940.045	231.41
LOCATION L0008630	VOLUME	439913.056	3763976.044	231.93
LOCATION L0008631	VOLUME	439913.105	3764012.044	232.48
LOCATION L0008632	VOLUME	439913.153	3764048.044	233.06
LOCATION L0008633	VOLUME	439913.202	3764084.044	233.63
LOCATION L0008634	VOLUME	439913.251	3764120.044	234.17
LOCATION L0008635	VOLUME	439913.300	3764156.044	234.76
LOCATION L0008636	VOLUME	439913.349	3764192.044	235.34
LOCATION L0008637	VOLUME	439913.397	3764228.044	235.93
LOCATION L0008638	VOLUME	439913.446	3764264.044	236.50
LOCATION L0008639	VOLUME	439913.495	3764300.044	237.09
LOCATION L0008640	VOLUME	439913.544	3764336.044	237.65
LOCATION L0008641	VOLUME	439913.593	3764372.044	238.14
LOCATION L0008642	VOLUME	439913.641	3764408.044	238.51
LOCATION L0008643	VOLUME	439913.690	3764444.044	238.76
LOCATION L0008644	VOLUME	439913.739	3764480.044	238.94
LOCATION L0008645	VOLUME	439913.788	3764516.044	239.14
LOCATION L0008646	VOLUME	439913.837	3764552.044	239.32
LOCATION L0008647	VOLUME	439913.885	3764588.044	239.55
LOCATION L0008648	VOLUME	439913.934	3764624.044	239.91
LOCATION L0008649	VOLUME	439913.983	3764660.044	240.33
LOCATION L0008650	VOLUME	439914.032	3764696.044	240.78
LOCATION L0008651	VOLUME	439914.081	3764732.044	241.22
LOCATION L0008652	VOLUME	439914.129	3764768.044	241.87
LOCATION L0008653	VOLUME	439914.178	3764804.044	242.52
LOCATION L0008654	VOLUME	439914.227	3764840.044	243.09
LOCATION L0008655	VOLUME	439914.276	3764876.044	243.65
LOCATION L0008656	VOLUME	439914.324	3764912.044	244.15
LOCATION L0008657	VOLUME	439914.373	3764948.044	244.65

LOCATION	VOLUME				
L0008658	439914.422	3764984.044	245.21		
L0008659	439914.471	3765020.044	245.75		
L0008660	439914.520	3765056.043	246.10		
L0008661	439914.568	3765092.043	246.38		
L0008662	439914.617	3765128.043	246.65		
L0008663	439914.666	3765164.043	246.95		
L0008664	439914.715	3765200.043	247.30		
L0008665	439914.764	3765236.043	247.82		
L0008666	439914.812	3765272.043	248.35		
L0008667	439914.861	3765308.043	248.96		
L0008668	439914.910	3765344.043	249.57		
L0008669	439914.959	3765380.043	250.15		
L0008670	439915.008	3765416.043	250.77		
L0008671	439915.056	3765452.043	251.36		
L0008672	439915.105	3765488.043	251.81		
L0008673	439915.154	3765524.043	252.12		
L0008674	439915.203	3765560.043	252.55		
L0008675	439915.252	3765596.043	252.94		
L0008676	439915.300	3765632.043	253.19		
L0008677	439915.349	3765668.043	253.63		
L0008678	439915.398	3765704.043	254.14		
L0008679	439915.447	3765740.043	254.48		
L0008680	439915.496	3765776.043	254.77		

\*\* End of LINE VOLUME Source ID = SLINE16

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE17

\*\* DESCRSRC East Access Road Campus 25 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000407

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440788.002, 3761131.581, 201.87, 3.15, 12.09

\*\* 440792.839, 3760493.155, 196.84, 3.15, 12.09

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LOCATION	VOLUME				
L0008681	440788.101	3761118.581	201.62		
L0008682	440788.297	3761092.582	201.37		
L0008683	440788.494	3761066.583	201.14		
L0008684	440788.691	3761040.584	200.92		
L0008685	440788.888	3761014.584	200.72		
L0008686	440789.085	3760988.585	200.51		
L0008687	440789.282	3760962.586	200.30		
L0008688	440789.479	3760936.587	200.11		
L0008689	440789.676	3760910.587	199.91		
L0008690	440789.873	3760884.588	199.74		
L0008691	440790.070	3760858.589	199.60		

LOCATION	L0008692	VOLUME	440790.267	3760832.590	199.52
LOCATION	L0008693	VOLUME	440790.464	3760806.590	199.45
LOCATION	L0008694	VOLUME	440790.661	3760780.591	199.30
LOCATION	L0008695	VOLUME	440790.858	3760754.592	198.99
LOCATION	L0008696	VOLUME	440791.055	3760728.593	198.81
LOCATION	L0008697	VOLUME	440791.252	3760702.593	198.61
LOCATION	L0008698	VOLUME	440791.449	3760676.594	198.40
LOCATION	L0008699	VOLUME	440791.646	3760650.595	198.19
LOCATION	L0008700	VOLUME	440791.843	3760624.595	197.97
LOCATION	L0008701	VOLUME	440792.040	3760598.596	197.72
LOCATION	L0008702	VOLUME	440792.237	3760572.597	197.45
LOCATION	L0008703	VOLUME	440792.434	3760546.598	197.22
LOCATION	L0008704	VOLUME	440792.631	3760520.598	197.02
LOCATION	L0008705	VOLUME	440792.828	3760494.599	196.88

\*\* End of LINE VOLUME Source ID = SLINE17

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE18

\*\* DESCRSRC Merrill East of Site 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000282

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 4

\*\* 440792.839, 3760468.972, 196.77, 3.15, 12.09

\*\* 443966.833, 3760482.272, 204.47, 3.15, 12.09

\*\* 444151.831, 3760416.979, 202.33, 3.15, 12.09

\*\* 445194.110, 3760409.724, 201.48, 3.15, 12.09

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LOCATION	L0008706	VOLUME	440805.838	3760469.026	196.69
LOCATION	L0008707	VOLUME	440831.838	3760469.135	196.70
LOCATION	L0008708	VOLUME	440857.838	3760469.244	196.88
LOCATION	L0008709	VOLUME	440883.838	3760469.353	197.13
LOCATION	L0008710	VOLUME	440909.838	3760469.462	197.39
LOCATION	L0008711	VOLUME	440935.837	3760469.571	197.56
LOCATION	L0008712	VOLUME	440961.837	3760469.680	197.64
LOCATION	L0008713	VOLUME	440987.837	3760469.789	197.74
LOCATION	L0008714	VOLUME	441013.837	3760469.898	197.89
LOCATION	L0008715	VOLUME	441039.836	3760470.007	198.06
LOCATION	L0008716	VOLUME	441065.836	3760470.116	198.25
LOCATION	L0008717	VOLUME	441091.836	3760470.225	198.46
LOCATION	L0008718	VOLUME	441117.836	3760470.334	198.59
LOCATION	L0008719	VOLUME	441143.836	3760470.443	198.64
LOCATION	L0008720	VOLUME	441169.835	3760470.552	198.63
LOCATION	L0008721	VOLUME	441195.835	3760470.661	198.95
LOCATION	L0008722	VOLUME	441221.835	3760470.770	198.86
LOCATION	L0008723	VOLUME	441247.835	3760470.879	198.67



LOCATION L0008724	VOLUME	441273.834	3760470.988	198.71
LOCATION L0008725	VOLUME	441299.834	3760471.096	198.79
LOCATION L0008726	VOLUME	441325.834	3760471.205	198.90
LOCATION L0008727	VOLUME	441351.834	3760471.314	198.98
LOCATION L0008728	VOLUME	441377.833	3760471.423	199.10
LOCATION L0008729	VOLUME	441403.833	3760471.532	199.23
LOCATION L0008730	VOLUME	441429.833	3760471.641	199.30
LOCATION L0008731	VOLUME	441455.833	3760471.750	199.33
LOCATION L0008732	VOLUME	441481.833	3760471.859	199.62
LOCATION L0008733	VOLUME	441507.832	3760471.968	199.82
LOCATION L0008734	VOLUME	441533.832	3760472.077	199.93
LOCATION L0008735	VOLUME	441559.832	3760472.186	199.99
LOCATION L0008736	VOLUME	441585.832	3760472.295	200.00
LOCATION L0008737	VOLUME	441611.831	3760472.404	200.07
LOCATION L0008738	VOLUME	441637.831	3760472.513	200.18
LOCATION L0008739	VOLUME	441663.831	3760472.622	200.19
LOCATION L0008740	VOLUME	441689.831	3760472.731	200.18
LOCATION L0008741	VOLUME	441715.830	3760472.840	200.15
LOCATION L0008742	VOLUME	441741.830	3760472.949	200.10
LOCATION L0008743	VOLUME	441767.830	3760473.058	200.08
LOCATION L0008744	VOLUME	441793.830	3760473.167	200.09
LOCATION L0008745	VOLUME	441819.830	3760473.275	200.09
LOCATION L0008746	VOLUME	441845.829	3760473.384	200.08
LOCATION L0008747	VOLUME	441871.829	3760473.493	200.12
LOCATION L0008748	VOLUME	441897.829	3760473.602	200.15
LOCATION L0008749	VOLUME	441923.829	3760473.711	200.22
LOCATION L0008750	VOLUME	441949.828	3760473.820	200.29
LOCATION L0008751	VOLUME	441975.828	3760473.929	200.11
LOCATION L0008752	VOLUME	442001.828	3760474.038	199.94
LOCATION L0008753	VOLUME	442027.828	3760474.147	200.38
LOCATION L0008754	VOLUME	442053.828	3760474.256	200.42
LOCATION L0008755	VOLUME	442079.827	3760474.365	200.43
LOCATION L0008756	VOLUME	442105.827	3760474.474	200.40
LOCATION L0008757	VOLUME	442131.827	3760474.583	200.37
LOCATION L0008758	VOLUME	442157.827	3760474.692	200.38
LOCATION L0008759	VOLUME	442183.826	3760474.801	200.40
LOCATION L0008760	VOLUME	442209.826	3760474.910	200.40
LOCATION L0008761	VOLUME	442235.826	3760475.019	200.44
LOCATION L0008762	VOLUME	442261.826	3760475.128	200.55
LOCATION L0008763	VOLUME	442287.825	3760475.237	200.67
LOCATION L0008764	VOLUME	442313.825	3760475.346	200.80
LOCATION L0008765	VOLUME	442339.825	3760475.455	200.98
LOCATION L0008766	VOLUME	442365.825	3760475.563	201.07
LOCATION L0008767	VOLUME	442391.825	3760475.672	201.05
LOCATION L0008768	VOLUME	442417.824	3760475.781	201.12
LOCATION L0008769	VOLUME	442443.824	3760475.890	201.14
LOCATION L0008770	VOLUME	442469.824	3760475.999	201.12
LOCATION L0008771	VOLUME	442495.824	3760476.108	201.09
LOCATION L0008772	VOLUME	442521.823	3760476.217	201.06

LOCATION L0008773	VOLUME	442547.823	3760476.326	201.01
LOCATION L0008774	VOLUME	442573.823	3760476.435	200.96
LOCATION L0008775	VOLUME	442599.823	3760476.544	200.85
LOCATION L0008776	VOLUME	442625.823	3760476.653	200.70
LOCATION L0008777	VOLUME	442651.822	3760476.762	200.64
LOCATION L0008778	VOLUME	442677.822	3760476.871	200.61
LOCATION L0008779	VOLUME	442703.822	3760476.980	200.62
LOCATION L0008780	VOLUME	442729.822	3760477.089	200.73
LOCATION L0008781	VOLUME	442755.821	3760477.198	200.85
LOCATION L0008782	VOLUME	442781.821	3760477.307	200.82
LOCATION L0008783	VOLUME	442807.821	3760477.416	200.80
LOCATION L0008784	VOLUME	442833.821	3760477.525	200.83
LOCATION L0008785	VOLUME	442859.820	3760477.634	200.98
LOCATION L0008786	VOLUME	442885.820	3760477.742	201.07
LOCATION L0008787	VOLUME	442911.820	3760477.851	201.13
LOCATION L0008788	VOLUME	442937.820	3760477.960	201.24
LOCATION L0008789	VOLUME	442963.820	3760478.069	201.34
LOCATION L0008790	VOLUME	442989.819	3760478.178	201.66
LOCATION L0008791	VOLUME	443015.819	3760478.287	201.87
LOCATION L0008792	VOLUME	443041.819	3760478.396	201.68
LOCATION L0008793	VOLUME	443067.819	3760478.505	201.58
LOCATION L0008794	VOLUME	443093.818	3760478.614	201.61
LOCATION L0008795	VOLUME	443119.818	3760478.723	201.69
LOCATION L0008796	VOLUME	443145.818	3760478.832	201.82
LOCATION L0008797	VOLUME	443171.818	3760478.941	202.12
LOCATION L0008798	VOLUME	443197.817	3760479.050	202.75
LOCATION L0008799	VOLUME	443223.817	3760479.159	203.08
LOCATION L0008800	VOLUME	443249.817	3760479.268	203.11
LOCATION L0008801	VOLUME	443275.817	3760479.377	203.19
LOCATION L0008802	VOLUME	443301.817	3760479.486	203.21
LOCATION L0008803	VOLUME	443327.816	3760479.595	203.34
LOCATION L0008804	VOLUME	443353.816	3760479.704	203.23
LOCATION L0008805	VOLUME	443379.816	3760479.813	203.32
LOCATION L0008806	VOLUME	443405.816	3760479.922	203.44
LOCATION L0008807	VOLUME	443431.815	3760480.030	203.41
LOCATION L0008808	VOLUME	443457.815	3760480.139	203.39
LOCATION L0008809	VOLUME	443483.815	3760480.248	203.40
LOCATION L0008810	VOLUME	443509.815	3760480.357	203.34
LOCATION L0008811	VOLUME	443535.815	3760480.466	203.32
LOCATION L0008812	VOLUME	443561.814	3760480.575	203.18
LOCATION L0008813	VOLUME	443587.814	3760480.684	203.18
LOCATION L0008814	VOLUME	443613.814	3760480.793	203.46
LOCATION L0008815	VOLUME	443639.814	3760480.902	203.54
LOCATION L0008816	VOLUME	443665.813	3760481.011	203.63
LOCATION L0008817	VOLUME	443691.813	3760481.120	203.67
LOCATION L0008818	VOLUME	443717.813	3760481.229	203.73
LOCATION L0008819	VOLUME	443743.813	3760481.338	203.77
LOCATION L0008820	VOLUME	443769.812	3760481.447	203.85
LOCATION L0008821	VOLUME	443795.812	3760481.556	204.00

LOCATION	L0008822	VOLUME	443821.812	3760481.665	204.17
LOCATION	L0008823	VOLUME	443847.812	3760481.774	204.20
LOCATION	L0008824	VOLUME	443873.812	3760481.883	204.53
LOCATION	L0008825	VOLUME	443899.811	3760481.992	203.97
LOCATION	L0008826	VOLUME	443925.811	3760482.101	204.05
LOCATION	L0008827	VOLUME	443951.811	3760482.210	204.58
LOCATION	L0008828	VOLUME	443977.185	3760478.619	204.36
LOCATION	L0008829	VOLUME	444001.703	3760469.965	203.93
LOCATION	L0008830	VOLUME	444026.220	3760461.312	203.42
LOCATION	L0008831	VOLUME	444050.738	3760452.659	203.27
LOCATION	L0008832	VOLUME	444075.256	3760444.005	203.00
LOCATION	L0008833	VOLUME	444099.774	3760435.352	202.74
LOCATION	L0008834	VOLUME	444124.291	3760426.699	202.61
LOCATION	L0008835	VOLUME	444148.809	3760418.045	202.42
LOCATION	L0008836	VOLUME	444174.626	3760416.820	202.24
LOCATION	L0008837	VOLUME	444200.625	3760416.639	202.16
LOCATION	L0008838	VOLUME	444226.625	3760416.458	202.11
LOCATION	L0008839	VOLUME	444252.624	3760416.277	202.08
LOCATION	L0008840	VOLUME	444278.623	3760416.096	202.08
LOCATION	L0008841	VOLUME	444304.623	3760415.915	202.08
LOCATION	L0008842	VOLUME	444330.622	3760415.734	202.05
LOCATION	L0008843	VOLUME	444356.621	3760415.553	202.09
LOCATION	L0008844	VOLUME	444382.621	3760415.372	202.09
LOCATION	L0008845	VOLUME	444408.620	3760415.191	201.88
LOCATION	L0008846	VOLUME	444434.620	3760415.010	201.81
LOCATION	L0008847	VOLUME	444460.619	3760414.830	201.86
LOCATION	L0008848	VOLUME	444486.618	3760414.649	201.93
LOCATION	L0008849	VOLUME	444512.618	3760414.468	201.96
LOCATION	L0008850	VOLUME	444538.617	3760414.287	202.07
LOCATION	L0008851	VOLUME	444564.616	3760414.106	202.19
LOCATION	L0008852	VOLUME	444590.616	3760413.925	202.08
LOCATION	L0008853	VOLUME	444616.615	3760413.744	198.42
LOCATION	L0008854	VOLUME	444642.615	3760413.563	197.62
LOCATION	L0008855	VOLUME	444668.614	3760413.382	201.81
LOCATION	L0008856	VOLUME	444694.613	3760413.201	202.20
LOCATION	L0008857	VOLUME	444720.613	3760413.020	201.98
LOCATION	L0008858	VOLUME	444746.612	3760412.839	201.80
LOCATION	L0008859	VOLUME	444772.611	3760412.658	201.20
LOCATION	L0008860	VOLUME	444798.611	3760412.477	200.69
LOCATION	L0008861	VOLUME	444824.610	3760412.296	201.48
LOCATION	L0008862	VOLUME	444850.609	3760412.115	201.42
LOCATION	L0008863	VOLUME	444876.609	3760411.934	201.16
LOCATION	L0008864	VOLUME	444902.608	3760411.753	201.20
LOCATION	L0008865	VOLUME	444928.608	3760411.572	201.45
LOCATION	L0008866	VOLUME	444954.607	3760411.391	201.75
LOCATION	L0008867	VOLUME	444980.606	3760411.210	201.86
LOCATION	L0008868	VOLUME	445006.606	3760411.029	201.80
LOCATION	L0008869	VOLUME	445032.605	3760410.848	201.77
LOCATION	L0008870	VOLUME	445058.604	3760410.667	201.77

LOCATION	L0008871	VOLUME	445084.604	3760410.486	201.74
LOCATION	L0008872	VOLUME	445110.603	3760410.305	201.77
LOCATION	L0008873	VOLUME	445136.603	3760410.124	201.91
LOCATION	L0008874	VOLUME	445162.602	3760409.943	201.80
LOCATION	L0008875	VOLUME	445188.601	3760409.762	201.42

\*\* End of LINE VOLUME Source ID = SLINE18

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 \*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE19

\*\* DESCRSRC Archibald North of Merrill 55 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000102

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445197.002, 3760432.429, 201.58, 3.15, 12.09

\*\* 445203.414, 3762029.057, 216.23, 3.15, 12.09

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LOCATION	L0008876	VOLUME	445197.054	3760445.429	201.61
LOCATION	L0008877	VOLUME	445197.159	3760471.429	201.78
LOCATION	L0008878	VOLUME	445197.263	3760497.429	201.94
LOCATION	L0008879	VOLUME	445197.368	3760523.429	202.11
LOCATION	L0008880	VOLUME	445197.472	3760549.428	202.26
LOCATION	L0008881	VOLUME	445197.576	3760575.428	202.43
LOCATION	L0008882	VOLUME	445197.681	3760601.428	202.62
LOCATION	L0008883	VOLUME	445197.785	3760627.428	202.85
LOCATION	L0008884	VOLUME	445197.890	3760653.428	203.09
LOCATION	L0008885	VOLUME	445197.994	3760679.427	203.34
LOCATION	L0008886	VOLUME	445198.098	3760705.427	203.60
LOCATION	L0008887	VOLUME	445198.203	3760731.427	203.84
LOCATION	L0008888	VOLUME	445198.307	3760757.427	204.09
LOCATION	L0008889	VOLUME	445198.412	3760783.427	204.31
LOCATION	L0008890	VOLUME	445198.516	3760809.426	204.58
LOCATION	L0008891	VOLUME	445198.621	3760835.426	204.84
LOCATION	L0008892	VOLUME	445198.725	3760861.426	205.09
LOCATION	L0008893	VOLUME	445198.829	3760887.426	205.36
LOCATION	L0008894	VOLUME	445198.934	3760913.426	205.59
LOCATION	L0008895	VOLUME	445199.038	3760939.425	205.83
LOCATION	L0008896	VOLUME	445199.143	3760965.425	206.10
LOCATION	L0008897	VOLUME	445199.247	3760991.425	206.35
LOCATION	L0008898	VOLUME	445199.351	3761017.425	206.59
LOCATION	L0008899	VOLUME	445199.456	3761043.424	206.83
LOCATION	L0008900	VOLUME	445199.560	3761069.424	207.07
LOCATION	L0008901	VOLUME	445199.665	3761095.424	207.30
LOCATION	L0008902	VOLUME	445199.769	3761121.424	207.55
LOCATION	L0008903	VOLUME	445199.874	3761147.424	207.81
LOCATION	L0008904	VOLUME	445199.978	3761173.423	208.02

LOCATION L0008905	VOLUME	445200.082	3761199.423	208.30
LOCATION L0008906	VOLUME	445200.187	3761225.423	208.72
LOCATION L0008907	VOLUME	445200.291	3761251.423	209.11
LOCATION L0008908	VOLUME	445200.396	3761277.423	209.39
LOCATION L0008909	VOLUME	445200.500	3761303.422	209.67
LOCATION L0008910	VOLUME	445200.604	3761329.422	209.96
LOCATION L0008911	VOLUME	445200.709	3761355.422	210.20
LOCATION L0008912	VOLUME	445200.813	3761381.422	210.41
LOCATION L0008913	VOLUME	445200.918	3761407.422	210.60
LOCATION L0008914	VOLUME	445201.022	3761433.421	210.77
LOCATION L0008915	VOLUME	445201.127	3761459.421	210.92
LOCATION L0008916	VOLUME	445201.231	3761485.421	211.13
LOCATION L0008917	VOLUME	445201.335	3761511.421	211.35
LOCATION L0008918	VOLUME	445201.440	3761537.420	211.52
LOCATION L0008919	VOLUME	445201.544	3761563.420	211.70
LOCATION L0008920	VOLUME	445201.649	3761589.420	211.90
LOCATION L0008921	VOLUME	445201.753	3761615.420	212.09
LOCATION L0008922	VOLUME	445201.857	3761641.420	212.27
LOCATION L0008923	VOLUME	445201.962	3761667.419	212.45
LOCATION L0008924	VOLUME	445202.066	3761693.419	212.61
LOCATION L0008925	VOLUME	445202.171	3761719.419	212.77
LOCATION L0008926	VOLUME	445202.275	3761745.419	213.00
LOCATION L0008927	VOLUME	445202.380	3761771.419	213.31
LOCATION L0008928	VOLUME	445202.484	3761797.418	213.59
LOCATION L0008929	VOLUME	445202.588	3761823.418	213.87
LOCATION L0008930	VOLUME	445202.693	3761849.418	214.14
LOCATION L0008931	VOLUME	445202.797	3761875.418	214.43
LOCATION L0008932	VOLUME	445202.902	3761901.418	214.72
LOCATION L0008933	VOLUME	445203.006	3761927.417	215.03
LOCATION L0008934	VOLUME	445203.110	3761953.417	215.33
LOCATION L0008935	VOLUME	445203.215	3761979.417	215.64
LOCATION L0008936	VOLUME	445203.319	3762005.417	215.92

\*\* End of LINE VOLUME Source ID = SLINE19

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE20

\*\* DESCRSRC Archibald South of Merrill 55 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000052

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445190.590, 3760393.956, 201.32, 3.15, 12.09

\*\* 445213.033, 3759579.612, 197.47, 3.15, 12.09

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LOCATION L0008937	VOLUME	445190.948	3760380.961	201.25
LOCATION L0008938	VOLUME	445191.664	3760354.971	201.07

LOCATION	L0008939	VOLUME	445192.381	3760328.981	200.90
LOCATION	L0008940	VOLUME	445193.097	3760302.991	200.72
LOCATION	L0008941	VOLUME	445193.813	3760277.001	200.57
LOCATION	L0008942	VOLUME	445194.529	3760251.011	200.42
LOCATION	L0008943	VOLUME	445195.246	3760225.021	200.27
LOCATION	L0008944	VOLUME	445195.962	3760199.030	200.12
LOCATION	L0008945	VOLUME	445196.678	3760173.040	199.96
LOCATION	L0008946	VOLUME	445197.394	3760147.050	199.80
LOCATION	L0008947	VOLUME	445198.111	3760121.060	199.64
LOCATION	L0008948	VOLUME	445198.827	3760095.070	199.49
LOCATION	L0008949	VOLUME	445199.543	3760069.080	199.32
LOCATION	L0008950	VOLUME	445200.259	3760043.090	199.14
LOCATION	L0008951	VOLUME	445200.976	3760017.100	198.96
LOCATION	L0008952	VOLUME	445201.692	3759991.109	198.82
LOCATION	L0008953	VOLUME	445202.408	3759965.119	198.64
LOCATION	L0008954	VOLUME	445203.125	3759939.129	198.60
LOCATION	L0008955	VOLUME	445203.841	3759913.139	198.65
LOCATION	L0008956	VOLUME	445204.557	3759887.149	198.74
LOCATION	L0008957	VOLUME	445205.273	3759861.159	198.79
LOCATION	L0008958	VOLUME	445205.990	3759835.169	198.62
LOCATION	L0008959	VOLUME	445206.706	3759809.178	198.12
LOCATION	L0008960	VOLUME	445207.422	3759783.188	198.27
LOCATION	L0008961	VOLUME	445208.138	3759757.198	198.31
LOCATION	L0008962	VOLUME	445208.855	3759731.208	198.20
LOCATION	L0008963	VOLUME	445209.571	3759705.218	198.10
LOCATION	L0008964	VOLUME	445210.287	3759679.228	197.99
LOCATION	L0008965	VOLUME	445211.003	3759653.238	197.83
LOCATION	L0008966	VOLUME	445211.720	3759627.248	197.71
LOCATION	L0008967	VOLUME	445212.436	3759601.257	197.57

\*\* End of LINE VOLUME Source ID = SLINE20

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE21

\*\* DESCRSRC Limonite West of Hamner 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000205

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445208.816, 3759586.179, 197.53, 3.15, 12.09

\*\* 448421.656, 3759563.991, 203.23, 3.15, 12.09

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LOCATION	L0008968	VOLUME	445221.815	3759586.089	197.44
LOCATION	L0008969	VOLUME	445247.815	3759585.910	197.38
LOCATION	L0008970	VOLUME	445273.814	3759585.730	197.39
LOCATION	L0008971	VOLUME	445299.813	3759585.551	197.38
LOCATION	L0008972	VOLUME	445325.813	3759585.371	197.43

LOCATION L0008973	VOLUME	445351.812	3759585.192	197.43
LOCATION L0008974	VOLUME	445377.812	3759585.012	197.46
LOCATION L0008975	VOLUME	445403.811	3759584.833	197.48
LOCATION L0008976	VOLUME	445429.810	3759584.653	197.56
LOCATION L0008977	VOLUME	445455.810	3759584.473	197.63
LOCATION L0008978	VOLUME	445481.809	3759584.294	197.63
LOCATION L0008979	VOLUME	445507.808	3759584.114	197.63
LOCATION L0008980	VOLUME	445533.808	3759583.935	197.73
LOCATION L0008981	VOLUME	445559.807	3759583.755	197.78
LOCATION L0008982	VOLUME	445585.807	3759583.576	197.85
LOCATION L0008983	VOLUME	445611.806	3759583.396	198.20
LOCATION L0008984	VOLUME	445637.805	3759583.217	198.31
LOCATION L0008985	VOLUME	445663.805	3759583.037	198.15
LOCATION L0008986	VOLUME	445689.804	3759582.857	198.11
LOCATION L0008987	VOLUME	445715.803	3759582.678	198.45
LOCATION L0008988	VOLUME	445741.803	3759582.498	198.66
LOCATION L0008989	VOLUME	445767.802	3759582.319	198.70
LOCATION L0008990	VOLUME	445793.802	3759582.139	198.86
LOCATION L0008991	VOLUME	445819.801	3759581.960	198.90
LOCATION L0008992	VOLUME	445845.800	3759581.780	198.97
LOCATION L0008993	VOLUME	445871.800	3759581.601	199.06
LOCATION L0008994	VOLUME	445897.799	3759581.421	199.08
LOCATION L0008995	VOLUME	445923.798	3759581.241	199.07
LOCATION L0008996	VOLUME	445949.798	3759581.062	199.03
LOCATION L0008997	VOLUME	445975.797	3759580.882	198.99
LOCATION L0008998	VOLUME	446001.797	3759580.703	198.83
LOCATION L0008999	VOLUME	446027.796	3759580.523	199.03
LOCATION L0009000	VOLUME	446053.795	3759580.344	199.25
LOCATION L0009001	VOLUME	446079.795	3759580.164	199.31
LOCATION L0009002	VOLUME	446105.794	3759579.985	199.37
LOCATION L0009003	VOLUME	446131.794	3759579.805	199.47
LOCATION L0009004	VOLUME	446157.793	3759579.625	199.58
LOCATION L0009005	VOLUME	446183.792	3759579.446	199.71
LOCATION L0009006	VOLUME	446209.792	3759579.266	199.83
LOCATION L0009007	VOLUME	446235.791	3759579.087	199.95
LOCATION L0009008	VOLUME	446261.790	3759578.907	200.08
LOCATION L0009009	VOLUME	446287.790	3759578.728	200.22
LOCATION L0009010	VOLUME	446313.789	3759578.548	200.33
LOCATION L0009011	VOLUME	446339.789	3759578.369	200.38
LOCATION L0009012	VOLUME	446365.788	3759578.189	200.38
LOCATION L0009013	VOLUME	446391.787	3759578.010	200.27
LOCATION L0009014	VOLUME	446417.787	3759577.830	200.16
LOCATION L0009015	VOLUME	446443.786	3759577.650	200.42
LOCATION L0009016	VOLUME	446469.785	3759577.471	200.88
LOCATION L0009017	VOLUME	446495.785	3759577.291	201.11
LOCATION L0009018	VOLUME	446521.784	3759577.112	201.23
LOCATION L0009019	VOLUME	446547.784	3759576.932	201.36
LOCATION L0009020	VOLUME	446573.783	3759576.753	201.49
LOCATION L0009021	VOLUME	446599.782	3759576.573	201.61

LOCATION L0009022	VOLUME	446625.782	3759576.394	201.74
LOCATION L0009023	VOLUME	446651.781	3759576.214	201.85
LOCATION L0009024	VOLUME	446677.781	3759576.034	201.97
LOCATION L0009025	VOLUME	446703.780	3759575.855	202.14
LOCATION L0009026	VOLUME	446729.779	3759575.675	202.28
LOCATION L0009027	VOLUME	446755.779	3759575.496	202.28
LOCATION L0009028	VOLUME	446781.778	3759575.316	202.08
LOCATION L0009029	VOLUME	446807.777	3759575.137	201.79
LOCATION L0009030	VOLUME	446833.777	3759574.957	201.68
LOCATION L0009031	VOLUME	446859.776	3759574.778	201.57
LOCATION L0009032	VOLUME	446885.776	3759574.598	201.31
LOCATION L0009033	VOLUME	446911.775	3759574.418	201.16
LOCATION L0009034	VOLUME	446937.774	3759574.239	201.14
LOCATION L0009035	VOLUME	446963.774	3759574.059	201.13
LOCATION L0009036	VOLUME	446989.773	3759573.880	201.19
LOCATION L0009037	VOLUME	447015.772	3759573.700	201.32
LOCATION L0009038	VOLUME	447041.772	3759573.521	201.43
LOCATION L0009039	VOLUME	447067.771	3759573.341	201.44
LOCATION L0009040	VOLUME	447093.771	3759573.162	201.34
LOCATION L0009041	VOLUME	447119.770	3759572.982	201.26
LOCATION L0009042	VOLUME	447145.769	3759572.802	201.16
LOCATION L0009043	VOLUME	447171.769	3759572.623	201.03
LOCATION L0009044	VOLUME	447197.768	3759572.443	200.91
LOCATION L0009045	VOLUME	447223.767	3759572.264	200.58
LOCATION L0009046	VOLUME	447249.767	3759572.084	200.58
LOCATION L0009047	VOLUME	447275.766	3759571.905	200.77
LOCATION L0009048	VOLUME	447301.766	3759571.725	200.92
LOCATION L0009049	VOLUME	447327.765	3759571.546	201.04
LOCATION L0009050	VOLUME	447353.764	3759571.366	201.18
LOCATION L0009051	VOLUME	447379.764	3759571.186	201.29
LOCATION L0009052	VOLUME	447405.763	3759571.007	201.34
LOCATION L0009053	VOLUME	447431.763	3759570.827	201.32
LOCATION L0009054	VOLUME	447457.762	3759570.648	201.23
LOCATION L0009055	VOLUME	447483.761	3759570.468	201.12
LOCATION L0009056	VOLUME	447509.761	3759570.289	201.01
LOCATION L0009057	VOLUME	447535.760	3759570.109	200.91
LOCATION L0009058	VOLUME	447561.759	3759569.930	200.62
LOCATION L0009059	VOLUME	447587.759	3759569.750	200.50
LOCATION L0009060	VOLUME	447613.758	3759569.570	200.62
LOCATION L0009061	VOLUME	447639.758	3759569.391	201.05
LOCATION L0009062	VOLUME	447665.757	3759569.211	201.09
LOCATION L0009063	VOLUME	447691.756	3759569.032	201.13
LOCATION L0009064	VOLUME	447717.756	3759568.852	201.12
LOCATION L0009065	VOLUME	447743.755	3759568.673	201.07
LOCATION L0009066	VOLUME	447769.754	3759568.493	201.07
LOCATION L0009067	VOLUME	447795.754	3759568.314	201.09
LOCATION L0009068	VOLUME	447821.753	3759568.134	201.07
LOCATION L0009069	VOLUME	447847.753	3759567.954	200.98
LOCATION L0009070	VOLUME	447873.752	3759567.775	200.98



LOCATION L0009071	VOLUME	447899.751	3759567.595	201.05
LOCATION L0009072	VOLUME	447925.751	3759567.416	201.13
LOCATION L0009073	VOLUME	447951.750	3759567.236	201.25
LOCATION L0009074	VOLUME	447977.750	3759567.057	201.37
LOCATION L0009075	VOLUME	448003.749	3759566.877	201.43
LOCATION L0009076	VOLUME	448029.748	3759566.698	201.49
LOCATION L0009077	VOLUME	448055.748	3759566.518	201.63
LOCATION L0009078	VOLUME	448081.747	3759566.339	201.71
LOCATION L0009079	VOLUME	448107.746	3759566.159	201.76
LOCATION L0009080	VOLUME	448133.746	3759565.979	201.75
LOCATION L0009081	VOLUME	448159.745	3759565.800	201.70
LOCATION L0009082	VOLUME	448185.745	3759565.620	201.68
LOCATION L0009083	VOLUME	448211.744	3759565.441	201.71
LOCATION L0009084	VOLUME	448237.743	3759565.261	201.78
LOCATION L0009085	VOLUME	448263.743	3759565.082	201.95
LOCATION L0009086	VOLUME	448289.742	3759564.902	202.15
LOCATION L0009087	VOLUME	448315.741	3759564.723	202.31
LOCATION L0009088	VOLUME	448341.741	3759564.543	202.55
LOCATION L0009089	VOLUME	448367.740	3759564.363	202.83
LOCATION L0009090	VOLUME	448393.740	3759564.184	203.08
LOCATION L0009091	VOLUME	448419.739	3759564.004	203.22

\*\* End of LINE VOLUME Source ID = SLINE21

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE22

\*\* DESCRSRC Limonite East of Hamner 45 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000064

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 448433.751, 3759567.438, 203.30, 3.15, 12.09

\*\* 449436.212, 3759550.509, 204.35, 3.15, 12.09

\*\*

LOCATION L0009092	VOLUME	448446.749	3759567.219	203.28
LOCATION L0009093	VOLUME	448472.745	3759566.780	203.20
LOCATION L0009094	VOLUME	448498.741	3759566.341	203.07
LOCATION L0009095	VOLUME	448524.738	3759565.902	203.02
LOCATION L0009096	VOLUME	448550.734	3759565.463	202.91
LOCATION L0009097	VOLUME	448576.730	3759565.024	202.89
LOCATION L0009098	VOLUME	448602.727	3759564.585	203.21
LOCATION L0009099	VOLUME	448628.723	3759564.146	203.51
LOCATION L0009100	VOLUME	448654.719	3759563.707	203.50
LOCATION L0009101	VOLUME	448680.715	3759563.268	203.48
LOCATION L0009102	VOLUME	448706.712	3759562.829	203.56
LOCATION L0009103	VOLUME	448732.708	3759562.389	203.67
LOCATION L0009104	VOLUME	448758.704	3759561.950	203.86

LOCATION L0009105	VOLUME	448784.701	3759561.511	203.99
LOCATION L0009106	VOLUME	448810.697	3759561.072	203.90
LOCATION L0009107	VOLUME	448836.693	3759560.633	203.95
LOCATION L0009108	VOLUME	448862.689	3759560.194	203.89
LOCATION L0009109	VOLUME	448888.686	3759559.755	203.57
LOCATION L0009110	VOLUME	448914.682	3759559.316	203.51
LOCATION L0009111	VOLUME	448940.678	3759558.877	203.83
LOCATION L0009112	VOLUME	448966.675	3759558.438	203.93
LOCATION L0009113	VOLUME	448992.671	3759557.999	204.17
LOCATION L0009114	VOLUME	449018.667	3759557.560	204.56
LOCATION L0009115	VOLUME	449044.663	3759557.121	204.89
LOCATION L0009116	VOLUME	449070.660	3759556.682	205.18
LOCATION L0009117	VOLUME	449096.656	3759556.243	205.41
LOCATION L0009118	VOLUME	449122.652	3759555.804	205.48
LOCATION L0009119	VOLUME	449148.649	3759555.365	205.25
LOCATION L0009120	VOLUME	449174.645	3759554.926	205.78
LOCATION L0009121	VOLUME	449200.641	3759554.487	206.53
LOCATION L0009122	VOLUME	449226.638	3759554.048	205.42
LOCATION L0009123	VOLUME	449252.634	3759553.609	204.31
LOCATION L0009124	VOLUME	449278.630	3759553.170	202.22
LOCATION L0009125	VOLUME	449304.626	3759552.731	201.60
LOCATION L0009126	VOLUME	449330.623	3759552.292	203.11
LOCATION L0009127	VOLUME	449356.619	3759551.853	204.32
LOCATION L0009128	VOLUME	449382.615	3759551.414	205.11
LOCATION L0009129	VOLUME	449408.612	3759550.975	205.53
LOCATION L0009130	VOLUME	449434.608	3759550.536	204.55

\*\* End of LINE VOLUME Source ID = SLINE22

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE23

\*\* DESCRSRC Edison 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000528

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445228.172, 3762001.993, 216.23, 3.15, 12.09

\*\* 446055.217, 3762005.931, 218.73, 3.15, 12.09

\*\*

LOCATION L0009131	VOLUME	445241.172	3762002.055	216.17
LOCATION L0009132	VOLUME	445267.171	3762002.179	216.48
LOCATION L0009133	VOLUME	445293.171	3762002.302	216.54
LOCATION L0009134	VOLUME	445319.171	3762002.426	217.04
LOCATION L0009135	VOLUME	445345.171	3762002.550	217.35
LOCATION L0009136	VOLUME	445371.170	3762002.674	217.64
LOCATION L0009137	VOLUME	445397.170	3762002.798	217.99
LOCATION L0009138	VOLUME	445423.170	3762002.922	218.27

LOCATION L0009139	VOLUME	445449.169	3762003.045	218.44
LOCATION L0009140	VOLUME	445475.169	3762003.169	218.50
LOCATION L0009141	VOLUME	445501.169	3762003.293	218.44
LOCATION L0009142	VOLUME	445527.169	3762003.417	218.23
LOCATION L0009143	VOLUME	445553.168	3762003.541	218.19
LOCATION L0009144	VOLUME	445579.168	3762003.664	218.14
LOCATION L0009145	VOLUME	445605.168	3762003.788	218.09
LOCATION L0009146	VOLUME	445631.167	3762003.912	218.10
LOCATION L0009147	VOLUME	445657.167	3762004.036	218.06
LOCATION L0009148	VOLUME	445683.167	3762004.160	217.91
LOCATION L0009149	VOLUME	445709.166	3762004.283	217.70
LOCATION L0009150	VOLUME	445735.166	3762004.407	217.28
LOCATION L0009151	VOLUME	445761.166	3762004.531	216.90
LOCATION L0009152	VOLUME	445787.166	3762004.655	216.96
LOCATION L0009153	VOLUME	445813.165	3762004.779	217.38
LOCATION L0009154	VOLUME	445839.165	3762004.902	217.69
LOCATION L0009155	VOLUME	445865.165	3762005.026	217.94
LOCATION L0009156	VOLUME	445891.164	3762005.150	218.24
LOCATION L0009157	VOLUME	445917.164	3762005.274	218.05
LOCATION L0009158	VOLUME	445943.164	3762005.398	218.24
LOCATION L0009159	VOLUME	445969.164	3762005.521	218.48
LOCATION L0009160	VOLUME	445995.163	3762005.645	218.61
LOCATION L0009161	VOLUME	446021.163	3762005.769	218.61
LOCATION L0009162	VOLUME	446047.163	3762005.893	218.63

\*\* End of LINE VOLUME Source ID = SLINE23

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE24

\*\* DESCRSRC Ontario Ranch Road 50 MPH

\*\* PREFIX

\*\* Length of Side = 31.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000215

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 8

\*\* 446065.063, 3762013.808, 218.80, 3.15, 14.42

\*\* 446293.485, 3762124.081, 220.01, 3.15, 14.42

\*\* 446500.247, 3762297.366, 221.42, 3.15, 14.42

\*\* 446722.761, 3762397.793, 222.35, 3.15, 14.42

\*\* 446819.250, 3762403.701, 222.18, 3.15, 14.42

\*\* 448441.834, 3762389.917, 225.33, 3.15, 14.42

\*\* 448792.344, 3762411.577, 226.13, 3.15, 14.42

\*\* 449294.479, 3762594.709, 233.70, 3.15, 14.42

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LOCATION L0009163	VOLUME	446079.022	3762020.547	218.95
LOCATION L0009164	VOLUME	446106.939	3762034.024	219.27
LOCATION L0009165	VOLUME	446134.856	3762047.501	219.30
LOCATION L0009166	VOLUME	446162.773	3762060.978	219.54

LOCATION L0009167	VOLUME	446190.690	3762074.455	219.63
LOCATION L0009168	VOLUME	446218.607	3762087.933	219.78
LOCATION L0009169	VOLUME	446246.524	3762101.410	219.88
LOCATION L0009170	VOLUME	446274.441	3762114.887	220.00
LOCATION L0009171	VOLUME	446301.037	3762130.410	220.13
LOCATION L0009172	VOLUME	446324.796	3762150.322	220.33
LOCATION L0009173	VOLUME	446348.555	3762170.234	220.43
LOCATION L0009174	VOLUME	446372.314	3762190.147	220.66
LOCATION L0009175	VOLUME	446396.073	3762210.059	220.91
LOCATION L0009176	VOLUME	446419.833	3762229.972	220.98
LOCATION L0009177	VOLUME	446443.592	3762249.884	221.28
LOCATION L0009178	VOLUME	446467.351	3762269.797	221.28
LOCATION L0009179	VOLUME	446491.110	3762289.709	221.36
LOCATION L0009180	VOLUME	446517.636	3762305.215	221.68
LOCATION L0009181	VOLUME	446545.892	3762317.967	221.71
LOCATION L0009182	VOLUME	446574.147	3762330.720	221.88
LOCATION L0009183	VOLUME	446602.403	3762343.472	221.99
LOCATION L0009184	VOLUME	446630.658	3762356.225	222.17
LOCATION L0009185	VOLUME	446658.914	3762368.977	222.43
LOCATION L0009186	VOLUME	446687.169	3762381.730	222.48
LOCATION L0009187	VOLUME	446715.425	3762394.482	222.88
LOCATION L0009188	VOLUME	446745.669	3762399.196	222.92
LOCATION L0009189	VOLUME	446776.612	3762401.090	222.76
LOCATION L0009190	VOLUME	446807.554	3762402.985	222.19
LOCATION L0009191	VOLUME	446838.531	3762403.537	221.88
LOCATION L0009192	VOLUME	446869.530	3762403.274	221.96
LOCATION L0009193	VOLUME	446900.529	3762403.010	221.98
LOCATION L0009194	VOLUME	446931.528	3762402.747	222.17
LOCATION L0009195	VOLUME	446962.527	3762402.484	222.50
LOCATION L0009196	VOLUME	446993.525	3762402.220	222.57
LOCATION L0009197	VOLUME	447024.524	3762401.957	222.59
LOCATION L0009198	VOLUME	447055.523	3762401.694	222.70
LOCATION L0009199	VOLUME	447086.522	3762401.430	222.95
LOCATION L0009200	VOLUME	447117.521	3762401.167	223.14
LOCATION L0009201	VOLUME	447148.520	3762400.904	223.29
LOCATION L0009202	VOLUME	447179.519	3762400.640	223.34
LOCATION L0009203	VOLUME	447210.518	3762400.377	223.38
LOCATION L0009204	VOLUME	447241.516	3762400.114	223.28
LOCATION L0009205	VOLUME	447272.515	3762399.850	223.39
LOCATION L0009206	VOLUME	447303.514	3762399.587	223.48
LOCATION L0009207	VOLUME	447334.513	3762399.324	223.41
LOCATION L0009208	VOLUME	447365.512	3762399.060	223.31
LOCATION L0009209	VOLUME	447396.511	3762398.797	223.21
LOCATION L0009210	VOLUME	447427.510	3762398.534	223.15
LOCATION L0009211	VOLUME	447458.509	3762398.270	223.11
LOCATION L0009212	VOLUME	447489.507	3762398.007	222.98
LOCATION L0009213	VOLUME	447520.506	3762397.743	222.80
LOCATION L0009214	VOLUME	447551.505	3762397.480	222.72
LOCATION L0009215	VOLUME	447582.504	3762397.217	222.66

LOCATION	L0009216	VOLUME	447613.503	3762396.953	222.54
LOCATION	L0009217	VOLUME	447644.502	3762396.690	222.38
LOCATION	L0009218	VOLUME	447675.501	3762396.427	222.48
LOCATION	L0009219	VOLUME	447706.500	3762396.163	222.63
LOCATION	L0009220	VOLUME	447737.499	3762395.900	222.78
LOCATION	L0009221	VOLUME	447768.497	3762395.637	222.92
LOCATION	L0009222	VOLUME	447799.496	3762395.373	223.06
LOCATION	L0009223	VOLUME	447830.495	3762395.110	223.18
LOCATION	L0009224	VOLUME	447861.494	3762394.847	223.30
LOCATION	L0009225	VOLUME	447892.493	3762394.583	223.39
LOCATION	L0009226	VOLUME	447923.492	3762394.320	223.49
LOCATION	L0009227	VOLUME	447954.491	3762394.057	223.66
LOCATION	L0009228	VOLUME	447985.490	3762393.793	223.82
LOCATION	L0009229	VOLUME	448016.488	3762393.530	223.93
LOCATION	L0009230	VOLUME	448047.487	3762393.267	224.04
LOCATION	L0009231	VOLUME	448078.486	3762393.003	224.13
LOCATION	L0009232	VOLUME	448109.485	3762392.740	224.28
LOCATION	L0009233	VOLUME	448140.484	3762392.477	224.42
LOCATION	L0009234	VOLUME	448171.483	3762392.213	224.59
LOCATION	L0009235	VOLUME	448202.482	3762391.950	224.77
LOCATION	L0009236	VOLUME	448233.481	3762391.687	224.90
LOCATION	L0009237	VOLUME	448264.480	3762391.423	225.07
LOCATION	L0009238	VOLUME	448295.478	3762391.160	225.24
LOCATION	L0009239	VOLUME	448326.477	3762390.897	225.33
LOCATION	L0009240	VOLUME	448357.476	3762390.633	225.38
LOCATION	L0009241	VOLUME	448388.475	3762390.370	225.39
LOCATION	L0009242	VOLUME	448419.474	3762390.107	225.36
LOCATION	L0009243	VOLUME	448450.457	3762390.450	225.32
LOCATION	L0009244	VOLUME	448481.398	3762392.362	225.21
LOCATION	L0009245	VOLUME	448512.339	3762394.274	225.02
LOCATION	L0009246	VOLUME	448543.280	3762396.186	224.88
LOCATION	L0009247	VOLUME	448574.221	3762398.098	224.77
LOCATION	L0009248	VOLUME	448605.162	3762400.010	224.69
LOCATION	L0009249	VOLUME	448636.103	3762401.922	224.54
LOCATION	L0009250	VOLUME	448667.044	3762403.834	224.41
LOCATION	L0009251	VOLUME	448697.984	3762405.746	224.44
LOCATION	L0009252	VOLUME	448728.925	3762407.658	224.73
LOCATION	L0009253	VOLUME	448759.866	3762409.570	225.55
LOCATION	L0009254	VOLUME	448790.807	3762411.482	225.87
LOCATION	L0009255	VOLUME	448820.021	3762421.671	225.69
LOCATION	L0009256	VOLUME	448849.145	3762432.293	226.70
LOCATION	L0009257	VOLUME	448878.268	3762442.914	227.66
LOCATION	L0009258	VOLUME	448907.392	3762453.536	228.07
LOCATION	L0009259	VOLUME	448936.516	3762464.158	229.27
LOCATION	L0009260	VOLUME	448965.639	3762474.779	229.74
LOCATION	L0009261	VOLUME	448994.763	3762485.401	230.27
LOCATION	L0009262	VOLUME	449023.886	3762496.022	233.06
LOCATION	L0009263	VOLUME	449053.010	3762506.644	234.84
LOCATION	L0009264	VOLUME	449082.133	3762517.265	235.04

LOCATION L0009265	VOLUME	449111.257	3762527.887	232.42
LOCATION L0009266	VOLUME	449140.381	3762538.508	227.42
LOCATION L0009267	VOLUME	449169.504	3762549.130	226.85
LOCATION L0009268	VOLUME	449198.628	3762559.751	227.04
LOCATION L0009269	VOLUME	449227.751	3762570.373	227.98
LOCATION L0009270	VOLUME	449256.875	3762580.995	232.17
LOCATION L0009271	VOLUME	449285.999	3762591.616	233.05

\*\* End of LINE VOLUME Source ID = SLINE24

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE25

\*\* DESCRSRC Onsite Construction

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0166

\*\* Vertical Dimension = 7.65

\*\* SZINIT = 3.56

\*\* Nodes = 16

\*\* 440391.592, 3761147.692, 201.79, 0.00, 12.09

\*\* 440392.555, 3761231.507, 202.60, 0.00, 12.09

\*\* 440451.322, 3761231.507, 202.67, 0.00, 12.09

\*\* 440450.359, 3760484.879, 195.14, 0.00, 12.09

\*\* 440509.126, 3760483.915, 195.24, 0.00, 12.09

\*\* 440503.345, 3761232.471, 202.87, 0.00, 12.09

\*\* 440565.002, 3761234.398, 203.21, 0.00, 12.09

\*\* 440562.112, 3760488.732, 195.43, 0.00, 12.09

\*\* 440619.916, 3760488.732, 195.62, 0.00, 12.09

\*\* 440620.879, 3761236.324, 203.37, 0.00, 12.09

\*\* 440680.897, 3761235.538, 203.52, 0.00, 12.09

\*\* 440671.518, 3760485.715, 195.76, 0.00, 12.09

\*\* 440735.960, 3760484.644, 196.24, 0.00, 12.09

\*\* 440731.863, 3761239.386, 203.39, 0.00, 12.09

\*\* 440781.658, 3761237.299, 203.18, 0.00, 12.09

\*\* 440785.619, 3761146.729, 202.07, 0.00, 12.09

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LOCATION L0009272	VOLUME	440391.741	3761160.692	201.86
LOCATION L0009273	VOLUME	440392.040	3761186.690	202.14
LOCATION L0009274	VOLUME	440392.339	3761212.688	202.40
LOCATION L0009275	VOLUME	440399.735	3761231.507	202.56
LOCATION L0009276	VOLUME	440425.735	3761231.507	202.47
LOCATION L0009277	VOLUME	440451.322	3761231.095	202.53
LOCATION L0009278	VOLUME	440451.288	3761205.095	202.12
LOCATION L0009279	VOLUME	440451.255	3761179.095	201.86
LOCATION L0009280	VOLUME	440451.221	3761153.095	201.66
LOCATION L0009281	VOLUME	440451.188	3761127.095	201.47
LOCATION L0009282	VOLUME	440451.154	3761101.095	201.16
LOCATION L0009283	VOLUME	440451.120	3761075.095	200.86
LOCATION L0009284	VOLUME	440451.087	3761049.095	200.57

LOCATION	L0009285	VOLUME	440451.053	3761023.095	200.30
LOCATION	L0009286	VOLUME	440451.020	3760997.095	200.06
LOCATION	L0009287	VOLUME	440450.986	3760971.095	199.81
LOCATION	L0009288	VOLUME	440450.953	3760945.095	199.58
LOCATION	L0009289	VOLUME	440450.919	3760919.095	199.36
LOCATION	L0009290	VOLUME	440450.886	3760893.095	199.16
LOCATION	L0009291	VOLUME	440450.852	3760867.095	198.94
LOCATION	L0009292	VOLUME	440450.818	3760841.095	198.69
LOCATION	L0009293	VOLUME	440450.785	3760815.095	198.44
LOCATION	L0009294	VOLUME	440450.751	3760789.095	198.19
LOCATION	L0009295	VOLUME	440450.718	3760763.095	197.89
LOCATION	L0009296	VOLUME	440450.684	3760737.095	197.59
LOCATION	L0009297	VOLUME	440450.651	3760711.095	197.29
LOCATION	L0009298	VOLUME	440450.617	3760685.095	197.01
LOCATION	L0009299	VOLUME	440450.584	3760659.096	196.75
LOCATION	L0009300	VOLUME	440450.550	3760633.096	196.50
LOCATION	L0009301	VOLUME	440450.517	3760607.096	196.25
LOCATION	L0009302	VOLUME	440450.483	3760581.096	196.03
LOCATION	L0009303	VOLUME	440450.449	3760555.096	195.82
LOCATION	L0009304	VOLUME	440450.416	3760529.096	195.47
LOCATION	L0009305	VOLUME	440450.382	3760503.096	195.13
LOCATION	L0009306	VOLUME	440458.141	3760484.751	195.15
LOCATION	L0009307	VOLUME	440484.137	3760484.325	195.17
LOCATION	L0009308	VOLUME	440509.118	3760484.923	195.24
LOCATION	L0009309	VOLUME	440508.917	3760510.923	195.31
LOCATION	L0009310	VOLUME	440508.716	3760536.922	195.77
LOCATION	L0009311	VOLUME	440508.516	3760562.921	195.97
LOCATION	L0009312	VOLUME	440508.315	3760588.920	196.17
LOCATION	L0009313	VOLUME	440508.114	3760614.919	196.42
LOCATION	L0009314	VOLUME	440507.913	3760640.919	196.70
LOCATION	L0009315	VOLUME	440507.713	3760666.918	196.98
LOCATION	L0009316	VOLUME	440507.512	3760692.917	197.27
LOCATION	L0009317	VOLUME	440507.311	3760718.916	197.58
LOCATION	L0009318	VOLUME	440507.110	3760744.916	197.89
LOCATION	L0009319	VOLUME	440506.909	3760770.915	198.20
LOCATION	L0009320	VOLUME	440506.709	3760796.914	198.46
LOCATION	L0009321	VOLUME	440506.508	3760822.913	198.66
LOCATION	L0009322	VOLUME	440506.307	3760848.912	198.83
LOCATION	L0009323	VOLUME	440506.106	3760874.912	199.06
LOCATION	L0009324	VOLUME	440505.906	3760900.911	199.27
LOCATION	L0009325	VOLUME	440505.705	3760926.910	199.51
LOCATION	L0009326	VOLUME	440505.504	3760952.909	199.74
LOCATION	L0009327	VOLUME	440505.303	3760978.909	199.96
LOCATION	L0009328	VOLUME	440505.103	3761004.908	200.19
LOCATION	L0009329	VOLUME	440504.902	3761030.907	200.44
LOCATION	L0009330	VOLUME	440504.701	3761056.906	200.74
LOCATION	L0009331	VOLUME	440504.500	3761082.905	201.07
LOCATION	L0009332	VOLUME	440504.300	3761108.905	201.40
LOCATION	L0009333	VOLUME	440504.099	3761134.904	201.70

LOCATION	L0009334	VOLUME	440503.898	3761160.903	201.93
LOCATION	L0009335	VOLUME	440503.697	3761186.902	202.11
LOCATION	L0009336	VOLUME	440503.496	3761212.902	202.35
LOCATION	L0009337	VOLUME	440509.772	3761232.672	202.73
LOCATION	L0009338	VOLUME	440535.760	3761233.484	202.82
LOCATION	L0009339	VOLUME	440561.747	3761234.296	203.10
LOCATION	L0009340	VOLUME	440564.914	3761211.655	202.93
LOCATION	L0009341	VOLUME	440564.813	3761185.655	202.56
LOCATION	L0009342	VOLUME	440564.713	3761159.655	202.37
LOCATION	L0009343	VOLUME	440564.612	3761133.655	202.30
LOCATION	L0009344	VOLUME	440564.511	3761107.656	202.16
LOCATION	L0009345	VOLUME	440564.410	3761081.656	201.88
LOCATION	L0009346	VOLUME	440564.310	3761055.656	201.44
LOCATION	L0009347	VOLUME	440564.209	3761029.656	200.89
LOCATION	L0009348	VOLUME	440564.108	3761003.656	200.61
LOCATION	L0009349	VOLUME	440564.007	3760977.657	200.37
LOCATION	L0009350	VOLUME	440563.906	3760951.657	200.14
LOCATION	L0009351	VOLUME	440563.806	3760925.657	199.90
LOCATION	L0009352	VOLUME	440563.705	3760899.657	199.63
LOCATION	L0009353	VOLUME	440563.604	3760873.657	199.36
LOCATION	L0009354	VOLUME	440563.503	3760847.658	199.12
LOCATION	L0009355	VOLUME	440563.403	3760821.658	199.06
LOCATION	L0009356	VOLUME	440563.302	3760795.658	198.89
LOCATION	L0009357	VOLUME	440563.201	3760769.658	198.62
LOCATION	L0009358	VOLUME	440563.100	3760743.658	198.25
LOCATION	L0009359	VOLUME	440563.000	3760717.659	197.87
LOCATION	L0009360	VOLUME	440562.899	3760691.659	197.62
LOCATION	L0009361	VOLUME	440562.798	3760665.659	197.34
LOCATION	L0009362	VOLUME	440562.697	3760639.659	197.04
LOCATION	L0009363	VOLUME	440562.596	3760613.659	196.76
LOCATION	L0009364	VOLUME	440562.496	3760587.660	196.50
LOCATION	L0009365	VOLUME	440562.395	3760561.660	196.27
LOCATION	L0009366	VOLUME	440562.294	3760535.660	196.01
LOCATION	L0009367	VOLUME	440562.193	3760509.660	195.52
LOCATION	L0009368	VOLUME	440567.184	3760488.732	195.46
LOCATION	L0009369	VOLUME	440593.184	3760488.732	195.59
LOCATION	L0009370	VOLUME	440619.184	3760488.732	195.65
LOCATION	L0009371	VOLUME	440619.948	3760514.000	195.86
LOCATION	L0009372	VOLUME	440619.982	3760540.000	196.36
LOCATION	L0009373	VOLUME	440620.015	3760566.000	196.61
LOCATION	L0009374	VOLUME	440620.049	3760592.000	196.86
LOCATION	L0009375	VOLUME	440620.082	3760618.000	197.09
LOCATION	L0009376	VOLUME	440620.116	3760644.000	197.33
LOCATION	L0009377	VOLUME	440620.149	3760670.000	197.59
LOCATION	L0009378	VOLUME	440620.183	3760696.000	197.79
LOCATION	L0009379	VOLUME	440620.216	3760722.000	197.20
LOCATION	L0009380	VOLUME	440620.250	3760748.000	196.49
LOCATION	L0009381	VOLUME	440620.283	3760774.000	197.92
LOCATION	L0009382	VOLUME	440620.317	3760800.000	199.24



LOCATION	L0009383	VOLUME	440620.350	3760826.000	199.53
LOCATION	L0009384	VOLUME	440620.384	3760852.000	199.81
LOCATION	L0009385	VOLUME	440620.417	3760878.000	200.03
LOCATION	L0009386	VOLUME	440620.451	3760904.000	200.26
LOCATION	L0009387	VOLUME	440620.484	3760930.000	200.53
LOCATION	L0009388	VOLUME	440620.518	3760956.000	200.80
LOCATION	L0009389	VOLUME	440620.551	3760982.000	201.05
LOCATION	L0009390	VOLUME	440620.585	3761008.000	201.30
LOCATION	L0009391	VOLUME	440620.618	3761034.000	201.58
LOCATION	L0009392	VOLUME	440620.652	3761060.000	201.84
LOCATION	L0009393	VOLUME	440620.685	3761086.000	202.05
LOCATION	L0009394	VOLUME	440620.719	3761112.000	202.28
LOCATION	L0009395	VOLUME	440620.752	3761138.000	202.47
LOCATION	L0009396	VOLUME	440620.786	3761164.000	202.64
LOCATION	L0009397	VOLUME	440620.819	3761190.000	202.93
LOCATION	L0009398	VOLUME	440620.853	3761216.000	203.13
LOCATION	L0009399	VOLUME	440626.554	3761236.250	203.35
LOCATION	L0009400	VOLUME	440652.552	3761235.909	203.44
LOCATION	L0009401	VOLUME	440678.550	3761235.568	203.47
LOCATION	L0009402	VOLUME	440680.601	3761211.887	203.27
LOCATION	L0009403	VOLUME	440680.276	3761185.889	203.12
LOCATION	L0009404	VOLUME	440679.951	3761159.891	202.41
LOCATION	L0009405	VOLUME	440679.625	3761133.893	201.66
LOCATION	L0009406	VOLUME	440679.300	3761107.895	201.23
LOCATION	L0009407	VOLUME	440678.975	3761081.897	200.97
LOCATION	L0009408	VOLUME	440678.650	3761055.899	200.72
LOCATION	L0009409	VOLUME	440678.325	3761029.901	200.47
LOCATION	L0009410	VOLUME	440678.000	3761003.903	200.25
LOCATION	L0009411	VOLUME	440677.674	3760977.905	199.97
LOCATION	L0009412	VOLUME	440677.349	3760951.907	199.76
LOCATION	L0009413	VOLUME	440677.024	3760925.909	199.58
LOCATION	L0009414	VOLUME	440676.699	3760899.911	199.35
LOCATION	L0009415	VOLUME	440676.374	3760873.913	199.06
LOCATION	L0009416	VOLUME	440676.048	3760847.915	198.82
LOCATION	L0009417	VOLUME	440675.723	3760821.917	198.63
LOCATION	L0009418	VOLUME	440675.398	3760795.919	198.39
LOCATION	L0009419	VOLUME	440675.073	3760769.921	196.81
LOCATION	L0009420	VOLUME	440674.748	3760743.923	196.13
LOCATION	L0009421	VOLUME	440674.423	3760717.925	197.29
LOCATION	L0009422	VOLUME	440674.097	3760691.927	197.95
LOCATION	L0009423	VOLUME	440673.772	3760665.929	197.74
LOCATION	L0009424	VOLUME	440673.447	3760639.931	197.49
LOCATION	L0009425	VOLUME	440673.122	3760613.934	197.26
LOCATION	L0009426	VOLUME	440672.797	3760587.936	197.03
LOCATION	L0009427	VOLUME	440672.472	3760561.938	196.80
LOCATION	L0009428	VOLUME	440672.146	3760535.940	196.54
LOCATION	L0009429	VOLUME	440671.821	3760509.942	196.02
LOCATION	L0009430	VOLUME	440673.289	3760485.685	195.82
LOCATION	L0009431	VOLUME	440699.286	3760485.253	195.93

LOCATION	L0009432	VOLUME	440725.282	3760484.822	196.10
LOCATION	L0009433	VOLUME	440735.877	3760499.965	196.30
LOCATION	L0009434	VOLUME	440735.735	3760525.964	196.65
LOCATION	L0009435	VOLUME	440735.594	3760551.964	196.99
LOCATION	L0009436	VOLUME	440735.453	3760577.964	197.21
LOCATION	L0009437	VOLUME	440735.312	3760603.963	197.43
LOCATION	L0009438	VOLUME	440735.171	3760629.963	197.60
LOCATION	L0009439	VOLUME	440735.030	3760655.963	197.83
LOCATION	L0009440	VOLUME	440734.889	3760681.962	198.05
LOCATION	L0009441	VOLUME	440734.747	3760707.962	198.20
LOCATION	L0009442	VOLUME	440734.606	3760733.961	198.27
LOCATION	L0009443	VOLUME	440734.465	3760759.961	198.42
LOCATION	L0009444	VOLUME	440734.324	3760785.961	199.14
LOCATION	L0009445	VOLUME	440734.183	3760811.960	199.39
LOCATION	L0009446	VOLUME	440734.042	3760837.960	199.64
LOCATION	L0009447	VOLUME	440733.901	3760863.959	199.84
LOCATION	L0009448	VOLUME	440733.760	3760889.959	200.04
LOCATION	L0009449	VOLUME	440733.618	3760915.959	200.26
LOCATION	L0009450	VOLUME	440733.477	3760941.958	200.49
LOCATION	L0009451	VOLUME	440733.336	3760967.958	200.70
LOCATION	L0009452	VOLUME	440733.195	3760993.958	200.93
LOCATION	L0009453	VOLUME	440733.054	3761019.957	201.19
LOCATION	L0009454	VOLUME	440732.913	3761045.957	201.44
LOCATION	L0009455	VOLUME	440732.772	3761071.956	201.69
LOCATION	L0009456	VOLUME	440732.631	3761097.956	201.94
LOCATION	L0009457	VOLUME	440732.489	3761123.956	202.17
LOCATION	L0009458	VOLUME	440732.348	3761149.955	202.37
LOCATION	L0009459	VOLUME	440732.207	3761175.955	202.70
LOCATION	L0009460	VOLUME	440732.066	3761201.955	203.00
LOCATION	L0009461	VOLUME	440731.925	3761227.954	203.26
LOCATION	L0009462	VOLUME	440746.418	3761238.776	203.29
LOCATION	L0009463	VOLUME	440772.395	3761237.687	202.99
LOCATION	L0009464	VOLUME	440782.389	3761220.587	202.73
LOCATION	L0009465	VOLUME	440783.525	3761194.611	202.41
LOCATION	L0009466	VOLUME	440784.661	3761168.636	202.13

\*\* End of LINE VOLUME Source ID = SLINE25

\*\* Source Parameters \*\*

\*\* LINE VOLUME Source ID = SLINE13

SRCPARAM	L0008412	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008413	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008414	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008415	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008416	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008417	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008418	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008419	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008420	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008421	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008422	0.000001688	3.15	12.09	2.93

SRCPARAM	L0008423	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008424	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008425	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008426	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008427	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008428	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008429	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008430	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008431	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008432	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008433	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008434	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008435	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008436	0.000001688	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE14

SRCPARAM	L0008437	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008438	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008439	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008440	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008441	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008442	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008443	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008444	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008445	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008446	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008447	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008448	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008449	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008450	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008451	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008452	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008453	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008454	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008455	0.000001642	3.15	12.09	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE15

SRCPARAM	L0008456	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008457	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008458	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008459	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008460	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008461	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008462	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008463	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008464	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008465	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008466	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008467	0.000001987	3.15	14.42	2.93



SRCPARAM	L0008517	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008518	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008519	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008520	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008521	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008522	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008523	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008524	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008525	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008526	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008527	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008528	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008529	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008530	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008531	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008532	0.000001987	3.15	14.42	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE16

SRCPARAM	L0008533	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008534	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008535	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008536	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008537	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008538	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008539	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008540	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008541	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008542	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008543	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008544	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008545	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008546	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008547	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008548	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008549	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008550	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008551	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008552	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008553	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008554	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008555	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008556	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008557	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008558	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008559	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008560	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008561	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008562	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008563	0.000002297	2.89	16.74	2.69





SRCPARAM	L0008662	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008663	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008664	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008665	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008666	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008667	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008668	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008669	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008670	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008671	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008672	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008673	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008674	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008675	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008676	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008677	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008678	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008679	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008680	0.000002297	2.89	16.74	2.69

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\*\* LINE VOLUME Source ID = SLINE17

SRCPARAM	L0008681	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008682	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008683	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008684	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008685	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008686	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008687	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008688	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008689	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008690	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008691	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008692	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008693	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008694	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008695	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008696	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008697	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008698	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008699	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008700	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008701	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008702	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008703	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008704	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008705	0.000001628	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE18

SRCPARAM	L0008706	0.000001659	3.15	12.09	2.93
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SRCPARAM	L0008854	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008855	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008856	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008857	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008858	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008859	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008860	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008861	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008862	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008863	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008864	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008865	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008866	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008867	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008868	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008869	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008870	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008871	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008872	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008873	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008874	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008875	0.000001659	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE19

SRCPARAM	L0008876	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008877	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008878	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008879	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008880	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008881	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008882	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008883	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008884	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008885	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008886	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008887	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008888	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008889	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008890	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008891	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008892	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008893	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008894	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008895	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008896	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008897	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008898	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008899	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008900	0.000001672	3.15	12.09	2.93

SRCPARAM	L0008901	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008902	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008903	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008904	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008905	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008906	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008907	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008908	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008909	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008910	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008911	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008912	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008913	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008914	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008915	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008916	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008917	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008918	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008919	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008920	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008921	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008922	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008923	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008924	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008925	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008926	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008927	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008928	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008929	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008930	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008931	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008932	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008933	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008934	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008935	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008936	0.000001672	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE20

SRCPARAM	L0008937	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008938	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008939	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008940	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008941	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008942	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008943	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008944	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008945	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008946	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008947	0.000001677	3.15	12.09	2.93

SRCPARAM	L0008948	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008949	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008950	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008951	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008952	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008953	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008954	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008955	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008956	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008957	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008958	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008959	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008960	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008961	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008962	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008963	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008964	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008965	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008966	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008967	0.000001677	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE21

SRCPARAM	L0008968	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008969	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008970	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008971	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008972	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008973	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008974	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008975	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008976	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008977	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008978	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008979	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008980	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008981	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008982	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008983	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008984	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008985	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008986	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008987	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008988	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008989	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008990	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008991	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008992	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008993	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008994	0.000001653	3.15	12.09	2.93







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** LINE VOLUME Source ID = SLINE22
SRCPARAM L0009092 0.000001641 3.15 12.09 2.93
SRCPARAM L0009093 0.000001641 3.15 12.09 2.93
SRCPARAM L0009094 0.000001641 3.15 12.09 2.93
SRCPARAM L0009095 0.000001641 3.15 12.09 2.93
SRCPARAM L0009096 0.000001641 3.15 12.09 2.93
SRCPARAM L0009097 0.000001641 3.15 12.09 2.93
SRCPARAM L0009098 0.000001641 3.15 12.09 2.93
SRCPARAM L0009099 0.000001641 3.15 12.09 2.93
SRCPARAM L0009100 0.000001641 3.15 12.09 2.93
SRCPARAM L0009101 0.000001641 3.15 12.09 2.93
SRCPARAM L0009102 0.000001641 3.15 12.09 2.93
SRCPARAM L0009103 0.000001641 3.15 12.09 2.93
SRCPARAM L0009104 0.000001641 3.15 12.09 2.93
SRCPARAM L0009105 0.000001641 3.15 12.09 2.93
SRCPARAM L0009106 0.000001641 3.15 12.09 2.93
SRCPARAM L0009107 0.000001641 3.15 12.09 2.93
SRCPARAM L0009108 0.000001641 3.15 12.09 2.93
SRCPARAM L0009109 0.000001641 3.15 12.09 2.93
SRCPARAM L0009110 0.000001641 3.15 12.09 2.93
SRCPARAM L0009111 0.000001641 3.15 12.09 2.93
SRCPARAM L0009112 0.000001641 3.15 12.09 2.93
SRCPARAM L0009113 0.000001641 3.15 12.09 2.93
SRCPARAM L0009114 0.000001641 3.15 12.09 2.93
SRCPARAM L0009115 0.000001641 3.15 12.09 2.93
SRCPARAM L0009116 0.000001641 3.15 12.09 2.93
SRCPARAM L0009117 0.000001641 3.15 12.09 2.93
SRCPARAM L0009118 0.000001641 3.15 12.09 2.93
SRCPARAM L0009119 0.000001641 3.15 12.09 2.93
SRCPARAM L0009120 0.000001641 3.15 12.09 2.93
SRCPARAM L0009121 0.000001641 3.15 12.09 2.93
SRCPARAM L0009122 0.000001641 3.15 12.09 2.93
SRCPARAM L0009123 0.000001641 3.15 12.09 2.93
SRCPARAM L0009124 0.000001641 3.15 12.09 2.93
SRCPARAM L0009125 0.000001641 3.15 12.09 2.93
SRCPARAM L0009126 0.000001641 3.15 12.09 2.93
SRCPARAM L0009127 0.000001641 3.15 12.09 2.93
SRCPARAM L0009128 0.000001641 3.15 12.09 2.93
SRCPARAM L0009129 0.000001641 3.15 12.09 2.93
SRCPARAM L0009130 0.000001641 3.15 12.09 2.93

```

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```

** LINE VOLUME Source ID = SLINE23
SRCPARAM L0009131 0.00000165 3.15 12.09 2.93
SRCPARAM L0009132 0.00000165 3.15 12.09 2.93
SRCPARAM L0009133 0.00000165 3.15 12.09 2.93
SRCPARAM L0009134 0.00000165 3.15 12.09 2.93
SRCPARAM L0009135 0.00000165 3.15 12.09 2.93
SRCPARAM L0009136 0.00000165 3.15 12.09 2.93
SRCPARAM L0009137 0.00000165 3.15 12.09 2.93

```

SRCPARAM	L0009138	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009139	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009140	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009141	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009142	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009143	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009144	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009145	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009146	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009147	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009148	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009149	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009150	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009151	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009152	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009153	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009154	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009155	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009156	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009157	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009158	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009159	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009160	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009161	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009162	0.00000165	3.15	12.09	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE24

SRCPARAM	L0009163	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009164	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009165	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009166	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009167	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009168	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009169	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009170	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009171	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009172	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009173	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009174	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009175	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009176	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009177	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009178	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009179	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009180	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009181	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009182	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009183	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009184	0.000001972	3.15	14.42	2.93



SRCPARAM	L0009234	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009235	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009236	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009237	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009238	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009239	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009240	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009241	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009242	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009243	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009244	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009245	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009246	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009247	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009248	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009249	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009250	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009251	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009252	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009253	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009254	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009255	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009256	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009257	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009258	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009259	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009260	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009261	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009262	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009263	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009264	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009265	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009266	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009267	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009268	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009269	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009270	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009271	0.000001972	3.15	14.42	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE25

SRCPARAM	L0009272	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009273	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009274	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009275	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009276	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009277	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009278	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009279	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009280	0.0000851282	0.00	12.09	3.56







SRCPARAM	L0009428	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009429	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009430	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009431	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009432	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009433	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009434	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009435	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009436	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009437	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009438	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009439	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009440	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009441	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009442	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009443	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009444	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009445	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009446	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009447	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009448	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009449	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009450	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009451	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009452	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009453	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009454	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009455	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009456	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009457	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009458	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009459	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009460	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009461	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009462	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009463	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009464	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009465	0.0000851282	0.00	12.09	3.56
SRCPARAM	L0009466	0.0000851282	0.00	12.09	3.56

\*\* -----

URBANSRC ALL

SRCGROUP ALL

SO FINISHED

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\*\*\*\*\*

\*\* AERMOD Receptor Pathway

\*\*\*\*\*

\*\*

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RE STARTING  
INCLUDED ORBP\_Unmitigated\_Construction.rou

RE FINISHED

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\*\*\*\*\*

\*\* AERMOD Meteorology Pathway

\*\*\*\*\*

\*\*

\*\*

ME STARTING

SURFFILE ..\KCNO\_V9\_ADJU\KCNO\_v9.SFC

PROFFILE ..\KCNO\_V9\_ADJU\KCNO\_v9.PFL

SURFDATA 3179 2012

UAIRDATA 3190 2012

PROFBASE 198.0 METERS

ME FINISHED

\*\*

\*\*\*\*\*

\*\* AERMOD Output Pathway

\*\*\*\*\*

\*\*

\*\*

OU STARTING

RECTABLE ALLAVE 1ST

RECTABLE 1 1ST

RECTABLE 24 1ST

\*\* Auto-Generated Plotfiles

PLOTFILE 1 ALL 1ST ORBP\_UNMITIGATED\_CONSTRUCTION.AD\01H1GALL.PLT 31

PLOTFILE 24 ALL 1ST ORBP\_UNMITIGATED\_CONSTRUCTION.AD\24H1GALL.PLT 32

PLOTFILE PERIOD ALL ORBP\_UNMITIGATED\_CONSTRUCTION.AD\PE00GALL.PLT 33

SUMMFILE ORBP\_Unmitigated\_Construction.sum

OU FINISHED

\*\*\* Message Summary For AERMOD Model Setup \*\*\*

----- Summary of Total Messages -----

A Total of	0 Fatal Error Message(s)
A Total of	2 Warning Message(s)
A Total of	0 Informational Message(s)

\*\*\*\*\* FATAL ERROR MESSAGES \*\*\*\*\*  
\*\*\* NONE \*\*\*

\*\*\*\*\* WARNING MESSAGES \*\*\*\*\*  
ME W186 2416 MEOPEN: THRESH\_1MIN 1-min ASOS wind speed threshold used

0.50

ME W187 2416 MEOPEN: ADJ\_U\* Option for Stable Low Winds used in AERMET

\*\*\*\*\*  
\*\*\* SETUP Finishes Successfully \*\*\*  
\*\*\*\*\*

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* MODEL SETUP OPTIONS SUMMARY

\*\*\*

---  
---  
\*\*Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --

\*\*NO GAS DEPOSITION Data Provided.  
\*\*NO PARTICLE DEPOSITION Data Provided.  
\*\*Model Uses NO DRY DEPLETION. DRYDPLT = F  
\*\*Model Uses NO WET DEPLETION. WETDPLT = F

\*\*Model Uses URBAN Dispersion Algorithm for the SBL for 1055 Source(s),  
for Total of 1 Urban Area(s):  
Urban Population = 2035210.0 ; Urban Roughness Length = 1.000 m

\*\*Model Uses Regulatory DEFAULT Options:  
1. Stack-tip Downwash.  
2. Model Accounts for ELEVated Terrain Effects.  
3. Use Calms Processing Routine.  
4. Use Missing Data Processing Routine.  
5. No Exponential Decay.  
6. Urban Roughness Length of 1.0 Meter Assumed.

\*\*Other Options Specified:  
ADJ\_U\* - Use ADJ\_U\* option for SBL in AERMET  
CCVR\_Sub - Meteorological data includes CCVR substitutions  
TEMP\_Sub - Meteorological data includes TEMP substitutions

\*\*Model Assumes No FLAGPOLE Receptor Heights.

\*\*The User Specified a Pollutant Type of: PM\_10

\*\*Model Calculates 2 Short Term Average(s) of: 1-HR 24-HR  
and Calculates PERIOD Averages

\*\*This Run Includes: 1055 Source(s); 1 Source Group(s); and 572  
Receptor(s)

with: 0 POINT(s), including  
0 POINTCAP(s) and 0 POINTHOR(s)  
and: 1055 VOLUME source(s)  
and: 0 AREA type source(s)  
and: 0 LINE source(s)  
and: 0 RLINE/RLINEXT source(s)  
and: 0 OPENPIT source(s)  
and: 0 BUOYANT LINE source(s) with a total of 0 line(s)

\*\*Model Set To Continue RUNNING After the Setup Testing.

\*\*The AERMET Input Meteorological Data Version Date: 16216

\*\*Output Options Selected:

Model Outputs Tables of PERIOD Averages by Receptor  
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE  
Keyword)  
Model Outputs External File(s) of High Values for Plotting (PLOTFILE  
Keyword)  
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE  
Keyword)

\*\*NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours  
m for Missing Hours  
b for Both Calm and  
Missing Hours

\*\*Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 198.00 ; Decay  
Coef. = 0.000 ; Rot. Angle = 0.0  
Emission Units = GRAMS/SEC ;  
Emission Rate Unit Factor = 0.10000E+07  
Output Units = MICROGRAMS/M\*\*3

\*\*Approximate Storage Requirements of Model = 4.0 MB of RAM.

\*\*Input Runstream File: aermod.inp

\*\*Output Print File: aermod.out

\*\*Detailed Error/Message File: ORBP\_Unmitigated\_Construction.err

\*\*File for Summary of Results: ORBP\_Unmitigated\_Construction.sum

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	(GRAMS/SEC)	X	Y	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	VARY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
		BY						
L0008412		0	0.16880E-05	440392.5	3761121.6	201.5	3.15	12.09
2.93	YES							
L0008413		0	0.16880E-05	440392.4	3761095.6	201.2	3.15	12.09
2.93	YES							
L0008414		0	0.16880E-05	440392.4	3761069.6	200.9	3.15	12.09
2.93	YES							
L0008415		0	0.16880E-05	440392.3	3761043.6	200.6	3.15	12.09
2.93	YES							
L0008416		0	0.16880E-05	440392.2	3761017.6	200.2	3.15	12.09
2.93	YES							
L0008417		0	0.16880E-05	440392.2	3760991.6	200.0	3.15	12.09
2.93	YES							
L0008418		0	0.16880E-05	440392.1	3760965.6	199.7	3.15	12.09
2.93	YES							
L0008419		0	0.16880E-05	440392.0	3760939.6	199.4	3.15	12.09
2.93	YES							
L0008420		0	0.16880E-05	440392.0	3760913.6	199.2	3.15	12.09
2.93	YES							
L0008421		0	0.16880E-05	440391.9	3760887.6	198.9	3.15	12.09
2.93	YES							
L0008422		0	0.16880E-05	440391.8	3760861.6	198.7	3.15	12.09
2.93	YES							
L0008423		0	0.16880E-05	440391.8	3760835.6	198.5	3.15	12.09
2.93	YES							
L0008424		0	0.16880E-05	440391.7	3760809.6	198.2	3.15	12.09
2.93	YES							

L0008425	0	0.16880E-05	440391.6	3760783.6	198.0	3.15	12.09
2.93 YES							
L0008426	0	0.16880E-05	440391.6	3760757.6	197.7	3.15	12.09
2.93 YES							
L0008427	0	0.16880E-05	440391.5	3760731.6	197.4	3.15	12.09
2.93 YES							
L0008428	0	0.16880E-05	440391.4	3760705.6	197.2	3.15	12.09
2.93 YES							
L0008429	0	0.16880E-05	440391.4	3760679.6	197.0	3.15	12.09
2.93 YES							
L0008430	0	0.16880E-05	440391.3	3760653.6	196.7	3.15	12.09
2.93 YES							
L0008431	0	0.16880E-05	440391.2	3760627.6	196.5	3.15	12.09
2.93 YES							
L0008432	0	0.16880E-05	440391.2	3760601.6	196.3	3.15	12.09
2.93 YES							
L0008433	0	0.16880E-05	440391.1	3760575.6	196.1	3.15	12.09
2.93 YES							
L0008434	0	0.16880E-05	440391.0	3760549.6	195.9	3.15	12.09
2.93 YES							
L0008435	0	0.16880E-05	440391.0	3760523.6	195.7	3.15	12.09
2.93 YES							
L0008436	0	0.16880E-05	440390.9	3760497.6	195.5	3.15	12.09
2.93 YES							
L0008437	0	0.16420E-05	440378.2	3760467.7	195.1	3.15	12.09
2.93 YES							
L0008438	0	0.16420E-05	440352.2	3760467.5	194.8	3.15	12.09
2.93 YES							
L0008439	0	0.16420E-05	440326.2	3760467.3	194.7	3.15	12.09
2.93 YES							
L0008440	0	0.16420E-05	440300.2	3760467.0	194.6	3.15	12.09
2.93 YES							
L0008441	0	0.16420E-05	440274.2	3760466.8	194.5	3.15	12.09
2.93 YES							
L0008442	0	0.16420E-05	440248.2	3760466.5	194.4	3.15	12.09
2.93 YES							
L0008443	0	0.16420E-05	440222.2	3760466.3	194.2	3.15	12.09
2.93 YES							
L0008444	0	0.16420E-05	440196.2	3760466.0	194.1	3.15	12.09
2.93 YES							
L0008445	0	0.16420E-05	440170.2	3760465.8	194.0	3.15	12.09
2.93 YES							
L0008446	0	0.16420E-05	440144.2	3760465.5	193.8	3.15	12.09
2.93 YES							
L0008447	0	0.16420E-05	440118.2	3760465.3	193.7	3.15	12.09
2.93 YES							
L0008448	0	0.16420E-05	440092.2	3760465.0	193.7	3.15	12.09
2.93 YES							
L0008449	0	0.16420E-05	440066.2	3760464.8	193.6	3.15	12.09

2.93 YES  
L0008450 0 0.16420E-05 440040.2 3760464.5 193.6 3.15 12.09

2.93 YES  
L0008451 0 0.16420E-05 440014.2 3760464.3 193.6 3.15 12.09

2.93 YES

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.	
SZ	SOURCE	EMISSION	RATE		X	Y	ELEV.	HEIGHT	SY
(METERS)	ID	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
		CATS.	BY						

L0008452 0 0.16420E-05 439988.2 3760464.0 193.6 3.15 12.09

2.93 YES

L0008453 0 0.16420E-05 439962.2 3760463.8 193.6 3.15 12.09

2.93 YES

L0008454 0 0.16420E-05 439936.2 3760463.6 193.6 3.15 12.09

2.93 YES

L0008455 0 0.16420E-05 439910.2 3760463.3 193.7 3.15 12.09

2.93 YES

L0008456 0 0.19870E-05 439894.7 3760435.4 193.4 3.15 14.42

2.93 YES

L0008457 0 0.19870E-05 439894.5 3760404.4 193.2 3.15 14.42

2.93 YES

L0008458 0 0.19870E-05 439894.3 3760373.4 193.1 3.15 14.42

2.93 YES

L0008459 0 0.19870E-05 439894.2 3760342.4 192.9 3.15 14.42

2.93 YES

L0008460 0 0.19870E-05 439894.0 3760311.4 192.6 3.15 14.42

2.93 YES

L0008461 0 0.19870E-05 439893.9 3760280.4 192.3 3.15 14.42

2.93 YES

L0008462 0 0.19870E-05 439893.7 3760249.4 192.1 3.15 14.42

2.93 YES

L0008463 0 0.19870E-05 439893.6 3760218.4 191.8 3.15 14.42

2.93 YES

L0008464	0	0.19870E-05	439893.4	3760187.4	191.5	3.15	14.42
2.93 YES							
L0008465	0	0.19870E-05	439893.3	3760156.4	191.3	3.15	14.42
2.93 YES							
L0008466	0	0.19870E-05	439893.1	3760125.4	191.2	3.15	14.42
2.93 YES							
L0008467	0	0.19870E-05	439893.0	3760094.4	191.0	3.15	14.42
2.93 YES							
L0008468	0	0.19870E-05	439892.8	3760063.4	190.9	3.15	14.42
2.93 YES							
L0008469	0	0.19870E-05	439892.7	3760032.4	190.8	3.15	14.42
2.93 YES							
L0008470	0	0.19870E-05	439892.5	3760001.4	190.6	3.15	14.42
2.93 YES							
L0008471	0	0.19870E-05	439892.3	3759970.4	190.4	3.15	14.42
2.93 YES							
L0008472	0	0.19870E-05	439892.2	3759939.4	190.3	3.15	14.42
2.93 YES							
L0008473	0	0.19870E-05	439892.0	3759908.4	190.1	3.15	14.42
2.93 YES							
L0008474	0	0.19870E-05	439891.9	3759877.4	189.9	3.15	14.42
2.93 YES							
L0008475	0	0.19870E-05	439891.7	3759846.4	189.7	3.15	14.42
2.93 YES							
L0008476	0	0.19870E-05	439891.6	3759815.4	189.4	3.15	14.42
2.93 YES							
L0008477	0	0.19870E-05	439891.4	3759784.4	189.1	3.15	14.42
2.93 YES							
L0008478	0	0.19870E-05	439891.3	3759753.4	188.9	3.15	14.42
2.93 YES							
L0008479	0	0.19870E-05	439891.1	3759722.4	188.6	3.15	14.42
2.93 YES							
L0008480	0	0.19870E-05	439891.0	3759691.4	188.3	3.15	14.42
2.93 YES							
L0008481	0	0.19870E-05	439890.8	3759660.4	188.1	3.15	14.42
2.93 YES							
L0008482	0	0.19870E-05	439890.7	3759629.4	187.8	3.15	14.42
2.93 YES							
L0008483	0	0.19870E-05	439890.5	3759598.4	187.5	3.15	14.42
2.93 YES							
L0008484	0	0.19870E-05	439890.4	3759567.4	187.3	3.15	14.42
2.93 YES							
L0008485	0	0.19870E-05	439890.2	3759536.4	187.0	3.15	14.42
2.93 YES							
L0008486	0	0.19870E-05	439890.0	3759505.4	186.8	3.15	14.42
2.93 YES							
L0008487	0	0.19870E-05	439889.9	3759474.4	186.6	3.15	14.42
2.93 YES							
L0008488	0	0.19870E-05	439889.7	3759443.4	186.4	3.15	14.42

2.93 YES  
 L0008489 0 0.19870E-05 439889.6 3759412.4 186.2 3.15 14.42  
 2.93 YES  
 L0008490 0 0.19870E-05 439889.4 3759381.4 186.0 3.15 14.42  
 2.93 YES  
 L0008491 0 0.19870E-05 439889.3 3759350.4 185.8 3.15 14.42  
 2.93 YES

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE	BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE		ELEV.	HEIGHT	SY
SZ	SOURCE	PART.	(GRAMS/SEC)	X	Y		
ID	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)
(METERS)	CATS.	BY					

-----  
 L0008492 0 0.19870E-05 439889.1 3759319.4 185.6 3.15 14.42  
 2.93 YES  
 L0008493 0 0.19870E-05 439889.0 3759288.4 185.4 3.15 14.42  
 2.93 YES  
 L0008494 0 0.19870E-05 439888.8 3759257.4 185.2 3.15 14.42  
 2.93 YES  
 L0008495 0 0.19870E-05 439888.7 3759226.4 184.9 3.15 14.42  
 2.93 YES  
 L0008496 0 0.19870E-05 439888.5 3759195.4 184.6 3.15 14.42  
 2.93 YES  
 L0008497 0 0.19870E-05 439888.4 3759164.4 184.3 3.15 14.42  
 2.93 YES  
 L0008498 0 0.19870E-05 439888.2 3759133.4 184.0 3.15 14.42  
 2.93 YES  
 L0008499 0 0.19870E-05 439888.0 3759102.4 183.8 3.15 14.42  
 2.93 YES  
 L0008500 0 0.19870E-05 439887.9 3759071.4 183.6 3.15 14.42  
 2.93 YES  
 L0008501 0 0.19870E-05 439887.7 3759040.4 183.4 3.15 14.42  
 2.93 YES  
 L0008502 0 0.19870E-05 439887.6 3759009.4 183.2 3.15 14.42  
 2.93 YES



L0008503	0	0.19870E-05	439887.4	3758978.4	183.1	3.15	14.42
2.93 YES							
L0008504	0	0.19870E-05	439887.3	3758947.4	182.8	3.15	14.42
2.93 YES							
L0008505	0	0.19870E-05	439887.1	3758916.4	182.6	3.15	14.42
2.93 YES							
L0008506	0	0.19870E-05	439887.0	3758885.4	182.2	3.15	14.42
2.93 YES							
L0008507	0	0.19870E-05	439886.8	3758854.4	181.9	3.15	14.42
2.93 YES							
L0008508	0	0.19870E-05	439886.7	3758823.4	181.6	3.15	14.42
2.93 YES							
L0008509	0	0.19870E-05	439886.5	3758792.4	181.3	3.15	14.42
2.93 YES							
L0008510	0	0.19870E-05	439886.4	3758761.4	181.0	3.15	14.42
2.93 YES							
L0008511	0	0.19870E-05	439886.2	3758730.4	180.9	3.15	14.42
2.93 YES							
L0008512	0	0.19870E-05	439886.1	3758699.4	180.7	3.15	14.42
2.93 YES							
L0008513	0	0.19870E-05	439885.9	3758668.4	180.5	3.15	14.42
2.93 YES							
L0008514	0	0.19870E-05	439885.7	3758637.4	180.2	3.15	14.42
2.93 YES							
L0008515	0	0.19870E-05	439885.6	3758606.4	180.0	3.15	14.42
2.93 YES							
L0008516	0	0.19870E-05	439885.4	3758575.4	179.8	3.15	14.42
2.93 YES							
L0008517	0	0.19870E-05	439885.3	3758544.4	179.6	3.15	14.42
2.93 YES							
L0008518	0	0.19870E-05	439885.1	3758513.4	179.4	3.15	14.42
2.93 YES							
L0008519	0	0.19870E-05	439885.0	3758482.4	179.1	3.15	14.42
2.93 YES							
L0008520	0	0.19870E-05	439884.8	3758451.4	178.8	3.15	14.42
2.93 YES							
L0008521	0	0.19870E-05	439884.7	3758420.4	178.4	3.15	14.42
2.93 YES							
L0008522	0	0.19870E-05	439884.5	3758389.4	178.1	3.15	14.42
2.93 YES							
L0008523	0	0.19870E-05	439884.4	3758358.4	177.8	3.15	14.42
2.93 YES							
L0008524	0	0.19870E-05	439884.2	3758327.4	177.5	3.15	14.42
2.93 YES							
L0008525	0	0.19870E-05	439884.1	3758296.4	177.2	3.15	14.42
2.93 YES							
L0008526	0	0.19870E-05	439883.9	3758265.4	177.0	3.15	14.42
2.93 YES							
L0008527	0	0.19870E-05	439883.8	3758234.4	176.8	3.15	14.42

2.93 YES  
 L0008528 0 0.19870E-05 439883.6 3758203.4 176.5 3.15 14.42  
 2.93 YES  
 L0008529 0 0.19870E-05 439883.4 3758172.4 176.3 3.15 14.42  
 2.93 YES  
 L0008530 0 0.19870E-05 439883.3 3758141.4 176.0 3.15 14.42  
 2.93 YES  
 L0008531 0 0.19870E-05 439883.1 3758110.4 175.8 3.15 14.42  
 2.93 YES

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	ID	SCALAR	VARY		X	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)

-----  
 L0008532 0 0.19870E-05 439883.0 3758079.4 175.6 3.15 14.42  
 2.93 YES  
 L0008533 0 0.22970E-05 439894.0 3760484.4 193.9 2.89 16.74  
 2.69 YES  
 L0008534 0 0.22970E-05 439894.1 3760520.4 194.2 2.89 16.74  
 2.69 YES  
 L0008535 0 0.22970E-05 439894.2 3760556.4 194.6 2.89 16.74  
 2.69 YES  
 L0008536 0 0.22970E-05 439894.3 3760592.4 194.9 2.89 16.74  
 2.69 YES  
 L0008537 0 0.22970E-05 439894.4 3760628.4 195.2 2.89 16.74  
 2.69 YES  
 L0008538 0 0.22970E-05 439894.5 3760664.4 195.5 2.89 16.74  
 2.69 YES  
 L0008539 0 0.22970E-05 439894.6 3760700.4 195.8 2.89 16.74  
 2.69 YES  
 L0008540 0 0.22970E-05 439894.7 3760736.4 196.2 2.89 16.74  
 2.69 YES  
 L0008541 0 0.22970E-05 439894.8 3760772.4 196.6 2.89 16.74  
 2.69 YES

L0008542	0	0.22970E-05	439894.9	3760808.4	197.1	2.89	16.74
2.69 YES							
L0008543	0	0.22970E-05	439895.0	3760844.4	197.6	2.89	16.74
2.69 YES							
L0008544	0	0.22970E-05	439895.1	3760880.4	198.1	2.89	16.74
2.69 YES							
L0008545	0	0.22970E-05	439895.2	3760916.4	198.6	2.89	16.74
2.69 YES							
L0008546	0	0.22970E-05	439895.3	3760952.4	199.0	2.89	16.74
2.69 YES							
L0008547	0	0.22970E-05	439895.4	3760988.4	199.5	2.89	16.74
2.69 YES							
L0008548	0	0.22970E-05	439895.5	3761024.4	199.9	2.89	16.74
2.69 YES							
L0008549	0	0.22970E-05	439895.6	3761060.4	200.4	2.89	16.74
2.69 YES							
L0008550	0	0.22970E-05	439895.7	3761096.4	200.7	2.89	16.74
2.69 YES							
L0008551	0	0.22970E-05	439895.8	3761132.4	201.1	2.89	16.74
2.69 YES							
L0008552	0	0.22970E-05	439895.9	3761168.4	201.5	2.89	16.74
2.69 YES							
L0008553	0	0.22970E-05	439896.0	3761204.4	201.8	2.89	16.74
2.69 YES							
L0008554	0	0.22970E-05	439896.1	3761240.4	202.1	2.89	16.74
2.69 YES							
L0008555	0	0.22970E-05	439896.2	3761276.4	202.4	2.89	16.74
2.69 YES							
L0008556	0	0.22970E-05	439896.3	3761312.4	202.8	2.89	16.74
2.69 YES							
L0008557	0	0.22970E-05	439896.4	3761348.4	203.2	2.89	16.74
2.69 YES							
L0008558	0	0.22970E-05	439896.5	3761384.4	203.6	2.89	16.74
2.69 YES							
L0008559	0	0.22970E-05	439896.6	3761420.4	204.1	2.89	16.74
2.69 YES							
L0008560	0	0.22970E-05	439896.7	3761456.4	204.5	2.89	16.74
2.69 YES							
L0008561	0	0.22970E-05	439896.8	3761492.4	204.9	2.89	16.74
2.69 YES							
L0008562	0	0.22970E-05	439896.9	3761528.4	205.3	2.89	16.74
2.69 YES							
L0008563	0	0.22970E-05	439897.0	3761564.4	205.7	2.89	16.74
2.69 YES							
L0008564	0	0.22970E-05	439897.1	3761600.4	206.1	2.89	16.74
2.69 YES							
L0008565	0	0.22970E-05	439897.2	3761636.4	206.4	2.89	16.74
2.69 YES							
L0008566	0	0.22970E-05	439897.3	3761672.4	206.7	2.89	16.74

2.69 YES  
 L0008567 0 0.22970E-05 439897.4 3761708.4 207.0 2.89 16.74  
 2.69 YES  
 L0008568 0 0.22970E-05 439897.5 3761744.4 207.3 2.89 16.74  
 2.69 YES  
 L0008569 0 0.22970E-05 439897.6 3761780.4 207.6 2.89 16.74  
 2.69 YES  
 L0008570 0 0.22970E-05 439897.7 3761816.4 207.9 2.89 16.74  
 2.69 YES  
 L0008571 0 0.22970E-05 439897.8 3761852.4 208.2 2.89 16.74  
 2.69 YES

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		X	ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY					

L0008572	0	0.22970E-05	439897.9	3761888.4	208.5	2.89	16.74
2.69 YES							
L0008573	0	0.22970E-05	439898.0	3761924.4	208.9	2.89	16.74
2.69 YES							
L0008574	0	0.22970E-05	439898.1	3761960.4	209.2	2.89	16.74
2.69 YES							
L0008575	0	0.22970E-05	439898.2	3761996.4	209.5	2.89	16.74
2.69 YES							
L0008576	0	0.22970E-05	439898.3	3762032.4	209.8	2.89	16.74
2.69 YES							
L0008577	0	0.22970E-05	439898.4	3762068.4	210.0	2.89	16.74
2.69 YES							
L0008578	0	0.22970E-05	439898.4	3762104.4	210.3	2.89	16.74
2.69 YES							
L0008579	0	0.22970E-05	439898.5	3762140.4	210.6	2.89	16.74
2.69 YES							
L0008580	0	0.22970E-05	439898.6	3762176.4	210.9	2.89	16.74
2.69 YES							

L0008581	0	0.22970E-05	439898.7	3762212.4	211.3	2.89	16.74
2.69 YES							
L0008582	0	0.22970E-05	439898.8	3762248.4	211.8	2.89	16.74
2.69 YES							
L0008583	0	0.22970E-05	439898.9	3762284.4	212.4	2.89	16.74
2.69 YES							
L0008584	0	0.22970E-05	439899.0	3762320.4	213.0	2.89	16.74
2.69 YES							
L0008585	0	0.22970E-05	439899.1	3762356.4	213.5	2.89	16.74
2.69 YES							
L0008586	0	0.22970E-05	439899.2	3762392.4	213.9	2.89	16.74
2.69 YES							
L0008587	0	0.22970E-05	439899.3	3762428.4	214.4	2.89	16.74
2.69 YES							
L0008588	0	0.22970E-05	439899.4	3762464.4	214.9	2.89	16.74
2.69 YES							
L0008589	0	0.22970E-05	439899.5	3762500.4	215.3	2.89	16.74
2.69 YES							
L0008590	0	0.22970E-05	439899.6	3762536.4	215.7	2.89	16.74
2.69 YES							
L0008591	0	0.22970E-05	439899.7	3762572.4	216.1	2.89	16.74
2.69 YES							
L0008592	0	0.22970E-05	439899.8	3762608.4	216.5	2.89	16.74
2.69 YES							
L0008593	0	0.22970E-05	439899.9	3762644.4	217.0	2.89	16.74
2.69 YES							
L0008594	0	0.22970E-05	439900.0	3762680.4	217.5	2.89	16.74
2.69 YES							
L0008595	0	0.22970E-05	439900.1	3762716.4	218.0	2.89	16.74
2.69 YES							
L0008596	0	0.22970E-05	439900.2	3762752.4	218.5	2.89	16.74
2.69 YES							
L0008597	0	0.22970E-05	439900.3	3762788.4	219.0	2.89	16.74
2.69 YES							
L0008598	0	0.22970E-05	439900.4	3762824.4	219.5	2.89	16.74
2.69 YES							
L0008599	0	0.22970E-05	439900.5	3762860.4	220.0	2.89	16.74
2.69 YES							
L0008600	0	0.22970E-05	439900.6	3762896.4	220.5	2.89	16.74
2.69 YES							
L0008601	0	0.22970E-05	439900.7	3762932.4	220.9	2.89	16.74
2.69 YES							
L0008602	0	0.22970E-05	439900.8	3762968.4	221.3	2.89	16.74
2.69 YES							
L0008603	0	0.22970E-05	439900.9	3763004.4	221.7	2.89	16.74
2.69 YES							
L0008604	0	0.22970E-05	439901.0	3763040.4	222.1	2.89	16.74
2.69 YES							
L0008605	0	0.22970E-05	439901.1	3763076.4	222.5	2.89	16.74

2.69	YES							
L0008606		0	0.22970E-05	439901.2	3763112.4	222.9	2.89	16.74
2.69	YES							
L0008607		0	0.22970E-05	439901.3	3763148.4	223.4	2.89	16.74
2.69	YES							
L0008608		0	0.22970E-05	439901.4	3763184.4	223.9	2.89	16.74
2.69	YES							
L0008609		0	0.22970E-05	439901.5	3763220.4	224.4	2.89	16.74
2.69	YES							
L0008610		0	0.22970E-05	439901.6	3763256.4	225.0	2.89	16.74
2.69	YES							
L0008611		0	0.22970E-05	439901.7	3763292.4	225.4	2.89	16.74

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	SOURCE	SCALAR	VARY	X	Y	(METERS)	(METERS)	(METERS)
ID		CATS.	BY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)								
L0008612		0	0.22970E-05	439901.8	3763328.4	225.8	2.89	16.74
2.69	YES							
L0008613		0	0.22970E-05	439901.9	3763364.4	226.2	2.89	16.74
2.69	YES							
L0008614		0	0.22970E-05	439902.0	3763400.4	226.6	2.89	16.74
2.69	YES							
L0008615		0	0.22970E-05	439902.1	3763436.4	226.9	2.89	16.74
2.69	YES							
L0008616		0	0.22970E-05	439902.8	3763472.4	227.2	2.89	16.74
2.69	YES							
L0008617		0	0.22970E-05	439905.5	3763508.3	227.6	2.89	16.74
2.69	YES							
L0008618		0	0.22970E-05	439908.2	3763544.2	227.9	2.89	16.74
2.69	YES							
L0008619		0	0.22970E-05	439911.0	3763580.1	228.2	2.89	16.74
2.69	YES							

L0008620	0	0.22970E-05	439912.6	3763616.0	228.5	2.89	16.74
2.69 YES							
L0008621	0	0.22970E-05	439912.6	3763652.0	228.8	2.89	16.74
2.69 YES							
L0008622	0	0.22970E-05	439912.7	3763688.0	229.1	2.89	16.74
2.69 YES							
L0008623	0	0.22970E-05	439912.7	3763724.0	229.4	2.89	16.74
2.69 YES							
L0008624	0	0.22970E-05	439912.8	3763760.0	229.7	2.89	16.74
2.69 YES							
L0008625	0	0.22970E-05	439912.8	3763796.0	229.9	2.89	16.74
2.69 YES							
L0008626	0	0.22970E-05	439912.9	3763832.0	230.2	2.89	16.74
2.69 YES							
L0008627	0	0.22970E-05	439912.9	3763868.0	230.5	2.89	16.74
2.69 YES							
L0008628	0	0.22970E-05	439913.0	3763904.0	230.9	2.89	16.74
2.69 YES							
L0008629	0	0.22970E-05	439913.0	3763940.0	231.4	2.89	16.74
2.69 YES							
L0008630	0	0.22970E-05	439913.1	3763976.0	231.9	2.89	16.74
2.69 YES							
L0008631	0	0.22970E-05	439913.1	3764012.0	232.5	2.89	16.74
2.69 YES							
L0008632	0	0.22970E-05	439913.2	3764048.0	233.1	2.89	16.74
2.69 YES							
L0008633	0	0.22970E-05	439913.2	3764084.0	233.6	2.89	16.74
2.69 YES							
L0008634	0	0.22970E-05	439913.3	3764120.0	234.2	2.89	16.74
2.69 YES							
L0008635	0	0.22970E-05	439913.3	3764156.0	234.8	2.89	16.74
2.69 YES							
L0008636	0	0.22970E-05	439913.3	3764192.0	235.3	2.89	16.74
2.69 YES							
L0008637	0	0.22970E-05	439913.4	3764228.0	235.9	2.89	16.74
2.69 YES							
L0008638	0	0.22970E-05	439913.4	3764264.0	236.5	2.89	16.74
2.69 YES							
L0008639	0	0.22970E-05	439913.5	3764300.0	237.1	2.89	16.74
2.69 YES							
L0008640	0	0.22970E-05	439913.5	3764336.0	237.7	2.89	16.74
2.69 YES							
L0008641	0	0.22970E-05	439913.6	3764372.0	238.1	2.89	16.74
2.69 YES							
L0008642	0	0.22970E-05	439913.6	3764408.0	238.5	2.89	16.74
2.69 YES							
L0008643	0	0.22970E-05	439913.7	3764444.0	238.8	2.89	16.74
2.69 YES							
L0008644	0	0.22970E-05	439913.7	3764480.0	238.9	2.89	16.74

2.69	YES							
L0008645		0	0.22970E-05	439913.8	3764516.0	239.1	2.89	16.74
2.69	YES							
L0008646		0	0.22970E-05	439913.8	3764552.0	239.3	2.89	16.74
2.69	YES							
L0008647		0	0.22970E-05	439913.9	3764588.0	239.6	2.89	16.74
2.69	YES							
L0008648		0	0.22970E-05	439913.9	3764624.0	239.9	2.89	16.74
2.69	YES							
L0008649		0	0.22970E-05	439914.0	3764660.0	240.3	2.89	16.74
2.69	YES							
L0008650		0	0.22970E-05	439914.0	3764696.0	240.8	2.89	16.74
2.69	YES							
L0008651		0	0.22970E-05	439914.1	3764732.0	241.2	2.89	16.74

2.69 YES  
 \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	SOURCE	SCALAR	VARY	X	Y	(METERS)	(METERS)	(METERS)
ID		CATS.		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		BY						

L0008652		0	0.22970E-05	439914.1	3764768.0	241.9	2.89	16.74
2.69	YES							
L0008653		0	0.22970E-05	439914.2	3764804.0	242.5	2.89	16.74
2.69	YES							
L0008654		0	0.22970E-05	439914.2	3764840.0	243.1	2.89	16.74
2.69	YES							
L0008655		0	0.22970E-05	439914.3	3764876.0	243.7	2.89	16.74
2.69	YES							
L0008656		0	0.22970E-05	439914.3	3764912.0	244.2	2.89	16.74
2.69	YES							
L0008657		0	0.22970E-05	439914.4	3764948.0	244.7	2.89	16.74
2.69	YES							
L0008658		0	0.22970E-05	439914.4	3764984.0	245.2	2.89	16.74
2.69	YES							



L0008659	0	0.22970E-05	439914.5	3765020.0	245.8	2.89	16.74
2.69	YES						
L0008660	0	0.22970E-05	439914.5	3765056.0	246.1	2.89	16.74
2.69	YES						
L0008661	0	0.22970E-05	439914.6	3765092.0	246.4	2.89	16.74
2.69	YES						
L0008662	0	0.22970E-05	439914.6	3765128.0	246.7	2.89	16.74
2.69	YES						
L0008663	0	0.22970E-05	439914.7	3765164.0	247.0	2.89	16.74
2.69	YES						
L0008664	0	0.22970E-05	439914.7	3765200.0	247.3	2.89	16.74
2.69	YES						
L0008665	0	0.22970E-05	439914.8	3765236.0	247.8	2.89	16.74
2.69	YES						
L0008666	0	0.22970E-05	439914.8	3765272.0	248.4	2.89	16.74
2.69	YES						
L0008667	0	0.22970E-05	439914.9	3765308.0	249.0	2.89	16.74
2.69	YES						
L0008668	0	0.22970E-05	439914.9	3765344.0	249.6	2.89	16.74
2.69	YES						
L0008669	0	0.22970E-05	439915.0	3765380.0	250.2	2.89	16.74
2.69	YES						
L0008670	0	0.22970E-05	439915.0	3765416.0	250.8	2.89	16.74
2.69	YES						
L0008671	0	0.22970E-05	439915.1	3765452.0	251.4	2.89	16.74
2.69	YES						
L0008672	0	0.22970E-05	439915.1	3765488.0	251.8	2.89	16.74
2.69	YES						
L0008673	0	0.22970E-05	439915.2	3765524.0	252.1	2.89	16.74
2.69	YES						
L0008674	0	0.22970E-05	439915.2	3765560.0	252.6	2.89	16.74
2.69	YES						
L0008675	0	0.22970E-05	439915.3	3765596.0	252.9	2.89	16.74
2.69	YES						
L0008676	0	0.22970E-05	439915.3	3765632.0	253.2	2.89	16.74
2.69	YES						
L0008677	0	0.22970E-05	439915.3	3765668.0	253.6	2.89	16.74
2.69	YES						
L0008678	0	0.22970E-05	439915.4	3765704.0	254.1	2.89	16.74
2.69	YES						
L0008679	0	0.22970E-05	439915.4	3765740.0	254.5	2.89	16.74
2.69	YES						
L0008680	0	0.22970E-05	439915.5	3765776.0	254.8	2.89	16.74
2.69	YES						
L0008681	0	0.16280E-05	440788.1	3761118.6	201.6	3.15	12.09
2.93	YES						
L0008682	0	0.16280E-05	440788.3	3761092.6	201.4	3.15	12.09
2.93	YES						
L0008683	0	0.16280E-05	440788.5	3761066.6	201.1	3.15	12.09

2.93	YES							
L0008684		0	0.16280E-05	440788.7	3761040.6	200.9	3.15	12.09
2.93	YES							
L0008685		0	0.16280E-05	440788.9	3761014.6	200.7	3.15	12.09
2.93	YES							
L0008686		0	0.16280E-05	440789.1	3760988.6	200.5	3.15	12.09
2.93	YES							
L0008687		0	0.16280E-05	440789.3	3760962.6	200.3	3.15	12.09
2.93	YES							
L0008688		0	0.16280E-05	440789.5	3760936.6	200.1	3.15	12.09
2.93	YES							
L0008689		0	0.16280E-05	440789.7	3760910.6	199.9	3.15	12.09
2.93	YES							
L0008690		0	0.16280E-05	440789.9	3760884.6	199.7	3.15	12.09
2.93	YES							
L0008691		0	0.16280E-05	440790.1	3760858.6	199.6	3.15	12.09

2.93 YES  
 \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		X	ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	(GRAMS/SEC)		(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	VARY	BY	(METERS)	(METERS)	(METERS)	(METERS)

L0008692		0	0.16280E-05	440790.3	3760832.6	199.5	3.15	12.09
2.93	YES							
L0008693		0	0.16280E-05	440790.5	3760806.6	199.5	3.15	12.09
2.93	YES							
L0008694		0	0.16280E-05	440790.7	3760780.6	199.3	3.15	12.09
2.93	YES							
L0008695		0	0.16280E-05	440790.9	3760754.6	199.0	3.15	12.09
2.93	YES							
L0008696		0	0.16280E-05	440791.1	3760728.6	198.8	3.15	12.09
2.93	YES							
L0008697		0	0.16280E-05	440791.3	3760702.6	198.6	3.15	12.09
2.93	YES							

L0008698	0	0.16280E-05	440791.4	3760676.6	198.4	3.15	12.09
2.93 YES							
L0008699	0	0.16280E-05	440791.6	3760650.6	198.2	3.15	12.09
2.93 YES							
L0008700	0	0.16280E-05	440791.8	3760624.6	198.0	3.15	12.09
2.93 YES							
L0008701	0	0.16280E-05	440792.0	3760598.6	197.7	3.15	12.09
2.93 YES							
L0008702	0	0.16280E-05	440792.2	3760572.6	197.5	3.15	12.09
2.93 YES							
L0008703	0	0.16280E-05	440792.4	3760546.6	197.2	3.15	12.09
2.93 YES							
L0008704	0	0.16280E-05	440792.6	3760520.6	197.0	3.15	12.09
2.93 YES							
L0008705	0	0.16280E-05	440792.8	3760494.6	196.9	3.15	12.09
2.93 YES							
L0008706	0	0.16590E-05	440805.8	3760469.0	196.7	3.15	12.09
2.93 YES							
L0008707	0	0.16590E-05	440831.8	3760469.1	196.7	3.15	12.09
2.93 YES							
L0008708	0	0.16590E-05	440857.8	3760469.2	196.9	3.15	12.09
2.93 YES							
L0008709	0	0.16590E-05	440883.8	3760469.4	197.1	3.15	12.09
2.93 YES							
L0008710	0	0.16590E-05	440909.8	3760469.5	197.4	3.15	12.09
2.93 YES							
L0008711	0	0.16590E-05	440935.8	3760469.6	197.6	3.15	12.09
2.93 YES							
L0008712	0	0.16590E-05	440961.8	3760469.7	197.6	3.15	12.09
2.93 YES							
L0008713	0	0.16590E-05	440987.8	3760469.8	197.7	3.15	12.09
2.93 YES							
L0008714	0	0.16590E-05	441013.8	3760469.9	197.9	3.15	12.09
2.93 YES							
L0008715	0	0.16590E-05	441039.8	3760470.0	198.1	3.15	12.09
2.93 YES							
L0008716	0	0.16590E-05	441065.8	3760470.1	198.2	3.15	12.09
2.93 YES							
L0008717	0	0.16590E-05	441091.8	3760470.2	198.5	3.15	12.09
2.93 YES							
L0008718	0	0.16590E-05	441117.8	3760470.3	198.6	3.15	12.09
2.93 YES							
L0008719	0	0.16590E-05	441143.8	3760470.4	198.6	3.15	12.09
2.93 YES							
L0008720	0	0.16590E-05	441169.8	3760470.6	198.6	3.15	12.09
2.93 YES							
L0008721	0	0.16590E-05	441195.8	3760470.7	199.0	3.15	12.09
2.93 YES							
L0008722	0	0.16590E-05	441221.8	3760470.8	198.9	3.15	12.09

2.93	YES							
L0008723		0	0.16590E-05	441247.8	3760470.9	198.7	3.15	12.09
2.93	YES							
L0008724		0	0.16590E-05	441273.8	3760471.0	198.7	3.15	12.09
2.93	YES							
L0008725		0	0.16590E-05	441299.8	3760471.1	198.8	3.15	12.09
2.93	YES							
L0008726		0	0.16590E-05	441325.8	3760471.2	198.9	3.15	12.09
2.93	YES							
L0008727		0	0.16590E-05	441351.8	3760471.3	199.0	3.15	12.09
2.93	YES							
L0008728		0	0.16590E-05	441377.8	3760471.4	199.1	3.15	12.09
2.93	YES							
L0008729		0	0.16590E-05	441403.8	3760471.5	199.2	3.15	12.09
2.93	YES							
L0008730		0	0.16590E-05	441429.8	3760471.6	199.3	3.15	12.09
2.93	YES							
L0008731		0	0.16590E-05	441455.8	3760471.8	199.3	3.15	12.09

2.93 YES  
 \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		X	Y	HEIGHT	SY
ID	SOURCE	SCALAR	(GRAMS/SEC)	VARY	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY					

L0008732		0	0.16590E-05	441481.8	3760471.9	199.6	3.15	12.09
2.93	YES							
L0008733		0	0.16590E-05	441507.8	3760472.0	199.8	3.15	12.09
2.93	YES							
L0008734		0	0.16590E-05	441533.8	3760472.1	199.9	3.15	12.09
2.93	YES							
L0008735		0	0.16590E-05	441559.8	3760472.2	200.0	3.15	12.09
2.93	YES							
L0008736		0	0.16590E-05	441585.8	3760472.3	200.0	3.15	12.09
2.93	YES							

L0008737	0	0.16590E-05	441611.8	3760472.4	200.1	3.15	12.09
2.93 YES							
L0008738	0	0.16590E-05	441637.8	3760472.5	200.2	3.15	12.09
2.93 YES							
L0008739	0	0.16590E-05	441663.8	3760472.6	200.2	3.15	12.09
2.93 YES							
L0008740	0	0.16590E-05	441689.8	3760472.7	200.2	3.15	12.09
2.93 YES							
L0008741	0	0.16590E-05	441715.8	3760472.8	200.2	3.15	12.09
2.93 YES							
L0008742	0	0.16590E-05	441741.8	3760472.9	200.1	3.15	12.09
2.93 YES							
L0008743	0	0.16590E-05	441767.8	3760473.1	200.1	3.15	12.09
2.93 YES							
L0008744	0	0.16590E-05	441793.8	3760473.2	200.1	3.15	12.09
2.93 YES							
L0008745	0	0.16590E-05	441819.8	3760473.3	200.1	3.15	12.09
2.93 YES							
L0008746	0	0.16590E-05	441845.8	3760473.4	200.1	3.15	12.09
2.93 YES							
L0008747	0	0.16590E-05	441871.8	3760473.5	200.1	3.15	12.09
2.93 YES							
L0008748	0	0.16590E-05	441897.8	3760473.6	200.2	3.15	12.09
2.93 YES							
L0008749	0	0.16590E-05	441923.8	3760473.7	200.2	3.15	12.09
2.93 YES							
L0008750	0	0.16590E-05	441949.8	3760473.8	200.3	3.15	12.09
2.93 YES							
L0008751	0	0.16590E-05	441975.8	3760473.9	200.1	3.15	12.09
2.93 YES							
L0008752	0	0.16590E-05	442001.8	3760474.0	199.9	3.15	12.09
2.93 YES							
L0008753	0	0.16590E-05	442027.8	3760474.1	200.4	3.15	12.09
2.93 YES							
L0008754	0	0.16590E-05	442053.8	3760474.3	200.4	3.15	12.09
2.93 YES							
L0008755	0	0.16590E-05	442079.8	3760474.4	200.4	3.15	12.09
2.93 YES							
L0008756	0	0.16590E-05	442105.8	3760474.5	200.4	3.15	12.09
2.93 YES							
L0008757	0	0.16590E-05	442131.8	3760474.6	200.4	3.15	12.09
2.93 YES							
L0008758	0	0.16590E-05	442157.8	3760474.7	200.4	3.15	12.09
2.93 YES							
L0008759	0	0.16590E-05	442183.8	3760474.8	200.4	3.15	12.09
2.93 YES							
L0008760	0	0.16590E-05	442209.8	3760474.9	200.4	3.15	12.09
2.93 YES							
L0008761	0	0.16590E-05	442235.8	3760475.0	200.4	3.15	12.09

2.93	YES							
L0008762		0	0.16590E-05	442261.8	3760475.1	200.6	3.15	12.09
2.93	YES							
L0008763		0	0.16590E-05	442287.8	3760475.2	200.7	3.15	12.09
2.93	YES							
L0008764		0	0.16590E-05	442313.8	3760475.3	200.8	3.15	12.09
2.93	YES							
L0008765		0	0.16590E-05	442339.8	3760475.5	201.0	3.15	12.09
2.93	YES							
L0008766		0	0.16590E-05	442365.8	3760475.6	201.1	3.15	12.09
2.93	YES							
L0008767		0	0.16590E-05	442391.8	3760475.7	201.1	3.15	12.09
2.93	YES							
L0008768		0	0.16590E-05	442417.8	3760475.8	201.1	3.15	12.09
2.93	YES							
L0008769		0	0.16590E-05	442443.8	3760475.9	201.1	3.15	12.09
2.93	YES							
L0008770		0	0.16590E-05	442469.8	3760476.0	201.1	3.15	12.09
2.93	YES							
L0008771		0	0.16590E-05	442495.8	3760476.1	201.1	3.15	12.09

2.93 YES  
 ▲ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION			BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE	X	Y	ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	(GRAMS/SEC)	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	VARY					
		BY						

L0008772		0	0.16590E-05	442521.8	3760476.2	201.1	3.15	12.09
2.93	YES							
L0008773		0	0.16590E-05	442547.8	3760476.3	201.0	3.15	12.09
2.93	YES							
L0008774		0	0.16590E-05	442573.8	3760476.4	201.0	3.15	12.09
2.93	YES							
L0008775		0	0.16590E-05	442599.8	3760476.5	200.9	3.15	12.09
2.93	YES							

L0008776	0	0.16590E-05	442625.8	3760476.7	200.7	3.15	12.09
2.93 YES							
L0008777	0	0.16590E-05	442651.8	3760476.8	200.6	3.15	12.09
2.93 YES							
L0008778	0	0.16590E-05	442677.8	3760476.9	200.6	3.15	12.09
2.93 YES							
L0008779	0	0.16590E-05	442703.8	3760477.0	200.6	3.15	12.09
2.93 YES							
L0008780	0	0.16590E-05	442729.8	3760477.1	200.7	3.15	12.09
2.93 YES							
L0008781	0	0.16590E-05	442755.8	3760477.2	200.9	3.15	12.09
2.93 YES							
L0008782	0	0.16590E-05	442781.8	3760477.3	200.8	3.15	12.09
2.93 YES							
L0008783	0	0.16590E-05	442807.8	3760477.4	200.8	3.15	12.09
2.93 YES							
L0008784	0	0.16590E-05	442833.8	3760477.5	200.8	3.15	12.09
2.93 YES							
L0008785	0	0.16590E-05	442859.8	3760477.6	201.0	3.15	12.09
2.93 YES							
L0008786	0	0.16590E-05	442885.8	3760477.7	201.1	3.15	12.09
2.93 YES							
L0008787	0	0.16590E-05	442911.8	3760477.9	201.1	3.15	12.09
2.93 YES							
L0008788	0	0.16590E-05	442937.8	3760478.0	201.2	3.15	12.09
2.93 YES							
L0008789	0	0.16590E-05	442963.8	3760478.1	201.3	3.15	12.09
2.93 YES							
L0008790	0	0.16590E-05	442989.8	3760478.2	201.7	3.15	12.09
2.93 YES							
L0008791	0	0.16590E-05	443015.8	3760478.3	201.9	3.15	12.09
2.93 YES							
L0008792	0	0.16590E-05	443041.8	3760478.4	201.7	3.15	12.09
2.93 YES							
L0008793	0	0.16590E-05	443067.8	3760478.5	201.6	3.15	12.09
2.93 YES							
L0008794	0	0.16590E-05	443093.8	3760478.6	201.6	3.15	12.09
2.93 YES							
L0008795	0	0.16590E-05	443119.8	3760478.7	201.7	3.15	12.09
2.93 YES							
L0008796	0	0.16590E-05	443145.8	3760478.8	201.8	3.15	12.09
2.93 YES							
L0008797	0	0.16590E-05	443171.8	3760478.9	202.1	3.15	12.09
2.93 YES							
L0008798	0	0.16590E-05	443197.8	3760479.0	202.8	3.15	12.09
2.93 YES							
L0008799	0	0.16590E-05	443223.8	3760479.2	203.1	3.15	12.09
2.93 YES							
L0008800	0	0.16590E-05	443249.8	3760479.3	203.1	3.15	12.09

2.93	YES							
L0008801		0	0.16590E-05	443275.8	3760479.4	203.2	3.15	12.09
2.93	YES							
L0008802		0	0.16590E-05	443301.8	3760479.5	203.2	3.15	12.09
2.93	YES							
L0008803		0	0.16590E-05	443327.8	3760479.6	203.3	3.15	12.09
2.93	YES							
L0008804		0	0.16590E-05	443353.8	3760479.7	203.2	3.15	12.09
2.93	YES							
L0008805		0	0.16590E-05	443379.8	3760479.8	203.3	3.15	12.09
2.93	YES							
L0008806		0	0.16590E-05	443405.8	3760479.9	203.4	3.15	12.09
2.93	YES							
L0008807		0	0.16590E-05	443431.8	3760480.0	203.4	3.15	12.09
2.93	YES							
L0008808		0	0.16590E-05	443457.8	3760480.1	203.4	3.15	12.09
2.93	YES							
L0008809		0	0.16590E-05	443483.8	3760480.2	203.4	3.15	12.09
2.93	YES							
L0008810		0	0.16590E-05	443509.8	3760480.4	203.3	3.15	12.09
2.93	YES							
L0008811		0	0.16590E-05	443535.8	3760480.5	203.3	3.15	12.09
2.93	YES							

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION			BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE	X	Y	ELEV.	HEIGHT	SY
SZ	ID	SCALAR	VARY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY					

L0008812		0	0.16590E-05	443561.8	3760480.6	203.2	3.15	12.09
2.93	YES							
L0008813		0	0.16590E-05	443587.8	3760480.7	203.2	3.15	12.09
2.93	YES							
L0008814		0	0.16590E-05	443613.8	3760480.8	203.5	3.15	12.09
2.93	YES							



L0008815	0	0.16590E-05	443639.8	3760480.9	203.5	3.15	12.09
2.93 YES							
L0008816	0	0.16590E-05	443665.8	3760481.0	203.6	3.15	12.09
2.93 YES							
L0008817	0	0.16590E-05	443691.8	3760481.1	203.7	3.15	12.09
2.93 YES							
L0008818	0	0.16590E-05	443717.8	3760481.2	203.7	3.15	12.09
2.93 YES							
L0008819	0	0.16590E-05	443743.8	3760481.3	203.8	3.15	12.09
2.93 YES							
L0008820	0	0.16590E-05	443769.8	3760481.4	203.9	3.15	12.09
2.93 YES							
L0008821	0	0.16590E-05	443795.8	3760481.6	204.0	3.15	12.09
2.93 YES							
L0008822	0	0.16590E-05	443821.8	3760481.7	204.2	3.15	12.09
2.93 YES							
L0008823	0	0.16590E-05	443847.8	3760481.8	204.2	3.15	12.09
2.93 YES							
L0008824	0	0.16590E-05	443873.8	3760481.9	204.5	3.15	12.09
2.93 YES							
L0008825	0	0.16590E-05	443899.8	3760482.0	204.0	3.15	12.09
2.93 YES							
L0008826	0	0.16590E-05	443925.8	3760482.1	204.1	3.15	12.09
2.93 YES							
L0008827	0	0.16590E-05	443951.8	3760482.2	204.6	3.15	12.09
2.93 YES							
L0008828	0	0.16590E-05	443977.2	3760478.6	204.4	3.15	12.09
2.93 YES							
L0008829	0	0.16590E-05	444001.7	3760470.0	203.9	3.15	12.09
2.93 YES							
L0008830	0	0.16590E-05	444026.2	3760461.3	203.4	3.15	12.09
2.93 YES							
L0008831	0	0.16590E-05	444050.7	3760452.7	203.3	3.15	12.09
2.93 YES							
L0008832	0	0.16590E-05	444075.3	3760444.0	203.0	3.15	12.09
2.93 YES							
L0008833	0	0.16590E-05	444099.8	3760435.4	202.7	3.15	12.09
2.93 YES							
L0008834	0	0.16590E-05	444124.3	3760426.7	202.6	3.15	12.09
2.93 YES							
L0008835	0	0.16590E-05	444148.8	3760418.0	202.4	3.15	12.09
2.93 YES							
L0008836	0	0.16590E-05	444174.6	3760416.8	202.2	3.15	12.09
2.93 YES							
L0008837	0	0.16590E-05	444200.6	3760416.6	202.2	3.15	12.09
2.93 YES							
L0008838	0	0.16590E-05	444226.6	3760416.5	202.1	3.15	12.09
2.93 YES							
L0008839	0	0.16590E-05	444252.6	3760416.3	202.1	3.15	12.09

2.93	YES							
L0008840		0	0.16590E-05	444278.6	3760416.1	202.1	3.15	12.09
2.93	YES							
L0008841		0	0.16590E-05	444304.6	3760415.9	202.1	3.15	12.09
2.93	YES							
L0008842		0	0.16590E-05	444330.6	3760415.7	202.1	3.15	12.09
2.93	YES							
L0008843		0	0.16590E-05	444356.6	3760415.6	202.1	3.15	12.09
2.93	YES							
L0008844		0	0.16590E-05	444382.6	3760415.4	202.1	3.15	12.09
2.93	YES							
L0008845		0	0.16590E-05	444408.6	3760415.2	201.9	3.15	12.09
2.93	YES							
L0008846		0	0.16590E-05	444434.6	3760415.0	201.8	3.15	12.09
2.93	YES							
L0008847		0	0.16590E-05	444460.6	3760414.8	201.9	3.15	12.09
2.93	YES							
L0008848		0	0.16590E-05	444486.6	3760414.6	201.9	3.15	12.09
2.93	YES							
L0008849		0	0.16590E-05	444512.6	3760414.5	202.0	3.15	12.09
2.93	YES							
L0008850		0	0.16590E-05	444538.6	3760414.3	202.1	3.15	12.09
2.93	YES							
L0008851		0	0.16590E-05	444564.6	3760414.1	202.2	3.15	12.09

2.93 YES  
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 \*\*\* AERMET - VERSION 16216 \*\*\*  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	PART.	(GRAMS/SEC)	X	ELEV.	HEIGHT	SY
(METERS)	ID	SCALAR	CATS.	VARY	(METERS)	(METERS)	(METERS)	(METERS)
		BY						

L0008852		0	0.16590E-05	444590.6	3760413.9	202.1	3.15	12.09
2.93	YES							
L0008853		0	0.16590E-05	444616.6	3760413.7	198.4	3.15	12.09
2.93	YES							

L0008854	0	0.16590E-05	444642.6	3760413.6	197.6	3.15	12.09
2.93	YES						
L0008855	0	0.16590E-05	444668.6	3760413.4	201.8	3.15	12.09
2.93	YES						
L0008856	0	0.16590E-05	444694.6	3760413.2	202.2	3.15	12.09
2.93	YES						
L0008857	0	0.16590E-05	444720.6	3760413.0	202.0	3.15	12.09
2.93	YES						
L0008858	0	0.16590E-05	444746.6	3760412.8	201.8	3.15	12.09
2.93	YES						
L0008859	0	0.16590E-05	444772.6	3760412.7	201.2	3.15	12.09
2.93	YES						
L0008860	0	0.16590E-05	444798.6	3760412.5	200.7	3.15	12.09
2.93	YES						
L0008861	0	0.16590E-05	444824.6	3760412.3	201.5	3.15	12.09
2.93	YES						
L0008862	0	0.16590E-05	444850.6	3760412.1	201.4	3.15	12.09
2.93	YES						
L0008863	0	0.16590E-05	444876.6	3760411.9	201.2	3.15	12.09
2.93	YES						
L0008864	0	0.16590E-05	444902.6	3760411.8	201.2	3.15	12.09
2.93	YES						
L0008865	0	0.16590E-05	444928.6	3760411.6	201.5	3.15	12.09
2.93	YES						
L0008866	0	0.16590E-05	444954.6	3760411.4	201.8	3.15	12.09
2.93	YES						
L0008867	0	0.16590E-05	444980.6	3760411.2	201.9	3.15	12.09
2.93	YES						
L0008868	0	0.16590E-05	445006.6	3760411.0	201.8	3.15	12.09
2.93	YES						
L0008869	0	0.16590E-05	445032.6	3760410.8	201.8	3.15	12.09
2.93	YES						
L0008870	0	0.16590E-05	445058.6	3760410.7	201.8	3.15	12.09
2.93	YES						
L0008871	0	0.16590E-05	445084.6	3760410.5	201.7	3.15	12.09
2.93	YES						
L0008872	0	0.16590E-05	445110.6	3760410.3	201.8	3.15	12.09
2.93	YES						
L0008873	0	0.16590E-05	445136.6	3760410.1	201.9	3.15	12.09
2.93	YES						
L0008874	0	0.16590E-05	445162.6	3760409.9	201.8	3.15	12.09
2.93	YES						
L0008875	0	0.16590E-05	445188.6	3760409.8	201.4	3.15	12.09
2.93	YES						
L0008876	0	0.16720E-05	445197.1	3760445.4	201.6	3.15	12.09
2.93	YES						
L0008877	0	0.16720E-05	445197.2	3760471.4	201.8	3.15	12.09
2.93	YES						
L0008878	0	0.16720E-05	445197.3	3760497.4	201.9	3.15	12.09

2.93	YES							
L0008879		0	0.16720E-05	445197.4	3760523.4	202.1	3.15	12.09
2.93	YES							
L0008880		0	0.16720E-05	445197.5	3760549.4	202.3	3.15	12.09
2.93	YES							
L0008881		0	0.16720E-05	445197.6	3760575.4	202.4	3.15	12.09
2.93	YES							
L0008882		0	0.16720E-05	445197.7	3760601.4	202.6	3.15	12.09
2.93	YES							
L0008883		0	0.16720E-05	445197.8	3760627.4	202.9	3.15	12.09
2.93	YES							
L0008884		0	0.16720E-05	445197.9	3760653.4	203.1	3.15	12.09
2.93	YES							
L0008885		0	0.16720E-05	445198.0	3760679.4	203.3	3.15	12.09
2.93	YES							
L0008886		0	0.16720E-05	445198.1	3760705.4	203.6	3.15	12.09
2.93	YES							
L0008887		0	0.16720E-05	445198.2	3760731.4	203.8	3.15	12.09
2.93	YES							
L0008888		0	0.16720E-05	445198.3	3760757.4	204.1	3.15	12.09
2.93	YES							
L0008889		0	0.16720E-05	445198.4	3760783.4	204.3	3.15	12.09
2.93	YES							
L0008890		0	0.16720E-05	445198.5	3760809.4	204.6	3.15	12.09
2.93	YES							
L0008891		0	0.16720E-05	445198.6	3760835.4	204.8	3.15	12.09

2.93 YES  
 \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	SOURCE	SCALAR	VARY		X	Y		
ID		CATS.			(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		BY						

L0008892		0	0.16720E-05	445198.7	3760861.4	205.1	3.15	12.09
2.93	YES							

L0008893	0	0.16720E-05	445198.8	3760887.4	205.4	3.15	12.09
2.93	YES						
L0008894	0	0.16720E-05	445198.9	3760913.4	205.6	3.15	12.09
2.93	YES						
L0008895	0	0.16720E-05	445199.0	3760939.4	205.8	3.15	12.09
2.93	YES						
L0008896	0	0.16720E-05	445199.1	3760965.4	206.1	3.15	12.09
2.93	YES						
L0008897	0	0.16720E-05	445199.2	3760991.4	206.4	3.15	12.09
2.93	YES						
L0008898	0	0.16720E-05	445199.4	3761017.4	206.6	3.15	12.09
2.93	YES						
L0008899	0	0.16720E-05	445199.5	3761043.4	206.8	3.15	12.09
2.93	YES						
L0008900	0	0.16720E-05	445199.6	3761069.4	207.1	3.15	12.09
2.93	YES						
L0008901	0	0.16720E-05	445199.7	3761095.4	207.3	3.15	12.09
2.93	YES						
L0008902	0	0.16720E-05	445199.8	3761121.4	207.6	3.15	12.09
2.93	YES						
L0008903	0	0.16720E-05	445199.9	3761147.4	207.8	3.15	12.09
2.93	YES						
L0008904	0	0.16720E-05	445200.0	3761173.4	208.0	3.15	12.09
2.93	YES						
L0008905	0	0.16720E-05	445200.1	3761199.4	208.3	3.15	12.09
2.93	YES						
L0008906	0	0.16720E-05	445200.2	3761225.4	208.7	3.15	12.09
2.93	YES						
L0008907	0	0.16720E-05	445200.3	3761251.4	209.1	3.15	12.09
2.93	YES						
L0008908	0	0.16720E-05	445200.4	3761277.4	209.4	3.15	12.09
2.93	YES						
L0008909	0	0.16720E-05	445200.5	3761303.4	209.7	3.15	12.09
2.93	YES						
L0008910	0	0.16720E-05	445200.6	3761329.4	210.0	3.15	12.09
2.93	YES						
L0008911	0	0.16720E-05	445200.7	3761355.4	210.2	3.15	12.09
2.93	YES						
L0008912	0	0.16720E-05	445200.8	3761381.4	210.4	3.15	12.09
2.93	YES						
L0008913	0	0.16720E-05	445200.9	3761407.4	210.6	3.15	12.09
2.93	YES						
L0008914	0	0.16720E-05	445201.0	3761433.4	210.8	3.15	12.09
2.93	YES						
L0008915	0	0.16720E-05	445201.1	3761459.4	210.9	3.15	12.09
2.93	YES						
L0008916	0	0.16720E-05	445201.2	3761485.4	211.1	3.15	12.09
2.93	YES						
L0008917	0	0.16720E-05	445201.3	3761511.4	211.4	3.15	12.09

2.93	YES							
L0008918		0	0.16720E-05	445201.4	3761537.4	211.5	3.15	12.09
2.93	YES							
L0008919		0	0.16720E-05	445201.5	3761563.4	211.7	3.15	12.09
2.93	YES							
L0008920		0	0.16720E-05	445201.6	3761589.4	211.9	3.15	12.09
2.93	YES							
L0008921		0	0.16720E-05	445201.8	3761615.4	212.1	3.15	12.09
2.93	YES							
L0008922		0	0.16720E-05	445201.9	3761641.4	212.3	3.15	12.09
2.93	YES							
L0008923		0	0.16720E-05	445202.0	3761667.4	212.5	3.15	12.09
2.93	YES							
L0008924		0	0.16720E-05	445202.1	3761693.4	212.6	3.15	12.09
2.93	YES							
L0008925		0	0.16720E-05	445202.2	3761719.4	212.8	3.15	12.09
2.93	YES							
L0008926		0	0.16720E-05	445202.3	3761745.4	213.0	3.15	12.09
2.93	YES							
L0008927		0	0.16720E-05	445202.4	3761771.4	213.3	3.15	12.09
2.93	YES							
L0008928		0	0.16720E-05	445202.5	3761797.4	213.6	3.15	12.09
2.93	YES							
L0008929		0	0.16720E-05	445202.6	3761823.4	213.9	3.15	12.09
2.93	YES							
L0008930		0	0.16720E-05	445202.7	3761849.4	214.1	3.15	12.09
2.93	YES							
L0008931		0	0.16720E-05	445202.8	3761875.4	214.4	3.15	12.09

2.93 YES  
 \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SCALAR	EMISSION	PART.	(GRAMS/SEC)	X	ELEV.	HEIGHT	SY
SZ	SOURCE	SCALAR	VARY			(METERS)	(METERS)	(METERS)
ID		CATS.		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		BY						

L0008932	0	0.16720E-05	445202.9	3761901.4	214.7	3.15	12.09
2.93 YES							
L0008933	0	0.16720E-05	445203.0	3761927.4	215.0	3.15	12.09
2.93 YES							
L0008934	0	0.16720E-05	445203.1	3761953.4	215.3	3.15	12.09
2.93 YES							
L0008935	0	0.16720E-05	445203.2	3761979.4	215.6	3.15	12.09
2.93 YES							
L0008936	0	0.16720E-05	445203.3	3762005.4	215.9	3.15	12.09
2.93 YES							
L0008937	0	0.16770E-05	445190.9	3760381.0	201.2	3.15	12.09
2.93 YES							
L0008938	0	0.16770E-05	445191.7	3760355.0	201.1	3.15	12.09
2.93 YES							
L0008939	0	0.16770E-05	445192.4	3760329.0	200.9	3.15	12.09
2.93 YES							
L0008940	0	0.16770E-05	445193.1	3760303.0	200.7	3.15	12.09
2.93 YES							
L0008941	0	0.16770E-05	445193.8	3760277.0	200.6	3.15	12.09
2.93 YES							
L0008942	0	0.16770E-05	445194.5	3760251.0	200.4	3.15	12.09
2.93 YES							
L0008943	0	0.16770E-05	445195.2	3760225.0	200.3	3.15	12.09
2.93 YES							
L0008944	0	0.16770E-05	445196.0	3760199.0	200.1	3.15	12.09
2.93 YES							
L0008945	0	0.16770E-05	445196.7	3760173.0	200.0	3.15	12.09
2.93 YES							
L0008946	0	0.16770E-05	445197.4	3760147.0	199.8	3.15	12.09
2.93 YES							
L0008947	0	0.16770E-05	445198.1	3760121.1	199.6	3.15	12.09
2.93 YES							
L0008948	0	0.16770E-05	445198.8	3760095.1	199.5	3.15	12.09
2.93 YES							
L0008949	0	0.16770E-05	445199.5	3760069.1	199.3	3.15	12.09
2.93 YES							
L0008950	0	0.16770E-05	445200.3	3760043.1	199.1	3.15	12.09
2.93 YES							
L0008951	0	0.16770E-05	445201.0	3760017.1	199.0	3.15	12.09
2.93 YES							
L0008952	0	0.16770E-05	445201.7	3759991.1	198.8	3.15	12.09
2.93 YES							
L0008953	0	0.16770E-05	445202.4	3759965.1	198.6	3.15	12.09
2.93 YES							
L0008954	0	0.16770E-05	445203.1	3759939.1	198.6	3.15	12.09
2.93 YES							
L0008955	0	0.16770E-05	445203.8	3759913.1	198.7	3.15	12.09
2.93 YES							
L0008956	0	0.16770E-05	445204.6	3759887.1	198.7	3.15	12.09

2.93	YES							
L0008957		0	0.16770E-05	445205.3	3759861.2	198.8	3.15	12.09
2.93	YES							
L0008958		0	0.16770E-05	445206.0	3759835.2	198.6	3.15	12.09
2.93	YES							
L0008959		0	0.16770E-05	445206.7	3759809.2	198.1	3.15	12.09
2.93	YES							
L0008960		0	0.16770E-05	445207.4	3759783.2	198.3	3.15	12.09
2.93	YES							
L0008961		0	0.16770E-05	445208.1	3759757.2	198.3	3.15	12.09
2.93	YES							
L0008962		0	0.16770E-05	445208.9	3759731.2	198.2	3.15	12.09
2.93	YES							
L0008963		0	0.16770E-05	445209.6	3759705.2	198.1	3.15	12.09
2.93	YES							
L0008964		0	0.16770E-05	445210.3	3759679.2	198.0	3.15	12.09
2.93	YES							
L0008965		0	0.16770E-05	445211.0	3759653.2	197.8	3.15	12.09
2.93	YES							
L0008966		0	0.16770E-05	445211.7	3759627.2	197.7	3.15	12.09
2.93	YES							
L0008967		0	0.16770E-05	445212.4	3759601.3	197.6	3.15	12.09
2.93	YES							
L0008968		0	0.16530E-05	445221.8	3759586.1	197.4	3.15	12.09
2.93	YES							
L0008969		0	0.16530E-05	445247.8	3759585.9	197.4	3.15	12.09
2.93	YES							
L0008970		0	0.16530E-05	445273.8	3759585.7	197.4	3.15	12.09
2.93	YES							
L0008971		0	0.16530E-05	445299.8	3759585.6	197.4	3.15	12.09

2.93 YES  
 \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.	
SZ	SOURCE	EMISSION	RATE		X	Y	ELEV.	HEIGHT	SY
(METERS)	ID	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
		CATS.	BY						



L0008972	0	0.16530E-05	445325.8	3759585.4	197.4	3.15	12.09
2.93 YES							
L0008973	0	0.16530E-05	445351.8	3759585.2	197.4	3.15	12.09
2.93 YES							
L0008974	0	0.16530E-05	445377.8	3759585.0	197.5	3.15	12.09
2.93 YES							
L0008975	0	0.16530E-05	445403.8	3759584.8	197.5	3.15	12.09
2.93 YES							
L0008976	0	0.16530E-05	445429.8	3759584.7	197.6	3.15	12.09
2.93 YES							
L0008977	0	0.16530E-05	445455.8	3759584.5	197.6	3.15	12.09
2.93 YES							
L0008978	0	0.16530E-05	445481.8	3759584.3	197.6	3.15	12.09
2.93 YES							
L0008979	0	0.16530E-05	445507.8	3759584.1	197.6	3.15	12.09
2.93 YES							
L0008980	0	0.16530E-05	445533.8	3759583.9	197.7	3.15	12.09
2.93 YES							
L0008981	0	0.16530E-05	445559.8	3759583.8	197.8	3.15	12.09
2.93 YES							
L0008982	0	0.16530E-05	445585.8	3759583.6	197.9	3.15	12.09
2.93 YES							
L0008983	0	0.16530E-05	445611.8	3759583.4	198.2	3.15	12.09
2.93 YES							
L0008984	0	0.16530E-05	445637.8	3759583.2	198.3	3.15	12.09
2.93 YES							
L0008985	0	0.16530E-05	445663.8	3759583.0	198.2	3.15	12.09
2.93 YES							
L0008986	0	0.16530E-05	445689.8	3759582.9	198.1	3.15	12.09
2.93 YES							
L0008987	0	0.16530E-05	445715.8	3759582.7	198.5	3.15	12.09
2.93 YES							
L0008988	0	0.16530E-05	445741.8	3759582.5	198.7	3.15	12.09
2.93 YES							
L0008989	0	0.16530E-05	445767.8	3759582.3	198.7	3.15	12.09
2.93 YES							
L0008990	0	0.16530E-05	445793.8	3759582.1	198.9	3.15	12.09
2.93 YES							
L0008991	0	0.16530E-05	445819.8	3759582.0	198.9	3.15	12.09
2.93 YES							
L0008992	0	0.16530E-05	445845.8	3759581.8	199.0	3.15	12.09
2.93 YES							
L0008993	0	0.16530E-05	445871.8	3759581.6	199.1	3.15	12.09
2.93 YES							
L0008994	0	0.16530E-05	445897.8	3759581.4	199.1	3.15	12.09
2.93 YES							
L0008995	0	0.16530E-05	445923.8	3759581.2	199.1	3.15	12.09

2.93	YES							
L0008996		0	0.16530E-05	445949.8	3759581.1	199.0	3.15	12.09
2.93	YES							
L0008997		0	0.16530E-05	445975.8	3759580.9	199.0	3.15	12.09
2.93	YES							
L0008998		0	0.16530E-05	446001.8	3759580.7	198.8	3.15	12.09
2.93	YES							
L0008999		0	0.16530E-05	446027.8	3759580.5	199.0	3.15	12.09
2.93	YES							
L0009000		0	0.16530E-05	446053.8	3759580.3	199.2	3.15	12.09
2.93	YES							
L0009001		0	0.16530E-05	446079.8	3759580.2	199.3	3.15	12.09
2.93	YES							
L0009002		0	0.16530E-05	446105.8	3759580.0	199.4	3.15	12.09
2.93	YES							
L0009003		0	0.16530E-05	446131.8	3759579.8	199.5	3.15	12.09
2.93	YES							
L0009004		0	0.16530E-05	446157.8	3759579.6	199.6	3.15	12.09
2.93	YES							
L0009005		0	0.16530E-05	446183.8	3759579.4	199.7	3.15	12.09
2.93	YES							
L0009006		0	0.16530E-05	446209.8	3759579.3	199.8	3.15	12.09
2.93	YES							
L0009007		0	0.16530E-05	446235.8	3759579.1	200.0	3.15	12.09
2.93	YES							
L0009008		0	0.16530E-05	446261.8	3759578.9	200.1	3.15	12.09
2.93	YES							
L0009009		0	0.16530E-05	446287.8	3759578.7	200.2	3.15	12.09
2.93	YES							
L0009010		0	0.16530E-05	446313.8	3759578.5	200.3	3.15	12.09
2.93	YES							
L0009011		0	0.16530E-05	446339.8	3759578.4	200.4	3.15	12.09
2.93	YES							

\*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*      08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
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\*\*\* MODELOPTs:    RegDEFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	VARY		X	Y	(METERS)	(METERS)
		CATS.			(METERS)	(METERS)	(METERS)	(METERS)

(METERS)

BY

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L0009012	0	0.16530E-05	446365.8	3759578.2	200.4	3.15	12.09
2.93 YES							
L0009013	0	0.16530E-05	446391.8	3759578.0	200.3	3.15	12.09
2.93 YES							
L0009014	0	0.16530E-05	446417.8	3759577.8	200.2	3.15	12.09
2.93 YES							
L0009015	0	0.16530E-05	446443.8	3759577.6	200.4	3.15	12.09
2.93 YES							
L0009016	0	0.16530E-05	446469.8	3759577.5	200.9	3.15	12.09
2.93 YES							
L0009017	0	0.16530E-05	446495.8	3759577.3	201.1	3.15	12.09
2.93 YES							
L0009018	0	0.16530E-05	446521.8	3759577.1	201.2	3.15	12.09
2.93 YES							
L0009019	0	0.16530E-05	446547.8	3759576.9	201.4	3.15	12.09
2.93 YES							
L0009020	0	0.16530E-05	446573.8	3759576.8	201.5	3.15	12.09
2.93 YES							
L0009021	0	0.16530E-05	446599.8	3759576.6	201.6	3.15	12.09
2.93 YES							
L0009022	0	0.16530E-05	446625.8	3759576.4	201.7	3.15	12.09
2.93 YES							
L0009023	0	0.16530E-05	446651.8	3759576.2	201.9	3.15	12.09
2.93 YES							
L0009024	0	0.16530E-05	446677.8	3759576.0	202.0	3.15	12.09
2.93 YES							
L0009025	0	0.16530E-05	446703.8	3759575.9	202.1	3.15	12.09
2.93 YES							
L0009026	0	0.16530E-05	446729.8	3759575.7	202.3	3.15	12.09
2.93 YES							
L0009027	0	0.16530E-05	446755.8	3759575.5	202.3	3.15	12.09
2.93 YES							
L0009028	0	0.16530E-05	446781.8	3759575.3	202.1	3.15	12.09
2.93 YES							
L0009029	0	0.16530E-05	446807.8	3759575.1	201.8	3.15	12.09
2.93 YES							
L0009030	0	0.16530E-05	446833.8	3759575.0	201.7	3.15	12.09
2.93 YES							
L0009031	0	0.16530E-05	446859.8	3759574.8	201.6	3.15	12.09
2.93 YES							
L0009032	0	0.16530E-05	446885.8	3759574.6	201.3	3.15	12.09
2.93 YES							
L0009033	0	0.16530E-05	446911.8	3759574.4	201.2	3.15	12.09
2.93 YES							
L0009034	0	0.16530E-05	446937.8	3759574.2	201.1	3.15	12.09

2.93	YES							
L0009035		0	0.16530E-05	446963.8	3759574.1	201.1	3.15	12.09
2.93	YES							
L0009036		0	0.16530E-05	446989.8	3759573.9	201.2	3.15	12.09
2.93	YES							
L0009037		0	0.16530E-05	447015.8	3759573.7	201.3	3.15	12.09
2.93	YES							
L0009038		0	0.16530E-05	447041.8	3759573.5	201.4	3.15	12.09
2.93	YES							
L0009039		0	0.16530E-05	447067.8	3759573.3	201.4	3.15	12.09
2.93	YES							
L0009040		0	0.16530E-05	447093.8	3759573.2	201.3	3.15	12.09
2.93	YES							
L0009041		0	0.16530E-05	447119.8	3759573.0	201.3	3.15	12.09
2.93	YES							
L0009042		0	0.16530E-05	447145.8	3759572.8	201.2	3.15	12.09
2.93	YES							
L0009043		0	0.16530E-05	447171.8	3759572.6	201.0	3.15	12.09
2.93	YES							
L0009044		0	0.16530E-05	447197.8	3759572.4	200.9	3.15	12.09
2.93	YES							
L0009045		0	0.16530E-05	447223.8	3759572.3	200.6	3.15	12.09
2.93	YES							
L0009046		0	0.16530E-05	447249.8	3759572.1	200.6	3.15	12.09
2.93	YES							
L0009047		0	0.16530E-05	447275.8	3759571.9	200.8	3.15	12.09
2.93	YES							
L0009048		0	0.16530E-05	447301.8	3759571.7	200.9	3.15	12.09
2.93	YES							
L0009049		0	0.16530E-05	447327.8	3759571.5	201.0	3.15	12.09
2.93	YES							
L0009050		0	0.16530E-05	447353.8	3759571.4	201.2	3.15	12.09
2.93	YES							
L0009051		0	0.16530E-05	447379.8	3759571.2	201.3	3.15	12.09
2.93	YES							

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*      08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
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\*\*\* MODELOPTs:      RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE			ELEV.	HEIGHT	SY
		PART.	(GRAMS/SEC)	X	Y			

SZ	SOURCE	SCALAR	VARY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
ID		CATS.	BY					
(METERS)								
L0009052		0	0.16530E-05	447405.8	3759571.0	201.3	3.15	12.09
2.93	YES							
L0009053		0	0.16530E-05	447431.8	3759570.8	201.3	3.15	12.09
2.93	YES							
L0009054		0	0.16530E-05	447457.8	3759570.6	201.2	3.15	12.09
2.93	YES							
L0009055		0	0.16530E-05	447483.8	3759570.5	201.1	3.15	12.09
2.93	YES							
L0009056		0	0.16530E-05	447509.8	3759570.3	201.0	3.15	12.09
2.93	YES							
L0009057		0	0.16530E-05	447535.8	3759570.1	200.9	3.15	12.09
2.93	YES							
L0009058		0	0.16530E-05	447561.8	3759569.9	200.6	3.15	12.09
2.93	YES							
L0009059		0	0.16530E-05	447587.8	3759569.8	200.5	3.15	12.09
2.93	YES							
L0009060		0	0.16530E-05	447613.8	3759569.6	200.6	3.15	12.09
2.93	YES							
L0009061		0	0.16530E-05	447639.8	3759569.4	201.1	3.15	12.09
2.93	YES							
L0009062		0	0.16530E-05	447665.8	3759569.2	201.1	3.15	12.09
2.93	YES							
L0009063		0	0.16530E-05	447691.8	3759569.0	201.1	3.15	12.09
2.93	YES							
L0009064		0	0.16530E-05	447717.8	3759568.9	201.1	3.15	12.09
2.93	YES							
L0009065		0	0.16530E-05	447743.8	3759568.7	201.1	3.15	12.09
2.93	YES							
L0009066		0	0.16530E-05	447769.8	3759568.5	201.1	3.15	12.09
2.93	YES							
L0009067		0	0.16530E-05	447795.8	3759568.3	201.1	3.15	12.09
2.93	YES							
L0009068		0	0.16530E-05	447821.8	3759568.1	201.1	3.15	12.09
2.93	YES							
L0009069		0	0.16530E-05	447847.8	3759568.0	201.0	3.15	12.09
2.93	YES							
L0009070		0	0.16530E-05	447873.8	3759567.8	201.0	3.15	12.09
2.93	YES							
L0009071		0	0.16530E-05	447899.8	3759567.6	201.1	3.15	12.09
2.93	YES							
L0009072		0	0.16530E-05	447925.8	3759567.4	201.1	3.15	12.09
2.93	YES							
L0009073		0	0.16530E-05	447951.8	3759567.2	201.2	3.15	12.09

2.93	YES							
L0009074		0	0.16530E-05	447977.8	3759567.1	201.4	3.15	12.09
2.93	YES							
L0009075		0	0.16530E-05	448003.7	3759566.9	201.4	3.15	12.09
2.93	YES							
L0009076		0	0.16530E-05	448029.7	3759566.7	201.5	3.15	12.09
2.93	YES							
L0009077		0	0.16530E-05	448055.7	3759566.5	201.6	3.15	12.09
2.93	YES							
L0009078		0	0.16530E-05	448081.7	3759566.3	201.7	3.15	12.09
2.93	YES							
L0009079		0	0.16530E-05	448107.7	3759566.2	201.8	3.15	12.09
2.93	YES							
L0009080		0	0.16530E-05	448133.7	3759566.0	201.8	3.15	12.09
2.93	YES							
L0009081		0	0.16530E-05	448159.7	3759565.8	201.7	3.15	12.09
2.93	YES							
L0009082		0	0.16530E-05	448185.7	3759565.6	201.7	3.15	12.09
2.93	YES							
L0009083		0	0.16530E-05	448211.7	3759565.4	201.7	3.15	12.09
2.93	YES							
L0009084		0	0.16530E-05	448237.7	3759565.3	201.8	3.15	12.09
2.93	YES							
L0009085		0	0.16530E-05	448263.7	3759565.1	202.0	3.15	12.09
2.93	YES							
L0009086		0	0.16530E-05	448289.7	3759564.9	202.2	3.15	12.09
2.93	YES							
L0009087		0	0.16530E-05	448315.7	3759564.7	202.3	3.15	12.09
2.93	YES							
L0009088		0	0.16530E-05	448341.7	3759564.5	202.6	3.15	12.09
2.93	YES							
L0009089		0	0.16530E-05	448367.7	3759564.4	202.8	3.15	12.09
2.93	YES							
L0009090		0	0.16530E-05	448393.7	3759564.2	203.1	3.15	12.09
2.93	YES							
L0009091		0	0.16530E-05	448419.7	3759564.0	203.2	3.15	12.09

2.93 YES  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

NUMBER EMISSION RATE BASE RELEASE INIT.

INIT. SZ	URBAN SOURCE SOURCE ID (METERS)	EMISSION RATE PART. (GRAMS/SEC) SCALAR VARY CATS. BY	X (METERS)	Y (METERS)	ELEV. (METERS)	HEIGHT (METERS)	SY (METERS)	
L0009092		0	0.16410E-05	448446.7	3759567.2	203.3	3.15	12.09
2.93	YES							
L0009093		0	0.16410E-05	448472.7	3759566.8	203.2	3.15	12.09
2.93	YES							
L0009094		0	0.16410E-05	448498.7	3759566.3	203.1	3.15	12.09
2.93	YES							
L0009095		0	0.16410E-05	448524.7	3759565.9	203.0	3.15	12.09
2.93	YES							
L0009096		0	0.16410E-05	448550.7	3759565.5	202.9	3.15	12.09
2.93	YES							
L0009097		0	0.16410E-05	448576.7	3759565.0	202.9	3.15	12.09
2.93	YES							
L0009098		0	0.16410E-05	448602.7	3759564.6	203.2	3.15	12.09
2.93	YES							
L0009099		0	0.16410E-05	448628.7	3759564.1	203.5	3.15	12.09
2.93	YES							
L0009100		0	0.16410E-05	448654.7	3759563.7	203.5	3.15	12.09
2.93	YES							
L0009101		0	0.16410E-05	448680.7	3759563.3	203.5	3.15	12.09
2.93	YES							
L0009102		0	0.16410E-05	448706.7	3759562.8	203.6	3.15	12.09
2.93	YES							
L0009103		0	0.16410E-05	448732.7	3759562.4	203.7	3.15	12.09
2.93	YES							
L0009104		0	0.16410E-05	448758.7	3759561.9	203.9	3.15	12.09
2.93	YES							
L0009105		0	0.16410E-05	448784.7	3759561.5	204.0	3.15	12.09
2.93	YES							
L0009106		0	0.16410E-05	448810.7	3759561.1	203.9	3.15	12.09
2.93	YES							
L0009107		0	0.16410E-05	448836.7	3759560.6	204.0	3.15	12.09
2.93	YES							
L0009108		0	0.16410E-05	448862.7	3759560.2	203.9	3.15	12.09
2.93	YES							
L0009109		0	0.16410E-05	448888.7	3759559.8	203.6	3.15	12.09
2.93	YES							
L0009110		0	0.16410E-05	448914.7	3759559.3	203.5	3.15	12.09
2.93	YES							
L0009111		0	0.16410E-05	448940.7	3759558.9	203.8	3.15	12.09
2.93	YES							
L0009112		0	0.16410E-05	448966.7	3759558.4	203.9	3.15	12.09

2.93	YES							
L0009113		0	0.16410E-05	448992.7	3759558.0	204.2	3.15	12.09
2.93	YES							
L0009114		0	0.16410E-05	449018.7	3759557.6	204.6	3.15	12.09
2.93	YES							
L0009115		0	0.16410E-05	449044.7	3759557.1	204.9	3.15	12.09
2.93	YES							
L0009116		0	0.16410E-05	449070.7	3759556.7	205.2	3.15	12.09
2.93	YES							
L0009117		0	0.16410E-05	449096.7	3759556.2	205.4	3.15	12.09
2.93	YES							
L0009118		0	0.16410E-05	449122.7	3759555.8	205.5	3.15	12.09
2.93	YES							
L0009119		0	0.16410E-05	449148.6	3759555.4	205.2	3.15	12.09
2.93	YES							
L0009120		0	0.16410E-05	449174.6	3759554.9	205.8	3.15	12.09
2.93	YES							
L0009121		0	0.16410E-05	449200.6	3759554.5	206.5	3.15	12.09
2.93	YES							
L0009122		0	0.16410E-05	449226.6	3759554.0	205.4	3.15	12.09
2.93	YES							
L0009123		0	0.16410E-05	449252.6	3759553.6	204.3	3.15	12.09
2.93	YES							
L0009124		0	0.16410E-05	449278.6	3759553.2	202.2	3.15	12.09
2.93	YES							
L0009125		0	0.16410E-05	449304.6	3759552.7	201.6	3.15	12.09
2.93	YES							
L0009126		0	0.16410E-05	449330.6	3759552.3	203.1	3.15	12.09
2.93	YES							
L0009127		0	0.16410E-05	449356.6	3759551.9	204.3	3.15	12.09
2.93	YES							
L0009128		0	0.16410E-05	449382.6	3759551.4	205.1	3.15	12.09
2.93	YES							
L0009129		0	0.16410E-05	449408.6	3759551.0	205.5	3.15	12.09
2.93	YES							
L0009130		0	0.16410E-05	449434.6	3759550.5	204.6	3.15	12.09
2.93	YES							
L0009131		0	0.16500E-05	445241.2	3762002.1	216.2	3.15	12.09

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\*\*\* MODELOPTs:    RegDEFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*



INIT.	URBAN	NUMBER	EMISSION	RATE	BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		ELEV.	HEIGHT	SY
(METERS)	ID	SCALAR	(GRAMS/SEC)	X	Y	(METERS)	(METERS)
		CATS.	VARY	(METERS)	(METERS)	(METERS)	(METERS)
			BY				
L0009132		0	0.16500E-05	445267.2	3762002.2	216.5	12.09
2.93	YES						
L0009133		0	0.16500E-05	445293.2	3762002.3	216.5	12.09
2.93	YES						
L0009134		0	0.16500E-05	445319.2	3762002.4	217.0	12.09
2.93	YES						
L0009135		0	0.16500E-05	445345.2	3762002.5	217.4	12.09
2.93	YES						
L0009136		0	0.16500E-05	445371.2	3762002.7	217.6	12.09
2.93	YES						
L0009137		0	0.16500E-05	445397.2	3762002.8	218.0	12.09
2.93	YES						
L0009138		0	0.16500E-05	445423.2	3762002.9	218.3	12.09
2.93	YES						
L0009139		0	0.16500E-05	445449.2	3762003.0	218.4	12.09
2.93	YES						
L0009140		0	0.16500E-05	445475.2	3762003.2	218.5	12.09
2.93	YES						
L0009141		0	0.16500E-05	445501.2	3762003.3	218.4	12.09
2.93	YES						
L0009142		0	0.16500E-05	445527.2	3762003.4	218.2	12.09
2.93	YES						
L0009143		0	0.16500E-05	445553.2	3762003.5	218.2	12.09
2.93	YES						
L0009144		0	0.16500E-05	445579.2	3762003.7	218.1	12.09
2.93	YES						
L0009145		0	0.16500E-05	445605.2	3762003.8	218.1	12.09
2.93	YES						
L0009146		0	0.16500E-05	445631.2	3762003.9	218.1	12.09
2.93	YES						
L0009147		0	0.16500E-05	445657.2	3762004.0	218.1	12.09
2.93	YES						
L0009148		0	0.16500E-05	445683.2	3762004.2	217.9	12.09
2.93	YES						
L0009149		0	0.16500E-05	445709.2	3762004.3	217.7	12.09
2.93	YES						
L0009150		0	0.16500E-05	445735.2	3762004.4	217.3	12.09
2.93	YES						
L0009151		0	0.16500E-05	445761.2	3762004.5	216.9	12.09

2.93	YES							
L0009152		0	0.16500E-05	445787.2	3762004.7	217.0	3.15	12.09
2.93	YES							
L0009153		0	0.16500E-05	445813.2	3762004.8	217.4	3.15	12.09
2.93	YES							
L0009154		0	0.16500E-05	445839.2	3762004.9	217.7	3.15	12.09
2.93	YES							
L0009155		0	0.16500E-05	445865.2	3762005.0	217.9	3.15	12.09
2.93	YES							
L0009156		0	0.16500E-05	445891.2	3762005.1	218.2	3.15	12.09
2.93	YES							
L0009157		0	0.16500E-05	445917.2	3762005.3	218.1	3.15	12.09
2.93	YES							
L0009158		0	0.16500E-05	445943.2	3762005.4	218.2	3.15	12.09
2.93	YES							
L0009159		0	0.16500E-05	445969.2	3762005.5	218.5	3.15	12.09
2.93	YES							
L0009160		0	0.16500E-05	445995.2	3762005.6	218.6	3.15	12.09
2.93	YES							
L0009161		0	0.16500E-05	446021.2	3762005.8	218.6	3.15	12.09
2.93	YES							
L0009162		0	0.16500E-05	446047.2	3762005.9	218.6	3.15	12.09
2.93	YES							
L0009163		0	0.19720E-05	446079.0	3762020.5	219.0	3.15	14.42
2.93	YES							
L0009164		0	0.19720E-05	446106.9	3762034.0	219.3	3.15	14.42
2.93	YES							
L0009165		0	0.19720E-05	446134.9	3762047.5	219.3	3.15	14.42
2.93	YES							
L0009166		0	0.19720E-05	446162.8	3762061.0	219.5	3.15	14.42
2.93	YES							
L0009167		0	0.19720E-05	446190.7	3762074.5	219.6	3.15	14.42
2.93	YES							
L0009168		0	0.19720E-05	446218.6	3762087.9	219.8	3.15	14.42
2.93	YES							
L0009169		0	0.19720E-05	446246.5	3762101.4	219.9	3.15	14.42
2.93	YES							
L0009170		0	0.19720E-05	446274.4	3762114.9	220.0	3.15	14.42
2.93	YES							
L0009171		0	0.19720E-05	446301.0	3762130.4	220.1	3.15	14.42

2.93 YES  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE	BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE	(GRAMS/SEC)	X	Y	SY
(METERS)	ID	SCALAR	VARY		(METERS)	(METERS)	(METERS)
		CATS.	BY				
					ELEV.	HEIGHT	
					(METERS)	(METERS)	(METERS)
L0009172		0	0.19720E-05	446324.8	3762150.3	220.3	14.42
2.93	YES						
L0009173		0	0.19720E-05	446348.6	3762170.2	220.4	14.42
2.93	YES						
L0009174		0	0.19720E-05	446372.3	3762190.1	220.7	14.42
2.93	YES						
L0009175		0	0.19720E-05	446396.1	3762210.1	220.9	14.42
2.93	YES						
L0009176		0	0.19720E-05	446419.8	3762230.0	221.0	14.42
2.93	YES						
L0009177		0	0.19720E-05	446443.6	3762249.9	221.3	14.42
2.93	YES						
L0009178		0	0.19720E-05	446467.4	3762269.8	221.3	14.42
2.93	YES						
L0009179		0	0.19720E-05	446491.1	3762289.7	221.4	14.42
2.93	YES						
L0009180		0	0.19720E-05	446517.6	3762305.2	221.7	14.42
2.93	YES						
L0009181		0	0.19720E-05	446545.9	3762318.0	221.7	14.42
2.93	YES						
L0009182		0	0.19720E-05	446574.1	3762330.7	221.9	14.42
2.93	YES						
L0009183		0	0.19720E-05	446602.4	3762343.5	222.0	14.42
2.93	YES						
L0009184		0	0.19720E-05	446630.7	3762356.2	222.2	14.42
2.93	YES						
L0009185		0	0.19720E-05	446658.9	3762369.0	222.4	14.42
2.93	YES						
L0009186		0	0.19720E-05	446687.2	3762381.7	222.5	14.42
2.93	YES						
L0009187		0	0.19720E-05	446715.4	3762394.5	222.9	14.42
2.93	YES						
L0009188		0	0.19720E-05	446745.7	3762399.2	222.9	14.42
2.93	YES						
L0009189		0	0.19720E-05	446776.6	3762401.1	222.8	14.42
2.93	YES						
L0009190		0	0.19720E-05	446807.6	3762403.0	222.2	14.42

2.93	YES							
L0009191		0	0.19720E-05	446838.5	3762403.5	221.9	3.15	14.42
2.93	YES							
L0009192		0	0.19720E-05	446869.5	3762403.3	222.0	3.15	14.42
2.93	YES							
L0009193		0	0.19720E-05	446900.5	3762403.0	222.0	3.15	14.42
2.93	YES							
L0009194		0	0.19720E-05	446931.5	3762402.7	222.2	3.15	14.42
2.93	YES							
L0009195		0	0.19720E-05	446962.5	3762402.5	222.5	3.15	14.42
2.93	YES							
L0009196		0	0.19720E-05	446993.5	3762402.2	222.6	3.15	14.42
2.93	YES							
L0009197		0	0.19720E-05	447024.5	3762402.0	222.6	3.15	14.42
2.93	YES							
L0009198		0	0.19720E-05	447055.5	3762401.7	222.7	3.15	14.42
2.93	YES							
L0009199		0	0.19720E-05	447086.5	3762401.4	223.0	3.15	14.42
2.93	YES							
L0009200		0	0.19720E-05	447117.5	3762401.2	223.1	3.15	14.42
2.93	YES							
L0009201		0	0.19720E-05	447148.5	3762400.9	223.3	3.15	14.42
2.93	YES							
L0009202		0	0.19720E-05	447179.5	3762400.6	223.3	3.15	14.42
2.93	YES							
L0009203		0	0.19720E-05	447210.5	3762400.4	223.4	3.15	14.42
2.93	YES							
L0009204		0	0.19720E-05	447241.5	3762400.1	223.3	3.15	14.42
2.93	YES							
L0009205		0	0.19720E-05	447272.5	3762399.8	223.4	3.15	14.42
2.93	YES							
L0009206		0	0.19720E-05	447303.5	3762399.6	223.5	3.15	14.42
2.93	YES							
L0009207		0	0.19720E-05	447334.5	3762399.3	223.4	3.15	14.42
2.93	YES							
L0009208		0	0.19720E-05	447365.5	3762399.1	223.3	3.15	14.42
2.93	YES							
L0009209		0	0.19720E-05	447396.5	3762398.8	223.2	3.15	14.42
2.93	YES							
L0009210		0	0.19720E-05	447427.5	3762398.5	223.2	3.15	14.42
2.93	YES							
L0009211		0	0.19720E-05	447458.5	3762398.3	223.1	3.15	14.42

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE		X	ELEV.	HEIGHT	SY
SZ	SOURCE	PART.	(GRAMS/SEC)		Y	(METERS)	(METERS)	(METERS)
ID		SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY					
L0009212		0	0.19720E-05	447489.5	3762398.0	223.0	3.15	14.42
2.93	YES							
L0009213		0	0.19720E-05	447520.5	3762397.7	222.8	3.15	14.42
2.93	YES							
L0009214		0	0.19720E-05	447551.5	3762397.5	222.7	3.15	14.42
2.93	YES							
L0009215		0	0.19720E-05	447582.5	3762397.2	222.7	3.15	14.42
2.93	YES							
L0009216		0	0.19720E-05	447613.5	3762397.0	222.5	3.15	14.42
2.93	YES							
L0009217		0	0.19720E-05	447644.5	3762396.7	222.4	3.15	14.42
2.93	YES							
L0009218		0	0.19720E-05	447675.5	3762396.4	222.5	3.15	14.42
2.93	YES							
L0009219		0	0.19720E-05	447706.5	3762396.2	222.6	3.15	14.42
2.93	YES							
L0009220		0	0.19720E-05	447737.5	3762395.9	222.8	3.15	14.42
2.93	YES							
L0009221		0	0.19720E-05	447768.5	3762395.6	222.9	3.15	14.42
2.93	YES							
L0009222		0	0.19720E-05	447799.5	3762395.4	223.1	3.15	14.42
2.93	YES							
L0009223		0	0.19720E-05	447830.5	3762395.1	223.2	3.15	14.42
2.93	YES							
L0009224		0	0.19720E-05	447861.5	3762394.8	223.3	3.15	14.42
2.93	YES							
L0009225		0	0.19720E-05	447892.5	3762394.6	223.4	3.15	14.42
2.93	YES							
L0009226		0	0.19720E-05	447923.5	3762394.3	223.5	3.15	14.42
2.93	YES							
L0009227		0	0.19720E-05	447954.5	3762394.1	223.7	3.15	14.42
2.93	YES							
L0009228		0	0.19720E-05	447985.5	3762393.8	223.8	3.15	14.42
2.93	YES							
L0009229		0	0.19720E-05	448016.5	3762393.5	223.9	3.15	14.42

2.93	YES							
L0009230		0	0.19720E-05	448047.5	3762393.3	224.0	3.15	14.42
2.93	YES							
L0009231		0	0.19720E-05	448078.5	3762393.0	224.1	3.15	14.42
2.93	YES							
L0009232		0	0.19720E-05	448109.5	3762392.7	224.3	3.15	14.42
2.93	YES							
L0009233		0	0.19720E-05	448140.5	3762392.5	224.4	3.15	14.42
2.93	YES							
L0009234		0	0.19720E-05	448171.5	3762392.2	224.6	3.15	14.42
2.93	YES							
L0009235		0	0.19720E-05	448202.5	3762391.9	224.8	3.15	14.42
2.93	YES							
L0009236		0	0.19720E-05	448233.5	3762391.7	224.9	3.15	14.42
2.93	YES							
L0009237		0	0.19720E-05	448264.5	3762391.4	225.1	3.15	14.42
2.93	YES							
L0009238		0	0.19720E-05	448295.5	3762391.2	225.2	3.15	14.42
2.93	YES							
L0009239		0	0.19720E-05	448326.5	3762390.9	225.3	3.15	14.42
2.93	YES							
L0009240		0	0.19720E-05	448357.5	3762390.6	225.4	3.15	14.42
2.93	YES							
L0009241		0	0.19720E-05	448388.5	3762390.4	225.4	3.15	14.42
2.93	YES							
L0009242		0	0.19720E-05	448419.5	3762390.1	225.4	3.15	14.42
2.93	YES							
L0009243		0	0.19720E-05	448450.5	3762390.4	225.3	3.15	14.42
2.93	YES							
L0009244		0	0.19720E-05	448481.4	3762392.4	225.2	3.15	14.42
2.93	YES							
L0009245		0	0.19720E-05	448512.3	3762394.3	225.0	3.15	14.42
2.93	YES							
L0009246		0	0.19720E-05	448543.3	3762396.2	224.9	3.15	14.42
2.93	YES							
L0009247		0	0.19720E-05	448574.2	3762398.1	224.8	3.15	14.42
2.93	YES							
L0009248		0	0.19720E-05	448605.2	3762400.0	224.7	3.15	14.42
2.93	YES							
L0009249		0	0.19720E-05	448636.1	3762401.9	224.5	3.15	14.42
2.93	YES							
L0009250		0	0.19720E-05	448667.0	3762403.8	224.4	3.15	14.42
2.93	YES							
L0009251		0	0.19720E-05	448698.0	3762405.7	224.4	3.15	14.42

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 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
                                  \*\*\*      14:28:23

\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	ID	SCALAR	(GRAMS/SEC)	X	Y	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	VARY	(METERS)	(METERS)			
		BY						
L0009252		0	0.19720E-05	448728.9	3762407.7	224.7	3.15	14.42
2.93	YES							
L0009253		0	0.19720E-05	448759.9	3762409.6	225.6	3.15	14.42
2.93	YES							
L0009254		0	0.19720E-05	448790.8	3762411.5	225.9	3.15	14.42
2.93	YES							
L0009255		0	0.19720E-05	448820.0	3762421.7	225.7	3.15	14.42
2.93	YES							
L0009256		0	0.19720E-05	448849.1	3762432.3	226.7	3.15	14.42
2.93	YES							
L0009257		0	0.19720E-05	448878.3	3762442.9	227.7	3.15	14.42
2.93	YES							
L0009258		0	0.19720E-05	448907.4	3762453.5	228.1	3.15	14.42
2.93	YES							
L0009259		0	0.19720E-05	448936.5	3762464.2	229.3	3.15	14.42
2.93	YES							
L0009260		0	0.19720E-05	448965.6	3762474.8	229.7	3.15	14.42
2.93	YES							
L0009261		0	0.19720E-05	448994.8	3762485.4	230.3	3.15	14.42
2.93	YES							
L0009262		0	0.19720E-05	449023.9	3762496.0	233.1	3.15	14.42
2.93	YES							
L0009263		0	0.19720E-05	449053.0	3762506.6	234.8	3.15	14.42
2.93	YES							
L0009264		0	0.19720E-05	449082.1	3762517.3	235.0	3.15	14.42
2.93	YES							
L0009265		0	0.19720E-05	449111.3	3762527.9	232.4	3.15	14.42
2.93	YES							
L0009266		0	0.19720E-05	449140.4	3762538.5	227.4	3.15	14.42
2.93	YES							
L0009267		0	0.19720E-05	449169.5	3762549.1	226.9	3.15	14.42
2.93	YES							
L0009268		0	0.19720E-05	449198.6	3762559.8	227.0	3.15	14.42

2.93	YES							
L0009269		0	0.19720E-05	449227.8	3762570.4	228.0	3.15	14.42
2.93	YES							
L0009270		0	0.19720E-05	449256.9	3762581.0	232.2	3.15	14.42
2.93	YES							
L0009271		0	0.19720E-05	449286.0	3762591.6	233.1	3.15	14.42
2.93	YES							
L0009272		0	0.85128E-04	440391.7	3761160.7	201.9	0.00	12.09
3.56	YES							
L0009273		0	0.85128E-04	440392.0	3761186.7	202.1	0.00	12.09
3.56	YES							
L0009274		0	0.85128E-04	440392.3	3761212.7	202.4	0.00	12.09
3.56	YES							
L0009275		0	0.85128E-04	440399.7	3761231.5	202.6	0.00	12.09
3.56	YES							
L0009276		0	0.85128E-04	440425.7	3761231.5	202.5	0.00	12.09
3.56	YES							
L0009277		0	0.85128E-04	440451.3	3761231.1	202.5	0.00	12.09
3.56	YES							
L0009278		0	0.85128E-04	440451.3	3761205.1	202.1	0.00	12.09
3.56	YES							
L0009279		0	0.85128E-04	440451.3	3761179.1	201.9	0.00	12.09
3.56	YES							
L0009280		0	0.85128E-04	440451.2	3761153.1	201.7	0.00	12.09
3.56	YES							
L0009281		0	0.85128E-04	440451.2	3761127.1	201.5	0.00	12.09
3.56	YES							
L0009282		0	0.85128E-04	440451.2	3761101.1	201.2	0.00	12.09
3.56	YES							
L0009283		0	0.85128E-04	440451.1	3761075.1	200.9	0.00	12.09
3.56	YES							
L0009284		0	0.85128E-04	440451.1	3761049.1	200.6	0.00	12.09
3.56	YES							
L0009285		0	0.85128E-04	440451.1	3761023.1	200.3	0.00	12.09
3.56	YES							
L0009286		0	0.85128E-04	440451.0	3760997.1	200.1	0.00	12.09
3.56	YES							
L0009287		0	0.85128E-04	440451.0	3760971.1	199.8	0.00	12.09
3.56	YES							
L0009288		0	0.85128E-04	440451.0	3760945.1	199.6	0.00	12.09
3.56	YES							
L0009289		0	0.85128E-04	440450.9	3760919.1	199.4	0.00	12.09
3.56	YES							
L0009290		0	0.85128E-04	440450.9	3760893.1	199.2	0.00	12.09
3.56	YES							
L0009291		0	0.85128E-04	440450.9	3760867.1	198.9	0.00	12.09

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\*\*\* AERMET - VERSION 16216 \*\*\*  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE		X	ELEV.	HEIGHT	SY
SZ	SOURCE	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)
ID		CATS.	BY					
(METERS)								
L0009292		0	0.85128E-04		440450.8	3760841.1	198.7	12.09
3.56	YES						0.00	
L0009293		0	0.85128E-04		440450.8	3760815.1	198.4	12.09
3.56	YES						0.00	
L0009294		0	0.85128E-04		440450.8	3760789.1	198.2	12.09
3.56	YES						0.00	
L0009295		0	0.85128E-04		440450.7	3760763.1	197.9	12.09
3.56	YES						0.00	
L0009296		0	0.85128E-04		440450.7	3760737.1	197.6	12.09
3.56	YES						0.00	
L0009297		0	0.85128E-04		440450.7	3760711.1	197.3	12.09
3.56	YES						0.00	
L0009298		0	0.85128E-04		440450.6	3760685.1	197.0	12.09
3.56	YES						0.00	
L0009299		0	0.85128E-04		440450.6	3760659.1	196.8	12.09
3.56	YES						0.00	
L0009300		0	0.85128E-04		440450.5	3760633.1	196.5	12.09
3.56	YES						0.00	
L0009301		0	0.85128E-04		440450.5	3760607.1	196.2	12.09
3.56	YES						0.00	
L0009302		0	0.85128E-04		440450.5	3760581.1	196.0	12.09
3.56	YES						0.00	
L0009303		0	0.85128E-04		440450.4	3760555.1	195.8	12.09
3.56	YES						0.00	
L0009304		0	0.85128E-04		440450.4	3760529.1	195.5	12.09
3.56	YES						0.00	
L0009305		0	0.85128E-04		440450.4	3760503.1	195.1	12.09
3.56	YES						0.00	
L0009306		0	0.85128E-04		440458.1	3760484.8	195.2	12.09
3.56	YES						0.00	
L0009307		0	0.85128E-04		440484.1	3760484.3	195.2	12.09

3.56	YES							
L0009308		0	0.85128E-04	440509.1	3760484.9	195.2	0.00	12.09
3.56	YES							
L0009309		0	0.85128E-04	440508.9	3760510.9	195.3	0.00	12.09
3.56	YES							
L0009310		0	0.85128E-04	440508.7	3760536.9	195.8	0.00	12.09
3.56	YES							
L0009311		0	0.85128E-04	440508.5	3760562.9	196.0	0.00	12.09
3.56	YES							
L0009312		0	0.85128E-04	440508.3	3760588.9	196.2	0.00	12.09
3.56	YES							
L0009313		0	0.85128E-04	440508.1	3760614.9	196.4	0.00	12.09
3.56	YES							
L0009314		0	0.85128E-04	440507.9	3760640.9	196.7	0.00	12.09
3.56	YES							
L0009315		0	0.85128E-04	440507.7	3760666.9	197.0	0.00	12.09
3.56	YES							
L0009316		0	0.85128E-04	440507.5	3760692.9	197.3	0.00	12.09
3.56	YES							
L0009317		0	0.85128E-04	440507.3	3760718.9	197.6	0.00	12.09
3.56	YES							
L0009318		0	0.85128E-04	440507.1	3760744.9	197.9	0.00	12.09
3.56	YES							
L0009319		0	0.85128E-04	440506.9	3760770.9	198.2	0.00	12.09
3.56	YES							
L0009320		0	0.85128E-04	440506.7	3760796.9	198.5	0.00	12.09
3.56	YES							
L0009321		0	0.85128E-04	440506.5	3760822.9	198.7	0.00	12.09
3.56	YES							
L0009322		0	0.85128E-04	440506.3	3760848.9	198.8	0.00	12.09
3.56	YES							
L0009323		0	0.85128E-04	440506.1	3760874.9	199.1	0.00	12.09
3.56	YES							
L0009324		0	0.85128E-04	440505.9	3760900.9	199.3	0.00	12.09
3.56	YES							
L0009325		0	0.85128E-04	440505.7	3760926.9	199.5	0.00	12.09
3.56	YES							
L0009326		0	0.85128E-04	440505.5	3760952.9	199.7	0.00	12.09
3.56	YES							
L0009327		0	0.85128E-04	440505.3	3760978.9	200.0	0.00	12.09
3.56	YES							
L0009328		0	0.85128E-04	440505.1	3761004.9	200.2	0.00	12.09
3.56	YES							
L0009329		0	0.85128E-04	440504.9	3761030.9	200.4	0.00	12.09
3.56	YES							
L0009330		0	0.85128E-04	440504.7	3761056.9	200.7	0.00	12.09
3.56	YES							
L0009331		0	0.85128E-04	440504.5	3761082.9	201.1	0.00	12.09
3.56	YES							

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 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*  
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\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	PART.	(GRAMS/SEC)	X	ELEV.	HEIGHT	SY
(METERS)	ID	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)
		CATS.	BY					
L0009332		0	0.85128E-04	440504.3	3761108.9	201.4	0.00	12.09
3.56	YES							
L0009333		0	0.85128E-04	440504.1	3761134.9	201.7	0.00	12.09
3.56	YES							
L0009334		0	0.85128E-04	440503.9	3761160.9	201.9	0.00	12.09
3.56	YES							
L0009335		0	0.85128E-04	440503.7	3761186.9	202.1	0.00	12.09
3.56	YES							
L0009336		0	0.85128E-04	440503.5	3761212.9	202.4	0.00	12.09
3.56	YES							
L0009337		0	0.85128E-04	440509.8	3761232.7	202.7	0.00	12.09
3.56	YES							
L0009338		0	0.85128E-04	440535.8	3761233.5	202.8	0.00	12.09
3.56	YES							
L0009339		0	0.85128E-04	440561.7	3761234.3	203.1	0.00	12.09
3.56	YES							
L0009340		0	0.85128E-04	440564.9	3761211.7	202.9	0.00	12.09
3.56	YES							
L0009341		0	0.85128E-04	440564.8	3761185.7	202.6	0.00	12.09
3.56	YES							
L0009342		0	0.85128E-04	440564.7	3761159.7	202.4	0.00	12.09
3.56	YES							
L0009343		0	0.85128E-04	440564.6	3761133.7	202.3	0.00	12.09
3.56	YES							
L0009344		0	0.85128E-04	440564.5	3761107.7	202.2	0.00	12.09
3.56	YES							
L0009345		0	0.85128E-04	440564.4	3761081.7	201.9	0.00	12.09
3.56	YES							
L0009346		0	0.85128E-04	440564.3	3761055.7	201.4	0.00	12.09

3.56	YES							
L0009347		0	0.85128E-04	440564.2	3761029.7	200.9	0.00	12.09
3.56	YES							
L0009348		0	0.85128E-04	440564.1	3761003.7	200.6	0.00	12.09
3.56	YES							
L0009349		0	0.85128E-04	440564.0	3760977.7	200.4	0.00	12.09
3.56	YES							
L0009350		0	0.85128E-04	440563.9	3760951.7	200.1	0.00	12.09
3.56	YES							
L0009351		0	0.85128E-04	440563.8	3760925.7	199.9	0.00	12.09
3.56	YES							
L0009352		0	0.85128E-04	440563.7	3760899.7	199.6	0.00	12.09
3.56	YES							
L0009353		0	0.85128E-04	440563.6	3760873.7	199.4	0.00	12.09
3.56	YES							
L0009354		0	0.85128E-04	440563.5	3760847.7	199.1	0.00	12.09
3.56	YES							
L0009355		0	0.85128E-04	440563.4	3760821.7	199.1	0.00	12.09
3.56	YES							
L0009356		0	0.85128E-04	440563.3	3760795.7	198.9	0.00	12.09
3.56	YES							
L0009357		0	0.85128E-04	440563.2	3760769.7	198.6	0.00	12.09
3.56	YES							
L0009358		0	0.85128E-04	440563.1	3760743.7	198.2	0.00	12.09
3.56	YES							
L0009359		0	0.85128E-04	440563.0	3760717.7	197.9	0.00	12.09
3.56	YES							
L0009360		0	0.85128E-04	440562.9	3760691.7	197.6	0.00	12.09
3.56	YES							
L0009361		0	0.85128E-04	440562.8	3760665.7	197.3	0.00	12.09
3.56	YES							
L0009362		0	0.85128E-04	440562.7	3760639.7	197.0	0.00	12.09
3.56	YES							
L0009363		0	0.85128E-04	440562.6	3760613.7	196.8	0.00	12.09
3.56	YES							
L0009364		0	0.85128E-04	440562.5	3760587.7	196.5	0.00	12.09
3.56	YES							
L0009365		0	0.85128E-04	440562.4	3760561.7	196.3	0.00	12.09
3.56	YES							
L0009366		0	0.85128E-04	440562.3	3760535.7	196.0	0.00	12.09
3.56	YES							
L0009367		0	0.85128E-04	440562.2	3760509.7	195.5	0.00	12.09
3.56	YES							
L0009368		0	0.85128E-04	440567.2	3760488.7	195.5	0.00	12.09
3.56	YES							
L0009369		0	0.85128E-04	440593.2	3760488.7	195.6	0.00	12.09
3.56	YES							
L0009370		0	0.85128E-04	440619.2	3760488.7	195.7	0.00	12.09
3.56	YES							

L0009371            0   0.85128E-04  440619.9 3760514.0   195.9       0.00      12.09  
 3.56        YES  
 \*\*\* AERMOD - VERSION 21112 \*\*\*        \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*                    08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*        \*\*\*  
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\*\*\* MODELOPTs:    RegDFault   CONC   ELEV   URBAN   ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	(GRAMS/SEC)	X	Y	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
L0009372		0	0.85128E-04	440620.0	3760540.0	196.4	0.00	12.09
3.56	YES							
L0009373		0	0.85128E-04	440620.0	3760566.0	196.6	0.00	12.09
3.56	YES							
L0009374		0	0.85128E-04	440620.0	3760592.0	196.9	0.00	12.09
3.56	YES							
L0009375		0	0.85128E-04	440620.1	3760618.0	197.1	0.00	12.09
3.56	YES							
L0009376		0	0.85128E-04	440620.1	3760644.0	197.3	0.00	12.09
3.56	YES							
L0009377		0	0.85128E-04	440620.1	3760670.0	197.6	0.00	12.09
3.56	YES							
L0009378		0	0.85128E-04	440620.2	3760696.0	197.8	0.00	12.09
3.56	YES							
L0009379		0	0.85128E-04	440620.2	3760722.0	197.2	0.00	12.09
3.56	YES							
L0009380		0	0.85128E-04	440620.2	3760748.0	196.5	0.00	12.09
3.56	YES							
L0009381		0	0.85128E-04	440620.3	3760774.0	197.9	0.00	12.09
3.56	YES							
L0009382		0	0.85128E-04	440620.3	3760800.0	199.2	0.00	12.09
3.56	YES							
L0009383		0	0.85128E-04	440620.3	3760826.0	199.5	0.00	12.09
3.56	YES							
L0009384		0	0.85128E-04	440620.4	3760852.0	199.8	0.00	12.09
3.56	YES							
L0009385		0	0.85128E-04	440620.4	3760878.0	200.0	0.00	12.09

3.56	YES							
L0009386		0	0.85128E-04	440620.5	3760904.0	200.3	0.00	12.09
3.56	YES							
L0009387		0	0.85128E-04	440620.5	3760930.0	200.5	0.00	12.09
3.56	YES							
L0009388		0	0.85128E-04	440620.5	3760956.0	200.8	0.00	12.09
3.56	YES							
L0009389		0	0.85128E-04	440620.6	3760982.0	201.1	0.00	12.09
3.56	YES							
L0009390		0	0.85128E-04	440620.6	3761008.0	201.3	0.00	12.09
3.56	YES							
L0009391		0	0.85128E-04	440620.6	3761034.0	201.6	0.00	12.09
3.56	YES							
L0009392		0	0.85128E-04	440620.7	3761060.0	201.8	0.00	12.09
3.56	YES							
L0009393		0	0.85128E-04	440620.7	3761086.0	202.1	0.00	12.09
3.56	YES							
L0009394		0	0.85128E-04	440620.7	3761112.0	202.3	0.00	12.09
3.56	YES							
L0009395		0	0.85128E-04	440620.8	3761138.0	202.5	0.00	12.09
3.56	YES							
L0009396		0	0.85128E-04	440620.8	3761164.0	202.6	0.00	12.09
3.56	YES							
L0009397		0	0.85128E-04	440620.8	3761190.0	202.9	0.00	12.09
3.56	YES							
L0009398		0	0.85128E-04	440620.9	3761216.0	203.1	0.00	12.09
3.56	YES							
L0009399		0	0.85128E-04	440626.6	3761236.2	203.4	0.00	12.09
3.56	YES							
L0009400		0	0.85128E-04	440652.6	3761235.9	203.4	0.00	12.09
3.56	YES							
L0009401		0	0.85128E-04	440678.5	3761235.6	203.5	0.00	12.09
3.56	YES							
L0009402		0	0.85128E-04	440680.6	3761211.9	203.3	0.00	12.09
3.56	YES							
L0009403		0	0.85128E-04	440680.3	3761185.9	203.1	0.00	12.09
3.56	YES							
L0009404		0	0.85128E-04	440680.0	3761159.9	202.4	0.00	12.09
3.56	YES							
L0009405		0	0.85128E-04	440679.6	3761133.9	201.7	0.00	12.09
3.56	YES							
L0009406		0	0.85128E-04	440679.3	3761107.9	201.2	0.00	12.09
3.56	YES							
L0009407		0	0.85128E-04	440679.0	3761081.9	201.0	0.00	12.09
3.56	YES							
L0009408		0	0.85128E-04	440678.6	3761055.9	200.7	0.00	12.09
3.56	YES							
L0009409		0	0.85128E-04	440678.3	3761029.9	200.5	0.00	12.09
3.56	YES							

L0009410            0    0.85128E-04   440678.0 3761003.9   200.2        0.00        12.09  
 3.56        YES  
 L0009411            0    0.85128E-04   440677.7 3760977.9   200.0        0.00        12.09  
 3.56        YES

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*        \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*        08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*        \*\*\*  
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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.	
SZ	SOURCE	EMISSION	RATE		X	Y	ELEV.	HEIGHT	SY
(METERS)	ID	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
		CATS.	BY						

L0009412	0	0.85128E-04	440677.3	3760951.9	199.8	0.00	12.09
3.56	YES						
L0009413	0	0.85128E-04	440677.0	3760925.9	199.6	0.00	12.09
3.56	YES						
L0009414	0	0.85128E-04	440676.7	3760899.9	199.4	0.00	12.09
3.56	YES						
L0009415	0	0.85128E-04	440676.4	3760873.9	199.1	0.00	12.09
3.56	YES						
L0009416	0	0.85128E-04	440676.0	3760847.9	198.8	0.00	12.09
3.56	YES						
L0009417	0	0.85128E-04	440675.7	3760821.9	198.6	0.00	12.09
3.56	YES						
L0009418	0	0.85128E-04	440675.4	3760795.9	198.4	0.00	12.09
3.56	YES						
L0009419	0	0.85128E-04	440675.1	3760769.9	196.8	0.00	12.09
3.56	YES						
L0009420	0	0.85128E-04	440674.7	3760743.9	196.1	0.00	12.09
3.56	YES						
L0009421	0	0.85128E-04	440674.4	3760717.9	197.3	0.00	12.09
3.56	YES						
L0009422	0	0.85128E-04	440674.1	3760691.9	198.0	0.00	12.09
3.56	YES						
L0009423	0	0.85128E-04	440673.8	3760665.9	197.7	0.00	12.09
3.56	YES						
L0009424	0	0.85128E-04	440673.4	3760639.9	197.5	0.00	12.09

3.56	YES							
L0009425		0	0.85128E-04	440673.1	3760613.9	197.3	0.00	12.09
3.56	YES							
L0009426		0	0.85128E-04	440672.8	3760587.9	197.0	0.00	12.09
3.56	YES							
L0009427		0	0.85128E-04	440672.5	3760561.9	196.8	0.00	12.09
3.56	YES							
L0009428		0	0.85128E-04	440672.1	3760535.9	196.5	0.00	12.09
3.56	YES							
L0009429		0	0.85128E-04	440671.8	3760509.9	196.0	0.00	12.09
3.56	YES							
L0009430		0	0.85128E-04	440673.3	3760485.7	195.8	0.00	12.09
3.56	YES							
L0009431		0	0.85128E-04	440699.3	3760485.3	195.9	0.00	12.09
3.56	YES							
L0009432		0	0.85128E-04	440725.3	3760484.8	196.1	0.00	12.09
3.56	YES							
L0009433		0	0.85128E-04	440735.9	3760500.0	196.3	0.00	12.09
3.56	YES							
L0009434		0	0.85128E-04	440735.7	3760526.0	196.7	0.00	12.09
3.56	YES							
L0009435		0	0.85128E-04	440735.6	3760552.0	197.0	0.00	12.09
3.56	YES							
L0009436		0	0.85128E-04	440735.5	3760578.0	197.2	0.00	12.09
3.56	YES							
L0009437		0	0.85128E-04	440735.3	3760604.0	197.4	0.00	12.09
3.56	YES							
L0009438		0	0.85128E-04	440735.2	3760630.0	197.6	0.00	12.09
3.56	YES							
L0009439		0	0.85128E-04	440735.0	3760656.0	197.8	0.00	12.09
3.56	YES							
L0009440		0	0.85128E-04	440734.9	3760682.0	198.1	0.00	12.09
3.56	YES							
L0009441		0	0.85128E-04	440734.7	3760708.0	198.2	0.00	12.09
3.56	YES							
L0009442		0	0.85128E-04	440734.6	3760734.0	198.3	0.00	12.09
3.56	YES							
L0009443		0	0.85128E-04	440734.5	3760760.0	198.4	0.00	12.09
3.56	YES							
L0009444		0	0.85128E-04	440734.3	3760786.0	199.1	0.00	12.09
3.56	YES							
L0009445		0	0.85128E-04	440734.2	3760812.0	199.4	0.00	12.09
3.56	YES							
L0009446		0	0.85128E-04	440734.0	3760838.0	199.6	0.00	12.09
3.56	YES							
L0009447		0	0.85128E-04	440733.9	3760864.0	199.8	0.00	12.09
3.56	YES							
L0009448		0	0.85128E-04	440733.8	3760890.0	200.0	0.00	12.09
3.56	YES							



L0009449	0	0.85128E-04	440733.6	3760916.0	200.3	0.00	12.09
3.56	YES						
L0009450	0	0.85128E-04	440733.5	3760942.0	200.5	0.00	12.09
3.56	YES						
L0009451	0	0.85128E-04	440733.3	3760968.0	200.7	0.00	12.09
3.56	YES						

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\*\*\* MODELOPTs:      RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.	
SZ	SOURCE	EMISSION	RATE		X	Y	ELEV.	HEIGHT	SY
(METERS)	ID	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
		CATS.	BY						

L0009452	0	0.85128E-04	440733.2	3760994.0	200.9	0.00	12.09
3.56	YES						
L0009453	0	0.85128E-04	440733.1	3761020.0	201.2	0.00	12.09
3.56	YES						
L0009454	0	0.85128E-04	440732.9	3761046.0	201.4	0.00	12.09
3.56	YES						
L0009455	0	0.85128E-04	440732.8	3761072.0	201.7	0.00	12.09
3.56	YES						
L0009456	0	0.85128E-04	440732.6	3761098.0	201.9	0.00	12.09
3.56	YES						
L0009457	0	0.85128E-04	440732.5	3761124.0	202.2	0.00	12.09
3.56	YES						
L0009458	0	0.85128E-04	440732.3	3761150.0	202.4	0.00	12.09
3.56	YES						
L0009459	0	0.85128E-04	440732.2	3761176.0	202.7	0.00	12.09
3.56	YES						
L0009460	0	0.85128E-04	440732.1	3761202.0	203.0	0.00	12.09
3.56	YES						
L0009461	0	0.85128E-04	440731.9	3761228.0	203.3	0.00	12.09
3.56	YES						
L0009462	0	0.85128E-04	440746.4	3761238.8	203.3	0.00	12.09
3.56	YES						
L0009463	0	0.85128E-04	440772.4	3761237.7	203.0	0.00	12.09

3.56 YES  
 L0009464 0 0.85128E-04 440782.4 3761220.6 202.7 0.00 12.09  
 3.56 YES  
 L0009465 0 0.85128E-04 440783.5 3761194.6 202.4 0.00 12.09  
 3.56 YES  
 L0009466 0 0.85128E-04 440784.7 3761168.6 202.1 0.00 12.09  
 3.56 YES

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID -----	SOURCE IDs -----
ALL L0008417	L0008412 , L0008413 , L0008414 , L0008415 , L0008416 , L0008418 , L0008419 ,
L0008425	L0008420 , L0008421 , L0008422 , L0008423 , L0008424 , L0008426 , L0008427 ,
L0008433	L0008428 , L0008429 , L0008430 , L0008431 , L0008432 , L0008434 , L0008435 ,
L0008441	L0008436 , L0008437 , L0008438 , L0008439 , L0008440 , L0008442 , L0008443 ,
L0008449	L0008444 , L0008445 , L0008446 , L0008447 , L0008448 , L0008450 , L0008451 ,
L0008457	L0008452 , L0008453 , L0008454 , L0008455 , L0008456 , L0008458 , L0008459 ,
L0008465	L0008460 , L0008461 , L0008462 , L0008463 , L0008464 , L0008466 , L0008467 ,
L0008473	L0008468 , L0008469 , L0008470 , L0008471 , L0008472 , L0008474 , L0008475 ,
L0008481	L0008476 , L0008477 , L0008478 , L0008479 , L0008480 , L0008482 , L0008483 ,

L0008489      L0008484      , L0008485      , L0008486      , L0008487      , L0008488      ,  
                  , L0008490      , L0008491      ,  
  
 L0008497      L0008492      , L0008493      , L0008494      , L0008495      , L0008496      ,  
                  , L0008498      , L0008499      ,  
  
 L0008505      L0008500      , L0008501      , L0008502      , L0008503      , L0008504      ,  
                  , L0008506      , L0008507      ,  
  
 L0008513      L0008508      , L0008509      , L0008510      , L0008511      , L0008512      ,  
                  , L0008514      , L0008515      ,  
  
 L0008521      L0008516      , L0008517      , L0008518      , L0008519      , L0008520      ,  
                  , L0008522      , L0008523      ,  
  
 L0008529      L0008524      , L0008525      , L0008526      , L0008527      , L0008528      ,  
                  , L0008530      , L0008531      ,  
  
 L0008537      L0008532      , L0008533      , L0008534      , L0008535      , L0008536      ,  
                  , L0008538      , L0008539      ,  
  
 L0008545      L0008540      , L0008541      , L0008542      , L0008543      , L0008544      ,  
                  , L0008546      , L0008547      ,  
  
 L0008553      L0008548      , L0008549      , L0008550      , L0008551      , L0008552      ,  
                  , L0008554      , L0008555      ,  
  
 L0008561      L0008556      , L0008557      , L0008558      , L0008559      , L0008560      ,  
                  , L0008562      , L0008563      ,  
  
 L0008569      L0008564      , L0008565      , L0008566      , L0008567      , L0008568      ,  
                  , L0008570      , L0008571      ,

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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID  
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SOURCE IDs  
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L0008577      L0008572      , L0008573      , L0008574      , L0008575      , L0008576      ,  
                  , L0008578      , L0008579      ,

L0008585	L0008580 , L0008586	, L0008581 , L0008587	, L0008582 ,	, L0008583	, L0008584	,
L0008593	L0008588 , L0008594	, L0008589 , L0008595	, L0008590 ,	, L0008591	, L0008592	,
L0008601	L0008596 , L0008602	, L0008597 , L0008603	, L0008598 ,	, L0008599	, L0008600	,
L0008609	L0008604 , L0008610	, L0008605 , L0008611	, L0008606 ,	, L0008607	, L0008608	,
L0008617	L0008612 , L0008618	, L0008613 , L0008619	, L0008614 ,	, L0008615	, L0008616	,
L0008625	L0008620 , L0008626	, L0008621 , L0008627	, L0008622 ,	, L0008623	, L0008624	,
L0008633	L0008628 , L0008634	, L0008629 , L0008635	, L0008630 ,	, L0008631	, L0008632	,
L0008641	L0008636 , L0008642	, L0008637 , L0008643	, L0008638 ,	, L0008639	, L0008640	,
L0008649	L0008644 , L0008650	, L0008645 , L0008651	, L0008646 ,	, L0008647	, L0008648	,
L0008657	L0008652 , L0008658	, L0008653 , L0008659	, L0008654 ,	, L0008655	, L0008656	,
L0008665	L0008660 , L0008666	, L0008661 , L0008667	, L0008662 ,	, L0008663	, L0008664	,
L0008673	L0008668 , L0008674	, L0008669 , L0008675	, L0008670 ,	, L0008671	, L0008672	,
L0008681	L0008676 , L0008682	, L0008677 , L0008683	, L0008678 ,	, L0008679	, L0008680	,
L0008689	L0008684 , L0008690	, L0008685 , L0008691	, L0008686 ,	, L0008687	, L0008688	,
L0008697	L0008692 , L0008698	, L0008693 , L0008699	, L0008694 ,	, L0008695	, L0008696	,
L0008705	L0008700 , L0008706	, L0008701 , L0008707	, L0008702 ,	, L0008703	, L0008704	,

L0008713      L0008708      , L0008709      , L0008710      , L0008711      , L0008712      ,  
                  , L0008714      , L0008715      ,  
  
 L0008721      L0008716      , L0008717      , L0008718      , L0008719      , L0008720      ,  
                  , L0008722      , L0008723      ,  
  
 L0008729      L0008724      , L0008725      , L0008726      , L0008727      , L0008728      ,  
                  , L0008730      , L0008731      ,  
 ▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID	SOURCE IDs					
-----	-----					
L0008737	L0008732	, L0008733	, L0008734	, L0008735	, L0008736	,
	, L0008738	, L0008739	,			
L0008745	L0008740	, L0008741	, L0008742	, L0008743	, L0008744	,
	, L0008746	, L0008747	,			
L0008753	L0008748	, L0008749	, L0008750	, L0008751	, L0008752	,
	, L0008754	, L0008755	,			
L0008761	L0008756	, L0008757	, L0008758	, L0008759	, L0008760	,
	, L0008762	, L0008763	,			
L0008769	L0008764	, L0008765	, L0008766	, L0008767	, L0008768	,
	, L0008770	, L0008771	,			
L0008777	L0008772	, L0008773	, L0008774	, L0008775	, L0008776	,
	, L0008778	, L0008779	,			
L0008785	L0008780	, L0008781	, L0008782	, L0008783	, L0008784	,
	, L0008786	, L0008787	,			
L0008793	L0008788	, L0008789	, L0008790	, L0008791	, L0008792	,
	, L0008794	, L0008795	,			
L0008801	L0008796	, L0008797	, L0008798	, L0008799	, L0008800	,
	, L0008802	, L0008803	,			

L0008809      L0008804      , L0008805      , L0008806      , L0008807      , L0008808      ,  
                  , L0008810      , L0008811      ,  
  
 L0008817      L0008812      , L0008813      , L0008814      , L0008815      , L0008816      ,  
                  , L0008818      , L0008819      ,  
  
 L0008825      L0008820      , L0008821      , L0008822      , L0008823      , L0008824      ,  
                  , L0008826      , L0008827      ,  
  
 L0008833      L0008828      , L0008829      , L0008830      , L0008831      , L0008832      ,  
                  , L0008834      , L0008835      ,  
  
 L0008841      L0008836      , L0008837      , L0008838      , L0008839      , L0008840      ,  
                  , L0008842      , L0008843      ,  
  
 L0008849      L0008844      , L0008845      , L0008846      , L0008847      , L0008848      ,  
                  , L0008850      , L0008851      ,  
  
 L0008857      L0008852      , L0008853      , L0008854      , L0008855      , L0008856      ,  
                  , L0008858      , L0008859      ,  
  
 L0008865      L0008860      , L0008861      , L0008862      , L0008863      , L0008864      ,  
                  , L0008866      , L0008867      ,  
  
 L0008873      L0008868      , L0008869      , L0008870      , L0008871      , L0008872      ,  
                  , L0008874      , L0008875      ,  
  
 L0008881      L0008876      , L0008877      , L0008878      , L0008879      , L0008880      ,  
                  , L0008882      , L0008883      ,  
  
 L0008889      L0008884      , L0008885      , L0008886      , L0008887      , L0008888      ,  
                  , L0008890      , L0008891      ,

^ \*\*\* AERMOD - VERSION 21112 \*\*\*      C:\Lakes\AERMOD  
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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID  
-----

SOURCE IDs  
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L0008892      , L0008893      , L0008894      , L0008895      , L0008896      ,

L0008897 , L0008898 , L0008899 ,  
 L0008905 L0008900 , L0008901 , L0008902 , L0008903 , L0008904 ,  
 , L0008906 , L0008907 ,  
 L0008913 L0008908 , L0008909 , L0008910 , L0008911 , L0008912 ,  
 , L0008914 , L0008915 ,  
 L0008921 L0008916 , L0008917 , L0008918 , L0008919 , L0008920 ,  
 , L0008922 , L0008923 ,  
 L0008929 L0008924 , L0008925 , L0008926 , L0008927 , L0008928 ,  
 , L0008930 , L0008931 ,  
 L0008937 L0008932 , L0008933 , L0008934 , L0008935 , L0008936 ,  
 , L0008938 , L0008939 ,  
 L0008945 L0008940 , L0008941 , L0008942 , L0008943 , L0008944 ,  
 , L0008946 , L0008947 ,  
 L0008953 L0008948 , L0008949 , L0008950 , L0008951 , L0008952 ,  
 , L0008954 , L0008955 ,  
 L0008961 L0008956 , L0008957 , L0008958 , L0008959 , L0008960 ,  
 , L0008962 , L0008963 ,  
 L0008969 L0008964 , L0008965 , L0008966 , L0008967 , L0008968 ,  
 , L0008970 , L0008971 ,  
 L0008977 L0008972 , L0008973 , L0008974 , L0008975 , L0008976 ,  
 , L0008978 , L0008979 ,  
 L0008985 L0008980 , L0008981 , L0008982 , L0008983 , L0008984 ,  
 , L0008986 , L0008987 ,  
 L0008993 L0008988 , L0008989 , L0008990 , L0008991 , L0008992 ,  
 , L0008994 , L0008995 ,  
 L0009001 L0008996 , L0008997 , L0008998 , L0008999 , L0009000 ,  
 , L0009002 , L0009003 ,  
 L0009009 L0009004 , L0009005 , L0009006 , L0009007 , L0009008 ,  
 , L0009010 , L0009011 ,  
 L0009017 L0009012 , L0009013 , L0009014 , L0009015 , L0009016 ,  
 , L0009018 , L0009019 ,  
 L0009025 L0009020 , L0009021 , L0009022 , L0009023 , L0009024 ,  
 , L0009026 , L0009027 ,

L0009033      L0009028      , L0009029      , L0009030      , L0009031      , L0009032      ,  
                 , L0009034      , L0009035      ,

L0009041      L0009036      , L0009037      , L0009038      , L0009039      , L0009040      ,  
                 , L0009042      , L0009043      ,

L0009049      L0009044      , L0009045      , L0009046      , L0009047      , L0009048      ,  
                 , L0009050      , L0009051      ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID	SOURCE IDs
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L0009057	L0009052      , L0009053      , L0009054      , L0009055      , L0009056      , , L0009058      , L0009059      ,
L0009065	L0009060      , L0009061      , L0009062      , L0009063      , L0009064      , , L0009066      , L0009067      ,
L0009073	L0009068      , L0009069      , L0009070      , L0009071      , L0009072      , , L0009074      , L0009075      ,
L0009081	L0009076      , L0009077      , L0009078      , L0009079      , L0009080      , , L0009082      , L0009083      ,
L0009089	L0009084      , L0009085      , L0009086      , L0009087      , L0009088      , , L0009090      , L0009091      ,
L0009097	L0009092      , L0009093      , L0009094      , L0009095      , L0009096      , , L0009098      , L0009099      ,
L0009105	L0009100      , L0009101      , L0009102      , L0009103      , L0009104      , , L0009106      , L0009107      ,
L0009113	L0009108      , L0009109      , L0009110      , L0009111      , L0009112      , , L0009114      , L0009115      ,
	L0009116      , L0009117      , L0009118      , L0009119      , L0009120      ,



L0009121 , L0009122 , L0009123 ,  
 L0009129 , L0009130 , L0009131 , L0009124 , L0009125 , L0009126 , L0009127 , L0009128 ,  
 L0009137 , L0009138 , L0009139 , L0009132 , L0009133 , L0009134 , L0009135 , L0009136 ,  
 L0009145 , L0009146 , L0009147 , L0009140 , L0009141 , L0009142 , L0009143 , L0009144 ,  
 L0009153 , L0009154 , L0009155 , L0009148 , L0009149 , L0009150 , L0009151 , L0009152 ,  
 L0009161 , L0009162 , L0009163 , L0009156 , L0009157 , L0009158 , L0009159 , L0009160 ,  
 L0009169 , L0009170 , L0009171 , L0009164 , L0009165 , L0009166 , L0009167 , L0009168 ,  
 L0009177 , L0009178 , L0009179 , L0009172 , L0009173 , L0009174 , L0009175 , L0009176 ,  
 L0009185 , L0009186 , L0009187 , L0009180 , L0009181 , L0009182 , L0009183 , L0009184 ,  
 L0009193 , L0009194 , L0009195 , L0009188 , L0009189 , L0009190 , L0009191 , L0009192 ,  
 L0009201 , L0009202 , L0009203 , L0009196 , L0009197 , L0009198 , L0009199 , L0009200 ,  
 L0009209 , L0009210 , L0009211 , L0009204 , L0009205 , L0009206 , L0009207 , L0009208 ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID  
-----

SOURCE IDs  
-----

L0009217      L0009212      , L0009213      , L0009214      , L0009215      , L0009216      ,  
                   , L0009218      , L0009219      ,  
 L0009225      L0009220      , L0009221      , L0009222      , L0009223      , L0009224      ,  
                   , L0009226      , L0009227      ,  
 L0009233      L0009228      , L0009229      , L0009230      , L0009231      , L0009232      ,  
                   , L0009234      , L0009235      ,  
 L0009241      L0009236      , L0009237      , L0009238      , L0009239      , L0009240      ,  
                   , L0009242      , L0009243      ,  
 L0009249      L0009244      , L0009245      , L0009246      , L0009247      , L0009248      ,  
                   , L0009250      , L0009251      ,  
 L0009257      L0009252      , L0009253      , L0009254      , L0009255      , L0009256      ,  
                   , L0009258      , L0009259      ,  
 L0009265      L0009260      , L0009261      , L0009262      , L0009263      , L0009264      ,  
                   , L0009266      , L0009267      ,  
 L0009273      L0009268      , L0009269      , L0009270      , L0009271      , L0009272      ,  
                   , L0009274      , L0009275      ,  
 L0009281      L0009276      , L0009277      , L0009278      , L0009279      , L0009280      ,  
                   , L0009282      , L0009283      ,  
 L0009289      L0009284      , L0009285      , L0009286      , L0009287      , L0009288      ,  
                   , L0009290      , L0009291      ,  
 L0009297      L0009292      , L0009293      , L0009294      , L0009295      , L0009296      ,  
                   , L0009298      , L0009299      ,  
 L0009305      L0009300      , L0009301      , L0009302      , L0009303      , L0009304      ,  
                   , L0009306      , L0009307      ,  
 L0009313      L0009308      , L0009309      , L0009310      , L0009311      , L0009312      ,  
                   , L0009314      , L0009315      ,  
 L0009321      L0009316      , L0009317      , L0009318      , L0009319      , L0009320      ,  
                   , L0009322      , L0009323      ,  
 L0009329      L0009324      , L0009325      , L0009326      , L0009327      , L0009328      ,  
                   , L0009330      , L0009331      ,  
 L0009337      L0009332      , L0009333      , L0009334      , L0009335      , L0009336      ,  
                   , L0009338      , L0009339      ,  
                   L0009340      , L0009341      , L0009342      , L0009343      , L0009344      ,

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L0009345 , L0009346 , L0009347 ,
      L0009348 , L0009349 , L0009350 , L0009351 , L0009352 ,
L0009353 , L0009354 , L0009355 ,
      L0009356 , L0009357 , L0009358 , L0009359 , L0009360 ,
L0009361 , L0009362 , L0009363 ,
      L0009364 , L0009365 , L0009366 , L0009367 , L0009368 ,
L0009369 , L0009370 , L0009371 ,
^ *** AERMOD - VERSION 21112 *** *** C:\Lakes\AERMOD
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID	SOURCE IDs
-----	-----
L0009377	L0009372 , L0009373 , L0009374 , L0009375 , L0009376 , L0009378 , L0009379 ,
L0009385	L0009380 , L0009381 , L0009382 , L0009383 , L0009384 , L0009386 , L0009387 ,
L0009393	L0009388 , L0009389 , L0009390 , L0009391 , L0009392 , L0009394 , L0009395 ,
L0009401	L0009396 , L0009397 , L0009398 , L0009399 , L0009400 , L0009402 , L0009403 ,
L0009409	L0009404 , L0009405 , L0009406 , L0009407 , L0009408 , L0009410 , L0009411 ,
L0009417	L0009412 , L0009413 , L0009414 , L0009415 , L0009416 , L0009418 , L0009419 ,
L0009425	L0009420 , L0009421 , L0009422 , L0009423 , L0009424 , L0009426 , L0009427 ,
L0009433	L0009428 , L0009429 , L0009430 , L0009431 , L0009432 , L0009434 , L0009435 ,

L0009441      L0009436      , L0009437      , L0009438      , L0009439      , L0009440      ,  
                  , L0009442      , L0009443      ,  
  
 L0009449      L0009444      , L0009445      , L0009446      , L0009447      , L0009448      ,  
                  , L0009450      , L0009451      ,  
  
 L0009457      L0009452      , L0009453      , L0009454      , L0009455      , L0009456      ,  
                  , L0009458      , L0009459      ,  
  
 L0009465      L0009460      , L0009461      , L0009462      , L0009463      , L0009464      ,  
                  , L0009466      ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID	URBAN POP	SOURCE IDs
-----	-----	-----
L0008416	2035210.	L0008412 , L0008413 , L0008414 , L0008415 ,
L0008419	, L0008417	, L0008418 ,
	, L0008419	,
L0008425	L0008420	, L0008421 , L0008422 , L0008423 , L0008424 ,
	, L0008426	, L0008427 ,
L0008433	L0008428	, L0008429 , L0008430 , L0008431 , L0008432 ,
	, L0008434	, L0008435 ,
L0008441	L0008436	, L0008437 , L0008438 , L0008439 , L0008440 ,
	, L0008442	, L0008443 ,
L0008449	L0008444	, L0008445 , L0008446 , L0008447 , L0008448 ,
	, L0008450	, L0008451 ,
L0008457	L0008452	, L0008453 , L0008454 , L0008455 , L0008456 ,
	, L0008458	, L0008459 ,
L0008465	L0008460	, L0008461 , L0008462 , L0008463 , L0008464 ,
	, L0008466	, L0008467 ,

L0008473      L0008468      , L0008469      , L0008470      , L0008471      , L0008472      ,  
                   , L0008474      , L0008475      ,  
  
 L0008481      L0008476      , L0008477      , L0008478      , L0008479      , L0008480      ,  
                   , L0008482      , L0008483      ,  
  
 L0008489      L0008484      , L0008485      , L0008486      , L0008487      , L0008488      ,  
                   , L0008490      , L0008491      ,  
  
 L0008497      L0008492      , L0008493      , L0008494      , L0008495      , L0008496      ,  
                   , L0008498      , L0008499      ,  
  
 L0008505      L0008500      , L0008501      , L0008502      , L0008503      , L0008504      ,  
                   , L0008506      , L0008507      ,  
  
 L0008513      L0008508      , L0008509      , L0008510      , L0008511      , L0008512      ,  
                   , L0008514      , L0008515      ,  
  
 L0008521      L0008516      , L0008517      , L0008518      , L0008519      , L0008520      ,  
                   , L0008522      , L0008523      ,  
  
 L0008529      L0008524      , L0008525      , L0008526      , L0008527      , L0008528      ,  
                   , L0008530      , L0008531      ,  
  
 L0008537      L0008532      , L0008533      , L0008534      , L0008535      , L0008536      ,  
                   , L0008538      , L0008539      ,  
  
 L0008545      L0008540      , L0008541      , L0008542      , L0008543      , L0008544      ,  
                   , L0008546      , L0008547      ,  
  
 L0008553      L0008548      , L0008549      , L0008550      , L0008551      , L0008552      ,  
                   , L0008554      , L0008555      ,  
  
 L0008561      L0008556      , L0008557      , L0008558      , L0008559      , L0008560      ,  
                   , L0008562      , L0008563      ,  
  
 L0008569      L0008564      , L0008565      , L0008566      , L0008567      , L0008568      ,  
                   , L0008570      , L0008571      ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID -----	URBAN POP -----	SOURCE IDs -----				
L0008577	L0008572 , L0008578	, L0008573 , L0008579	, L0008574 ,	, L0008575 ,	, L0008576 ,	,
L0008585	L0008580 , L0008586	, L0008581 , L0008587	, L0008582 ,	, L0008583 ,	, L0008584 ,	,
L0008593	L0008588 , L0008594	, L0008589 , L0008595	, L0008590 ,	, L0008591 ,	, L0008592 ,	,
L0008601	L0008596 , L0008602	, L0008597 , L0008603	, L0008598 ,	, L0008599 ,	, L0008600 ,	,
L0008609	L0008604 , L0008610	, L0008605 , L0008611	, L0008606 ,	, L0008607 ,	, L0008608 ,	,
L0008617	L0008612 , L0008618	, L0008613 , L0008619	, L0008614 ,	, L0008615 ,	, L0008616 ,	,
L0008625	L0008620 , L0008626	, L0008621 , L0008627	, L0008622 ,	, L0008623 ,	, L0008624 ,	,
L0008633	L0008628 , L0008634	, L0008629 , L0008635	, L0008630 ,	, L0008631 ,	, L0008632 ,	,
L0008641	L0008636 , L0008642	, L0008637 , L0008643	, L0008638 ,	, L0008639 ,	, L0008640 ,	,
L0008649	L0008644 , L0008650	, L0008645 , L0008651	, L0008646 ,	, L0008647 ,	, L0008648 ,	,
L0008657	L0008652 , L0008658	, L0008653 , L0008659	, L0008654 ,	, L0008655 ,	, L0008656 ,	,
L0008665	L0008660 , L0008666	, L0008661 , L0008667	, L0008662 ,	, L0008663 ,	, L0008664 ,	,
L0008673	L0008668 , L0008674	, L0008669 , L0008675	, L0008670 ,	, L0008671 ,	, L0008672 ,	,
L0008681	L0008676 , L0008682	, L0008677 , L0008683	, L0008678 ,	, L0008679 ,	, L0008680 ,	,
L0008689	L0008684 , L0008690	, L0008685 , L0008691	, L0008686 ,	, L0008687 ,	, L0008688 ,	,

L0008697      L0008692      , L0008693      , L0008694      , L0008695      , L0008696      ,  
                  , L0008698      , L0008699      ,  
  
 L0008705      L0008700      , L0008701      , L0008702      , L0008703      , L0008704      ,  
                  , L0008706      , L0008707      ,  
  
 L0008713      L0008708      , L0008709      , L0008710      , L0008711      , L0008712      ,  
                  , L0008714      , L0008715      ,  
  
 L0008721      L0008716      , L0008717      , L0008718      , L0008719      , L0008720      ,  
                  , L0008722      , L0008723      ,  
  
 L0008729      L0008724      , L0008725      , L0008726      , L0008727      , L0008728      ,  
                  , L0008730      , L0008731      ,

\*\*\* AERMOD - VERSION 21112 \*\*\*      C:\Lakes\AERMOD  
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\*\*\* MODELOPTs:      RegDFault      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID	URBAN POP	SOURCE IDs
-----	-----	-----
L0008737	L0008732      , L0008738	L0008733      , L0008734      , L0008735      , L0008736      , , L0008739      ,
L0008745	L0008740      , L0008746	L0008741      , L0008742      , L0008743      , L0008744      , , L0008747      ,
L0008753	L0008748      , L0008754	L0008749      , L0008750      , L0008751      , L0008752      , , L0008755      ,
L0008761	L0008756      , L0008762	L0008757      , L0008758      , L0008759      , L0008760      , , L0008763      ,
L0008769	L0008764      , L0008770	L0008765      , L0008766      , L0008767      , L0008768      , , L0008771      ,
L0008777	L0008772      , L0008778	L0008773      , L0008774      , L0008775      , L0008776      , , L0008779      ,

L0008785      L0008780      , L0008781      , L0008782      , L0008783      , L0008784      ,  
                  , L0008786      , L0008787      ,  
  
 L0008793      L0008788      , L0008789      , L0008790      , L0008791      , L0008792      ,  
                  , L0008794      , L0008795      ,  
  
 L0008801      L0008796      , L0008797      , L0008798      , L0008799      , L0008800      ,  
                  , L0008802      , L0008803      ,  
  
 L0008809      L0008804      , L0008805      , L0008806      , L0008807      , L0008808      ,  
                  , L0008810      , L0008811      ,  
  
 L0008817      L0008812      , L0008813      , L0008814      , L0008815      , L0008816      ,  
                  , L0008818      , L0008819      ,  
  
 L0008825      L0008820      , L0008821      , L0008822      , L0008823      , L0008824      ,  
                  , L0008826      , L0008827      ,  
  
 L0008833      L0008828      , L0008829      , L0008830      , L0008831      , L0008832      ,  
                  , L0008834      , L0008835      ,  
  
 L0008841      L0008836      , L0008837      , L0008838      , L0008839      , L0008840      ,  
                  , L0008842      , L0008843      ,  
  
 L0008849      L0008844      , L0008845      , L0008846      , L0008847      , L0008848      ,  
                  , L0008850      , L0008851      ,  
  
 L0008857      L0008852      , L0008853      , L0008854      , L0008855      , L0008856      ,  
                  , L0008858      , L0008859      ,  
  
 L0008865      L0008860      , L0008861      , L0008862      , L0008863      , L0008864      ,  
                  , L0008866      , L0008867      ,  
  
 L0008873      L0008868      , L0008869      , L0008870      , L0008871      , L0008872      ,  
                  , L0008874      , L0008875      ,  
  
 L0008881      L0008876      , L0008877      , L0008878      , L0008879      , L0008880      ,  
                  , L0008882      , L0008883      ,  
  
 L0008889      L0008884      , L0008885      , L0008886      , L0008887      , L0008888      ,  
                  , L0008890      , L0008891      ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*      08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
                  \*\*\*      14:28:23

\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*



\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID -----	URBAN POP -----	SOURCE IDs -----					
L0008897	L0008892 , L0008898	, L0008893 , L0008899	, L0008894 ,	, L0008895	, L0008896	,	
L0008905	L0008900 , L0008906	, L0008901 , L0008907	, L0008902 ,	, L0008903	, L0008904	,	
L0008913	L0008908 , L0008914	, L0008909 , L0008915	, L0008910 ,	, L0008911	, L0008912	,	
L0008921	L0008916 , L0008922	, L0008917 , L0008923	, L0008918 ,	, L0008919	, L0008920	,	
L0008929	L0008924 , L0008930	, L0008925 , L0008931	, L0008926 ,	, L0008927	, L0008928	,	
L0008937	L0008932 , L0008938	, L0008933 , L0008939	, L0008934 ,	, L0008935	, L0008936	,	
L0008945	L0008940 , L0008946	, L0008941 , L0008947	, L0008942 ,	, L0008943	, L0008944	,	
L0008953	L0008948 , L0008954	, L0008949 , L0008955	, L0008950 ,	, L0008951	, L0008952	,	
L0008961	L0008956 , L0008962	, L0008957 , L0008963	, L0008958 ,	, L0008959	, L0008960	,	
L0008969	L0008964 , L0008970	, L0008965 , L0008971	, L0008966 ,	, L0008967	, L0008968	,	
L0008977	L0008972 , L0008978	, L0008973 , L0008979	, L0008974 ,	, L0008975	, L0008976	,	
L0008985	L0008980 , L0008986	, L0008981 , L0008987	, L0008982 ,	, L0008983	, L0008984	,	
L0008993	L0008988 , L0008994	, L0008989 , L0008995	, L0008990 ,	, L0008991	, L0008992	,	
L0009001	L0008996 , L0009002	, L0008997 , L0009003	, L0008998 ,	, L0008999	, L0009000	,	

L0009009      L0009004 , L0009005 , L0009006 , L0009007 , L0009008 ,  
                   , L0009010 , L0009011 ,  
  
 L0009017      L0009012 , L0009013 , L0009014 , L0009015 , L0009016 ,  
                   , L0009018 , L0009019 ,  
  
 L0009025      L0009020 , L0009021 , L0009022 , L0009023 , L0009024 ,  
                   , L0009026 , L0009027 ,  
  
 L0009033      L0009028 , L0009029 , L0009030 , L0009031 , L0009032 ,  
                   , L0009034 , L0009035 ,  
  
 L0009041      L0009036 , L0009037 , L0009038 , L0009039 , L0009040 ,  
                   , L0009042 , L0009043 ,  
  
 L0009049      L0009044 , L0009045 , L0009046 , L0009047 , L0009048 ,  
                   , L0009050 , L0009051 ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*      08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
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\*\*\* MODELOPTs:      RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID	URBAN POP	SOURCE IDs
-----	-----	-----
L0009057	L0009052 , L0009058	L0009053 , L0009054 , L0009055 , L0009056 , L0009059
L0009065	L0009060 , L0009066	L0009061 , L0009062 , L0009063 , L0009064 , L0009067
L0009073	L0009068 , L0009074	L0009069 , L0009070 , L0009071 , L0009072 , L0009075
L0009081	L0009076 , L0009082	L0009077 , L0009078 , L0009079 , L0009080 , L0009083
L0009089	L0009084 , L0009090	L0009085 , L0009086 , L0009087 , L0009088 , L0009091

L0009097      L0009092      , L0009093      , L0009094      , L0009095      , L0009096      ,  
                  , L0009098      , L0009099      ,  
  
 L0009105      L0009100      , L0009101      , L0009102      , L0009103      , L0009104      ,  
                  , L0009106      , L0009107      ,  
  
 L0009113      L0009108      , L0009109      , L0009110      , L0009111      , L0009112      ,  
                  , L0009114      , L0009115      ,  
  
 L0009121      L0009116      , L0009117      , L0009118      , L0009119      , L0009120      ,  
                  , L0009122      , L0009123      ,  
  
 L0009129      L0009124      , L0009125      , L0009126      , L0009127      , L0009128      ,  
                  , L0009130      , L0009131      ,  
  
 L0009137      L0009132      , L0009133      , L0009134      , L0009135      , L0009136      ,  
                  , L0009138      , L0009139      ,  
  
 L0009145      L0009140      , L0009141      , L0009142      , L0009143      , L0009144      ,  
                  , L0009146      , L0009147      ,  
  
 L0009153      L0009148      , L0009149      , L0009150      , L0009151      , L0009152      ,  
                  , L0009154      , L0009155      ,  
  
 L0009161      L0009156      , L0009157      , L0009158      , L0009159      , L0009160      ,  
                  , L0009162      , L0009163      ,  
  
 L0009169      L0009164      , L0009165      , L0009166      , L0009167      , L0009168      ,  
                  , L0009170      , L0009171      ,  
  
 L0009177      L0009172      , L0009173      , L0009174      , L0009175      , L0009176      ,  
                  , L0009178      , L0009179      ,  
  
 L0009185      L0009180      , L0009181      , L0009182      , L0009183      , L0009184      ,  
                  , L0009186      , L0009187      ,  
  
 L0009193      L0009188      , L0009189      , L0009190      , L0009191      , L0009192      ,  
                  , L0009194      , L0009195      ,  
  
 L0009201      L0009196      , L0009197      , L0009198      , L0009199      , L0009200      ,  
                  , L0009202      , L0009203      ,  
  
 L0009209      L0009204      , L0009205      , L0009206      , L0009207      , L0009208      ,  
                  , L0009210      , L0009211      ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*      08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
                  \*\*\*      14:28:23

\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID	URBAN POP	SOURCE IDs					
-----	-----	-----					
L0009217	L0009212 , L0009218	, L0009213 , L0009219	, L0009214 ,	, L0009215 ,	, L0009216 ,	,	
L0009225	L0009220 , L0009226	, L0009221 , L0009227	, L0009222 ,	, L0009223 ,	, L0009224 ,	,	
L0009233	L0009228 , L0009234	, L0009229 , L0009235	, L0009230 ,	, L0009231 ,	, L0009232 ,	,	
L0009241	L0009236 , L0009242	, L0009237 , L0009243	, L0009238 ,	, L0009239 ,	, L0009240 ,	,	
L0009249	L0009244 , L0009250	, L0009245 , L0009251	, L0009246 ,	, L0009247 ,	, L0009248 ,	,	
L0009257	L0009252 , L0009258	, L0009253 , L0009259	, L0009254 ,	, L0009255 ,	, L0009256 ,	,	
L0009265	L0009260 , L0009266	, L0009261 , L0009267	, L0009262 ,	, L0009263 ,	, L0009264 ,	,	
L0009273	L0009268 , L0009274	, L0009269 , L0009275	, L0009270 ,	, L0009271 ,	, L0009272 ,	,	
L0009281	L0009276 , L0009282	, L0009277 , L0009283	, L0009278 ,	, L0009279 ,	, L0009280 ,	,	
L0009289	L0009284 , L0009290	, L0009285 , L0009291	, L0009286 ,	, L0009287 ,	, L0009288 ,	,	
L0009297	L0009292 , L0009298	, L0009293 , L0009299	, L0009294 ,	, L0009295 ,	, L0009296 ,	,	
L0009305	L0009300 , L0009306	, L0009301 , L0009307	, L0009302 ,	, L0009303 ,	, L0009304 ,	,	
L0009313	L0009308 , L0009314	, L0009309 , L0009315	, L0009310 ,	, L0009311 ,	, L0009312 ,	,	

L0009321      L0009316      , L0009317      , L0009318      , L0009319      , L0009320      ,  
                   , L0009322      , L0009323      ,  
  
 L0009329      L0009324      , L0009325      , L0009326      , L0009327      , L0009328      ,  
                   , L0009330      , L0009331      ,  
  
 L0009337      L0009332      , L0009333      , L0009334      , L0009335      , L0009336      ,  
                   , L0009338      , L0009339      ,  
  
 L0009345      L0009340      , L0009341      , L0009342      , L0009343      , L0009344      ,  
                   , L0009346      , L0009347      ,  
  
 L0009353      L0009348      , L0009349      , L0009350      , L0009351      , L0009352      ,  
                   , L0009354      , L0009355      ,  
  
 L0009361      L0009356      , L0009357      , L0009358      , L0009359      , L0009360      ,  
                   , L0009362      , L0009363      ,  
  
 L0009369      L0009364      , L0009365      , L0009366      , L0009367      , L0009368      ,  
                   , L0009370      , L0009371      ,

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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID	URBAN POP	SOURCE IDs				
-----	-----	-----				
L0009377	L0009372 , L0009378	, L0009373 , L0009379	, L0009374 ,	, L0009375	, L0009376	,
L0009385	L0009380 , L0009386	, L0009381 , L0009387	, L0009382 ,	, L0009383	, L0009384	,
L0009393	L0009388 , L0009394	, L0009389 , L0009395	, L0009390 ,	, L0009391	, L0009392	,
L0009401	L0009396 , L0009402	, L0009397 , L0009403	, L0009398 ,	, L0009399	, L0009400	,

L0009409      L0009404      , L0009405      , L0009406      , L0009407      , L0009408      ,  
                  , L0009410      , L0009411      ,  
  
 L0009417      L0009412      , L0009413      , L0009414      , L0009415      , L0009416      ,  
                  , L0009418      , L0009419      ,  
  
 L0009425      L0009420      , L0009421      , L0009422      , L0009423      , L0009424      ,  
                  , L0009426      , L0009427      ,  
  
 L0009433      L0009428      , L0009429      , L0009430      , L0009431      , L0009432      ,  
                  , L0009434      , L0009435      ,  
  
 L0009441      L0009436      , L0009437      , L0009438      , L0009439      , L0009440      ,  
                  , L0009442      , L0009443      ,  
  
 L0009449      L0009444      , L0009445      , L0009446      , L0009447      , L0009448      ,  
                  , L0009450      , L0009451      ,  
  
 L0009457      L0009452      , L0009453      , L0009454      , L0009455      , L0009456      ,  
                  , L0009458      , L0009459      ,  
  
 L0009465      L0009460      , L0009461      , L0009462      , L0009463      , L0009464      ,  
                  , L0009466      ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*      08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
 (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
 (METERS)

( 440566.1, 3761307.7,      204.0,      204.0,      0.0);      ( 440754.0,  
 3761303.2,      204.1,      204.1,      0.0);  
 ( 440851.5, 3761299.5,      204.2,      204.2,      0.0);      ( 440971.9,  
 3761298.6,      204.3,      204.3,      0.0);  
 ( 440893.9, 3761226.5,      204.0,      204.0,      0.0);      ( 441213.1,  
 3761237.7,      204.1,      204.1,      0.0);  
 ( 441159.8, 3761390.7,      205.1,      205.1,      0.0);      ( 441227.4,  
 3761481.3,      206.3,      206.3,      0.0);  
 ( 441082.1, 3761541.4,      206.4,      206.4,      0.0);      ( 441232.2,  
 3761830.6,      208.8,      208.8,      0.0);  
 ( 441646.9, 3761227.7,      205.0,      205.0,      0.0);      ( 441817.1,  
 3761247.3,      205.5,      205.5,      0.0);  
 ( 442032.0, 3761370.5,      206.8,      206.8,      0.0);      ( 442032.0,  
 3761419.3,      207.1,      207.1,      0.0);

( 442027.4, 3761327.6, 206.3, 206.3, 0.0); ( 441953.5,  
 3761508.7, 207.9, 207.9, 0.0);  
 ( 442028.7, 3761572.7, 208.0, 208.0, 0.0); ( 440323.6,  
 3761295.4, 203.4, 203.4, 0.0);  
 ( 440261.5, 3761302.2, 203.4, 203.4, 0.0); ( 440432.9,  
 3761497.0, 205.5, 205.5, 0.0);  
 ( 440427.0, 3761600.6, 206.9, 206.9, 0.0); ( 440485.5,  
 3762029.1, 210.9, 210.9, 0.0);  
 ( 440533.9, 3762035.0, 211.0, 211.0, 0.0); ( 440588.1,  
 3762035.0, 211.0, 211.0, 0.0);  
 ( 440657.3, 3762052.1, 211.3, 211.3, 0.0); ( 440598.0,  
 3762118.1, 211.9, 211.9, 0.0);  
 ( 440232.0, 3762035.2, 210.5, 210.5, 0.0); ( 440283.8,  
 3762037.1, 210.7, 210.7, 0.0);  
 ( 440897.0, 3762038.4, 211.6, 211.6, 0.0); ( 439514.8,  
 3761885.5, 206.7, 206.7, 0.0);  
 ( 439564.8, 3761885.5, 207.0, 207.0, 0.0); ( 439864.8,  
 3761885.5, 208.0, 208.0, 0.0);  
 ( 439514.8, 3761935.5, 208.8, 208.8, 0.0); ( 439564.8,  
 3761935.5, 208.2, 208.2, 0.0);  
 ( 439864.8, 3761935.5, 208.4, 208.4, 0.0); ( 439514.8,  
 3761985.5, 208.5, 208.5, 0.0);  
 ( 439564.8, 3761985.5, 208.5, 208.5, 0.0); ( 439864.8,  
 3761985.5, 209.1, 209.1, 0.0);  
 ( 439514.8, 3762035.5, 209.1, 209.1, 0.0); ( 439564.8,  
 3762035.5, 209.2, 209.2, 0.0);  
 ( 439864.8, 3762035.5, 209.4, 209.4, 0.0); ( 439864.8,  
 3762085.5, 210.1, 210.1, 0.0);  
 ( 439514.8, 3762135.5, 210.0, 210.0, 0.0); ( 439564.8,  
 3762135.5, 210.2, 210.2, 0.0);  
 ( 439614.8, 3762135.5, 210.3, 210.3, 0.0); ( 439664.8,  
 3762135.5, 211.0, 211.0, 0.0);  
 ( 439714.8, 3762135.5, 211.3, 211.3, 0.0); ( 439764.8,  
 3762135.5, 211.5, 211.5, 0.0);  
 ( 439864.8, 3762135.5, 210.6, 210.6, 0.0); ( 439512.6,  
 3760864.6, 197.9, 197.9, 0.0);  
 ( 439562.6, 3760864.6, 198.0, 198.0, 0.0); ( 439612.6,  
 3760864.6, 198.1, 198.1, 0.0);  
 ( 439662.6, 3760864.6, 198.4, 198.4, 0.0); ( 439712.6,  
 3760864.6, 198.7, 198.7, 0.0);  
 ( 439762.6, 3760864.6, 199.0, 199.0, 0.0); ( 439812.6,  
 3760864.6, 198.9, 198.9, 0.0);  
 ( 439862.6, 3760864.6, 198.7, 198.7, 0.0); ( 439512.6,  
 3760914.6, 198.4, 198.4, 0.0);  
 ( 439562.6, 3760914.6, 198.9, 198.9, 0.0); ( 439612.6,  
 3760914.6, 198.8, 198.8, 0.0);  
 ( 439662.6, 3760914.6, 199.2, 199.2, 0.0); ( 439712.6,  
 3760914.6, 199.4, 199.4, 0.0);  
 ( 439762.6, 3760914.6, 199.9, 199.9, 0.0); ( 439812.6,

3760914.6, 199.6, 199.6, 0.0);  
 ( 439862.6, 3760914.6, 199.3, 199.3, 0.0); ( 439512.6,  
 3760964.6, 198.7, 198.7, 0.0);  
 ( 439562.6, 3760964.6, 199.3, 199.3, 0.0); ( 439612.6,  
 3760964.6, 199.1, 199.1, 0.0);  
 ( 439662.6, 3760964.6, 199.5, 199.5, 0.0); ( 439712.6,  
 3760964.6, 199.7, 199.7, 0.0);  
 ( 439762.6, 3760964.6, 200.3, 200.3, 0.0); ( 439812.6,  
 3760964.6, 199.9, 199.9, 0.0);  
 ( 439862.6, 3760964.6, 199.7, 199.7, 0.0); ( 439512.6,  
 3761014.6, 199.1, 199.1, 0.0);  
 ( 439562.6, 3761014.6, 199.6, 199.6, 0.0); ( 439612.6,  
 3761014.6, 199.4, 199.4, 0.0);  
 ( 439662.6, 3761014.6, 199.9, 199.9, 0.0); ( 439712.6,  
 3761014.6, 200.1, 200.1, 0.0);  
 ( 439762.6, 3761014.6, 200.7, 200.7, 0.0); ( 439812.6,  
 3761014.6, 200.3, 200.3, 0.0);  
 ( 439862.6, 3761014.6, 200.2, 200.2, 0.0); ( 439512.6,  
 3761064.6, 199.4, 199.4, 0.0);  
 ( 439562.6, 3761064.6, 199.9, 199.9, 0.0); ( 439612.6,  
 3761064.6, 199.8, 199.8, 0.0);  
 ( 439662.6, 3761064.6, 200.2, 200.2, 0.0); ( 439712.6,  
 3761064.6, 200.6, 200.6, 0.0);  
 ( 439762.6, 3761064.6, 201.0, 201.0, 0.0); ( 439812.6,  
 3761064.6, 200.6, 200.6, 0.0);  
 ( 439862.6, 3761064.6, 200.6, 200.6, 0.0); ( 439512.6,  
 3761114.6, 200.0, 200.0, 0.0);

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
 (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
 (METERS)

( 439562.6, 3761114.6, 200.2, 200.2, 0.0); ( 439612.6,  
 3761114.6, 200.3, 200.3, 0.0);  
 ( 439662.6, 3761114.6, 200.6, 200.6, 0.0); ( 439712.6,  
 3761114.6, 200.9, 200.9, 0.0);  
 ( 439762.6, 3761114.6, 201.2, 201.2, 0.0); ( 439812.6,  
 3761114.6, 201.1, 201.1, 0.0);  
 ( 439862.6, 3761114.6, 201.1, 201.1, 0.0); ( 439512.6,  
 3761164.6, 200.8, 200.8, 0.0);  
 ( 439562.6, 3761164.6, 200.9, 200.9, 0.0); ( 439612.6,  
 3761164.6, 201.1, 201.1, 0.0);



( 439662.6, 3761164.6, 201.3, 201.3, 0.0); ( 439712.6,  
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 3761764.6, 205.7, 205.7, 0.0);

^ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
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\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
 (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
 (METERS)

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 ( 439512.6, 3761864.6, 205.8, 205.8, 0.0); ( 439562.6,  
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 ( 439840.0, 3760312.3, 192.6, 192.6, 0.0); ( 439839.7,  
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 ( 439937.4, 3759854.2, 189.2, 189.2, 0.0); ( 439937.7,  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
 (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
 (METERS)

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 ( 445141.7, 3760355.9, 201.5, 201.5, 0.0); ( 445191.7,  
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 ( 445066.9, 3760456.8, 201.9, 201.9, 0.0); ( 445016.9,  
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 ( 444667.0, 3760461.9, 201.5, 201.5, 0.0); ( 444617.0,  
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\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
 (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

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( 443474.9, 3760533.0, 203.8, 203.8, 0.0); ( 443424.9,  
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\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

BE PERFORMED \*  
FASTAREA/FASTALL

\* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT  
LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR

DISTANCE (METERS)	SOURCE	- - RECEPTOR LOCATION - -	
	ID	XR (METERS)	YR (METERS)
- - -			
-9.39	L0008435	440374.9	3760519.4
-17.10	L0008456	439908.5	3760435.0
-0.20	L0008536	439858.5	3760592.9
0.33	L0008539	439859.1	3760692.9
-0.07	L0008540	439859.4	3760742.9
-0.89	L0008543	439860.0	3760842.9
0.15	L0008544	439862.6	3760864.6
-3.34	L0008545	439862.6	3760914.6
-1.09	L0008546	439862.6	3760964.6
-1.67	L0008548	439862.6	3761014.6
-2.73	L0008549	439862.6	3761064.6
-2.49	L0008552	439862.6	3761164.6
-1.08	L0008553	439862.6	3761214.6
-0.40	L0008555	439862.6	3761264.6
-2.24	L0008556	439862.6	3761314.6
-1.53	L0008559	439862.6	3761414.6
-0.94	L0008560	439862.6	3761464.6
	L0008562	439862.6	3761514.6

0.95			
	L0008563	439862.6	3761564.6
-1.62			
	L0008566	439862.6	3761664.6
-0.46			
	L0008567	439862.6	3761714.6
-0.68			
	L0008570	439862.6	3761814.6
-0.89			
	L0008572	439864.8	3761885.5
-2.80			
	L0008573	439864.8	3761935.5
-1.02			
	L0008575	439864.8	3761985.5
-0.90			
	L0008576	439864.8	3762035.5
-2.39			
	L0008579	439864.8	3762135.5
-1.89			
	L0008937	445191.7	3760355.2
-0.24			
	L0008938	445191.7	3760355.2
-25.74			
	L0008939	445191.7	3760355.2

0.25

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* METEOROLOGICAL DAYS SELECTED FOR

PROCESSING \*\*\*

(1=YES; 0=NO)

	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1
1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1			
	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1
1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1			
	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1
1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1			
	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1	1 1 1
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1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1			
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1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1			

```

      1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
      1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

\*\*\* UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES \*\*\*  
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA \*\*\*

Surface file: ..\KCNO\_V9\_ADJU\KCNO\_v9.SFC  
Met Version: 16216  
Profile file: ..\KCNO\_V9\_ADJU\KCNO\_v9.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 3179 Upper air station no.: 3190  
Name: UNKNOWN Name: UNKNOWN  
Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN
ALBEDO	REF	WS	WD	HT	REF	TA	HT							
12	01	01	1	01	-2.3	0.067	-9.000	-9.000	-999.	41.	11.2	0.09	0.74	
1.00	0.73	313.			7.9	279.2	2.0							
12	01	01	1	02	-2.7	0.070	-9.000	-9.000	-999.	44.	11.3	0.09	0.74	
1.00	0.80	342.			7.9	280.9	2.0							
12	01	01	1	03	-5.6	0.098	-9.000	-9.000	-999.	73.	14.7	0.09	0.74	

1.00	1.20	9.	7.9	281.4	2.0								
12	01	01	1	04	-3.5	0.078	-9.000	-9.000	-999.	52.	11.9	0.09	0.74
1.00	0.94	21.	7.9	282.0	2.0								
12	01	01	1	05	-8.4	0.119	-9.000	-9.000	-999.	99.	18.1	0.09	0.74
1.00	1.45	353.	7.9	279.9	2.0								
12	01	01	1	06	-7.6	0.113	-9.000	-9.000	-999.	91.	17.0	0.09	0.74
1.00	1.38	325.	7.9	277.5	2.0								
12	01	01	1	07	-8.0	0.117	-9.000	-9.000	-999.	96.	17.7	0.09	0.74
1.00	1.42	313.	7.9	281.4	2.0								
12	01	01	1	08	-5.2	0.101	-9.000	-9.000	-999.	77.	17.5	0.09	0.74
0.53	1.23	19.	7.9	280.9	2.0								
12	01	01	1	09	23.2	0.117	0.267	0.012	29.	97.	-6.2	0.09	0.74
0.31	0.96	318.	7.9	287.5	2.0								
12	01	01	1	10	65.2	0.101	0.531	0.014	82.	77.	-1.4	0.09	0.74
0.24	0.63	244.	7.9	291.4	2.0								
12	01	01	1	11	95.5	0.162	0.778	0.008	176.	156.	-4.0	0.09	0.74
0.21	1.23	91.	7.9	296.4	2.0								
12	01	01	1	12	110.8	0.197	1.018	0.005	338.	209.	-6.1	0.09	0.74
0.20	1.60	90.	7.9	299.9	2.0								
12	01	01	1	13	110.5	0.229	1.184	0.005	534.	262.	-9.6	0.09	0.74
0.20	1.98	92.	7.9	302.0	2.0								
12	01	01	1	14	94.6	0.185	1.215	0.005	674.	191.	-5.9	0.09	0.74
0.21	1.50	73.	7.9	303.1	2.0								
12	01	01	1	15	68.6	0.187	1.184	0.005	858.	194.	-8.4	0.09	0.74
0.25	1.59	64.	7.9	303.1	2.0								
12	01	01	1	16	24.9	0.255	0.862	0.005	911.	308.	-58.8	0.09	0.74
0.34	2.61	92.	7.9	300.4	2.0								
12	01	01	1	17	-13.7	0.168	-9.000	-9.000	-999.	168.	31.1	0.09	0.74
0.62	1.98	107.	7.9	295.4	2.0								
12	01	01	1	18	-26.7	0.279	-9.000	-9.000	-999.	354.	85.6	0.09	0.74
1.00	3.22	134.	7.9	291.4	2.0								
12	01	01	1	19	-8.0	0.118	-9.000	-9.000	-999.	120.	18.2	0.09	0.74
1.00	1.43	37.	7.9	290.4	2.0								
12	01	01	1	20	-7.7	0.115	-9.000	-9.000	-999.	94.	17.6	0.09	0.74
1.00	1.40	49.	7.9	287.0	2.0								
12	01	01	1	21	-9.7	0.130	-9.000	-9.000	-999.	113.	20.2	0.09	0.74
1.00	1.57	26.	7.9	288.8	2.0								
12	01	01	1	22	-4.8	0.090	-9.000	-9.000	-999.	65.	13.6	0.09	0.74
1.00	1.11	56.	7.9	284.9	2.0								
12	01	01	1	23	-11.5	0.141	-9.000	-9.000	-999.	127.	21.9	0.09	0.74
1.00	1.69	36.	7.9	282.0	2.0								
12	01	01	1	24	-16.9	0.172	-9.000	-9.000	-999.	171.	32.4	0.09	0.74
1.00	2.03	33.	7.9	279.9	2.0								

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
12	01	01	01	7.9	1	313.	0.73	279.3	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
\*\*\*

VALUES FOR SOURCE GROUP: ALL

INCLUDING SOURCE(S): L0008412 , L0008413

, L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
440566.09	3761307.70	0.17429	440753.96
3761303.17	0.18366		
440851.52	3761299.51	0.14572	440971.94
3761298.60	0.10089		
440893.94	3761226.53	0.18111	441213.06
3761237.69	0.06583		
441159.80	3761390.72	0.05241	441227.40
3761481.34	0.03822		
441082.11	3761541.41	0.03551	441232.16
3761830.62	0.01624		
441646.93	3761227.68	0.03469	441817.10
3761247.30	0.02812		
442031.98	3761370.48	0.02104	442031.98
3761419.29	0.02033		
442027.42	3761327.59	0.02169	441953.51
3761508.71	0.02012		
442028.70	3761572.71	0.01796	440323.58
3761295.37	0.09253		
440261.53	3761302.22	0.06871	440432.94



3761497.04	0.04774			
440427.03	3761600.65	0.03316		440485.55
3762029.06	0.01209			
440533.86	3762034.96	0.01204		440588.09
3762034.96	0.01210			
440657.35	3762052.07	0.01170		440598.04
3762118.06	0.01043			
440231.97	3762035.21	0.01152		440283.76
3762037.11	0.01156			
440897.05	3762038.37	0.01138		439514.80
3761885.55	0.00948			
439564.80	3761885.55	0.00985		439864.80
3761885.55	0.01385			
439514.80	3761935.55	0.00864		439564.80
3761935.55	0.00917			
439864.80	3761935.55	0.01313		439514.80
3761985.55	0.00839			
439564.80	3761985.55	0.00873		439864.80
3761985.55	0.01226			
439514.80	3762035.55	0.00793		439564.80
3762035.55	0.00823			
439864.80	3762035.55	0.01155		439864.80
3762085.55	0.01171			
439514.80	3762135.55	0.00716		439564.80
3762135.55	0.00737			
439614.80	3762135.55	0.00764		439664.80
3762135.55	0.00780			
439714.80	3762135.55	0.00808		439764.80
3762135.55	0.00849			
439864.80	3762135.55	0.01028		439512.61
3760864.65	0.01724			
439562.61	3760864.65	0.01865		439612.61
3760864.65	0.02026			
439662.61	3760864.65	0.02212		439712.61
3760864.65	0.02428			
439762.61	3760864.65	0.02686		439812.61
3760864.65	0.03008			
439862.61	3760864.65	0.03410		439512.61
3760914.65	0.01715			
439562.61	3760914.65	0.01855		439612.61
3760914.65	0.02014			
439662.61	3760914.65	0.02198		439712.61
3760914.65	0.02413			
439762.61	3760914.65	0.02668		439812.61
3760914.65	0.02988			
439862.61	3760914.65	0.03377		439512.61
3760964.65	0.01702			
439562.61	3760964.65	0.01839		439612.61
3760964.65	0.01997			

439662.61	3760964.65	0.02178	439712.61
3760964.65	0.02389		
439762.61	3760964.65	0.02640	439812.61
3760964.65	0.02956		
439862.61	3760964.65	0.03348	439512.61
3761014.65	0.01684		
439562.61	3761014.65	0.01819	439612.61
3761014.65	0.01973		
439662.61	3761014.65	0.02150	439712.61
3761014.65	0.02356		
439762.61	3761014.65	0.02601	439812.61
3761014.65	0.02910		

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\*\*\* MODELOPTs:     RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL     INCLUDING SOURCE(S):     L0008412     ,    L0008413  
 , L0008414     , L0008415     , L0008416     ,  
                  L0008417     , L0008418     , L0008419     , L0008420     , L0008421  
 , L0008422     , L0008423     , L0008424     ,  
                  L0008425     , L0008426     , L0008427     , L0008428     , L0008429  
 , L0008430     , L0008431     , L0008432     ,  
                  L0008433     , L0008434     , L0008435     , L0008436     , L0008437  
 , L0008438     , L0008439     ,     .     .     .     ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10     IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
439862.61	3761014.65	0.03289	439512.61
3761064.65	0.01661		
439562.61	3761064.65	0.01793	439612.61
3761064.65	0.01943		
439662.61	3761064.65	0.02115	439712.61
3761064.65	0.02315		
439762.61	3761064.65	0.02551	439812.61
3761064.65	0.02853		

3761114.65	439862.61	3761064.65	0.03218	439512.61
	0.01634			
3761114.65	439562.61	3761114.65	0.01762	439612.61
	0.01907			
3761114.65	439662.61	3761114.65	0.02072	439712.61
	0.02265			
3761114.65	439762.61	3761114.65	0.02492	439812.61
	0.02782			
3761164.65	439862.61	3761114.65	0.03221	439512.61
	0.01601			
3761164.65	439562.61	3761164.65	0.01724	439612.61
	0.01862			
3761164.65	439662.61	3761164.65	0.02020	439712.61
	0.02205			
3761164.65	439762.61	3761164.65	0.02423	439812.61
	0.02694			
3761214.65	439862.61	3761164.65	0.03028	439512.61
	0.01566			
3761214.65	439562.61	3761214.65	0.01681	439612.61
	0.01812			
3761214.65	439662.61	3761214.65	0.01961	439712.61
	0.02137			
3761214.65	439762.61	3761214.65	0.02342	439812.61
	0.02601			
3761264.65	439862.61	3761214.65	0.02921	439512.61
	0.01526			
3761264.65	439562.61	3761264.65	0.01637	439612.61
	0.01762			
3761264.65	439662.61	3761264.65	0.01902	439712.61
	0.02067			
3761264.65	439762.61	3761264.65	0.02258	439812.61
	0.02500			
3761314.65	439862.61	3761264.65	0.02804	439512.61
	0.01486			
3761314.65	439562.61	3761314.65	0.01588	439612.61
	0.01700			
3761314.65	439662.61	3761314.65	0.01834	439712.61
	0.01996			
3761314.65	439762.61	3761314.65	0.02171	439812.61
	0.02392			
3761364.65	439862.61	3761314.65	0.02667	439512.61
	0.01441			
3761364.65	439562.61	3761364.65	0.01539	439612.61
	0.01643			
3761364.65	439662.61	3761364.65	0.01765	439712.61
	0.01910			
3761364.65	439762.61	3761364.65	0.02080	439812.61
	0.02292			
	439862.61	3761364.65	0.02629	439512.61

3761414.65	0.01394			
	439562.61	3761414.65	0.01488	439612.61
3761414.65	0.01590			
	439662.61	3761414.65	0.01703	439712.61
3761414.65	0.01834			
	439762.61	3761414.65	0.01988	439812.61
3761414.65	0.02187			
	439862.61	3761414.65	0.02416	439512.61
3761464.65	0.01341			
	439562.61	3761464.65	0.01433	439612.61
3761464.65	0.01531			
	439662.61	3761464.65	0.01637	439712.61
3761464.65	0.01758			
	439762.61	3761464.65	0.01899	439812.61
3761464.65	0.02083			
	439862.61	3761464.65	0.02293	439512.61
3761514.65	0.01302			
	439562.61	3761514.65	0.01384	439612.61
3761514.65	0.01472			
	439662.61	3761514.65	0.01569	439712.61
3761514.65	0.01679			
	439762.61	3761514.65	0.01804	439812.61
3761514.65	0.01970			

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\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL                    INCLUDING SOURCE(S):            L0008412            , L0008413  
 , L0008414            , L0008415            , L0008416            ,  
                                  L0008417            , L0008418            , L0008419            , L0008420            , L0008421  
 , L0008422            , L0008423            , L0008424            ,  
                                  L0008425            , L0008426            , L0008427            , L0008428            , L0008429  
 , L0008430            , L0008431            , L0008432            ,  
                                  L0008433            , L0008434            , L0008435            , L0008436            , L0008437  
 , L0008438            , L0008439            , . . .                    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10            IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)    Y-COORD (M)                    CONC                    X-COORD (M)

Y-COORD (M)	CONC		
439862.61	3761514.65	0.02167	439512.61
3761564.65	0.01259		
439562.61	3761564.65	0.01331	439612.61
3761564.65	0.01410		
439662.61	3761564.65	0.01499	439712.61
3761564.65	0.01597		
439762.61	3761564.65	0.01705	439812.61
3761564.65	0.01851		
439862.61	3761564.65	0.02029	439512.61
3761614.65	0.01211		
439562.61	3761614.65	0.01277	439862.61
3761614.65	0.01998		
439512.61	3761664.65	0.01149	439562.61
3761664.65	0.01213		
439862.61	3761664.65	0.01806	439512.61
3761714.65	0.01109		
439562.61	3761714.65	0.01162	439862.61
3761714.65	0.01700		
439512.61	3761764.65	0.01069	439562.61
3761764.65	0.01112		
439862.61	3761764.65	0.01681	439512.61
3761814.65	0.01023		
439562.61	3761814.65	0.01060	439862.61
3761814.65	0.01506		
439512.61	3761864.65	0.00978	439562.61
3761864.65	0.01010		
439862.61	3761864.65	0.01493	439947.85
3760913.55	0.04141		
439947.57	3760863.55	0.04166	439947.28
3760813.55	0.04166		
439947.00	3760763.55	0.04146	439946.72
3760713.55	0.04104		
439946.44	3760663.55	0.04045	439946.16
3760613.56	0.03970		
439945.87	3760563.56	0.03889	439945.59
3760513.56	0.03842		
439840.54	3760412.27	0.02822	439840.25
3760362.27	0.02713		
439839.97	3760312.27	0.02601	439839.69
3760262.27	0.02489		
439839.41	3760212.27	0.02379	439839.13
3760162.27	0.02272		
439838.84	3760112.27	0.02167	439838.56
3760062.27	0.02065		
439838.28	3760012.27	0.01967	439838.00
3759962.28	0.01874		

439837.72	3759912.28	0.01785	439837.43
3759862.28	0.01701		
439837.15	3759812.28	0.01621	439827.57
3758112.30	0.00528		
439927.52	3758104.25	0.00630	439937.11
3759804.22	0.01827		
439937.39	3759854.22	0.01921	439937.67
3759904.22	0.02026		
439937.95	3759954.22	0.02135	439938.24
3760004.22	0.02251		
439938.52	3760054.22	0.02376	439938.80
3760104.22	0.02508		
439939.08	3760154.22	0.02650	439939.36
3760204.22	0.02798		
439939.65	3760254.22	0.02952	439939.93
3760304.22	0.03115		
439940.21	3760354.21	0.03288	439940.49
3760404.21	0.03496		
439857.97	3760492.88	0.03154	439858.26
3760542.88	0.03232		
439858.54	3760592.88	0.03219	439858.82
3760642.88	0.03354		
439859.10	3760692.88	0.03323	439859.38
3760742.88	0.03357		
439859.67	3760792.88	0.03454	439859.95
3760842.88	0.03380		
439908.55	3760435.04	0.03435	439949.66
3760417.49	0.03600		
439999.66	3760417.71	0.03869	440049.66
3760417.93	0.04241		
440099.66	3760418.15	0.04704	440149.66
3760418.37	0.05278		
440199.66	3760418.59	0.05998	440249.66
3760418.81	0.06922		

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\*\*\* MODELOPTs:      RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL      INCLUDING SOURCE(S):      L0008412      , L0008413  
 , L0008414      , L0008415      , L0008416      ,  
                                  L0008417      , L0008418      , L0008419      , L0008420      , L0008421  
 , L0008422      , L0008423      , L0008424      ,  
                                  L0008425      , L0008426      , L0008427      , L0008428      , L0008429

, L0008430 , L0008431 , L0008432 ,  
 , L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
440299.66	3760419.03	0.08154	440349.66
3760419.25	0.09880		
440399.66	3760419.46	0.12369	440799.65
3760421.22	0.12981		
440849.65	3760421.44	0.10875	440899.65
3760421.66	0.09326		
440949.65	3760421.88	0.08154	440999.65
3760422.10	0.07233		
441049.65	3760422.32	0.06490	441099.65
3760422.54	0.05878		
441149.65	3760422.76	0.05367	441199.65
3760422.98	0.04935		
441249.65	3760423.20	0.04563	441299.65
3760423.42	0.04241		
441349.65	3760423.64	0.03959	441399.65
3760423.86	0.03712		
441449.65	3760424.07	0.03490	441499.65
3760424.29	0.03292		
441549.65	3760424.51	0.03114	441599.64
3760424.73	0.02955		
441649.64	3760424.95	0.02809	441699.64
3760425.17	0.02677		
441749.64	3760425.39	0.02556	441799.64
3760425.61	0.02446		
441849.64	3760425.83	0.02344	441899.64
3760426.05	0.02250		
441949.64	3760426.27	0.02163	441999.64
3760426.49	0.02081		
442049.64	3760426.71	0.02006	442099.64
3760426.93	0.01935		
442149.64	3760427.15	0.01869	442199.64
3760427.37	0.01809		
442249.64	3760427.59	0.01750	442299.64
3760427.81	0.01696		
442349.64	3760428.03	0.01644	442399.64

3760428.25	0.01598			
442449.64	3760428.47	0.01557		442499.64
3760428.69	0.01515			
442549.64	3760428.90	0.01473		442599.64
3760429.12	0.01430			
442649.63	3760429.34	0.01394		442699.63
3760429.56	0.01361			
442749.63	3760429.78	0.01329		442799.63
3760430.00	0.01298			
442849.63	3760430.22	0.01270		442899.63
3760430.44	0.01240			
442949.63	3760430.66	0.01215		442999.63
3760430.88	0.01188			
443049.63	3760431.10	0.01164		443099.63
3760431.32	0.01140			
443149.63	3760431.54	0.01118		443199.63
3760431.76	0.01098			
443249.63	3760431.98	0.01076		443299.63
3760432.20	0.01056			
443349.63	3760432.42	0.01039		443399.63
3760432.64	0.01022			
443449.63	3760432.86	0.01005		443499.63
3760433.08	0.00988			
443549.63	3760433.30	0.00973		443599.63
3760433.51	0.00962			
443649.63	3760433.73	0.00948		443699.62
3760433.95	0.00933			
443749.62	3760434.17	0.00917		443799.62
3760434.39	0.00905			
443849.62	3760434.61	0.00896		443899.62
3760434.83	0.00891			
443957.56	3760448.00	0.00981		444003.78
3760428.92	0.00905			
444049.99	3760409.83	0.00863		444096.20
3760390.74	0.00828			
444142.42	3760371.65	0.00783		444191.79
3760367.99	0.00779			
444241.79	3760367.35	0.00777		444291.78
3760366.71	0.00771			
444341.78	3760366.07	0.00764		444391.77
3760365.44	0.00755			
444441.77	3760364.80	0.00748		444491.77
3760364.16	0.00741			
444541.76	3760363.52	0.00732		444591.76
3760362.88	0.00724			

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08/23/21

14:28:23



\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 , L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 , L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 , L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
444641.75	3760362.25	0.00706	444691.75
3760361.61	0.00713		
444741.75	3760360.97	0.00708	444791.74
3760360.33	0.00704		
444841.74	3760359.69	0.00700	444891.73
3760359.05	0.00697		
444941.73	3760358.42	0.00696	444991.73
3760357.78	0.00697		
445041.72	3760357.14	0.00703	445091.72
3760356.50	0.00718		
445141.71	3760355.86	0.00776	445191.71
3760355.22	0.00666		
445166.91	3760455.55	0.00902	445116.92
3760456.19	0.00792		
445066.92	3760456.83	0.00766	445016.93
3760457.46	0.00755		
444966.93	3760458.10	0.00750	444916.93
3760458.74	0.00748		
444866.94	3760459.38	0.00748	444816.94
3760460.02	0.00746		
444766.95	3760460.66	0.00748	444716.95
3760461.29	0.00754		
444666.95	3760461.93	0.00753	444616.96
3760462.57	0.00748		

444566.96	3760463.21	0.00766	444516.97
3760463.85	0.00774		
444466.97	3760464.48	0.00780	444416.97
3760465.12	0.00786		
444366.98	3760465.76	0.00793	444316.98
3760466.40	0.00800		
444266.99	3760467.04	0.00809	444216.99
3760467.68	0.00824		
444167.26	3760469.59	0.00849	444121.04
3760488.68	0.00834		
444074.83	3760507.76	0.00835	444028.62
3760526.85	0.00833		
443982.40	3760545.94	0.00819	443933.78
3760552.72	0.00826		
443874.89	3760534.72	0.00899	443824.89
3760534.50	0.00912		
443774.89	3760534.29	0.00925	443724.89
3760534.07	0.00939		
443674.89	3760533.85	0.00954	443624.89
3760533.63	0.00968		
443574.89	3760533.41	0.00982	443524.89
3760533.19	0.01001		
443474.89	3760532.97	0.01019	443424.90
3760532.75	0.01039		
443374.90	3760532.53	0.01055	443324.90
3760532.31	0.01076		
443274.90	3760532.09	0.01097	443224.90
3760531.87	0.01117		
443174.90	3760531.65	0.01137	443124.90
3760531.43	0.01160		
443074.90	3760531.21	0.01184	443024.90
3760530.99	0.01210		
442974.90	3760530.77	0.01234	442924.90
3760530.55	0.01262		
442874.90	3760530.33	0.01292	442824.90
3760530.11	0.01324		
442774.90	3760529.89	0.01357	442724.90
3760529.68	0.01384		
442674.90	3760529.46	0.01414	442624.90
3760529.24	0.01459		
442574.90	3760529.02	0.01512	442524.90
3760528.80	0.01557		
442474.90	3760528.58	0.01604	442424.91
3760528.36	0.01655		
442374.91	3760528.14	0.01708	442324.91
3760527.92	0.01765		
442274.91	3760527.70	0.01824	442224.91
3760527.48	0.01889		
442174.91	3760527.26	0.01958	442124.91

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3760527.04      0.02032
                442074.91    3760526.82      0.02112      442024.91
3760526.60      0.02198
                441974.91    3760526.38      0.02291      441924.91
3760526.16      0.02391
                441874.91    3760525.94      0.02499      441824.91
3760525.72      0.02618

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

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*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL      ***
                                INCLUDING SOURCE(S):      L0008412      , L0008413
, L0008414      , L0008415      , L0008416      ,
                L0008417      , L0008418      , L0008419      , L0008420      , L0008421
, L0008422      , L0008423      , L0008424      ,
                L0008425      , L0008426      , L0008427      , L0008428      , L0008429
, L0008430      , L0008431      , L0008432      ,
                L0008433      , L0008434      , L0008435      , L0008436      , L0008437
, L0008438      , L0008439      , . . .      ,

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\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
441774.91	3760525.50	0.02748	441724.91
3760525.28	0.02890		
441674.91	3760525.06	0.03047	441624.91
3760524.85	0.03219		
441574.91	3760524.63	0.03412	441524.91
3760524.41	0.03627		
441474.91	3760524.19	0.03870	441424.91
3760523.97	0.04144		
441374.92	3760523.75	0.04457	441324.92
3760523.53	0.04817		
441274.92	3760523.31	0.05237	441224.92
3760523.09	0.05730		
441174.92	3760522.87	0.06319	441124.92

3760522.65	0.07034		
441074.92	3760522.43	0.07924	441024.92
3760522.21	0.09060		
440974.92	3760521.99	0.10592	440924.92
3760521.77	0.12736		
440874.92	3760521.55	0.16043	440824.92
3760521.33	0.22015		
440374.92	3760519.36	0.16641	440324.93
3760519.14	0.11817		
440274.93	3760518.92	0.09265	440224.93
3760518.70	0.07620		
440174.93	3760518.48	0.06474	440124.93
3760518.26	0.05615		
440074.93	3760518.04	0.04945	440024.93
3760517.82	0.04415		
439974.93	3760517.60	0.04006	439933.82
3760535.15	0.03817		
445138.86	3760315.71	0.00689	445165.09
3759616.20	0.00537		
445166.97	3759566.24	0.00479	445208.34
3759556.77	0.00576		
445258.34	3759556.14	0.00660	445308.34
3759555.51	0.00675		
449408.01	3759503.78	0.00348	449423.82
3759603.59	0.00333		
445238.82	3760499.17	0.00800	445239.41
3760549.16	0.00781		
449255.91	3762522.00	0.00379	449232.19
3762619.67	0.00360		
445265.82	3762064.86	0.00538	445215.82
3762064.86	0.00512		
445165.82	3762064.86	0.00478	445156.70
3762023.50	0.00527		
445139.69	3760573.60	0.00662	445139.10
3760523.60	0.00687		
441152.00	3762046.59	0.01091	441564.94
3762050.09	0.01046		
439944.18	3762179.79	0.01103	439944.37
3762229.79	0.01057		
439944.57	3762279.79	0.01001	439944.77
3762329.79	0.00958		
439944.96	3762379.79	0.00923	439945.16
3762429.79	0.00885		
439945.36	3762479.79	0.00850	439945.55
3762529.79	0.00819		
439945.75	3762579.79	0.00790	439945.94
3762629.79	0.00764		
439946.14	3762679.79	0.00740	439946.34
3762729.79	0.00718		

439958.30	3765779.77	0.00280	439846.49
3762769.33	0.00586		
439846.29	3762719.33	0.00606	439846.10
3762669.33	0.00628		
439845.90	3762619.33	0.00652	439845.71
3762569.33	0.00677		
439845.51	3762519.33	0.00705	439845.31
3762469.33	0.00732		
439845.12	3762419.33	0.00762	439844.92
3762369.33	0.00797		
439844.73	3762319.33	0.00833	439844.53
3762269.33	0.00879		
439844.33	3762219.33	0.00928	446702.53
3762334.08	0.00570		
446751.23	3762345.44	0.00548	446708.40
3762438.13	0.00498		
439319.73	3759944.08	0.01020	439369.73
3759944.08	0.01069		

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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL    INCLUDING SOURCE(S):    L0008412    ,    L0008413  
 , L0008414    , L0008415    , L0008416    ,  
                  L0008417    , L0008418    , L0008419    , L0008420    , L0008421  
 , L0008422    , L0008423    , L0008424    ,  
                  L0008425    , L0008426    , L0008427    , L0008428    , L0008429  
 , L0008430    , L0008431    , L0008432    ,  
                  L0008433    , L0008434    , L0008435    , L0008436    , L0008437  
 , L0008438    , L0008439    , . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10    IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
439419.73	3759944.08	0.01122	439469.73
3759944.08	0.01179		

439519.73	3759944.08	0.01239	439569.73
3759944.08	0.01304		
439619.73	3759944.08	0.01374	439669.73
3759944.08	0.01450		
439719.73	3759944.08	0.01536	439319.73
3759994.08	0.01047		
439369.73	3759994.08	0.01099	439419.73
3759994.08	0.01156		
439469.73	3759994.08	0.01216	439519.73
3759994.08	0.01281		
439569.73	3759994.08	0.01352	439619.73
3759994.08	0.01427		
439669.73	3759994.08	0.01510	439719.73
3759994.08	0.01604		
439319.73	3760044.08	0.01073	439369.73
3760044.08	0.01129		
439419.73	3760044.08	0.01189	439469.73
3760044.08	0.01253		
439519.73	3760044.08	0.01323	439569.73
3760044.08	0.01399		
439619.73	3760044.08	0.01480	439669.73
3760044.08	0.01572		
439719.73	3760044.08	0.01674	439319.73
3760094.08	0.01099		
439369.73	3760094.08	0.01158	439419.73
3760094.08	0.01222		
439469.73	3760094.08	0.01291	439519.73
3760094.08	0.01366		
439569.73	3760094.08	0.01447	439619.73
3760094.08	0.01536		
439669.73	3760094.08	0.01636	439719.73
3760094.08	0.01746		
439319.73	3760144.08	0.01124	439369.73
3760144.08	0.01187		
439419.73	3760144.08	0.01255	439469.73
3760144.08	0.01328		
439519.73	3760144.08	0.01408	439569.73
3760144.08	0.01495		
439619.73	3760144.08	0.01591	439669.73
3760144.08	0.01699		
439719.73	3760144.08	0.01819	439319.73
3760194.08	0.01149		
439369.73	3760194.08	0.01214	439419.73
3760194.08	0.01287		
439469.73	3760194.08	0.01364	439519.73
3760194.08	0.01448		
439569.73	3760194.08	0.01542	439619.73
3760194.08	0.01645		
439669.73	3760194.08	0.01761	439719.73

3760194.08	0.01892			
439319.73	3760244.08	0.01172		439369.73
3760244.08	0.01240			
439419.73	3760244.08	0.01317		439469.73
3760244.08	0.01398			
439519.73	3760244.08	0.01489		439569.73
3760244.08	0.01588			
439619.73	3760244.08	0.01697		439669.73
3760244.08	0.01823			
439719.73	3760244.08	0.01965		439319.73
3760294.08	0.01196			
439369.73	3760294.08	0.01268		439419.73
3760294.08	0.01346			
439469.73	3760294.08	0.01432		439519.73
3760294.08	0.01527			
439569.73	3760294.08	0.01633		439619.73
3760294.08	0.01750			
439669.73	3760294.08	0.01883		439719.73
3760294.08	0.02037			
439319.73	3760344.08	0.01218		439369.73
3760344.08	0.01293			
439419.73	3760344.08	0.01374		439469.73
3760344.08	0.01464			
439519.73	3760344.08	0.01564		439569.73
3760344.08	0.01675			
439619.73	3760344.08	0.01801		439669.73
3760344.08	0.01944			
439719.73	3760344.08	0.02108		439319.73
3760394.08	0.01239			

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\*\*\* MODELOPTs:      RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL      INCLUDING SOURCE(S):      L0008412      , L0008413  
 , L0008414      , L0008415      , L0008416      ,  
                                  L0008417      , L0008418      , L0008419      , L0008420      , L0008421  
 , L0008422      , L0008423      , L0008424      ,  
                                  L0008425      , L0008426      , L0008427      , L0008428      , L0008429  
 , L0008430      , L0008431      , L0008432      ,  
                                  L0008433      , L0008434      , L0008435      , L0008436      , L0008437  
 , L0008438      , L0008439      , . . .      ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
439369.73	3760394.08	0.01317	439419.73
3760394.08	0.01402		
439469.73	3760394.08	0.01496	439519.73
3760394.08	0.01601		
439569.73	3760394.08	0.01718	439619.73
3760394.08	0.01850		
439669.73	3760394.08	0.02002	439719.73
3760394.08	0.02176		
439874.21	3765787.45	0.00201	438730.25
3763176.04	0.00227		
439155.52	3762752.44	0.00344	438236.34
3763973.00	0.00133		

^ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL    \*\*\*  
                                  INCLUDING SOURCE(S):    L0008412    , L0008413  
 , L0008414    , L0008415    , L0008416    ,  
                                  L0008417    , L0008418    , L0008419    , L0008420    , L0008421  
 , L0008422    , L0008423    , L0008424    ,  
                                  L0008425    , L0008426    , L0008427    , L0008428    , L0008429  
 , L0008430    , L0008431    , L0008432    ,  
                                  L0008433    , L0008434    , L0008435    , L0008436    , L0008437  
 , L0008438    , L0008439    , . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YMMDDHH)		



440566.09	3761307.70	0.95917	(16090204)	440753.96
3761303.17	1.03802 (15060921)			
440851.52	3761299.51	0.75467	(16111017)	440971.94
3761298.60	0.47079 (15062719)			
440893.94	3761226.53	0.62416	(12102517)	441213.06
3761237.69	0.29320 (12102517)			
441159.80	3761390.72	0.31635	(15092020)	441227.40
3761481.34	0.29995 (15072106)			
441082.11	3761541.41	0.38910	(15101120)	441232.16
3761830.62	0.32140 (16111017)			
441646.93	3761227.68	0.19390	(12100119)	441817.10
3761247.30	0.17534 (15082520)			
442031.98	3761370.48	0.16137	(15082520)	442031.98
3761419.29	0.16185 (12100119)			
442027.42	3761327.59	0.15980	(15082520)	441953.51
3761508.71	0.17185 (12090822)			
442028.70	3761572.71	0.16566	(12090822)	440323.58
3761295.37	0.73371 (16102019)			
440261.53	3761302.22	0.55021	(15031221)	440432.94
3761497.04	0.62500 (16110223)			
440427.03	3761600.65	0.55510	(15032207)	440485.55
3762029.06	0.41729 (14122319)			
440533.86	3762034.96	0.42060	(15090204)	440588.09
3762034.96	0.41553 (16101606)			
440657.35	3762052.07	0.41544	(16062803)	440598.04
3762118.06	0.40147 (16101606)			
440231.97	3762035.21	0.38603	(15012822)	440283.76
3762037.11	0.39591 (16111624)			
440897.05	3762038.37	0.40662	(13052204)	439514.80
3761885.55	0.20220 (16102418)			
439564.80	3761885.55	0.21091	(14030104)	439864.80
3761885.55	0.29516 (16102019)			
439514.80	3761935.55	0.21428	(16040703)	439564.80
3761935.55	0.22043 (15070104)			
439864.80	3761935.55	0.29682	(16102019)	439514.80
3761985.55	0.21347 (15070104)			
439564.80	3761985.55	0.22351	(15070104)	439864.80
3761985.55	0.29811 (13050222)			
439514.80	3762035.55	0.21901	(15070104)	439564.80
3762035.55	0.22777 (15060905)			
439864.80	3762035.55	0.29356	(16112922)	439864.80
3762085.55	0.30152 (14091524)			
439514.80	3762135.55	0.22292	(14010617)	439564.80
3762135.55	0.23185 (15031521)			
439614.80	3762135.55	0.24207	(15090205)	439664.80
3762135.55	0.25439 (15090205)			
439714.80	3762135.55	0.26626	(16102019)	439764.80
3762135.55	0.27703 (12010219)			

439864.80	3762135.55	0.29907	(14091524)	439512.61
3760864.65	0.17950 (15100918)			
439562.61	3760864.65	0.18586	(15100918)	439612.61
3760864.65	0.19276 (15100918)			
439662.61	3760864.65	0.20043	(13012017)	439712.61
3760864.65	0.20971 (15030621)			
439762.61	3760864.65	0.22031	(15030621)	439812.61
3760864.65	0.23327 (14051419)			
439862.61	3760864.65	0.24556	(14051419)	439512.61
3760914.65	0.18047 (15100918)			
439562.61	3760914.65	0.18752	(15100918)	439612.61
3760914.65	0.19478 (15100918)			
439662.61	3760914.65	0.20270	(15100918)	439712.61
3760914.65	0.21129 (15100918)			
439762.61	3760914.65	0.22089	(13012017)	439812.61
3760914.65	0.23221 (13012017)			
439862.61	3760914.65	0.24350	(15030621)	439512.61
3760964.65	0.17897 (13101422)			
439562.61	3760964.65	0.18674	(15100918)	439612.61
3760964.65	0.19522 (15100918)			
439662.61	3760964.65	0.20428	(15100918)	439712.61
3760964.65	0.21378 (15100918)			
439762.61	3760964.65	0.22407	(15100918)	439812.61
3760964.65	0.23524 (15100918)			
439862.61	3760964.65	0.24605	(15100918)	439512.61
3761014.65	0.17824 (16102417)			
439562.61	3761014.65	0.18472	(14011717)	439612.61
3761014.65	0.19286 (13101422)			
439662.61	3761014.65	0.20231	(13101422)	439712.61
3761014.65	0.21244 (15100918)			
439762.61	3761014.65	0.22493	(15100918)	439812.61
3761014.65	0.23809 (15100918)			

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 14:28:23

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437

, L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
439862.61	3761014.65	0.25001	(15100918)	439512.61
3761064.65	0.18049 (16102417)			
439562.61	3761064.65	0.18720	(16102417)	439612.61
3761064.65	0.19434 (16102417)			
439662.61	3761064.65	0.20292	(14011717)	439712.61
3761064.65	0.21246 (14011717)			
439762.61	3761064.65	0.22289	(14011717)	439812.61
3761064.65	0.23502 (13101422)			
439862.61	3761064.65	0.24837	(13101422)	439512.61
3761114.65	0.18145 (16102417)			
439562.61	3761114.65	0.18888	(16102417)	439612.61
3761114.65	0.19695 (16102417)			
439662.61	3761114.65	0.20581	(16102417)	439712.61
3761114.65	0.21554 (16102417)			
439762.61	3761114.65	0.22632	(16102417)	439812.61
3761114.65	0.23852 (16110922)			
439862.61	3761114.65	0.25475	(14011717)	439512.61
3761164.65	0.18028 (15063019)			
439562.61	3761164.65	0.18688	(15063019)	439612.61
3761164.65	0.19441 (16122920)			
439662.61	3761164.65	0.20371	(15120517)	439712.61
3761164.65	0.21426 (15120517)			
439762.61	3761164.65	0.22614	(15120517)	439812.61
3761164.65	0.23989 (16102417)			
439862.61	3761164.65	0.25386	(16102417)	439512.61
3761214.65	0.18065 (15063019)			
439562.61	3761214.65	0.18743	(15110717)	439612.61
3761214.65	0.19504 (15110717)			
439662.61	3761214.65	0.20355	(16022406)	439712.61
3761214.65	0.21350 (16022406)			
439762.61	3761214.65	0.22476	(16022406)	439812.61
3761214.65	0.23784 (16022406)			
439862.61	3761214.65	0.25104	(15051306)	439512.61
3761264.65	0.18264 (15110717)			
439562.61	3761264.65	0.18993	(15110717)	439612.61
3761264.65	0.19802 (15110717)			
439662.61	3761264.65	0.20699	(15110717)	439712.61

3761264.65	0.21716	(15110717)			
439762.61	3761264.65		0.22866	(15110717)	439812.61
3761264.65	0.24198	(15110717)			
439862.61	3761264.65		0.25596	(15110717)	439512.61
3761314.65	0.18344	(15063019)			
439562.61	3761314.65		0.19075	(15031224)	439612.61
3761314.65	0.19877	(15031224)			
439662.61	3761314.65		0.20789	(15063019)	439712.61
3761314.65	0.21871	(15063019)			
439762.61	3761314.65		0.23075	(15063019)	439812.61
3761314.65	0.24496	(15063019)			
439862.61	3761314.65		0.25966	(15063019)	439512.61
3761364.65	0.18621	(15063019)			
439562.61	3761364.65		0.19393	(15063019)	439612.61
3761364.65	0.20238	(15063019)			
439662.61	3761364.65		0.21189	(15063019)	439712.61
3761364.65	0.22262	(15063019)			
439762.61	3761364.65		0.23442	(15063019)	439812.61
3761364.65	0.24737	(15063019)			
439862.61	3761364.65		0.26144	(15063019)	439512.61
3761414.65	0.18717	(15063019)			
439562.61	3761414.65		0.19430	(15063019)	439612.61
3761414.65	0.20168	(15063019)			
439662.61	3761414.65		0.20917	(15063019)	439712.61
3761414.65	0.21892	(15112017)			
439762.61	3761414.65		0.23099	(15112017)	439812.61
3761414.65	0.24431	(15112017)			
439862.61	3761414.65		0.25895	(15090919)	439512.61
3761464.65	0.18416	(15112017)			
439562.61	3761464.65		0.19219	(15112017)	439612.61
3761464.65	0.20051	(15112017)			
439662.61	3761464.65		0.20907	(15112017)	439712.61
3761464.65	0.21983	(15090919)			
439762.61	3761464.65		0.23153	(15090919)	439812.61
3761464.65	0.24372	(15090919)			
439862.61	3761464.65		0.25598	(16122818)	439512.61
3761514.65	0.18480	(14051324)			
439562.61	3761514.65		0.19262	(15090919)	439612.61
3761514.65	0.20083	(15090919)			
439662.61	3761514.65		0.20912	(15090919)	439712.61
3761514.65	0.21800	(16122818)			
439762.61	3761514.65		0.22973	(16122818)	439812.61
3761514.65	0.24412	(15031221)			

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

**					
X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	
Y-COORD (M)	CONC	(YYMMDDHH)			
439862.61	3761514.65	0.26025	(15031221)	439512.61	
3761564.65	0.18488 (15090919)				
439562.61	3761564.65	0.19131	(16122818)	439612.61	
3761564.65	0.20007 (15031221)				
439662.61	3761564.65	0.20969	(15031221)	439712.61	
3761564.65	0.22066 (15031221)				
439762.61	3761564.65	0.23421	(16102418)	439812.61	
3761564.65	0.24921 (14010619)				
439862.61	3761564.65	0.26426	(14010619)	439512.61	
3761614.65	0.18552 (15031221)				
439562.61	3761614.65	0.19363	(15031221)	439862.61	
3761614.65	0.27267 (15060905)				
439512.61	3761664.65	0.19011	(15031221)	439562.61	
3761664.65	0.19674 (13101603)				
439862.61	3761664.65	0.27902	(15060905)	439512.61	
3761714.65	0.19004 (13101603)				
439562.61	3761714.65	0.19932	(13101421)	439862.61	
3761714.65	0.28284 (15060905)				
439512.61	3761764.65	0.19010	(13101603)	439562.61	
3761764.65	0.20262 (16102418)				
439862.61	3761764.65	0.28624	(14091605)	439512.61	
3761814.65	0.19367 (14010619)				
439562.61	3761814.65	0.20616	(16102418)	439862.61	
3761814.65	0.28766 (14091605)				
439512.61	3761864.65	0.19644	(14010619)	439562.61	
3761864.65	0.20745 (14030104)				

439862.61	3761864.65	0.29263	(16122917)	439947.85
3760913.55	0.26807 (14051419)			
439947.57	3760863.55	0.26747	(14051419)	439947.28
3760813.55	0.26425 (16092601)			
439947.00	3760763.55	0.26501	(14051322)	439946.72
3760713.55	0.26649 (14051322)			
439946.44	3760663.55	0.26477	(14051322)	439946.16
3760613.56	0.26768 (16101918)			
439945.87	3760563.56	0.26727	(16101918)	439945.59
3760513.56	0.26662 (13101522)			
439840.54	3760412.27	0.24158	(13101522)	439840.25
3760362.27	0.24283 (14043002)			
439839.97	3760312.27	0.24303	(14043002)	439839.69
3760262.27	0.24342 (14042901)			
439839.41	3760212.27	0.24432	(14042901)	439839.13
3760162.27	0.24396 (14042901)			
439838.84	3760112.27	0.24437	(16021419)	439838.56
3760062.27	0.24484 (16021419)			
439838.28	3760012.27	0.24271	(16021419)	439838.00
3759962.28	0.24134 (12010822)			
439837.72	3759912.28	0.23766	(12010822)	439837.43
3759862.28	0.23576 (15031301)			
439837.15	3759812.28	0.23352	(15031301)	439827.57
3758112.30	0.11800 (13050220)			
439927.52	3758104.25	0.11627	(16092606)	439937.11
3759804.22	0.25123 (12110417)			
439937.39	3759854.22	0.25271	(16012522)	439937.67
3759904.22	0.25797 (16012522)			
439937.95	3759954.22	0.26158	(15031301)	439938.24
3760004.22	0.26258 (15031301)			
439938.52	3760054.22	0.26550	(12010822)	439938.80
3760104.22	0.26676 (12010822)			
439939.08	3760154.22	0.26876	(16021419)	439939.36
3760204.22	0.26909 (16021419)			
439939.65	3760254.22	0.26750	(16021419)	439939.93
3760304.22	0.26867 (14042901)			
439940.21	3760354.21	0.26896	(14042901)	439940.49
3760404.21	0.26827 (14043002)			
439857.97	3760492.88	0.24576	(16101918)	439858.26
3760542.88	0.24582 (16101918)			
439858.54	3760592.88	0.24100	(14051322)	439858.82
3760642.88	0.24452 (14051322)			
439859.10	3760692.88	0.24196	(14051322)	439859.38
3760742.88	0.24136 (15031321)			
439859.67	3760792.88	0.24418	(14051419)	439859.95
3760842.88	0.24451 (14051419)			
439908.55	3760435.04	0.26057	(14043002)	439949.66
3760417.49	0.27195 (14043002)			
439999.66	3760417.71	0.29205	(14042901)	440049.66

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3760417.93      0.31316 (14042901)
                440099.66 3760418.15      0.33930 (16021419)      440149.66
3760418.37      0.37009 (16021419)
                440199.66 3760418.59      0.40870 (15031301)      440249.66
3760418.81      0.46391 (15031301)
^ *** AERMOD - VERSION 21112 ***   *** C:\Lakes\AERMOD
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*** AERMET - VERSION 16216 ***   ***
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL ***
                        INCLUDING SOURCE(S):  L0008412 , L0008413
, L0008414 , L0008415 , L0008416 ,
                L0008417 , L0008418 , L0008419 , L0008420 , L0008421
, L0008422 , L0008423 , L0008424 ,
                L0008425 , L0008426 , L0008427 , L0008428 , L0008429
, L0008430 , L0008431 , L0008432 ,
                L0008433 , L0008434 , L0008435 , L0008436 , L0008437
, L0008438 , L0008439 , . . . ,

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\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup>

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
440299.66	3760419.03	0.54193	(12110417)	440349.66
3760419.25	0.66274 (13101517)			
440399.66	3760419.46	0.82565	(13101517)	440799.65
3760421.22	0.78056 (15012217)			
440849.65	3760421.44	0.62567	(12012517)	440899.65
3760421.66	0.51910 (16021220)			
440949.65	3760421.88	0.45664	(15071919)	440999.65
3760422.10	0.40821 (13012317)			
441049.65	3760422.32	0.36892	(13012317)	441099.65
3760422.54	0.33700 (16081621)			
441149.65	3760422.76	0.31419	(16081621)	441199.65
3760422.98	0.29272 (12092121)			
441249.65	3760423.20	0.27407	(12092121)	441299.65
3760423.42	0.25878 (15080521)			
441349.65	3760423.64	0.24485	(16083020)	441399.65

3760423.86	0.23410	(16083020)			
441449.65	3760424.07		0.22363	(16062022)	441499.65
3760424.29	0.21335	(15092421)			
441549.65	3760424.51		0.20435	(12090321)	441599.64
3760424.73	0.19659	(12091022)			
441649.64	3760424.95		0.18956	(16072722)	441699.64
3760425.17	0.18349	(16072722)			
441749.64	3760425.39		0.17792	(16092618)	441799.64
3760425.61	0.17263	(16092618)			
441849.64	3760425.83		0.16736	(16092618)	441899.64
3760426.05	0.16242	(12081321)			
441949.64	3760426.27		0.15766	(15092620)	441999.64
3760426.49	0.15373	(15092620)			
442049.64	3760426.71		0.15004	(15092620)	442099.64
3760426.93	0.14629	(15092620)			
442149.64	3760427.15		0.14289	(15082820)	442199.64
3760427.37	0.13989	(15082820)			
442249.64	3760427.59		0.13692	(15082820)	442299.64
3760427.81	0.13400	(15082820)			
442349.64	3760428.03		0.13111	(15082820)	442399.64
3760428.25	0.12844	(13090321)			
442449.64	3760428.47		0.12584	(13090321)	442499.64
3760428.69	0.12322	(13090321)			
442549.64	3760428.90		0.12064	(13090321)	442599.64
3760429.12	0.11846	(14070522)			
442649.63	3760429.34		0.11650	(14070522)	442699.63
3760429.56	0.11461	(14070522)			
442749.63	3760429.78		0.11272	(14070522)	442799.63
3760430.00	0.11102	(15082519)			
442849.63	3760430.22		0.10941	(15082519)	442899.63
3760430.44	0.10784	(15082519)			
442949.63	3760430.66		0.10626	(15082519)	442999.63
3760430.88	0.10472	(15082519)			
443049.63	3760431.10		0.10319	(15082519)	443099.63
3760431.32	0.10168	(15082519)			
443149.63	3760431.54		0.10018	(15082519)	443199.63
3760431.76	0.09865	(15082519)			
443249.63	3760431.98		0.09712	(15082519)	443299.63
3760432.20	0.09559	(15082519)			
443349.63	3760432.42		0.09416	(12091419)	443399.63
3760432.64	0.09287	(12091419)			
443449.63	3760432.86		0.09157	(12091419)	443499.63
3760433.08	0.09024	(12091419)			
443549.63	3760433.30		0.08895	(12091419)	443599.63
3760433.51	0.08784	(12071219)			
443649.63	3760433.73		0.08711	(12071219)	443699.62
3760433.95	0.08595	(12071219)			
443749.62	3760434.17		0.08481	(12071219)	443799.62
3760434.39	0.08392	(12071219)			



443849.62	3760434.61	0.08334	(12071219)	443899.62
3760434.83	0.08320	(12071219)		
443957.56	3760448.00	0.08394	(13090520)	444003.78
3760428.92	0.08088	(12071219)		
444049.99	3760409.83	0.07857	(12071219)	444096.20
3760390.74	0.07635	(12071219)		
444142.42	3760371.65	0.07426	(15072521)	444191.79
3760367.99	0.07365	(15072521)		
444241.79	3760367.35	0.07344	(15072521)	444291.78
3760366.71	0.07299	(15072521)		
444341.78	3760366.07	0.07241	(12071219)	444391.77
3760365.44	0.07175	(12071219)		
444441.77	3760364.80	0.07110	(12071219)	444491.77
3760364.16	0.07042	(12071219)		
444541.76	3760363.52	0.06970	(12071219)	444591.76
3760362.88	0.06895	(12071219)		

^ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*  
 \*\*\* 14:28:23

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
444641.75	3760362.25	0.06777	(12071219)	444691.75
3760361.61	0.06755	(12071219)		
444741.75	3760360.97	0.06683	(12071219)	444791.74
3760360.33	0.06610	(12071219)		

444841.74	3760359.69	0.06541	(12071219)	444891.73
3760359.05	0.06474	(12071219)		
444941.73	3760358.42	0.06407	(12071219)	444991.73
3760357.78	0.06341	(12071219)		
445041.72	3760357.14	0.06277	(12071219)	445091.72
3760356.50	0.06213	(12071219)		
445141.71	3760355.86	0.06166	(12071219)	445191.71
3760355.22	0.06056	(12071219)		
445166.91	3760455.55	0.06005	(12081922)	445116.92
3760456.19	0.06032	(12081922)		
445066.92	3760456.83	0.06072	(12081922)	445016.93
3760457.46	0.06129	(12081922)		
444966.93	3760458.10	0.06192	(12081922)	444916.93
3760458.74	0.06233	(12081922)		
444866.94	3760459.38	0.06287	(12081922)	444816.94
3760460.02	0.06330	(16062406)		
444766.95	3760460.66	0.06401	(16062406)	444716.95
3760461.29	0.06508	(12081922)		
444666.95	3760461.93	0.06550	(16062406)	444616.96
3760462.57	0.06601	(16062406)		
444566.96	3760463.21	0.06741	(16062406)	444516.97
3760463.85	0.06813	(16062406)		
444466.97	3760464.48	0.06890	(16062406)	444416.97
3760465.12	0.06981	(16062406)		
444366.98	3760465.76	0.07068	(16062406)	444316.98
3760466.40	0.07161	(12071219)		
444266.99	3760467.04	0.07287	(12071219)	444216.99
3760467.68	0.07436	(12071219)		
444167.26	3760469.59	0.07601	(12071219)	444121.04
3760488.68	0.07602	(12071219)		
444074.83	3760507.76	0.07629	(12081922)	444028.62
3760526.85	0.07718	(12081922)		
443982.40	3760545.94	0.08049	(15091022)	443933.78
3760552.72	0.08262	(15091022)		
443874.89	3760534.72	0.08303	(15091022)	443824.89
3760534.50	0.08289	(15091022)		
443774.89	3760534.29	0.08313	(15091022)	443724.89
3760534.07	0.08380	(15091022)		
443674.89	3760533.85	0.08446	(12081922)	443624.89
3760533.63	0.08491	(12081922)		
443574.89	3760533.41	0.08584	(12071219)	443524.89
3760533.19	0.08739	(12071219)		
443474.89	3760532.97	0.08874	(12071219)	443424.90
3760532.75	0.09043	(12071219)		
443374.90	3760532.53	0.09122	(12071219)	443324.90
3760532.31	0.09267	(12071219)		
443274.90	3760532.09	0.09407	(12071219)	443224.90
3760531.87	0.09534	(12071219)		
443174.90	3760531.65	0.09633	(12071219)	443124.90

3760531.43	0.09768	(12071219)			
443074.90	3760531.21	0.09904	(12071219)		443024.90
3760530.99	0.10050	(12071219)			
442974.90	3760530.77	0.10179	(12071219)		442924.90
3760530.55	0.10340	(12091419)			
442874.90	3760530.33	0.10518	(12091419)		442824.90
3760530.11	0.10699	(12091419)			
442774.90	3760529.89	0.10887	(12091419)		442724.90
3760529.68	0.11067	(15082519)			
442674.90	3760529.46	0.11256	(15082519)		442624.90
3760529.24	0.11470	(15082519)			
442574.90	3760529.02	0.11681	(15082519)		442524.90
3760528.80	0.11894	(15082519)			
442474.90	3760528.58	0.12113	(15082519)		442424.91
3760528.36	0.12336	(15082519)			
442374.91	3760528.14	0.12570	(15082519)		442324.91
3760527.92	0.12817	(15082519)			
442274.91	3760527.70	0.13083	(15082519)		442224.91
3760527.48	0.13356	(15082519)			
442174.91	3760527.26	0.13644	(15082519)		442124.91
3760527.04	0.13979	(13090321)			
442074.91	3760526.82	0.14345	(15082820)		442024.91
3760526.60	0.14718	(15082820)			
441974.91	3760526.38	0.15099	(15082820)		441924.91
3760526.16	0.15495	(15082820)			
441874.91	3760525.94	0.15961	(15092620)		441824.91
3760525.72	0.16440	(15092620)			

^ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE    1ST HIGHEST    1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL                    \*\*\*  
                                  INCLUDING SOURCE(S):    L0008412    , L0008413  
 , L0008414    , L0008415    , L0008416    ,  
                                  L0008417    , L0008418    , L0008419    , L0008420    , L0008421  
 , L0008422    , L0008423    , L0008424    ,  
                                  L0008425    , L0008426    , L0008427    , L0008428    , L0008429  
 , L0008430    , L0008431    , L0008432    ,  
                                  L0008433    , L0008434    , L0008435    , L0008436    , L0008437  
 , L0008438    , L0008439    , . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
441774.91	3760525.50	0.16937	(12081321)	441724.91
3760525.28	0.17550	(12081321)		
441674.91	3760525.06	0.18194	(16092618)	441624.91
3760524.85	0.18875	(16092618)		
441574.91	3760524.63	0.19566	(16072722)	441524.91
3760524.41	0.20345	(16072722)		
441474.91	3760524.19	0.21236	(12091022)	441424.91
3760523.97	0.22256	(15091122)		
441374.92	3760523.75	0.23412	(16062022)	441324.92
3760523.53	0.24763	(16062022)		
441274.92	3760523.31	0.26165	(16083020)	441224.92
3760523.09	0.27811	(15080521)		
441174.92	3760522.87	0.29811	(15080521)	441124.92
3760522.65	0.32211	(12092121)		
441074.92	3760522.43	0.35085	(16081621)	441024.92
3760522.21	0.38268	(16081621)		
440974.92	3760521.99	0.42825	(13012317)	440924.92
3760521.77	0.48633	(13012317)		
440874.92	3760521.55	0.56386	(16021220)	440824.92
3760521.33	0.70547	(12012517)		
440374.92	3760519.36	0.76540	(13101517)	440324.93
3760519.14	0.58741	(15031301)		
440274.93	3760518.92	0.49564	(15031301)	440224.93
3760518.70	0.42573	(16021419)		
440174.93	3760518.48	0.38322	(16021419)	440124.93
3760518.26	0.34882	(14042901)		
440074.93	3760518.04	0.32006	(14042901)	440024.93
3760517.82	0.29517	(14043002)		
439974.93	3760517.60	0.27606	(13101522)	439933.82
3760535.15	0.26327	(16101918)		
445138.86	3760315.71	0.06004	(12071219)	445165.09
3759616.20	0.05473	(13090321)		
445166.97	3759566.24	0.05436	(15082820)	445208.34
3759556.77	0.05409	(15082820)		
445258.34	3759556.14	0.05560	(15082820)	445308.34
3759555.51	0.05710	(15082820)		
449408.01	3759503.78	0.03389	(12091419)	449423.82
3759603.59	0.02997	(15072521)		
445238.82	3760499.17	0.06076	(15091022)	445239.41
3760549.16	0.06019	(15091022)		
449255.91	3762522.00	0.06073	(12083121)	449232.19
3762619.67	0.05872	(14092224)		

445265.82	3762064.86	0.08404	(14070723)	445215.82
3762064.86	0.08301 (16082122)			
445165.82	3762064.86	0.08349	(16082122)	445156.70
3762023.50	0.08332 (15101424)			
445139.69	3760573.60	0.05767	(15091022)	445139.10
3760523.60	0.05831 (15091022)			
441152.00	3762046.59	0.34589	(16073005)	441564.94
3762050.09	0.24557 (15062803)			
439944.18	3762179.79	0.31196	(15100921)	439944.37
3762229.79	0.31499 (15100921)			
439944.57	3762279.79	0.31934	(15100921)	439944.77
3762329.79	0.31530 (15100921)			
439944.96	3762379.79	0.30966	(15070102)	439945.16
3762429.79	0.31122 (15070102)			
439945.36	3762479.79	0.30905	(15070102)	439945.55
3762529.79	0.30750 (13082824)			
439945.75	3762579.79	0.30750	(13071104)	439945.94
3762629.79	0.30899 (16022418)			
439946.14	3762679.79	0.31121	(16022418)	439946.34
3762729.79	0.30943 (12080824)			
439958.30	3765779.77	0.17558	(15091922)	439846.49
3762769.33	0.29631 (13082824)			
439846.29	3762719.33	0.29478	(13082824)	439846.10
3762669.33	0.29231 (15070102)			
439845.90	3762619.33	0.29077	(15070102)	439845.71
3762569.33	0.28995 (15100921)			
439845.51	3762519.33	0.29358	(15100921)	439845.31
3762469.33	0.29495 (15100921)			
439845.12	3762419.33	0.29468	(15081402)	439844.92
3762369.33	0.29271 (12091522)			
439844.73	3762319.33	0.29118	(12091522)	439844.53
3762269.33	0.29091 (13012518)			
439844.33	3762219.33	0.29032	(13090904)	446702.53
3762334.08	0.07643 (15101424)			
446751.23	3762345.44	0.07553	(15101424)	446708.40
3762438.13	0.07765 (14070723)			
439319.73	3759944.08	0.15732	(13101522)	439369.73
3759944.08	0.16272 (14043002)			

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413

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, L0008414      , L0008415      , L0008416      ,
                  L0008417      , L0008418      , L0008419      , L0008420      , L0008421
, L0008422      , L0008423      , L0008424      ,
                  L0008425      , L0008426      , L0008427      , L0008428      , L0008429
, L0008430      , L0008431      , L0008432      ,
                  L0008433      , L0008434      , L0008435      , L0008436      , L0008437
, L0008438      , L0008439      , . . .

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\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
439419.73	3759944.08	0.16909	(14043002)	439469.73
3759944.08	0.17483	(14043002)		
439519.73	3759944.08	0.18096	(14042901)	439569.73
3759944.08	0.18934	(14042901)		
439619.73	3759944.08	0.19679	(14042901)	439669.73
3759944.08	0.20465	(16021419)		
439719.73	3759944.08	0.21556	(16021419)	439319.73
3759994.08	0.15665	(16101918)		
439369.73	3759994.08	0.16257	(13101522)	439419.73
3759994.08	0.16838	(14043002)		
439469.73	3759994.08	0.17521	(14043002)	439519.73
3759994.08	0.18170	(14043002)		
439569.73	3759994.08	0.18855	(14042901)	439619.73
3759994.08	0.19715	(14042901)		
439669.73	3759994.08	0.20559	(14042901)	439719.73
3759994.08	0.21481	(16021419)		
439319.73	3760044.08	0.15804	(16101918)	439369.73
3760044.08	0.16248	(16101918)		
439419.73	3760044.08	0.16802	(13101522)	439469.73
3760044.08	0.17416	(13101522)		
439519.73	3760044.08	0.18175	(14043002)	439569.73
3760044.08	0.18882	(14043002)		
439619.73	3760044.08	0.19544	(14042901)	439669.73
3760044.08	0.20608	(14042901)		
439719.73	3760044.08	0.21559	(14042901)	439319.73
3760094.08	0.15823	(16101918)		
439369.73	3760094.08	0.16341	(16101918)	439419.73
3760094.08	0.16848	(16101918)		
439469.73	3760094.08	0.17398	(13101522)	439519.73
3760094.08	0.18102	(13101522)		
439569.73	3760094.08	0.18888	(14043002)	439619.73

3760094.08	0.19650	(14043002)			
439669.73	3760094.08		0.20507	(14042901)	439719.73
3760094.08	0.21597	(14042901)			
439319.73	3760144.08		0.15716	(16101918)	439369.73
3760144.08	0.16306	(16101918)			
439419.73	3760144.08		0.16900	(16101918)	439469.73
3760144.08	0.17455	(16101918)			
439519.73	3760144.08		0.18041	(16101918)	439569.73
3760144.08	0.18783	(13101522)			
439619.73	3760144.08		0.19633	(14043002)	439669.73
3760144.08	0.20556	(14043002)			
439719.73	3760144.08		0.21460	(14042901)	439319.73
3760194.08	0.15731	(14051322)			
439369.73	3760194.08		0.16168	(14051322)	439419.73
3760194.08	0.16861	(16101918)			
439469.73	3760194.08		0.17472	(16101918)	439519.73
3760194.08	0.18082	(16101918)			
439569.73	3760194.08		0.18734	(16101918)	439619.73
3760194.08	0.19527	(13101522)			
439669.73	3760194.08		0.20491	(14043002)	439719.73
3760194.08	0.21486	(14043002)			
439319.73	3760244.08		0.15759	(14051322)	439369.73
3760244.08	0.16224	(14051322)			
439419.73	3760244.08		0.16787	(14051322)	439469.73
3760244.08	0.17362	(16101918)			
439519.73	3760244.08		0.18092	(16101918)	439569.73
3760244.08	0.18782	(16101918)			
439619.73	3760244.08		0.19457	(16101918)	439669.73
3760244.08	0.20376	(13101522)			
439719.73	3760244.08		0.21447	(14043002)	439319.73
3760294.08	0.15801	(14051322)			
439369.73	3760294.08		0.16288	(14051322)	439419.73
3760294.08	0.16784	(14051322)			
439469.73	3760294.08		0.17315	(14051322)	439519.73
3760294.08	0.17963	(16101918)			
439569.73	3760294.08		0.18743	(16101918)	439619.73
3760294.08	0.19480	(16101918)			
439669.73	3760294.08		0.20312	(16101918)	439719.73
3760294.08	0.21320	(13101522)			
439319.73	3760344.08		0.15715	(14051322)	439369.73
3760344.08	0.16261	(14051322)			
439419.73	3760344.08		0.16804	(14051322)	439469.73
3760344.08	0.17352	(14051322)			
439519.73	3760344.08		0.17923	(14051322)	439569.73
3760344.08	0.18549	(16101918)			
439619.73	3760344.08		0.19450	(16101918)	439669.73
3760344.08	0.20365	(16101918)			
439719.73	3760344.08		0.21312	(16101918)	439319.73
3760394.08	0.15648	(15071824)			

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC (YYMMDDHH)		
439369.73	3760394.08	0.16152 (14051322)	439419.73
3760394.08	0.16767 (14051322)		
439469.73	3760394.08	0.17370 (14051322)	439519.73
3760394.08	0.17974 (14051322)		
439569.73	3760394.08	0.18605 (14051322)	439619.73
3760394.08	0.19318 (14051322)		
439669.73	3760394.08	0.20308 (16101918)	439719.73
3760394.08	0.21332 (16101918)		
439874.21	3765787.45	0.18194 (16072406)	438730.25
3763176.04	0.17810 (12080924)		
439155.52	3762752.44	0.20094 (14072601)	438236.34
3763973.00	0.16212 (13082623)		

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/23/21  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*



\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup>

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
440566.09	3761307.70	0.32918c	(12120424)	440753.96
3761303.17	0.38666 (16101624)			
440851.52	3761299.51	0.34969	(12120224)	440971.94
3761298.60	0.24747 (12120224)			
440893.94	3761226.53	0.35526	(12120224)	441213.06
3761237.69	0.15474 (12120224)			
441159.80	3761390.72	0.14397	(12120224)	441227.40
3761481.34	0.11827m (16031424)			
441082.11	3761541.41	0.12499m	(16031424)	441232.16
3761830.62	0.06809 (16030624)			
441646.93	3761227.68	0.09909m	(12050224)	441817.10
3761247.30	0.08537m (12050224)			
442031.98	3761370.48	0.06084m	(12050224)	442031.98
3761419.29	0.05732 (13020524)			
442027.42	3761327.59	0.06641m	(12050224)	441953.51
3761508.71	0.06408 (14032624)			
442028.70	3761572.71	0.06091	(14032624)	440323.58
3761295.37	0.29188 (12020424)			
440261.53	3761302.22	0.23057	(12020424)	440432.94
3761497.04	0.13518m (14021824)			
440427.03	3761600.65	0.10371m	(14021824)	440485.55
3762029.06	0.05181 (14122524)			
440533.86	3762034.96	0.05200	(14122524)	440588.09
3762034.96	0.04999c (12120424)			
440657.35	3762052.07	0.05268c	(12120424)	440598.04
3762118.06	0.04503c (12120424)			
440231.97	3762035.21	0.05080	(13112324)	440283.76
3762037.11	0.04586m (14021824)			

440897.05	3762038.37	0.05007	(14120424)	439514.80
3761885.55	0.06281 (12020424)			
439564.80	3761885.55	0.06450	(12020424)	439864.80
3761885.55	0.05616m (15011124)			
439514.80	3761935.55	0.06315	(12020424)	439564.80
3761935.55	0.06307 (12020424)			
439864.80	3761935.55	0.05546m	(15011124)	439514.80
3761985.55	0.06007 (12020424)			
439564.80	3761985.55	0.05943	(12020424)	439864.80
3761985.55	0.05535m (15011124)			
439514.80	3762035.55	0.05684	(12020424)	439564.80
3762035.55	0.05507 (12020424)			
439864.80	3762035.55	0.05382m	(15011124)	439864.80
3762085.55	0.05433m (15011124)			
439514.80	3762135.55	0.04723	(12020424)	439564.80
3762135.55	0.04373 (12020424)			
439614.80	3762135.55	0.03953	(12020424)	439664.80
3762135.55	0.04126m (15011124)			
439714.80	3762135.55	0.04466m	(15011124)	439764.80
3762135.55	0.04777m (15011124)			
439864.80	3762135.55	0.05114m	(15011124)	439512.61
3760864.65	0.05901 (12122024)			
439562.61	3760864.65	0.06424	(12122024)	439612.61
3760864.65	0.07016 (12122024)			
439662.61	3760864.65	0.07684	(12122024)	439712.61
3760864.65	0.08437 (12122024)			
439762.61	3760864.65	0.09290	(12122024)	439812.61
3760864.65	0.10275 (12122024)			
439862.61	3760864.65	0.11337	(12122024)	439512.61
3760914.65	0.06211 (12122024)			
439562.61	3760914.65	0.06740	(12122024)	439612.61
3760914.65	0.07330 (12122024)			
439662.61	3760914.65	0.07983	(12122024)	439712.61
3760914.65	0.08709 (12122024)			
439762.61	3760914.65	0.09518	(12122024)	439812.61
3760914.65	0.10450 (12122024)			
439862.61	3760914.65	0.11402	(12122024)	439512.61
3760964.65	0.06480 (12122024)			
439562.61	3760964.65	0.06996	(12122024)	439612.61
3760964.65	0.07560 (12122024)			
439662.61	3760964.65	0.08175	(12122024)	439712.61
3760964.65	0.08850 (12122024)			
439762.61	3760964.65	0.09600	(12122024)	439812.61
3760964.65	0.10474 (12122024)			
439862.61	3760964.65	0.11381	(12122024)	439512.61
3761014.65	0.06672 (12122024)			
439562.61	3761014.65	0.07159	(12122024)	439612.61
3761014.65	0.07685 (12122024)			
439662.61	3761014.65	0.08252	(12122024)	439712.61

3761014.65 0.08874 (12122024)  
 439762.61 3761014.65 0.09566 (12122024) 439812.61

3761014.65 0.10393 (12122024)

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)
439862.61	3761014.65	0.11269 (12122024)	439512.61
3761064.65	0.06763 (12122024)		
439562.61	3761064.65	0.07213 (12122024)	439612.61
3761064.65	0.07696 (12122024)		
439662.61	3761064.65	0.08220 (12122024)	439712.61
3761064.65	0.08797 (12122024)		
439762.61	3761064.65	0.09452 (12122024)	439812.61
3761064.65	0.10248 (12122024)		
439862.61	3761064.65	0.11067 (12122024)	439512.61
3761114.65	0.06766 (12122024)		
439562.61	3761114.65	0.07177 (12122024)	439612.61
3761114.65	0.07620 (12122024)		
439662.61	3761114.65	0.08106 (12122024)	439712.61
3761114.65	0.08654 (12122024)		
439762.61	3761114.65	0.09287 (12122024)	439812.61
3761114.65	0.10057 (12122024)		
439862.61	3761114.65	0.11061 (12122024)	439512.61

3761164.65	0.06726	(12122024)			
439562.61	3761164.65		0.07102	(12122024)	439612.61
3761164.65	0.07514	(12122024)			
439662.61	3761164.65		0.07974	(12122024)	439712.61
3761164.65	0.08506	(12122024)			
439762.61	3761164.65		0.09127	(12122024)	439812.61
3761164.65	0.09871	(12122024)			
439862.61	3761164.65		0.10649	(12122024)	439512.61
3761214.65	0.06694	(12122024)			
439562.61	3761214.65		0.07045	(12122024)	439612.61
3761214.65	0.07442	(12122024)			
439662.61	3761214.65		0.07894	(12122024)	439712.61
3761214.65	0.08424	(12122024)			
439762.61	3761214.65		0.09037	(12122024)	439812.61
3761214.65	0.09773	(12122024)			
439862.61	3761214.65		0.10528	(12122024)	439512.61
3761264.65	0.06650	(12122024)			
439562.61	3761264.65		0.06998	(12122024)	439612.61
3761264.65	0.07395	(12122024)			
439662.61	3761264.65		0.07844	(12122024)	439712.61
3761264.65	0.08367	(12122024)			
439762.61	3761264.65		0.08970	(12122024)	439812.61
3761264.65	0.09684	(12122024)			
439862.61	3761264.65		0.10436	(12122024)	439512.61
3761314.65	0.06541	(12122024)			
439562.61	3761314.65		0.06872	(12122024)	439612.61
3761314.65	0.07243	(12122024)			
439662.61	3761314.65		0.07680	(12122024)	439712.61
3761314.65	0.08178	(12122024)			
439762.61	3761314.65		0.08733	(12122024)	439812.61
3761314.65	0.09381	(12122024)			
439862.61	3761314.65		0.10010	(12122024)	439512.61
3761364.65	0.06299	(12122024)			
439562.61	3761364.65		0.06603	(12122024)	439612.61
3761364.65	0.06939	(12122024)			
439662.61	3761364.65		0.07321	(12122024)	439712.61
3761364.65	0.07750	(12122024)			
439762.61	3761364.65		0.08221	(12122024)	439812.61
3761364.65	0.08937	(12020424)			
439862.61	3761364.65		0.09945	(12020424)	439512.61
3761414.65	0.05931	(12011324)			
439562.61	3761414.65		0.06273	(12011324)	439612.61
3761414.65	0.06645	(12011324)			
439662.61	3761414.65		0.07046	(12011324)	439712.61
3761414.65	0.07593	(12020424)			
439762.61	3761414.65		0.08357	(12020424)	439812.61
3761414.65	0.09104	(12020424)			
439862.61	3761414.65		0.09865	(12020424)	439512.61
3761464.65	0.05954	(12011324)			

439562.61	3761464.65	0.06262	(12011324)	439612.61
3761464.65	0.06605	(12011324)		
439662.61	3761464.65	0.07135	(12020424)	439712.61
3761464.65	0.07809	(12020424)		
439762.61	3761464.65	0.08464	(12020424)	439812.61
3761464.65	0.09099	(12020424)		
439862.61	3761464.65	0.09743	(12020424)	439512.61
3761514.65	0.05910	(12011324)		
439562.61	3761514.65	0.06209	(12011324)	439612.61
3761514.65	0.06724	(12020424)		
439662.61	3761514.65	0.07322	(12020424)	439712.61
3761514.65	0.07896	(12020424)		
439762.61	3761514.65	0.08471	(12020424)	439812.61
3761514.65	0.09027	(12020424)		

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL                    \*\*\*  
                                          INCLUDING SOURCE(S):    L0008412    , L0008413  
 , L0008414    , L0008415    , L0008416    ,  
                                          L0008417    , L0008418    , L0008419    , L0008420    , L0008421  
 , L0008422    , L0008423    , L0008424    ,  
                                          L0008425    , L0008426    , L0008427    , L0008428    , L0008429  
 , L0008430    , L0008431    , L0008432    ,  
                                          L0008433    , L0008434    , L0008435    , L0008436    , L0008437  
 , L0008438    , L0008439    , . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10    IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
439862.61	3761514.65	0.09632	(12020424)	439512.61
3761564.65	0.05840	(12011324)		
439562.61	3761564.65	0.06353	(12020424)	439612.61
3761564.65	0.06892	(12020424)		
439662.61	3761564.65	0.07399	(12020424)	439712.61
3761564.65	0.07895	(12020424)		

439762.61	3761564.65	0.08417	(12020424)	439812.61
3761564.65	0.08943	(12020424)		
439862.61	3761564.65	0.09452	(12020424)	439512.61
3761614.65	0.06007	(12020424)		
439562.61	3761614.65	0.06493	(12020424)	439862.61
3761614.65	0.09349	(12020424)		
439512.61	3761664.65	0.06238	(12020424)	439562.61
3761664.65	0.06629	(12020424)		
439862.61	3761664.65	0.08867	(12020424)	439512.61
3761714.65	0.06265	(12020424)		
439562.61	3761714.65	0.06642	(12020424)	439862.61
3761714.65	0.08300	(12020424)		
439512.61	3761764.65	0.06259	(12020424)	439562.61
3761764.65	0.06624	(12020424)		
439862.61	3761764.65	0.07701	(12020424)	439512.61
3761814.65	0.06266	(12020424)		
439562.61	3761814.65	0.06589	(12020424)	439862.61
3761814.65	0.06713	(12020424)		
439512.61	3761864.65	0.06229	(12020424)	439562.61
3761864.65	0.06483	(12020424)		
439862.61	3761864.65	0.05939	(12020424)	439947.85
3760913.55	0.13207	(12122024)		
439947.57	3760863.55	0.13179	(12122024)	439947.28
3760813.55	0.12949	(12122024)		
439947.00	3760763.55	0.12460	(12122024)	439946.72
3760713.55	0.12383	(16122724)		
439946.44	3760663.55	0.12564	(16122724)	439946.16
3760613.56	0.12687	(16122724)		
439945.87	3760563.56	0.12781	(16122724)	439945.59
3760513.56	0.12847	(16122724)		
439840.54	3760412.27	0.10812	(16122724)	439840.25
3760362.27	0.10440	(16122724)		
439839.97	3760312.27	0.09931	(16122724)	439839.69
3760262.27	0.09336	(16122724)		
439839.41	3760212.27	0.08708	(16122724)	439839.13
3760162.27	0.08085	(16122724)		
439838.84	3760112.27	0.07728	(15031324)	439838.56
3760062.27	0.07576	(15031324)		
439838.28	3760012.27	0.07402	(15031324)	439838.00
3759962.28	0.07182	(15031324)		
439837.72	3759912.28	0.06897	(15031324)	439837.43
3759862.28	0.06539	(15031324)		
439837.15	3759812.28	0.06125	(15031324)	439827.57
3758112.30	0.02086m	(13010324)		
439927.52	3758104.25	0.01908m	(13010324)	439937.11
3759804.22	0.06029	(13010224)		
439937.39	3759854.22	0.06286	(15031324)	439937.67
3759904.22	0.06880	(15031324)		
439937.95	3759954.22	0.07424	(15031324)	439938.24

3760004.22	0.07896	(15031324)			
439938.52	3760054.22	0.08288	(15031324)		439938.80
3760104.22	0.08608	(15031324)			
439939.08	3760154.22	0.08897	(15031324)		439939.36
3760204.22	0.09187	(15031324)			
439939.65	3760254.22	0.09644	(16122724)		439939.93
3760304.22	0.10503	(16122724)			
439940.21	3760354.21	0.11328	(16122724)		439940.49
3760404.21	0.12090	(16122724)			
439857.97	3760492.88	0.11395	(16122724)		439858.26
3760542.88	0.11256	(16122724)			
439858.54	3760592.88	0.10834	(16122724)		439858.82
3760642.88	0.10778	(14122624)			
439859.10	3760692.88	0.10507	(14122624)		439859.38
3760742.88	0.10218	(14122624)			
439859.67	3760792.88	0.10890	(12122024)		439859.95
3760842.88	0.11118	(12122024)			
439908.55	3760435.04	0.12050	(16122724)		439949.66
3760417.49	0.12431	(16122724)			
439999.66	3760417.71	0.13261	(16122724)		440049.66
3760417.93	0.14187	(16122724)			
440099.66	3760418.15	0.15243	(16122724)		440149.66
3760418.37	0.16516	(14122624)			
440199.66	3760418.59	0.18387	(15031324)		440249.66
3760418.81	0.21000	(15031324)			

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 14:28:23

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

Y-COORD (M)	X-COORD (M)	Y-COORD (M) CONC (YYMMDDHH)	CONC	(YYMMDDHH)	X-COORD (M)
3760419.25	440299.66	3760419.03	0.24271	(15031324)	440349.66
3760421.22	440399.66	3760419.46	0.33438	(14120224)	440799.65
3760421.66	440849.65	3760421.44	0.26833	(14110424)	440899.65
3760422.10	440949.65	3760421.88	0.19117	(14110424)	440999.65
3760422.54	441049.65	3760422.32	0.14211	(14110424)	441099.65
3760422.98	441149.65	3760422.76	0.11469b	(14072524)	441199.65
3760423.42	441249.65	3760423.20	0.10289b	(14072524)	441299.65
3760423.86	441349.65	3760423.64	0.09376b	(14072524)	441399.65
3760424.29	441449.65	3760424.07	0.08639b	(14072524)	441499.65
3760424.73	441549.65	3760424.51	0.08005b	(14072524)	441599.64
3760425.17	441649.64	3760424.95	0.07426b	(14072524)	441699.64
3760425.61	441749.64	3760425.39	0.06861b	(14072524)	441799.64
3760426.05	441849.64	3760425.83	0.06294b	(14072524)	441899.64
3760426.49	441949.64	3760426.27	0.05718b	(14072524)	441999.64
3760426.93	442049.64	3760426.71	0.05359	(13050124)	442099.64
3760427.37	442149.64	3760427.15	0.05093	(13050124)	442199.64
3760427.81	442249.64	3760427.59	0.04844	(13050124)	442299.64
3760428.25	442349.64	3760428.03	0.04606	(13050124)	442399.64
3760428.69	442449.64	3760428.47	0.04407	(13050124)	442499.64
3760429.12	442549.64	3760428.90	0.04189	(13050124)	442599.64
3760429.56	442649.63	3760429.34	0.03969	(13050124)	442699.63
3760430.00	442749.63	3760429.78	0.03784	(13050124)	442799.63



442849.63	3760430.22	0.03613	(13050124)	442899.63
3760430.44	0.03522	(13050124)		
442949.63	3760430.66	0.03447	(13050124)	442999.63
3760430.88	0.03364	(13050124)		
443049.63	3760431.10	0.03287	(13050124)	443099.63
3760431.32	0.03207	(13050124)		
443149.63	3760431.54	0.03138	(13050124)	443199.63
3760431.76	0.03084	(13050124)		
443249.63	3760431.98	0.03015	(13050124)	443299.63
3760432.20	0.02947	(13050124)		
443349.63	3760432.42	0.02892	(13050124)	443399.63
3760432.64	0.02835	(13050124)		
443449.63	3760432.86	0.02778	(13050124)	443499.63
3760433.08	0.02718	(13050124)		
443549.63	3760433.30	0.02664	(13050124)	443599.63
3760433.51	0.02635	(13050124)		
443649.63	3760433.73	0.02612b	(14070124)	443699.62
3760433.95	0.02570b	(14070124)		
443749.62	3760434.17	0.02530b	(14070124)	443799.62
3760434.39	0.02505b	(14070124)		
443849.62	3760434.61	0.02500b	(14070124)	443899.62
3760434.83	0.02517b	(14070124)		
443957.56	3760448.00	0.02611b	(14070124)	444003.78
3760428.92	0.02442b	(14070124)		
444049.99	3760409.83	0.02315b	(14070124)	444096.20
3760390.74	0.02194b	(14070124)		
444142.42	3760371.65	0.02078b	(14070124)	444191.79
3760367.99	0.02039b	(14070124)		
444241.79	3760367.35	0.02032b	(14070124)	444291.78
3760366.71	0.02024b	(14070124)		
444341.78	3760366.07	0.02008b	(14070124)	444391.77
3760365.44	0.01987b	(14070124)		
444441.77	3760364.80	0.01969b	(14070124)	444491.77
3760364.16	0.01950b	(14070124)		
444541.76	3760363.52	0.01929b	(14070124)	444591.76
3760362.88	0.01906b	(14070124)		

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 14:28:23

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421

, L0008422 , L0008423 , L0008424 ,  
 , L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 , L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC (YYMMDDHH)		
444641.75	3760362.25	0.01867b (14070124)	444691.75
3760361.61	0.01871b (14070124)		
444741.75	3760360.97	0.01852b (14070124)	444791.74
3760360.33	0.01832b (14070124)		
444841.74	3760359.69	0.01814b (14070124)	444891.73
3760359.05	0.01799b (14070124)		
444941.73	3760358.42	0.01784b (14070124)	444991.73
3760357.78	0.01771b (14070124)		
445041.72	3760357.14	0.01760b (14070124)	445091.72
3760356.50	0.01749b (14070124)		
445141.71	3760355.86	0.01759b (14070124)	445191.71
3760355.22	0.01706b (14070124)		
445166.91	3760455.55	0.01876b (14070124)	445116.92
3760456.19	0.01858b (14070124)		
445066.92	3760456.83	0.01863b (14070124)	445016.93
3760457.46	0.01879b (14070124)		
444966.93	3760458.10	0.01900b (14070124)	444916.93
3760458.74	0.01910b (14070124)		
444866.94	3760459.38	0.01926b (14070124)	444816.94
3760460.02	0.01934b (14070124)		
444766.95	3760460.66	0.01955b (14070124)	444716.95
3760461.29	0.02003b (14070124)		
444666.95	3760461.93	0.02002b (14070124)	444616.96
3760462.57	0.02003b (14070124)		
444566.96	3760463.21	0.02081b (14070124)	444516.97
3760463.85	0.02101b (14070124)		
444466.97	3760464.48	0.02124b (14070124)	444416.97
3760465.12	0.02154b (14070124)		
444366.98	3760465.76	0.02181b (14070124)	444316.98
3760466.40	0.02206b (14070124)		
444266.99	3760467.04	0.02242b (14070124)	444216.99
3760467.68	0.02289b (14070124)		
444167.26	3760469.59	0.02352b (14070124)	444121.04

3760488.68	0.02378b (14070124)		
444074.83	3760507.76	0.02425b (14070124)	444028.62
3760526.85	0.02469b (14070124)		
443982.40	3760545.94	0.02545b (14070124)	443933.78
3760552.72	0.02607b (14070124)		
443874.89	3760534.72	0.02665b (14070124)	443824.89
3760534.50	0.02678b (14070124)		
443774.89	3760534.29	0.02701b (14070124)	443724.89
3760534.07	0.02735b (14070124)		
443674.89	3760533.85	0.02767b (14070124)	443624.89
3760533.63	0.02788b (14070124)		
443574.89	3760533.41	0.02807b (14070124)	443524.89
3760533.19	0.02881b (14070124)		
443474.89	3760532.97	0.02928b (14070124)	443424.90
3760532.75	0.03003b (14070124)		
443374.90	3760532.53	0.03004b (14070124)	443324.90
3760532.31	0.03062b (14070124)		
443274.90	3760532.09	0.03114b (14070124)	443224.90
3760531.87	0.03153b (14070124)		
443174.90	3760531.65	0.03175 (13050124)	443124.90
3760531.43	0.03249 (13050124)		
443074.90	3760531.21	0.03326 (13050124)	443024.90
3760530.99	0.03417 (13050124)		
442974.90	3760530.77	0.03465 (13050124)	442924.90
3760530.55	0.03557 (13050124)		
442874.90	3760530.33	0.03659 (13050124)	442824.90
3760530.11	0.03763 (13050124)		
442774.90	3760529.89	0.03870 (13050124)	442724.90
3760529.68	0.03974 (13050124)		
442674.90	3760529.46	0.04089 (13050124)	442624.90
3760529.24	0.04220 (13050124)		
442574.90	3760529.02	0.04370 (13050124)	442524.90
3760528.80	0.04506 (13050124)		
442474.90	3760528.58	0.04648 (13050124)	442424.91
3760528.36	0.04799 (13050124)		
442374.91	3760528.14	0.04953 (13050124)	442324.91
3760527.92	0.05109 (13050124)		
442274.91	3760527.70	0.05265 (13050124)	442224.91
3760527.48	0.05433 (13050124)		
442174.91	3760527.26	0.05609 (13050124)	442124.91
3760527.04	0.05795 (13050124)		
442074.91	3760526.82	0.05991 (13050124)	442024.91
3760526.60	0.06195 (13050124)		
441974.91	3760526.38	0.06407 (13050124)	441924.91
3760526.16	0.06627 (13050124)		
441874.91	3760525.94	0.06862 (13050124)	441824.91
3760525.72	0.07110 (13050124)		

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 \*\*\* 14:28:23

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup>

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X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)
441774.91	3760525.50	0.07372 (13050124)	441724.91
3760525.28	0.07651 (13050124)		
441674.91	3760525.06	0.07951 (13050124)	441624.91
3760524.85	0.08275 (13050124)		
441574.91	3760524.63	0.08631 (13050124)	441524.91
3760524.41	0.09020 (13050124)		
441474.91	3760524.19	0.09449 (13050124)	441424.91
3760523.97	0.09932 (13050124)		
441374.92	3760523.75	0.10476 (13050124)	441324.92
3760523.53	0.11099 (13050124)		
441274.92	3760523.31	0.11815 (13050124)	441224.92
3760523.09	0.12640 (13050124)		
441174.92	3760522.87	0.13613 (13050124)	441124.92
3760522.65	0.14771 (13050124)		
441074.92	3760522.43	0.16186 (13050124)	441024.92
3760522.21	0.17945 (13050124)		
440974.92	3760521.99	0.20282 (13050124)	440924.92
3760521.77	0.23372 (13050124)		
440874.92	3760521.55	0.28463 (14110424)	440824.92
3760521.33	0.37392 (14110424)		
440374.92	3760519.36	0.40405 (16122724)	440324.93
3760519.14	0.30691 (16122724)		

440274.93	3760518.92	0.25355	(16122724)	440224.93
3760518.70	0.21839	(16122724)		
440174.93	3760518.48	0.19385	(16122724)	440124.93
3760518.26	0.17494	(16122724)		
440074.93	3760518.04	0.15940	(16122724)	440024.93
3760517.82	0.14614	(16122724)		
439974.93	3760517.60	0.13453	(16122724)	439933.82
3760535.15	0.12583	(16122724)		
445138.86	3760315.71	0.01618b	(14070124)	445165.09
3759616.20	0.01138	(12021224)		
445166.97	3759566.24	0.01083	(14032124)	445208.34
3759556.77	0.01142	(12021224)		
445258.34	3759556.14	0.01285c	(12120524)	445308.34
3759555.51	0.01334c	(12120524)		
449408.01	3759503.78	0.00873	(12072324)	449423.82
3759603.59	0.00777	(12072324)		
445238.82	3760499.17	0.01943b	(14070124)	445239.41
3760549.16	0.01913b	(14070124)		
449255.91	3762522.00	0.01070m	(12050224)	449232.19
3762619.67	0.00988b	(16071024)		
445265.82	3762064.86	0.01724c	(13050524)	445215.82
3762064.86	0.01670c	(13050524)		
445165.82	3762064.86	0.01661c	(13050524)	445156.70
3762023.50	0.01681c	(13050524)		
445139.69	3760573.60	0.01706b	(14070124)	445139.10
3760523.60	0.01738b	(14070124)		
441152.00	3762046.59	0.04392m	(16031424)	441564.94
3762050.09	0.06062	(16030624)		
439944.18	3762179.79	0.04707m	(15011124)	439944.37
3762229.79	0.04417	(13112324)		
439944.57	3762279.79	0.04196	(13112324)	439944.77
3762329.79	0.03991	(13112324)		
439944.96	3762379.79	0.03808	(13112324)	439945.16
3762429.79	0.03634	(13112324)		
439945.36	3762479.79	0.03473	(13112324)	439945.55
3762529.79	0.03327	(13112324)		
439945.75	3762579.79	0.03186	(13112324)	439945.94
3762629.79	0.03059	(13112324)		
439946.14	3762679.79	0.02934	(13112324)	439946.34
3762729.79	0.02816	(13112324)		
439958.30	3765779.77	0.01308m	(16031424)	439846.49
3762769.33	0.02856	(13112324)		
439846.29	3762719.33	0.02938	(13112324)	439846.10
3762669.33	0.03032	(13112324)		
439845.90	3762619.33	0.03135	(13112324)	439845.71
3762569.33	0.03248	(13112324)		
439845.51	3762519.33	0.03377	(13112324)	439845.31
3762469.33	0.03655m	(15011124)		
439845.12	3762419.33	0.03925m	(15011124)	439844.92

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3762369.33      0.04177m (15011124)
      439844.73  3762319.33      0.04431m (15011124)      439844.53
3762269.33      0.04621m (15011124)
      439844.33  3762219.33      0.04797m (15011124)      446702.53
3762334.08      0.01474c (13050524)
      446751.23  3762345.44      0.01440c (13050524)      446708.40
3762438.13      0.01497c (13050524)
      439319.73  3759944.08      0.04620 (16122724)      439369.73
3759944.08      0.04795 (16122724)

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^ *** AERMOD - VERSION 21112 ***      *** C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U ***      08/23/21
*** AERMET - VERSION 16216 ***      ***
***      ***      14:28:23

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

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*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL      ***
      INCLUDING SOURCE(S):      L0008412      , L0008413
, L0008414      , L0008415      , L0008416      ,
      L0008417      , L0008418      , L0008419      , L0008420      , L0008421
, L0008422      , L0008423      , L0008424      ,
      L0008425      , L0008426      , L0008427      , L0008428      , L0008429
, L0008430      , L0008431      , L0008432      ,
      L0008433      , L0008434      , L0008435      , L0008436      , L0008437
, L0008438      , L0008439      , . . .      ,

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\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
439419.73	3759944.08	0.04959	(16122724)	439469.73
3759944.08	0.05108 (16122724)			
439519.73	3759944.08	0.05235	(16122724)	439569.73
3759944.08	0.05340 (16122724)			
439619.73	3759944.08	0.05418	(16122724)	439669.73
3759944.08	0.05713 (15031324)			
439719.73	3759944.08	0.06117	(15031324)	439319.73
3759994.08	0.04729 (16122724)			
439369.73	3759994.08	0.04936	(16122724)	439419.73
3759994.08	0.05131 (16122724)			
439469.73	3759994.08	0.05312	(16122724)	439519.73

3759994.08	0.05479	(16122724)			
439569.73	3759994.08		0.05631	(16122724)	439619.73
3759994.08	0.05748	(16122724)			
439669.73	3759994.08		0.05852	(16122724)	439719.73
3759994.08	0.06183	(15031324)			
439319.73	3760044.08		0.04817	(16122724)	439369.73
3760044.08	0.05060	(16122724)			
439419.73	3760044.08		0.05291	(16122724)	439469.73
3760044.08	0.05510	(16122724)			
439519.73	3760044.08		0.05716	(16122724)	439569.73
3760044.08	0.05904	(16122724)			
439619.73	3760044.08		0.06067	(16122724)	439669.73
3760044.08	0.06229	(16122724)			
439719.73	3760044.08		0.06366	(16122724)	439319.73
3760094.08	0.04921	(14122624)			
439369.73	3760094.08		0.05157	(16122724)	439419.73
3760094.08	0.05432	(16122724)			
439469.73	3760094.08		0.05697	(16122724)	439519.73
3760094.08	0.05951	(16122724)			
439569.73	3760094.08		0.06184	(16122724)	439619.73
3760094.08	0.06399	(16122724)			
439669.73	3760094.08		0.06612	(16122724)	439719.73
3760094.08	0.06799	(16122724)			
439319.73	3760144.08		0.05106	(14122624)	439369.73
3760144.08	0.05280	(14122624)			
439419.73	3760144.08		0.05535	(16122724)	439469.73
3760144.08	0.05846	(16122724)			
439519.73	3760144.08		0.06153	(16122724)	439569.73
3760144.08	0.06445	(16122724)			
439619.73	3760144.08		0.06720	(16122724)	439669.73
3760144.08	0.06990	(16122724)			
439719.73	3760144.08		0.07238	(16122724)	439319.73
3760194.08	0.05235	(14122624)			
439369.73	3760194.08		0.05449	(14122624)	439419.73
3760194.08	0.05676	(14122624)			
439469.73	3760194.08		0.05951	(16122724)	439519.73
3760194.08	0.06308	(16122724)			
439569.73	3760194.08		0.06664	(16122724)	439619.73
3760194.08	0.07010	(16122724)			
439669.73	3760194.08		0.07348	(16122724)	439719.73
3760194.08	0.07673	(16122724)			
439319.73	3760244.08		0.05294	(14122624)	439369.73
3760244.08	0.05550	(14122624)			
439419.73	3760244.08		0.05824	(14122624)	439469.73
3760244.08	0.06072	(14122624)			
439519.73	3760244.08		0.06415	(16122724)	439569.73
3760244.08	0.06831	(16122724)			
439619.73	3760244.08		0.07238	(16122724)	439669.73
3760244.08	0.07665	(16122724)			

439719.73	3760244.08	0.08080	(16122724)	439319.73
3760294.08	0.05288	(14122624)		
439369.73	3760294.08	0.05583	(14122624)	439419.73
3760294.08	0.05880	(14122624)		
439469.73	3760294.08	0.06181	(14122624)	439519.73
3760294.08	0.06496	(14122624)		
439569.73	3760294.08	0.06929	(16122724)	439619.73
3760294.08	0.07405	(16122724)		
439669.73	3760294.08	0.07906	(16122724)	439719.73
3760294.08	0.08421	(16122724)		
439319.73	3760344.08	0.05187	(14122624)	439369.73
3760344.08	0.05518	(14122624)		
439419.73	3760344.08	0.05856	(14122624)	439469.73
3760344.08	0.06199	(14122624)		
439519.73	3760344.08	0.06548	(14122624)	439569.73
3760344.08	0.06946	(16122724)		
439619.73	3760344.08	0.07498	(16122724)	439669.73
3760344.08	0.08078	(16122724)		
439719.73	3760344.08	0.08679	(16122724)	439319.73
3760394.08	0.05014	(14122624)		

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\*  
 \*\*\* 14:28:23

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		

-----



439369.73	3760394.08	0.05371	(14122624)	439419.73
3760394.08	0.05742	(14122624)		
439469.73	3760394.08	0.06123	(14122624)	439519.73
3760394.08	0.06514	(14122624)		
439569.73	3760394.08	0.06919	(14122624)	439619.73
3760394.08	0.07498	(16122724)		
439669.73	3760394.08	0.08142	(16122724)	439719.73
3760394.08	0.08824	(16122724)		
439874.21	3765787.45	0.01476	(12120624)	438730.25
3763176.04	0.01682b	(13031524)		
439155.52	3762752.44	0.02362	(13112324)	438236.34
3763973.00	0.01501b	(13031524)		

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 14:28:23

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE SUMMARY OF MAXIMUM PERIOD ( 43848  
 HRS) RESULTS \*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

GROUP ID	NETWORK	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV,
ZHILL, ZFLAG)	OF TYPE GRID-ID		
ALL	1ST HIGHEST VALUE IS	0.22015 AT ( 440824.92, 3760521.33, 196.81,	
196.81,	0.00) DC		
	2ND HIGHEST VALUE IS	0.18366 AT ( 440753.96, 3761303.17, 204.07,	
204.07,	0.00) DC		
	3RD HIGHEST VALUE IS	0.18111 AT ( 440893.94, 3761226.53, 203.98,	
203.98,	0.00) DC		
	4TH HIGHEST VALUE IS	0.17429 AT ( 440566.09, 3761307.70, 203.98,	
203.98,	0.00) DC		
	5TH HIGHEST VALUE IS	0.16641 AT ( 440374.92, 3760519.36, 195.42,	
195.42,	0.00) DC		
	6TH HIGHEST VALUE IS	0.16043 AT ( 440874.92, 3760521.55, 197.55,	
197.55,	0.00) DC		
	7TH HIGHEST VALUE IS	0.14572 AT ( 440851.52, 3761299.51, 204.20,	
204.20,	0.00) DC		
	8TH HIGHEST VALUE IS	0.12981 AT ( 440799.65, 3760421.22, 196.26,	

196.26, 0.00) DC  
 9TH HIGHEST VALUE IS 0.12736 AT ( 440924.92, 3760521.77, 198.06,  
 198.06, 0.00) DC  
 10TH HIGHEST VALUE IS 0.12369 AT ( 440399.66, 3760419.46, 194.31,  
 194.31, 0.00) DC

\*\*\* RECEPTOR TYPES: GC = GRIDCART  
 GP = GRIDPOLR  
 DC = DISCCART  
 DP = DISCPOLR

\*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\*  
 \*\*\* 14:28:23

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE SUMMARY OF HIGHEST 1-HR

RESULTS \*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

GROUP ID (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK		DATE	RECEPTOR
	AVERAGE CONC OF TYPE	GRID-ID	(YYMMDDHH)	
-----				
-----				

ALL HIGH 1ST HIGH VALUE IS 1.03802 ON 15060921: AT ( 440753.96,  
 3761303.17, 204.07, 204.07, 0.00) DC

\*\*\* RECEPTOR TYPES: GC = GRIDCART  
 GP = GRIDPOLR  
 DC = DISCCART  
 DP = DISCPOLR

\*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*  
 \*\*\* 14:28:23

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

RESULTS \*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

GROUP ID (XR, YR, ZELEV, ZHILL, ZFLAG)	AVERAGE CONC OF TYPE	NETWORK GRID-ID	DATE (YYMMDDHH)	RECEPTOR
ALL HIGH 1ST HIGH VALUE IS	0.40405	ON 16122724:	AT ( 440374.92,	
3760519.36, 195.42, 195.42,	0.00)	DC		

\*\*\* RECEPTOR TYPES: GC = GRIDCART  
 GP = GRIDPOLR  
 DC = DISCCART  
 DP = DISCPOLR

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/23/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 14:28:23

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* Message Summary : AERMOD Model Execution \*\*\*

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)  
 A Total of 2 Warning Message(s)  
 A Total of 1279 Informational Message(s)

A Total of 43848 Hours Were Processed

A Total of 917 Calm Hours Identified

A Total of 362 Missing Hours Identified ( 0.83 Percent)

\*\*\*\*\* FATAL ERROR MESSAGES \*\*\*\*\*  
 \*\*\* NONE \*\*\*

\*\*\*\*\* WARNING MESSAGES \*\*\*\*\*

ME W186 2416 MEOPEN: THRESH\_1MIN 1-min ASOS wind speed threshold used  
0.50  
ME W187 2416 MEOPEN: ADJ\_U\* Option for Stable Low Winds used in AERMET

\*\*\*\*\*  
\*\*\* AERMOD Finishes Successfully \*\*\*  
\*\*\*\*\*

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**
*****
**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.0.0
** Lakes Environmental Software Inc.
** Date: 8/24/2021
** File: C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Mitigated_Construction\ORBP_Mitigated_Construction.ADI
**
*****
**
**
*****
** AERMOD Control Pathway
*****
**
**
CO STARTING
  TITLEONE C:\Lakes\AERMOD View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U
  MODELOPT DFAULT CONC
  AVERTIME 1 24 PERIOD
  URBANOPT 2035210 San_Bernardino_County
  POLLUTID PM_10
  RUNORNOT RUN
  ERRORFIL ORBP_Mitigated_Construction.err
CO FINISHED
**
*****
** AERMOD Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE13
** DESCRSRC West Access Road - Sultana 15 mph
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0000422
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440392.516, 3761134.605, 201.61, 3.15, 12.09
** 440390.843, 3760473.617, 195.36, 3.15, 12.09

```

```

** -----
LOCATION L0008412      VOLUME  440392.483 3761121.605 201.48
LOCATION L0008413      VOLUME  440392.418 3761095.606 201.17
LOCATION L0008414      VOLUME  440392.352 3761069.606 200.87
LOCATION L0008415      VOLUME  440392.286 3761043.606 200.56
LOCATION L0008416      VOLUME  440392.220 3761017.606 200.25
LOCATION L0008417      VOLUME  440392.154 3760991.606 199.95
LOCATION L0008418      VOLUME  440392.089 3760965.606 199.68
LOCATION L0008419      VOLUME  440392.023 3760939.606 199.43
LOCATION L0008420      VOLUME  440391.957 3760913.606 199.16
LOCATION L0008421      VOLUME  440391.891 3760887.606 198.93
LOCATION L0008422      VOLUME  440391.825 3760861.606 198.72
LOCATION L0008423      VOLUME  440391.759 3760835.606 198.48
LOCATION L0008424      VOLUME  440391.694 3760809.606 198.22
LOCATION L0008425      VOLUME  440391.628 3760783.607 197.97
LOCATION L0008426      VOLUME  440391.562 3760757.607 197.71
LOCATION L0008427      VOLUME  440391.496 3760731.607 197.44
LOCATION L0008428      VOLUME  440391.430 3760705.607 197.19
LOCATION L0008429      VOLUME  440391.364 3760679.607 196.95
LOCATION L0008430      VOLUME  440391.299 3760653.607 196.72
LOCATION L0008431      VOLUME  440391.233 3760627.607 196.51
LOCATION L0008432      VOLUME  440391.167 3760601.607 196.30
LOCATION L0008433      VOLUME  440391.101 3760575.607 196.08
LOCATION L0008434      VOLUME  440391.035 3760549.607 195.89
LOCATION L0008435      VOLUME  440390.970 3760523.607 195.68
LOCATION L0008436      VOLUME  440390.904 3760497.607 195.53

```

\*\* End of LINE VOLUME Source ID = SLINE13

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** -----

```

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE14

\*\* DESCRSRC Merril W of Site 50 mph

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000312

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440391.194, 3760467.870, 195.22, 3.15, 12.09

\*\* 439902.492, 3760463.238, 193.60, 3.15, 12.09

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** -----

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LOCATION L0008437      VOLUME  440378.195 3760467.747 195.12
LOCATION L0008438      VOLUME  440352.196 3760467.500 194.83
LOCATION L0008439      VOLUME  440326.197 3760467.254 194.71
LOCATION L0008440      VOLUME  440300.199 3760467.008 194.61
LOCATION L0008441      VOLUME  440274.200 3760466.761 194.52
LOCATION L0008442      VOLUME  440248.201 3760466.515 194.35
LOCATION L0008443      VOLUME  440222.202 3760466.268 194.19
LOCATION L0008444      VOLUME  440196.203 3760466.022 194.09

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LOCATION	L0008445	VOLUME	440170.204	3760465.775	193.96
LOCATION	L0008446	VOLUME	440144.206	3760465.529	193.82
LOCATION	L0008447	VOLUME	440118.207	3760465.282	193.71
LOCATION	L0008448	VOLUME	440092.208	3760465.036	193.66
LOCATION	L0008449	VOLUME	440066.209	3760464.790	193.63
LOCATION	L0008450	VOLUME	440040.210	3760464.543	193.60
LOCATION	L0008451	VOLUME	440014.211	3760464.297	193.59
LOCATION	L0008452	VOLUME	439988.213	3760464.050	193.57
LOCATION	L0008453	VOLUME	439962.214	3760463.804	193.57
LOCATION	L0008454	VOLUME	439936.215	3760463.557	193.63
LOCATION	L0008455	VOLUME	439910.216	3760463.311	193.67

\*\* End of LINE VOLUME Source ID = SLINE14

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE15

\*\* DESCRSRC Euclide South of Merril 45 mph

\*\* PREFIX

\*\* Length of Side = 31.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000153

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 439894.728, 3760450.854, 193.57, 3.15, 14.42

\*\* 439882.847, 3758051.793, 175.42, 3.15, 14.42

\*\* -----

LOCATION	L0008456	VOLUME	439894.651	3760435.354	193.42
LOCATION	L0008457	VOLUME	439894.497	3760404.354	193.22
LOCATION	L0008458	VOLUME	439894.344	3760373.355	193.05
LOCATION	L0008459	VOLUME	439894.190	3760342.355	192.86
LOCATION	L0008460	VOLUME	439894.037	3760311.356	192.61
LOCATION	L0008461	VOLUME	439893.883	3760280.356	192.34
LOCATION	L0008462	VOLUME	439893.730	3760249.356	192.06
LOCATION	L0008463	VOLUME	439893.576	3760218.357	191.79
LOCATION	L0008464	VOLUME	439893.423	3760187.357	191.52
LOCATION	L0008465	VOLUME	439893.269	3760156.357	191.32
LOCATION	L0008466	VOLUME	439893.116	3760125.358	191.16
LOCATION	L0008467	VOLUME	439892.962	3760094.358	191.03
LOCATION	L0008468	VOLUME	439892.809	3760063.359	190.90
LOCATION	L0008469	VOLUME	439892.655	3760032.359	190.76
LOCATION	L0008470	VOLUME	439892.502	3760001.359	190.60
LOCATION	L0008471	VOLUME	439892.348	3759970.360	190.44
LOCATION	L0008472	VOLUME	439892.195	3759939.360	190.27
LOCATION	L0008473	VOLUME	439892.041	3759908.360	190.10
LOCATION	L0008474	VOLUME	439891.888	3759877.361	189.91
LOCATION	L0008475	VOLUME	439891.734	3759846.361	189.67
LOCATION	L0008476	VOLUME	439891.581	3759815.362	189.41
LOCATION	L0008477	VOLUME	439891.427	3759784.362	189.14
LOCATION	L0008478	VOLUME	439891.274	3759753.362	188.87

LOCATION L0008479	VOLUME	439891.120	3759722.363	188.57
LOCATION L0008480	VOLUME	439890.967	3759691.363	188.30
LOCATION L0008481	VOLUME	439890.813	3759660.364	188.05
LOCATION L0008482	VOLUME	439890.660	3759629.364	187.78
LOCATION L0008483	VOLUME	439890.506	3759598.364	187.52
LOCATION L0008484	VOLUME	439890.352	3759567.365	187.26
LOCATION L0008485	VOLUME	439890.199	3759536.365	187.01
LOCATION L0008486	VOLUME	439890.045	3759505.365	186.78
LOCATION L0008487	VOLUME	439889.892	3759474.366	186.59
LOCATION L0008488	VOLUME	439889.738	3759443.366	186.40
LOCATION L0008489	VOLUME	439889.585	3759412.367	186.20
LOCATION L0008490	VOLUME	439889.431	3759381.367	185.98
LOCATION L0008491	VOLUME	439889.278	3759350.367	185.79
LOCATION L0008492	VOLUME	439889.124	3759319.368	185.62
LOCATION L0008493	VOLUME	439888.971	3759288.368	185.43
LOCATION L0008494	VOLUME	439888.817	3759257.368	185.17
LOCATION L0008495	VOLUME	439888.664	3759226.369	184.88
LOCATION L0008496	VOLUME	439888.510	3759195.369	184.57
LOCATION L0008497	VOLUME	439888.357	3759164.370	184.29
LOCATION L0008498	VOLUME	439888.203	3759133.370	183.99
LOCATION L0008499	VOLUME	439888.050	3759102.370	183.75
LOCATION L0008500	VOLUME	439887.896	3759071.371	183.55
LOCATION L0008501	VOLUME	439887.743	3759040.371	183.39
LOCATION L0008502	VOLUME	439887.589	3759009.372	183.24
LOCATION L0008503	VOLUME	439887.436	3758978.372	183.05
LOCATION L0008504	VOLUME	439887.282	3758947.372	182.83
LOCATION L0008505	VOLUME	439887.129	3758916.373	182.56
LOCATION L0008506	VOLUME	439886.975	3758885.373	182.21
LOCATION L0008507	VOLUME	439886.822	3758854.373	181.90
LOCATION L0008508	VOLUME	439886.668	3758823.374	181.56
LOCATION L0008509	VOLUME	439886.515	3758792.374	181.26
LOCATION L0008510	VOLUME	439886.361	3758761.375	181.04
LOCATION L0008511	VOLUME	439886.208	3758730.375	180.85
LOCATION L0008512	VOLUME	439886.054	3758699.375	180.68
LOCATION L0008513	VOLUME	439885.901	3758668.376	180.48
LOCATION L0008514	VOLUME	439885.747	3758637.376	180.25
LOCATION L0008515	VOLUME	439885.594	3758606.376	180.00
LOCATION L0008516	VOLUME	439885.440	3758575.377	179.78
LOCATION L0008517	VOLUME	439885.287	3758544.377	179.58
LOCATION L0008518	VOLUME	439885.133	3758513.378	179.37
LOCATION L0008519	VOLUME	439884.980	3758482.378	179.09
LOCATION L0008520	VOLUME	439884.826	3758451.378	178.77
LOCATION L0008521	VOLUME	439884.673	3758420.379	178.42
LOCATION L0008522	VOLUME	439884.519	3758389.379	178.08
LOCATION L0008523	VOLUME	439884.366	3758358.379	177.78
LOCATION L0008524	VOLUME	439884.212	3758327.380	177.48
LOCATION L0008525	VOLUME	439884.059	3758296.380	177.24
LOCATION L0008526	VOLUME	439883.905	3758265.381	177.02
LOCATION L0008527	VOLUME	439883.752	3758234.381	176.77



LOCATION	L0008528	VOLUME	439883.598	3758203.381	176.52
LOCATION	L0008529	VOLUME	439883.444	3758172.382	176.26
LOCATION	L0008530	VOLUME	439883.291	3758141.382	176.00
LOCATION	L0008531	VOLUME	439883.137	3758110.383	175.77
LOCATION	L0008532	VOLUME	439882.984	3758079.383	175.59

\*\* End of LINE VOLUME Source ID = SLINE15

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 \*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE16

\*\* DESCRSRC Euclide N of Merril 45 MPH

\*\* PREFIX

\*\* Length of Side = 36.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.00034

\*\* Vertical Dimension = 5.78

\*\* SZINIT = 2.69

\*\* Nodes = 4

\*\* 439893.985, 3760466.447, 193.63, 2.89, 16.74

\*\* 439902.153, 3763463.230, 227.18, 2.89, 16.74

\*\* 439912.548, 3763601.338, 228.39, 2.89, 16.74

\*\* 439915.518, 3765792.495, 254.78, 2.89, 16.74

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LOCATION	L0008533	VOLUME	439894.034	3760484.447	193.85
LOCATION	L0008534	VOLUME	439894.132	3760520.446	194.19
LOCATION	L0008535	VOLUME	439894.230	3760556.446	194.55
LOCATION	L0008536	VOLUME	439894.328	3760592.446	194.87
LOCATION	L0008537	VOLUME	439894.427	3760628.446	195.19
LOCATION	L0008538	VOLUME	439894.525	3760664.446	195.50
LOCATION	L0008539	VOLUME	439894.623	3760700.446	195.83
LOCATION	L0008540	VOLUME	439894.721	3760736.446	196.22
LOCATION	L0008541	VOLUME	439894.819	3760772.445	196.64
LOCATION	L0008542	VOLUME	439894.917	3760808.445	197.09
LOCATION	L0008543	VOLUME	439895.015	3760844.445	197.60
LOCATION	L0008544	VOLUME	439895.113	3760880.445	198.09
LOCATION	L0008545	VOLUME	439895.211	3760916.445	198.56
LOCATION	L0008546	VOLUME	439895.310	3760952.445	199.00
LOCATION	L0008547	VOLUME	439895.408	3760988.445	199.46
LOCATION	L0008548	VOLUME	439895.506	3761024.445	199.92
LOCATION	L0008549	VOLUME	439895.604	3761060.444	200.35
LOCATION	L0008550	VOLUME	439895.702	3761096.444	200.72
LOCATION	L0008551	VOLUME	439895.800	3761132.444	201.08
LOCATION	L0008552	VOLUME	439895.898	3761168.444	201.46
LOCATION	L0008553	VOLUME	439895.996	3761204.444	201.79
LOCATION	L0008554	VOLUME	439896.095	3761240.444	202.06
LOCATION	L0008555	VOLUME	439896.193	3761276.444	202.40
LOCATION	L0008556	VOLUME	439896.291	3761312.443	202.79
LOCATION	L0008557	VOLUME	439896.389	3761348.443	203.17
LOCATION	L0008558	VOLUME	439896.487	3761384.443	203.62
LOCATION	L0008559	VOLUME	439896.585	3761420.443	204.07

LOCATION	L0008560	VOLUME	439896.683	3761456.443	204.49
LOCATION	L0008561	VOLUME	439896.781	3761492.443	204.90
LOCATION	L0008562	VOLUME	439896.879	3761528.443	205.33
LOCATION	L0008563	VOLUME	439896.978	3761564.443	205.74
LOCATION	L0008564	VOLUME	439897.076	3761600.442	206.09
LOCATION	L0008565	VOLUME	439897.174	3761636.442	206.37
LOCATION	L0008566	VOLUME	439897.272	3761672.442	206.67
LOCATION	L0008567	VOLUME	439897.370	3761708.442	206.97
LOCATION	L0008568	VOLUME	439897.468	3761744.442	207.28
LOCATION	L0008569	VOLUME	439897.566	3761780.442	207.61
LOCATION	L0008570	VOLUME	439897.664	3761816.442	207.93
LOCATION	L0008571	VOLUME	439897.763	3761852.441	208.24
LOCATION	L0008572	VOLUME	439897.861	3761888.441	208.54
LOCATION	L0008573	VOLUME	439897.959	3761924.441	208.86
LOCATION	L0008574	VOLUME	439898.057	3761960.441	209.18
LOCATION	L0008575	VOLUME	439898.155	3761996.441	209.49
LOCATION	L0008576	VOLUME	439898.253	3762032.441	209.76
LOCATION	L0008577	VOLUME	439898.351	3762068.441	210.03
LOCATION	L0008578	VOLUME	439898.449	3762104.441	210.31
LOCATION	L0008579	VOLUME	439898.547	3762140.440	210.55
LOCATION	L0008580	VOLUME	439898.646	3762176.440	210.85
LOCATION	L0008581	VOLUME	439898.744	3762212.440	211.26
LOCATION	L0008582	VOLUME	439898.842	3762248.440	211.77
LOCATION	L0008583	VOLUME	439898.940	3762284.440	212.37
LOCATION	L0008584	VOLUME	439899.038	3762320.440	212.95
LOCATION	L0008585	VOLUME	439899.136	3762356.440	213.47
LOCATION	L0008586	VOLUME	439899.234	3762392.439	213.94
LOCATION	L0008587	VOLUME	439899.332	3762428.439	214.41
LOCATION	L0008588	VOLUME	439899.431	3762464.439	214.87
LOCATION	L0008589	VOLUME	439899.529	3762500.439	215.27
LOCATION	L0008590	VOLUME	439899.627	3762536.439	215.67
LOCATION	L0008591	VOLUME	439899.725	3762572.439	216.08
LOCATION	L0008592	VOLUME	439899.823	3762608.439	216.52
LOCATION	L0008593	VOLUME	439899.921	3762644.439	217.01
LOCATION	L0008594	VOLUME	439900.019	3762680.438	217.48
LOCATION	L0008595	VOLUME	439900.117	3762716.438	217.98
LOCATION	L0008596	VOLUME	439900.215	3762752.438	218.46
LOCATION	L0008597	VOLUME	439900.314	3762788.438	218.96
LOCATION	L0008598	VOLUME	439900.412	3762824.438	219.46
LOCATION	L0008599	VOLUME	439900.510	3762860.438	219.99
LOCATION	L0008600	VOLUME	439900.608	3762896.438	220.50
LOCATION	L0008601	VOLUME	439900.706	3762932.437	220.93
LOCATION	L0008602	VOLUME	439900.804	3762968.437	221.31
LOCATION	L0008603	VOLUME	439900.902	3763004.437	221.71
LOCATION	L0008604	VOLUME	439901.000	3763040.437	222.07
LOCATION	L0008605	VOLUME	439901.098	3763076.437	222.48
LOCATION	L0008606	VOLUME	439901.197	3763112.437	222.92
LOCATION	L0008607	VOLUME	439901.295	3763148.437	223.40
LOCATION	L0008608	VOLUME	439901.393	3763184.437	223.91

LOCATION L0008609	VOLUME	439901.491	3763220.436	224.44
LOCATION L0008610	VOLUME	439901.589	3763256.436	224.97
LOCATION L0008611	VOLUME	439901.687	3763292.436	225.41
LOCATION L0008612	VOLUME	439901.785	3763328.436	225.83
LOCATION L0008613	VOLUME	439901.883	3763364.436	226.22
LOCATION L0008614	VOLUME	439901.982	3763400.436	226.57
LOCATION L0008615	VOLUME	439902.080	3763436.436	226.88
LOCATION L0008616	VOLUME	439902.844	3763472.410	227.21
LOCATION L0008617	VOLUME	439905.546	3763508.308	227.55
LOCATION L0008618	VOLUME	439908.248	3763544.206	227.87
LOCATION L0008619	VOLUME	439910.950	3763580.105	228.17
LOCATION L0008620	VOLUME	439912.568	3763616.045	228.46
LOCATION L0008621	VOLUME	439912.617	3763652.045	228.76
LOCATION L0008622	VOLUME	439912.665	3763688.045	229.12
LOCATION L0008623	VOLUME	439912.714	3763724.045	229.40
LOCATION L0008624	VOLUME	439912.763	3763760.045	229.65
LOCATION L0008625	VOLUME	439912.812	3763796.045	229.92
LOCATION L0008626	VOLUME	439912.861	3763832.045	230.22
LOCATION L0008627	VOLUME	439912.909	3763868.045	230.54
LOCATION L0008628	VOLUME	439912.958	3763904.045	230.93
LOCATION L0008629	VOLUME	439913.007	3763940.045	231.41
LOCATION L0008630	VOLUME	439913.056	3763976.044	231.93
LOCATION L0008631	VOLUME	439913.105	3764012.044	232.48
LOCATION L0008632	VOLUME	439913.153	3764048.044	233.06
LOCATION L0008633	VOLUME	439913.202	3764084.044	233.63
LOCATION L0008634	VOLUME	439913.251	3764120.044	234.17
LOCATION L0008635	VOLUME	439913.300	3764156.044	234.76
LOCATION L0008636	VOLUME	439913.349	3764192.044	235.34
LOCATION L0008637	VOLUME	439913.397	3764228.044	235.93
LOCATION L0008638	VOLUME	439913.446	3764264.044	236.50
LOCATION L0008639	VOLUME	439913.495	3764300.044	237.09
LOCATION L0008640	VOLUME	439913.544	3764336.044	237.65
LOCATION L0008641	VOLUME	439913.593	3764372.044	238.14
LOCATION L0008642	VOLUME	439913.641	3764408.044	238.51
LOCATION L0008643	VOLUME	439913.690	3764444.044	238.76
LOCATION L0008644	VOLUME	439913.739	3764480.044	238.94
LOCATION L0008645	VOLUME	439913.788	3764516.044	239.14
LOCATION L0008646	VOLUME	439913.837	3764552.044	239.32
LOCATION L0008647	VOLUME	439913.885	3764588.044	239.55
LOCATION L0008648	VOLUME	439913.934	3764624.044	239.91
LOCATION L0008649	VOLUME	439913.983	3764660.044	240.33
LOCATION L0008650	VOLUME	439914.032	3764696.044	240.78
LOCATION L0008651	VOLUME	439914.081	3764732.044	241.22
LOCATION L0008652	VOLUME	439914.129	3764768.044	241.87
LOCATION L0008653	VOLUME	439914.178	3764804.044	242.52
LOCATION L0008654	VOLUME	439914.227	3764840.044	243.09
LOCATION L0008655	VOLUME	439914.276	3764876.044	243.65
LOCATION L0008656	VOLUME	439914.324	3764912.044	244.15
LOCATION L0008657	VOLUME	439914.373	3764948.044	244.65

LOCATION	VOLUME				
L0008658	439914.422	3764984.044	245.21		
L0008659	439914.471	3765020.044	245.75		
L0008660	439914.520	3765056.043	246.10		
L0008661	439914.568	3765092.043	246.38		
L0008662	439914.617	3765128.043	246.65		
L0008663	439914.666	3765164.043	246.95		
L0008664	439914.715	3765200.043	247.30		
L0008665	439914.764	3765236.043	247.82		
L0008666	439914.812	3765272.043	248.35		
L0008667	439914.861	3765308.043	248.96		
L0008668	439914.910	3765344.043	249.57		
L0008669	439914.959	3765380.043	250.15		
L0008670	439915.008	3765416.043	250.77		
L0008671	439915.056	3765452.043	251.36		
L0008672	439915.105	3765488.043	251.81		
L0008673	439915.154	3765524.043	252.12		
L0008674	439915.203	3765560.043	252.55		
L0008675	439915.252	3765596.043	252.94		
L0008676	439915.300	3765632.043	253.19		
L0008677	439915.349	3765668.043	253.63		
L0008678	439915.398	3765704.043	254.14		
L0008679	439915.447	3765740.043	254.48		
L0008680	439915.496	3765776.043	254.77		

\*\* End of LINE VOLUME Source ID = SLINE16

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE17

\*\* DESCRSRC East Access Road Campus 25 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000407

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440788.002, 3761131.581, 201.87, 3.15, 12.09

\*\* 440792.839, 3760493.155, 196.84, 3.15, 12.09

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LOCATION	VOLUME				
L0008681	440788.101	3761118.581	201.62		
L0008682	440788.297	3761092.582	201.37		
L0008683	440788.494	3761066.583	201.14		
L0008684	440788.691	3761040.584	200.92		
L0008685	440788.888	3761014.584	200.72		
L0008686	440789.085	3760988.585	200.51		
L0008687	440789.282	3760962.586	200.30		
L0008688	440789.479	3760936.587	200.11		
L0008689	440789.676	3760910.587	199.91		
L0008690	440789.873	3760884.588	199.74		
L0008691	440790.070	3760858.589	199.60		

LOCATION L0008692	VOLUME	440790.267	3760832.590	199.52
LOCATION L0008693	VOLUME	440790.464	3760806.590	199.45
LOCATION L0008694	VOLUME	440790.661	3760780.591	199.30
LOCATION L0008695	VOLUME	440790.858	3760754.592	198.99
LOCATION L0008696	VOLUME	440791.055	3760728.593	198.81
LOCATION L0008697	VOLUME	440791.252	3760702.593	198.61
LOCATION L0008698	VOLUME	440791.449	3760676.594	198.40
LOCATION L0008699	VOLUME	440791.646	3760650.595	198.19
LOCATION L0008700	VOLUME	440791.843	3760624.595	197.97
LOCATION L0008701	VOLUME	440792.040	3760598.596	197.72
LOCATION L0008702	VOLUME	440792.237	3760572.597	197.45
LOCATION L0008703	VOLUME	440792.434	3760546.598	197.22
LOCATION L0008704	VOLUME	440792.631	3760520.598	197.02
LOCATION L0008705	VOLUME	440792.828	3760494.599	196.88

\*\* End of LINE VOLUME Source ID = SLINE17

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE18

\*\* DESCRSRC Merrill East of Site 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000282

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 4

\*\* 440792.839, 3760468.972, 196.77, 3.15, 12.09

\*\* 443966.833, 3760482.272, 204.47, 3.15, 12.09

\*\* 444151.831, 3760416.979, 202.33, 3.15, 12.09

\*\* 445194.110, 3760409.724, 201.48, 3.15, 12.09

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LOCATION L0008706	VOLUME	440805.838	3760469.026	196.69
LOCATION L0008707	VOLUME	440831.838	3760469.135	196.70
LOCATION L0008708	VOLUME	440857.838	3760469.244	196.88
LOCATION L0008709	VOLUME	440883.838	3760469.353	197.13
LOCATION L0008710	VOLUME	440909.838	3760469.462	197.39
LOCATION L0008711	VOLUME	440935.837	3760469.571	197.56
LOCATION L0008712	VOLUME	440961.837	3760469.680	197.64
LOCATION L0008713	VOLUME	440987.837	3760469.789	197.74
LOCATION L0008714	VOLUME	441013.837	3760469.898	197.89
LOCATION L0008715	VOLUME	441039.836	3760470.007	198.06
LOCATION L0008716	VOLUME	441065.836	3760470.116	198.25
LOCATION L0008717	VOLUME	441091.836	3760470.225	198.46
LOCATION L0008718	VOLUME	441117.836	3760470.334	198.59
LOCATION L0008719	VOLUME	441143.836	3760470.443	198.64
LOCATION L0008720	VOLUME	441169.835	3760470.552	198.63
LOCATION L0008721	VOLUME	441195.835	3760470.661	198.95
LOCATION L0008722	VOLUME	441221.835	3760470.770	198.86
LOCATION L0008723	VOLUME	441247.835	3760470.879	198.67

LOCATION L0008724	VOLUME	441273.834	3760470.988	198.71
LOCATION L0008725	VOLUME	441299.834	3760471.096	198.79
LOCATION L0008726	VOLUME	441325.834	3760471.205	198.90
LOCATION L0008727	VOLUME	441351.834	3760471.314	198.98
LOCATION L0008728	VOLUME	441377.833	3760471.423	199.10
LOCATION L0008729	VOLUME	441403.833	3760471.532	199.23
LOCATION L0008730	VOLUME	441429.833	3760471.641	199.30
LOCATION L0008731	VOLUME	441455.833	3760471.750	199.33
LOCATION L0008732	VOLUME	441481.833	3760471.859	199.62
LOCATION L0008733	VOLUME	441507.832	3760471.968	199.82
LOCATION L0008734	VOLUME	441533.832	3760472.077	199.93
LOCATION L0008735	VOLUME	441559.832	3760472.186	199.99
LOCATION L0008736	VOLUME	441585.832	3760472.295	200.00
LOCATION L0008737	VOLUME	441611.831	3760472.404	200.07
LOCATION L0008738	VOLUME	441637.831	3760472.513	200.18
LOCATION L0008739	VOLUME	441663.831	3760472.622	200.19
LOCATION L0008740	VOLUME	441689.831	3760472.731	200.18
LOCATION L0008741	VOLUME	441715.830	3760472.840	200.15
LOCATION L0008742	VOLUME	441741.830	3760472.949	200.10
LOCATION L0008743	VOLUME	441767.830	3760473.058	200.08
LOCATION L0008744	VOLUME	441793.830	3760473.167	200.09
LOCATION L0008745	VOLUME	441819.830	3760473.275	200.09
LOCATION L0008746	VOLUME	441845.829	3760473.384	200.08
LOCATION L0008747	VOLUME	441871.829	3760473.493	200.12
LOCATION L0008748	VOLUME	441897.829	3760473.602	200.15
LOCATION L0008749	VOLUME	441923.829	3760473.711	200.22
LOCATION L0008750	VOLUME	441949.828	3760473.820	200.29
LOCATION L0008751	VOLUME	441975.828	3760473.929	200.11
LOCATION L0008752	VOLUME	442001.828	3760474.038	199.94
LOCATION L0008753	VOLUME	442027.828	3760474.147	200.38
LOCATION L0008754	VOLUME	442053.828	3760474.256	200.42
LOCATION L0008755	VOLUME	442079.827	3760474.365	200.43
LOCATION L0008756	VOLUME	442105.827	3760474.474	200.40
LOCATION L0008757	VOLUME	442131.827	3760474.583	200.37
LOCATION L0008758	VOLUME	442157.827	3760474.692	200.38
LOCATION L0008759	VOLUME	442183.826	3760474.801	200.40
LOCATION L0008760	VOLUME	442209.826	3760474.910	200.40
LOCATION L0008761	VOLUME	442235.826	3760475.019	200.44
LOCATION L0008762	VOLUME	442261.826	3760475.128	200.55
LOCATION L0008763	VOLUME	442287.825	3760475.237	200.67
LOCATION L0008764	VOLUME	442313.825	3760475.346	200.80
LOCATION L0008765	VOLUME	442339.825	3760475.455	200.98
LOCATION L0008766	VOLUME	442365.825	3760475.563	201.07
LOCATION L0008767	VOLUME	442391.825	3760475.672	201.05
LOCATION L0008768	VOLUME	442417.824	3760475.781	201.12
LOCATION L0008769	VOLUME	442443.824	3760475.890	201.14
LOCATION L0008770	VOLUME	442469.824	3760475.999	201.12
LOCATION L0008771	VOLUME	442495.824	3760476.108	201.09
LOCATION L0008772	VOLUME	442521.823	3760476.217	201.06

LOCATION L0008773	VOLUME	442547.823	3760476.326	201.01
LOCATION L0008774	VOLUME	442573.823	3760476.435	200.96
LOCATION L0008775	VOLUME	442599.823	3760476.544	200.85
LOCATION L0008776	VOLUME	442625.823	3760476.653	200.70
LOCATION L0008777	VOLUME	442651.822	3760476.762	200.64
LOCATION L0008778	VOLUME	442677.822	3760476.871	200.61
LOCATION L0008779	VOLUME	442703.822	3760476.980	200.62
LOCATION L0008780	VOLUME	442729.822	3760477.089	200.73
LOCATION L0008781	VOLUME	442755.821	3760477.198	200.85
LOCATION L0008782	VOLUME	442781.821	3760477.307	200.82
LOCATION L0008783	VOLUME	442807.821	3760477.416	200.80
LOCATION L0008784	VOLUME	442833.821	3760477.525	200.83
LOCATION L0008785	VOLUME	442859.820	3760477.634	200.98
LOCATION L0008786	VOLUME	442885.820	3760477.742	201.07
LOCATION L0008787	VOLUME	442911.820	3760477.851	201.13
LOCATION L0008788	VOLUME	442937.820	3760477.960	201.24
LOCATION L0008789	VOLUME	442963.820	3760478.069	201.34
LOCATION L0008790	VOLUME	442989.819	3760478.178	201.66
LOCATION L0008791	VOLUME	443015.819	3760478.287	201.87
LOCATION L0008792	VOLUME	443041.819	3760478.396	201.68
LOCATION L0008793	VOLUME	443067.819	3760478.505	201.58
LOCATION L0008794	VOLUME	443093.818	3760478.614	201.61
LOCATION L0008795	VOLUME	443119.818	3760478.723	201.69
LOCATION L0008796	VOLUME	443145.818	3760478.832	201.82
LOCATION L0008797	VOLUME	443171.818	3760478.941	202.12
LOCATION L0008798	VOLUME	443197.817	3760479.050	202.75
LOCATION L0008799	VOLUME	443223.817	3760479.159	203.08
LOCATION L0008800	VOLUME	443249.817	3760479.268	203.11
LOCATION L0008801	VOLUME	443275.817	3760479.377	203.19
LOCATION L0008802	VOLUME	443301.817	3760479.486	203.21
LOCATION L0008803	VOLUME	443327.816	3760479.595	203.34
LOCATION L0008804	VOLUME	443353.816	3760479.704	203.23
LOCATION L0008805	VOLUME	443379.816	3760479.813	203.32
LOCATION L0008806	VOLUME	443405.816	3760479.922	203.44
LOCATION L0008807	VOLUME	443431.815	3760480.030	203.41
LOCATION L0008808	VOLUME	443457.815	3760480.139	203.39
LOCATION L0008809	VOLUME	443483.815	3760480.248	203.40
LOCATION L0008810	VOLUME	443509.815	3760480.357	203.34
LOCATION L0008811	VOLUME	443535.815	3760480.466	203.32
LOCATION L0008812	VOLUME	443561.814	3760480.575	203.18
LOCATION L0008813	VOLUME	443587.814	3760480.684	203.18
LOCATION L0008814	VOLUME	443613.814	3760480.793	203.46
LOCATION L0008815	VOLUME	443639.814	3760480.902	203.54
LOCATION L0008816	VOLUME	443665.813	3760481.011	203.63
LOCATION L0008817	VOLUME	443691.813	3760481.120	203.67
LOCATION L0008818	VOLUME	443717.813	3760481.229	203.73
LOCATION L0008819	VOLUME	443743.813	3760481.338	203.77
LOCATION L0008820	VOLUME	443769.812	3760481.447	203.85
LOCATION L0008821	VOLUME	443795.812	3760481.556	204.00

LOCATION	L0008822	VOLUME	443821.812	3760481.665	204.17
LOCATION	L0008823	VOLUME	443847.812	3760481.774	204.20
LOCATION	L0008824	VOLUME	443873.812	3760481.883	204.53
LOCATION	L0008825	VOLUME	443899.811	3760481.992	203.97
LOCATION	L0008826	VOLUME	443925.811	3760482.101	204.05
LOCATION	L0008827	VOLUME	443951.811	3760482.210	204.58
LOCATION	L0008828	VOLUME	443977.185	3760478.619	204.36
LOCATION	L0008829	VOLUME	444001.703	3760469.965	203.93
LOCATION	L0008830	VOLUME	444026.220	3760461.312	203.42
LOCATION	L0008831	VOLUME	444050.738	3760452.659	203.27
LOCATION	L0008832	VOLUME	444075.256	3760444.005	203.00
LOCATION	L0008833	VOLUME	444099.774	3760435.352	202.74
LOCATION	L0008834	VOLUME	444124.291	3760426.699	202.61
LOCATION	L0008835	VOLUME	444148.809	3760418.045	202.42
LOCATION	L0008836	VOLUME	444174.626	3760416.820	202.24
LOCATION	L0008837	VOLUME	444200.625	3760416.639	202.16
LOCATION	L0008838	VOLUME	444226.625	3760416.458	202.11
LOCATION	L0008839	VOLUME	444252.624	3760416.277	202.08
LOCATION	L0008840	VOLUME	444278.623	3760416.096	202.08
LOCATION	L0008841	VOLUME	444304.623	3760415.915	202.08
LOCATION	L0008842	VOLUME	444330.622	3760415.734	202.05
LOCATION	L0008843	VOLUME	444356.621	3760415.553	202.09
LOCATION	L0008844	VOLUME	444382.621	3760415.372	202.09
LOCATION	L0008845	VOLUME	444408.620	3760415.191	201.88
LOCATION	L0008846	VOLUME	444434.620	3760415.010	201.81
LOCATION	L0008847	VOLUME	444460.619	3760414.830	201.86
LOCATION	L0008848	VOLUME	444486.618	3760414.649	201.93
LOCATION	L0008849	VOLUME	444512.618	3760414.468	201.96
LOCATION	L0008850	VOLUME	444538.617	3760414.287	202.07
LOCATION	L0008851	VOLUME	444564.616	3760414.106	202.19
LOCATION	L0008852	VOLUME	444590.616	3760413.925	202.08
LOCATION	L0008853	VOLUME	444616.615	3760413.744	198.42
LOCATION	L0008854	VOLUME	444642.615	3760413.563	197.62
LOCATION	L0008855	VOLUME	444668.614	3760413.382	201.81
LOCATION	L0008856	VOLUME	444694.613	3760413.201	202.20
LOCATION	L0008857	VOLUME	444720.613	3760413.020	201.98
LOCATION	L0008858	VOLUME	444746.612	3760412.839	201.80
LOCATION	L0008859	VOLUME	444772.611	3760412.658	201.20
LOCATION	L0008860	VOLUME	444798.611	3760412.477	200.69
LOCATION	L0008861	VOLUME	444824.610	3760412.296	201.48
LOCATION	L0008862	VOLUME	444850.609	3760412.115	201.42
LOCATION	L0008863	VOLUME	444876.609	3760411.934	201.16
LOCATION	L0008864	VOLUME	444902.608	3760411.753	201.20
LOCATION	L0008865	VOLUME	444928.608	3760411.572	201.45
LOCATION	L0008866	VOLUME	444954.607	3760411.391	201.75
LOCATION	L0008867	VOLUME	444980.606	3760411.210	201.86
LOCATION	L0008868	VOLUME	445006.606	3760411.029	201.80
LOCATION	L0008869	VOLUME	445032.605	3760410.848	201.77
LOCATION	L0008870	VOLUME	445058.604	3760410.667	201.77



LOCATION	L0008871	VOLUME	445084.604	3760410.486	201.74
LOCATION	L0008872	VOLUME	445110.603	3760410.305	201.77
LOCATION	L0008873	VOLUME	445136.603	3760410.124	201.91
LOCATION	L0008874	VOLUME	445162.602	3760409.943	201.80
LOCATION	L0008875	VOLUME	445188.601	3760409.762	201.42

\*\* End of LINE VOLUME Source ID = SLINE18

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 \*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE19

\*\* DESCRSRC Archibald North of Merrill 55 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000102

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445197.002, 3760432.429, 201.58, 3.15, 12.09

\*\* 445203.414, 3762029.057, 216.23, 3.15, 12.09

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LOCATION	L0008876	VOLUME	445197.054	3760445.429	201.61
LOCATION	L0008877	VOLUME	445197.159	3760471.429	201.78
LOCATION	L0008878	VOLUME	445197.263	3760497.429	201.94
LOCATION	L0008879	VOLUME	445197.368	3760523.429	202.11
LOCATION	L0008880	VOLUME	445197.472	3760549.428	202.26
LOCATION	L0008881	VOLUME	445197.576	3760575.428	202.43
LOCATION	L0008882	VOLUME	445197.681	3760601.428	202.62
LOCATION	L0008883	VOLUME	445197.785	3760627.428	202.85
LOCATION	L0008884	VOLUME	445197.890	3760653.428	203.09
LOCATION	L0008885	VOLUME	445197.994	3760679.427	203.34
LOCATION	L0008886	VOLUME	445198.098	3760705.427	203.60
LOCATION	L0008887	VOLUME	445198.203	3760731.427	203.84
LOCATION	L0008888	VOLUME	445198.307	3760757.427	204.09
LOCATION	L0008889	VOLUME	445198.412	3760783.427	204.31
LOCATION	L0008890	VOLUME	445198.516	3760809.426	204.58
LOCATION	L0008891	VOLUME	445198.621	3760835.426	204.84
LOCATION	L0008892	VOLUME	445198.725	3760861.426	205.09
LOCATION	L0008893	VOLUME	445198.829	3760887.426	205.36
LOCATION	L0008894	VOLUME	445198.934	3760913.426	205.59
LOCATION	L0008895	VOLUME	445199.038	3760939.425	205.83
LOCATION	L0008896	VOLUME	445199.143	3760965.425	206.10
LOCATION	L0008897	VOLUME	445199.247	3760991.425	206.35
LOCATION	L0008898	VOLUME	445199.351	3761017.425	206.59
LOCATION	L0008899	VOLUME	445199.456	3761043.424	206.83
LOCATION	L0008900	VOLUME	445199.560	3761069.424	207.07
LOCATION	L0008901	VOLUME	445199.665	3761095.424	207.30
LOCATION	L0008902	VOLUME	445199.769	3761121.424	207.55
LOCATION	L0008903	VOLUME	445199.874	3761147.424	207.81
LOCATION	L0008904	VOLUME	445199.978	3761173.423	208.02

LOCATION L0008905	VOLUME	445200.082	3761199.423	208.30
LOCATION L0008906	VOLUME	445200.187	3761225.423	208.72
LOCATION L0008907	VOLUME	445200.291	3761251.423	209.11
LOCATION L0008908	VOLUME	445200.396	3761277.423	209.39
LOCATION L0008909	VOLUME	445200.500	3761303.422	209.67
LOCATION L0008910	VOLUME	445200.604	3761329.422	209.96
LOCATION L0008911	VOLUME	445200.709	3761355.422	210.20
LOCATION L0008912	VOLUME	445200.813	3761381.422	210.41
LOCATION L0008913	VOLUME	445200.918	3761407.422	210.60
LOCATION L0008914	VOLUME	445201.022	3761433.421	210.77
LOCATION L0008915	VOLUME	445201.127	3761459.421	210.92
LOCATION L0008916	VOLUME	445201.231	3761485.421	211.13
LOCATION L0008917	VOLUME	445201.335	3761511.421	211.35
LOCATION L0008918	VOLUME	445201.440	3761537.420	211.52
LOCATION L0008919	VOLUME	445201.544	3761563.420	211.70
LOCATION L0008920	VOLUME	445201.649	3761589.420	211.90
LOCATION L0008921	VOLUME	445201.753	3761615.420	212.09
LOCATION L0008922	VOLUME	445201.857	3761641.420	212.27
LOCATION L0008923	VOLUME	445201.962	3761667.419	212.45
LOCATION L0008924	VOLUME	445202.066	3761693.419	212.61
LOCATION L0008925	VOLUME	445202.171	3761719.419	212.77
LOCATION L0008926	VOLUME	445202.275	3761745.419	213.00
LOCATION L0008927	VOLUME	445202.380	3761771.419	213.31
LOCATION L0008928	VOLUME	445202.484	3761797.418	213.59
LOCATION L0008929	VOLUME	445202.588	3761823.418	213.87
LOCATION L0008930	VOLUME	445202.693	3761849.418	214.14
LOCATION L0008931	VOLUME	445202.797	3761875.418	214.43
LOCATION L0008932	VOLUME	445202.902	3761901.418	214.72
LOCATION L0008933	VOLUME	445203.006	3761927.417	215.03
LOCATION L0008934	VOLUME	445203.110	3761953.417	215.33
LOCATION L0008935	VOLUME	445203.215	3761979.417	215.64
LOCATION L0008936	VOLUME	445203.319	3762005.417	215.92

\*\* End of LINE VOLUME Source ID = SLINE19

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE20

\*\* DESCRSRC Archibald South of Merrill 55 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000052

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445190.590, 3760393.956, 201.32, 3.15, 12.09

\*\* 445213.033, 3759579.612, 197.47, 3.15, 12.09

\*\*

LOCATION L0008937	VOLUME	445190.948	3760380.961	201.25
LOCATION L0008938	VOLUME	445191.664	3760354.971	201.07

LOCATION	L0008939	VOLUME	445192.381	3760328.981	200.90
LOCATION	L0008940	VOLUME	445193.097	3760302.991	200.72
LOCATION	L0008941	VOLUME	445193.813	3760277.001	200.57
LOCATION	L0008942	VOLUME	445194.529	3760251.011	200.42
LOCATION	L0008943	VOLUME	445195.246	3760225.021	200.27
LOCATION	L0008944	VOLUME	445195.962	3760199.030	200.12
LOCATION	L0008945	VOLUME	445196.678	3760173.040	199.96
LOCATION	L0008946	VOLUME	445197.394	3760147.050	199.80
LOCATION	L0008947	VOLUME	445198.111	3760121.060	199.64
LOCATION	L0008948	VOLUME	445198.827	3760095.070	199.49
LOCATION	L0008949	VOLUME	445199.543	3760069.080	199.32
LOCATION	L0008950	VOLUME	445200.259	3760043.090	199.14
LOCATION	L0008951	VOLUME	445200.976	3760017.100	198.96
LOCATION	L0008952	VOLUME	445201.692	3759991.109	198.82
LOCATION	L0008953	VOLUME	445202.408	3759965.119	198.64
LOCATION	L0008954	VOLUME	445203.125	3759939.129	198.60
LOCATION	L0008955	VOLUME	445203.841	3759913.139	198.65
LOCATION	L0008956	VOLUME	445204.557	3759887.149	198.74
LOCATION	L0008957	VOLUME	445205.273	3759861.159	198.79
LOCATION	L0008958	VOLUME	445205.990	3759835.169	198.62
LOCATION	L0008959	VOLUME	445206.706	3759809.178	198.12
LOCATION	L0008960	VOLUME	445207.422	3759783.188	198.27
LOCATION	L0008961	VOLUME	445208.138	3759757.198	198.31
LOCATION	L0008962	VOLUME	445208.855	3759731.208	198.20
LOCATION	L0008963	VOLUME	445209.571	3759705.218	198.10
LOCATION	L0008964	VOLUME	445210.287	3759679.228	197.99
LOCATION	L0008965	VOLUME	445211.003	3759653.238	197.83
LOCATION	L0008966	VOLUME	445211.720	3759627.248	197.71
LOCATION	L0008967	VOLUME	445212.436	3759601.257	197.57

\*\* End of LINE VOLUME Source ID = SLINE20

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE21

\*\* DESCRSRC Limonite West of Hamner 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000205

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445208.816, 3759586.179, 197.53, 3.15, 12.09

\*\* 448421.656, 3759563.991, 203.23, 3.15, 12.09

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LOCATION	L0008968	VOLUME	445221.815	3759586.089	197.44
LOCATION	L0008969	VOLUME	445247.815	3759585.910	197.38
LOCATION	L0008970	VOLUME	445273.814	3759585.730	197.39
LOCATION	L0008971	VOLUME	445299.813	3759585.551	197.38
LOCATION	L0008972	VOLUME	445325.813	3759585.371	197.43

LOCATION L0008973	VOLUME	445351.812	3759585.192	197.43
LOCATION L0008974	VOLUME	445377.812	3759585.012	197.46
LOCATION L0008975	VOLUME	445403.811	3759584.833	197.48
LOCATION L0008976	VOLUME	445429.810	3759584.653	197.56
LOCATION L0008977	VOLUME	445455.810	3759584.473	197.63
LOCATION L0008978	VOLUME	445481.809	3759584.294	197.63
LOCATION L0008979	VOLUME	445507.808	3759584.114	197.63
LOCATION L0008980	VOLUME	445533.808	3759583.935	197.73
LOCATION L0008981	VOLUME	445559.807	3759583.755	197.78
LOCATION L0008982	VOLUME	445585.807	3759583.576	197.85
LOCATION L0008983	VOLUME	445611.806	3759583.396	198.20
LOCATION L0008984	VOLUME	445637.805	3759583.217	198.31
LOCATION L0008985	VOLUME	445663.805	3759583.037	198.15
LOCATION L0008986	VOLUME	445689.804	3759582.857	198.11
LOCATION L0008987	VOLUME	445715.803	3759582.678	198.45
LOCATION L0008988	VOLUME	445741.803	3759582.498	198.66
LOCATION L0008989	VOLUME	445767.802	3759582.319	198.70
LOCATION L0008990	VOLUME	445793.802	3759582.139	198.86
LOCATION L0008991	VOLUME	445819.801	3759581.960	198.90
LOCATION L0008992	VOLUME	445845.800	3759581.780	198.97
LOCATION L0008993	VOLUME	445871.800	3759581.601	199.06
LOCATION L0008994	VOLUME	445897.799	3759581.421	199.08
LOCATION L0008995	VOLUME	445923.798	3759581.241	199.07
LOCATION L0008996	VOLUME	445949.798	3759581.062	199.03
LOCATION L0008997	VOLUME	445975.797	3759580.882	198.99
LOCATION L0008998	VOLUME	446001.797	3759580.703	198.83
LOCATION L0008999	VOLUME	446027.796	3759580.523	199.03
LOCATION L0009000	VOLUME	446053.795	3759580.344	199.25
LOCATION L0009001	VOLUME	446079.795	3759580.164	199.31
LOCATION L0009002	VOLUME	446105.794	3759579.985	199.37
LOCATION L0009003	VOLUME	446131.794	3759579.805	199.47
LOCATION L0009004	VOLUME	446157.793	3759579.625	199.58
LOCATION L0009005	VOLUME	446183.792	3759579.446	199.71
LOCATION L0009006	VOLUME	446209.792	3759579.266	199.83
LOCATION L0009007	VOLUME	446235.791	3759579.087	199.95
LOCATION L0009008	VOLUME	446261.790	3759578.907	200.08
LOCATION L0009009	VOLUME	446287.790	3759578.728	200.22
LOCATION L0009010	VOLUME	446313.789	3759578.548	200.33
LOCATION L0009011	VOLUME	446339.789	3759578.369	200.38
LOCATION L0009012	VOLUME	446365.788	3759578.189	200.38
LOCATION L0009013	VOLUME	446391.787	3759578.010	200.27
LOCATION L0009014	VOLUME	446417.787	3759577.830	200.16
LOCATION L0009015	VOLUME	446443.786	3759577.650	200.42
LOCATION L0009016	VOLUME	446469.785	3759577.471	200.88
LOCATION L0009017	VOLUME	446495.785	3759577.291	201.11
LOCATION L0009018	VOLUME	446521.784	3759577.112	201.23
LOCATION L0009019	VOLUME	446547.784	3759576.932	201.36
LOCATION L0009020	VOLUME	446573.783	3759576.753	201.49
LOCATION L0009021	VOLUME	446599.782	3759576.573	201.61

LOCATION L0009022	VOLUME	446625.782	3759576.394	201.74
LOCATION L0009023	VOLUME	446651.781	3759576.214	201.85
LOCATION L0009024	VOLUME	446677.781	3759576.034	201.97
LOCATION L0009025	VOLUME	446703.780	3759575.855	202.14
LOCATION L0009026	VOLUME	446729.779	3759575.675	202.28
LOCATION L0009027	VOLUME	446755.779	3759575.496	202.28
LOCATION L0009028	VOLUME	446781.778	3759575.316	202.08
LOCATION L0009029	VOLUME	446807.777	3759575.137	201.79
LOCATION L0009030	VOLUME	446833.777	3759574.957	201.68
LOCATION L0009031	VOLUME	446859.776	3759574.778	201.57
LOCATION L0009032	VOLUME	446885.776	3759574.598	201.31
LOCATION L0009033	VOLUME	446911.775	3759574.418	201.16
LOCATION L0009034	VOLUME	446937.774	3759574.239	201.14
LOCATION L0009035	VOLUME	446963.774	3759574.059	201.13
LOCATION L0009036	VOLUME	446989.773	3759573.880	201.19
LOCATION L0009037	VOLUME	447015.772	3759573.700	201.32
LOCATION L0009038	VOLUME	447041.772	3759573.521	201.43
LOCATION L0009039	VOLUME	447067.771	3759573.341	201.44
LOCATION L0009040	VOLUME	447093.771	3759573.162	201.34
LOCATION L0009041	VOLUME	447119.770	3759572.982	201.26
LOCATION L0009042	VOLUME	447145.769	3759572.802	201.16
LOCATION L0009043	VOLUME	447171.769	3759572.623	201.03
LOCATION L0009044	VOLUME	447197.768	3759572.443	200.91
LOCATION L0009045	VOLUME	447223.767	3759572.264	200.58
LOCATION L0009046	VOLUME	447249.767	3759572.084	200.58
LOCATION L0009047	VOLUME	447275.766	3759571.905	200.77
LOCATION L0009048	VOLUME	447301.766	3759571.725	200.92
LOCATION L0009049	VOLUME	447327.765	3759571.546	201.04
LOCATION L0009050	VOLUME	447353.764	3759571.366	201.18
LOCATION L0009051	VOLUME	447379.764	3759571.186	201.29
LOCATION L0009052	VOLUME	447405.763	3759571.007	201.34
LOCATION L0009053	VOLUME	447431.763	3759570.827	201.32
LOCATION L0009054	VOLUME	447457.762	3759570.648	201.23
LOCATION L0009055	VOLUME	447483.761	3759570.468	201.12
LOCATION L0009056	VOLUME	447509.761	3759570.289	201.01
LOCATION L0009057	VOLUME	447535.760	3759570.109	200.91
LOCATION L0009058	VOLUME	447561.759	3759569.930	200.62
LOCATION L0009059	VOLUME	447587.759	3759569.750	200.50
LOCATION L0009060	VOLUME	447613.758	3759569.570	200.62
LOCATION L0009061	VOLUME	447639.758	3759569.391	201.05
LOCATION L0009062	VOLUME	447665.757	3759569.211	201.09
LOCATION L0009063	VOLUME	447691.756	3759569.032	201.13
LOCATION L0009064	VOLUME	447717.756	3759568.852	201.12
LOCATION L0009065	VOLUME	447743.755	3759568.673	201.07
LOCATION L0009066	VOLUME	447769.754	3759568.493	201.07
LOCATION L0009067	VOLUME	447795.754	3759568.314	201.09
LOCATION L0009068	VOLUME	447821.753	3759568.134	201.07
LOCATION L0009069	VOLUME	447847.753	3759567.954	200.98
LOCATION L0009070	VOLUME	447873.752	3759567.775	200.98

LOCATION L0009071	VOLUME	447899.751	3759567.595	201.05
LOCATION L0009072	VOLUME	447925.751	3759567.416	201.13
LOCATION L0009073	VOLUME	447951.750	3759567.236	201.25
LOCATION L0009074	VOLUME	447977.750	3759567.057	201.37
LOCATION L0009075	VOLUME	448003.749	3759566.877	201.43
LOCATION L0009076	VOLUME	448029.748	3759566.698	201.49
LOCATION L0009077	VOLUME	448055.748	3759566.518	201.63
LOCATION L0009078	VOLUME	448081.747	3759566.339	201.71
LOCATION L0009079	VOLUME	448107.746	3759566.159	201.76
LOCATION L0009080	VOLUME	448133.746	3759565.979	201.75
LOCATION L0009081	VOLUME	448159.745	3759565.800	201.70
LOCATION L0009082	VOLUME	448185.745	3759565.620	201.68
LOCATION L0009083	VOLUME	448211.744	3759565.441	201.71
LOCATION L0009084	VOLUME	448237.743	3759565.261	201.78
LOCATION L0009085	VOLUME	448263.743	3759565.082	201.95
LOCATION L0009086	VOLUME	448289.742	3759564.902	202.15
LOCATION L0009087	VOLUME	448315.741	3759564.723	202.31
LOCATION L0009088	VOLUME	448341.741	3759564.543	202.55
LOCATION L0009089	VOLUME	448367.740	3759564.363	202.83
LOCATION L0009090	VOLUME	448393.740	3759564.184	203.08
LOCATION L0009091	VOLUME	448419.739	3759564.004	203.22

\*\* End of LINE VOLUME Source ID = SLINE21

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE22

\*\* DESCRSRC Limonite East of Hamner 45 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000064

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 448433.751, 3759567.438, 203.30, 3.15, 12.09

\*\* 449436.212, 3759550.509, 204.35, 3.15, 12.09

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LOCATION L0009092	VOLUME	448446.749	3759567.219	203.28
LOCATION L0009093	VOLUME	448472.745	3759566.780	203.20
LOCATION L0009094	VOLUME	448498.741	3759566.341	203.07
LOCATION L0009095	VOLUME	448524.738	3759565.902	203.02
LOCATION L0009096	VOLUME	448550.734	3759565.463	202.91
LOCATION L0009097	VOLUME	448576.730	3759565.024	202.89
LOCATION L0009098	VOLUME	448602.727	3759564.585	203.21
LOCATION L0009099	VOLUME	448628.723	3759564.146	203.51
LOCATION L0009100	VOLUME	448654.719	3759563.707	203.50
LOCATION L0009101	VOLUME	448680.715	3759563.268	203.48
LOCATION L0009102	VOLUME	448706.712	3759562.829	203.56
LOCATION L0009103	VOLUME	448732.708	3759562.389	203.67
LOCATION L0009104	VOLUME	448758.704	3759561.950	203.86

LOCATION L0009105	VOLUME	448784.701	3759561.511	203.99
LOCATION L0009106	VOLUME	448810.697	3759561.072	203.90
LOCATION L0009107	VOLUME	448836.693	3759560.633	203.95
LOCATION L0009108	VOLUME	448862.689	3759560.194	203.89
LOCATION L0009109	VOLUME	448888.686	3759559.755	203.57
LOCATION L0009110	VOLUME	448914.682	3759559.316	203.51
LOCATION L0009111	VOLUME	448940.678	3759558.877	203.83
LOCATION L0009112	VOLUME	448966.675	3759558.438	203.93
LOCATION L0009113	VOLUME	448992.671	3759557.999	204.17
LOCATION L0009114	VOLUME	449018.667	3759557.560	204.56
LOCATION L0009115	VOLUME	449044.663	3759557.121	204.89
LOCATION L0009116	VOLUME	449070.660	3759556.682	205.18
LOCATION L0009117	VOLUME	449096.656	3759556.243	205.41
LOCATION L0009118	VOLUME	449122.652	3759555.804	205.48
LOCATION L0009119	VOLUME	449148.649	3759555.365	205.25
LOCATION L0009120	VOLUME	449174.645	3759554.926	205.78
LOCATION L0009121	VOLUME	449200.641	3759554.487	206.53
LOCATION L0009122	VOLUME	449226.638	3759554.048	205.42
LOCATION L0009123	VOLUME	449252.634	3759553.609	204.31
LOCATION L0009124	VOLUME	449278.630	3759553.170	202.22
LOCATION L0009125	VOLUME	449304.626	3759552.731	201.60
LOCATION L0009126	VOLUME	449330.623	3759552.292	203.11
LOCATION L0009127	VOLUME	449356.619	3759551.853	204.32
LOCATION L0009128	VOLUME	449382.615	3759551.414	205.11
LOCATION L0009129	VOLUME	449408.612	3759550.975	205.53
LOCATION L0009130	VOLUME	449434.608	3759550.536	204.55

\*\* End of LINE VOLUME Source ID = SLINE22

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE23

\*\* DESCRSRC Edison 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000528

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445228.172, 3762001.993, 216.23, 3.15, 12.09

\*\* 446055.217, 3762005.931, 218.73, 3.15, 12.09

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LOCATION L0009131	VOLUME	445241.172	3762002.055	216.17
LOCATION L0009132	VOLUME	445267.171	3762002.179	216.48
LOCATION L0009133	VOLUME	445293.171	3762002.302	216.54
LOCATION L0009134	VOLUME	445319.171	3762002.426	217.04
LOCATION L0009135	VOLUME	445345.171	3762002.550	217.35
LOCATION L0009136	VOLUME	445371.170	3762002.674	217.64
LOCATION L0009137	VOLUME	445397.170	3762002.798	217.99
LOCATION L0009138	VOLUME	445423.170	3762002.922	218.27

LOCATION L0009139	VOLUME	445449.169	3762003.045	218.44
LOCATION L0009140	VOLUME	445475.169	3762003.169	218.50
LOCATION L0009141	VOLUME	445501.169	3762003.293	218.44
LOCATION L0009142	VOLUME	445527.169	3762003.417	218.23
LOCATION L0009143	VOLUME	445553.168	3762003.541	218.19
LOCATION L0009144	VOLUME	445579.168	3762003.664	218.14
LOCATION L0009145	VOLUME	445605.168	3762003.788	218.09
LOCATION L0009146	VOLUME	445631.167	3762003.912	218.10
LOCATION L0009147	VOLUME	445657.167	3762004.036	218.06
LOCATION L0009148	VOLUME	445683.167	3762004.160	217.91
LOCATION L0009149	VOLUME	445709.166	3762004.283	217.70
LOCATION L0009150	VOLUME	445735.166	3762004.407	217.28
LOCATION L0009151	VOLUME	445761.166	3762004.531	216.90
LOCATION L0009152	VOLUME	445787.166	3762004.655	216.96
LOCATION L0009153	VOLUME	445813.165	3762004.779	217.38
LOCATION L0009154	VOLUME	445839.165	3762004.902	217.69
LOCATION L0009155	VOLUME	445865.165	3762005.026	217.94
LOCATION L0009156	VOLUME	445891.164	3762005.150	218.24
LOCATION L0009157	VOLUME	445917.164	3762005.274	218.05
LOCATION L0009158	VOLUME	445943.164	3762005.398	218.24
LOCATION L0009159	VOLUME	445969.164	3762005.521	218.48
LOCATION L0009160	VOLUME	445995.163	3762005.645	218.61
LOCATION L0009161	VOLUME	446021.163	3762005.769	218.61
LOCATION L0009162	VOLUME	446047.163	3762005.893	218.63

\*\* End of LINE VOLUME Source ID = SLINE23

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE24

\*\* DESCRSRC Ontario Ranch Road 50 MPH

\*\* PREFIX

\*\* Length of Side = 31.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000215

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 8

\*\* 446065.063, 3762013.808, 218.80, 3.15, 14.42

\*\* 446293.485, 3762124.081, 220.01, 3.15, 14.42

\*\* 446500.247, 3762297.366, 221.42, 3.15, 14.42

\*\* 446722.761, 3762397.793, 222.35, 3.15, 14.42

\*\* 446819.250, 3762403.701, 222.18, 3.15, 14.42

\*\* 448441.834, 3762389.917, 225.33, 3.15, 14.42

\*\* 448792.344, 3762411.577, 226.13, 3.15, 14.42

\*\* 449294.479, 3762594.709, 233.70, 3.15, 14.42

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LOCATION L0009163	VOLUME	446079.022	3762020.547	218.95
LOCATION L0009164	VOLUME	446106.939	3762034.024	219.27
LOCATION L0009165	VOLUME	446134.856	3762047.501	219.30
LOCATION L0009166	VOLUME	446162.773	3762060.978	219.54



LOCATION L0009167	VOLUME	446190.690	3762074.455	219.63
LOCATION L0009168	VOLUME	446218.607	3762087.933	219.78
LOCATION L0009169	VOLUME	446246.524	3762101.410	219.88
LOCATION L0009170	VOLUME	446274.441	3762114.887	220.00
LOCATION L0009171	VOLUME	446301.037	3762130.410	220.13
LOCATION L0009172	VOLUME	446324.796	3762150.322	220.33
LOCATION L0009173	VOLUME	446348.555	3762170.234	220.43
LOCATION L0009174	VOLUME	446372.314	3762190.147	220.66
LOCATION L0009175	VOLUME	446396.073	3762210.059	220.91
LOCATION L0009176	VOLUME	446419.833	3762229.972	220.98
LOCATION L0009177	VOLUME	446443.592	3762249.884	221.28
LOCATION L0009178	VOLUME	446467.351	3762269.797	221.28
LOCATION L0009179	VOLUME	446491.110	3762289.709	221.36
LOCATION L0009180	VOLUME	446517.636	3762305.215	221.68
LOCATION L0009181	VOLUME	446545.892	3762317.967	221.71
LOCATION L0009182	VOLUME	446574.147	3762330.720	221.88
LOCATION L0009183	VOLUME	446602.403	3762343.472	221.99
LOCATION L0009184	VOLUME	446630.658	3762356.225	222.17
LOCATION L0009185	VOLUME	446658.914	3762368.977	222.43
LOCATION L0009186	VOLUME	446687.169	3762381.730	222.48
LOCATION L0009187	VOLUME	446715.425	3762394.482	222.88
LOCATION L0009188	VOLUME	446745.669	3762399.196	222.92
LOCATION L0009189	VOLUME	446776.612	3762401.090	222.76
LOCATION L0009190	VOLUME	446807.554	3762402.985	222.19
LOCATION L0009191	VOLUME	446838.531	3762403.537	221.88
LOCATION L0009192	VOLUME	446869.530	3762403.274	221.96
LOCATION L0009193	VOLUME	446900.529	3762403.010	221.98
LOCATION L0009194	VOLUME	446931.528	3762402.747	222.17
LOCATION L0009195	VOLUME	446962.527	3762402.484	222.50
LOCATION L0009196	VOLUME	446993.525	3762402.220	222.57
LOCATION L0009197	VOLUME	447024.524	3762401.957	222.59
LOCATION L0009198	VOLUME	447055.523	3762401.694	222.70
LOCATION L0009199	VOLUME	447086.522	3762401.430	222.95
LOCATION L0009200	VOLUME	447117.521	3762401.167	223.14
LOCATION L0009201	VOLUME	447148.520	3762400.904	223.29
LOCATION L0009202	VOLUME	447179.519	3762400.640	223.34
LOCATION L0009203	VOLUME	447210.518	3762400.377	223.38
LOCATION L0009204	VOLUME	447241.516	3762400.114	223.28
LOCATION L0009205	VOLUME	447272.515	3762399.850	223.39
LOCATION L0009206	VOLUME	447303.514	3762399.587	223.48
LOCATION L0009207	VOLUME	447334.513	3762399.324	223.41
LOCATION L0009208	VOLUME	447365.512	3762399.060	223.31
LOCATION L0009209	VOLUME	447396.511	3762398.797	223.21
LOCATION L0009210	VOLUME	447427.510	3762398.534	223.15
LOCATION L0009211	VOLUME	447458.509	3762398.270	223.11
LOCATION L0009212	VOLUME	447489.507	3762398.007	222.98
LOCATION L0009213	VOLUME	447520.506	3762397.743	222.80
LOCATION L0009214	VOLUME	447551.505	3762397.480	222.72
LOCATION L0009215	VOLUME	447582.504	3762397.217	222.66

LOCATION	L0009216	VOLUME	447613.503	3762396.953	222.54
LOCATION	L0009217	VOLUME	447644.502	3762396.690	222.38
LOCATION	L0009218	VOLUME	447675.501	3762396.427	222.48
LOCATION	L0009219	VOLUME	447706.500	3762396.163	222.63
LOCATION	L0009220	VOLUME	447737.499	3762395.900	222.78
LOCATION	L0009221	VOLUME	447768.497	3762395.637	222.92
LOCATION	L0009222	VOLUME	447799.496	3762395.373	223.06
LOCATION	L0009223	VOLUME	447830.495	3762395.110	223.18
LOCATION	L0009224	VOLUME	447861.494	3762394.847	223.30
LOCATION	L0009225	VOLUME	447892.493	3762394.583	223.39
LOCATION	L0009226	VOLUME	447923.492	3762394.320	223.49
LOCATION	L0009227	VOLUME	447954.491	3762394.057	223.66
LOCATION	L0009228	VOLUME	447985.490	3762393.793	223.82
LOCATION	L0009229	VOLUME	448016.488	3762393.530	223.93
LOCATION	L0009230	VOLUME	448047.487	3762393.267	224.04
LOCATION	L0009231	VOLUME	448078.486	3762393.003	224.13
LOCATION	L0009232	VOLUME	448109.485	3762392.740	224.28
LOCATION	L0009233	VOLUME	448140.484	3762392.477	224.42
LOCATION	L0009234	VOLUME	448171.483	3762392.213	224.59
LOCATION	L0009235	VOLUME	448202.482	3762391.950	224.77
LOCATION	L0009236	VOLUME	448233.481	3762391.687	224.90
LOCATION	L0009237	VOLUME	448264.480	3762391.423	225.07
LOCATION	L0009238	VOLUME	448295.478	3762391.160	225.24
LOCATION	L0009239	VOLUME	448326.477	3762390.897	225.33
LOCATION	L0009240	VOLUME	448357.476	3762390.633	225.38
LOCATION	L0009241	VOLUME	448388.475	3762390.370	225.39
LOCATION	L0009242	VOLUME	448419.474	3762390.107	225.36
LOCATION	L0009243	VOLUME	448450.457	3762390.450	225.32
LOCATION	L0009244	VOLUME	448481.398	3762392.362	225.21
LOCATION	L0009245	VOLUME	448512.339	3762394.274	225.02
LOCATION	L0009246	VOLUME	448543.280	3762396.186	224.88
LOCATION	L0009247	VOLUME	448574.221	3762398.098	224.77
LOCATION	L0009248	VOLUME	448605.162	3762400.010	224.69
LOCATION	L0009249	VOLUME	448636.103	3762401.922	224.54
LOCATION	L0009250	VOLUME	448667.044	3762403.834	224.41
LOCATION	L0009251	VOLUME	448697.984	3762405.746	224.44
LOCATION	L0009252	VOLUME	448728.925	3762407.658	224.73
LOCATION	L0009253	VOLUME	448759.866	3762409.570	225.55
LOCATION	L0009254	VOLUME	448790.807	3762411.482	225.87
LOCATION	L0009255	VOLUME	448820.021	3762421.671	225.69
LOCATION	L0009256	VOLUME	448849.145	3762432.293	226.70
LOCATION	L0009257	VOLUME	448878.268	3762442.914	227.66
LOCATION	L0009258	VOLUME	448907.392	3762453.536	228.07
LOCATION	L0009259	VOLUME	448936.516	3762464.158	229.27
LOCATION	L0009260	VOLUME	448965.639	3762474.779	229.74
LOCATION	L0009261	VOLUME	448994.763	3762485.401	230.27
LOCATION	L0009262	VOLUME	449023.886	3762496.022	233.06
LOCATION	L0009263	VOLUME	449053.010	3762506.644	234.84
LOCATION	L0009264	VOLUME	449082.133	3762517.265	235.04

LOCATION L0009265	VOLUME	449111.257	3762527.887	232.42
LOCATION L0009266	VOLUME	449140.381	3762538.508	227.42
LOCATION L0009267	VOLUME	449169.504	3762549.130	226.85
LOCATION L0009268	VOLUME	449198.628	3762559.751	227.04
LOCATION L0009269	VOLUME	449227.751	3762570.373	227.98
LOCATION L0009270	VOLUME	449256.875	3762580.995	232.17
LOCATION L0009271	VOLUME	449285.999	3762591.616	233.05

\*\* End of LINE VOLUME Source ID = SLINE24

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE25

\*\* DESCRSRC Onsite Construction

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000654

\*\* Vertical Dimension = 7.65

\*\* SZINIT = 3.56

\*\* Nodes = 16

\*\* 440391.592, 3761147.692, 201.79, 0.00, 12.09

\*\* 440392.555, 3761231.507, 202.60, 0.00, 12.09

\*\* 440451.322, 3761231.507, 202.67, 0.00, 12.09

\*\* 440450.359, 3760484.879, 195.14, 0.00, 12.09

\*\* 440509.126, 3760483.915, 195.24, 0.00, 12.09

\*\* 440503.345, 3761232.471, 202.87, 0.00, 12.09

\*\* 440565.002, 3761234.398, 203.21, 0.00, 12.09

\*\* 440562.112, 3760488.732, 195.43, 0.00, 12.09

\*\* 440619.916, 3760488.732, 195.62, 0.00, 12.09

\*\* 440620.879, 3761236.324, 203.37, 0.00, 12.09

\*\* 440680.897, 3761235.538, 203.52, 0.00, 12.09

\*\* 440671.518, 3760485.715, 195.76, 0.00, 12.09

\*\* 440735.960, 3760484.644, 196.24, 0.00, 12.09

\*\* 440731.863, 3761239.386, 203.39, 0.00, 12.09

\*\* 440781.658, 3761237.299, 203.18, 0.00, 12.09

\*\* 440785.619, 3761146.729, 202.07, 0.00, 12.09

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LOCATION L0009272	VOLUME	440391.741	3761160.692	201.86
LOCATION L0009273	VOLUME	440392.040	3761186.690	202.14
LOCATION L0009274	VOLUME	440392.339	3761212.688	202.40
LOCATION L0009275	VOLUME	440399.735	3761231.507	202.56
LOCATION L0009276	VOLUME	440425.735	3761231.507	202.47
LOCATION L0009277	VOLUME	440451.322	3761231.095	202.53
LOCATION L0009278	VOLUME	440451.288	3761205.095	202.12
LOCATION L0009279	VOLUME	440451.255	3761179.095	201.86
LOCATION L0009280	VOLUME	440451.221	3761153.095	201.66
LOCATION L0009281	VOLUME	440451.188	3761127.095	201.47
LOCATION L0009282	VOLUME	440451.154	3761101.095	201.16
LOCATION L0009283	VOLUME	440451.120	3761075.095	200.86
LOCATION L0009284	VOLUME	440451.087	3761049.095	200.57

LOCATION	L0009285	VOLUME	440451.053	3761023.095	200.30
LOCATION	L0009286	VOLUME	440451.020	3760997.095	200.06
LOCATION	L0009287	VOLUME	440450.986	3760971.095	199.81
LOCATION	L0009288	VOLUME	440450.953	3760945.095	199.58
LOCATION	L0009289	VOLUME	440450.919	3760919.095	199.36
LOCATION	L0009290	VOLUME	440450.886	3760893.095	199.16
LOCATION	L0009291	VOLUME	440450.852	3760867.095	198.94
LOCATION	L0009292	VOLUME	440450.818	3760841.095	198.69
LOCATION	L0009293	VOLUME	440450.785	3760815.095	198.44
LOCATION	L0009294	VOLUME	440450.751	3760789.095	198.19
LOCATION	L0009295	VOLUME	440450.718	3760763.095	197.89
LOCATION	L0009296	VOLUME	440450.684	3760737.095	197.59
LOCATION	L0009297	VOLUME	440450.651	3760711.095	197.29
LOCATION	L0009298	VOLUME	440450.617	3760685.095	197.01
LOCATION	L0009299	VOLUME	440450.584	3760659.096	196.75
LOCATION	L0009300	VOLUME	440450.550	3760633.096	196.50
LOCATION	L0009301	VOLUME	440450.517	3760607.096	196.25
LOCATION	L0009302	VOLUME	440450.483	3760581.096	196.03
LOCATION	L0009303	VOLUME	440450.449	3760555.096	195.82
LOCATION	L0009304	VOLUME	440450.416	3760529.096	195.47
LOCATION	L0009305	VOLUME	440450.382	3760503.096	195.13
LOCATION	L0009306	VOLUME	440458.141	3760484.751	195.15
LOCATION	L0009307	VOLUME	440484.137	3760484.325	195.17
LOCATION	L0009308	VOLUME	440509.118	3760484.923	195.24
LOCATION	L0009309	VOLUME	440508.917	3760510.923	195.31
LOCATION	L0009310	VOLUME	440508.716	3760536.922	195.77
LOCATION	L0009311	VOLUME	440508.516	3760562.921	195.97
LOCATION	L0009312	VOLUME	440508.315	3760588.920	196.17
LOCATION	L0009313	VOLUME	440508.114	3760614.919	196.42
LOCATION	L0009314	VOLUME	440507.913	3760640.919	196.70
LOCATION	L0009315	VOLUME	440507.713	3760666.918	196.98
LOCATION	L0009316	VOLUME	440507.512	3760692.917	197.27
LOCATION	L0009317	VOLUME	440507.311	3760718.916	197.58
LOCATION	L0009318	VOLUME	440507.110	3760744.916	197.89
LOCATION	L0009319	VOLUME	440506.909	3760770.915	198.20
LOCATION	L0009320	VOLUME	440506.709	3760796.914	198.46
LOCATION	L0009321	VOLUME	440506.508	3760822.913	198.66
LOCATION	L0009322	VOLUME	440506.307	3760848.912	198.83
LOCATION	L0009323	VOLUME	440506.106	3760874.912	199.06
LOCATION	L0009324	VOLUME	440505.906	3760900.911	199.27
LOCATION	L0009325	VOLUME	440505.705	3760926.910	199.51
LOCATION	L0009326	VOLUME	440505.504	3760952.909	199.74
LOCATION	L0009327	VOLUME	440505.303	3760978.909	199.96
LOCATION	L0009328	VOLUME	440505.103	3761004.908	200.19
LOCATION	L0009329	VOLUME	440504.902	3761030.907	200.44
LOCATION	L0009330	VOLUME	440504.701	3761056.906	200.74
LOCATION	L0009331	VOLUME	440504.500	3761082.905	201.07
LOCATION	L0009332	VOLUME	440504.300	3761108.905	201.40
LOCATION	L0009333	VOLUME	440504.099	3761134.904	201.70

LOCATION	L0009334	VOLUME	440503.898	3761160.903	201.93
LOCATION	L0009335	VOLUME	440503.697	3761186.902	202.11
LOCATION	L0009336	VOLUME	440503.496	3761212.902	202.35
LOCATION	L0009337	VOLUME	440509.772	3761232.672	202.73
LOCATION	L0009338	VOLUME	440535.760	3761233.484	202.82
LOCATION	L0009339	VOLUME	440561.747	3761234.296	203.10
LOCATION	L0009340	VOLUME	440564.914	3761211.655	202.93
LOCATION	L0009341	VOLUME	440564.813	3761185.655	202.56
LOCATION	L0009342	VOLUME	440564.713	3761159.655	202.37
LOCATION	L0009343	VOLUME	440564.612	3761133.655	202.30
LOCATION	L0009344	VOLUME	440564.511	3761107.656	202.16
LOCATION	L0009345	VOLUME	440564.410	3761081.656	201.88
LOCATION	L0009346	VOLUME	440564.310	3761055.656	201.44
LOCATION	L0009347	VOLUME	440564.209	3761029.656	200.89
LOCATION	L0009348	VOLUME	440564.108	3761003.656	200.61
LOCATION	L0009349	VOLUME	440564.007	3760977.657	200.37
LOCATION	L0009350	VOLUME	440563.906	3760951.657	200.14
LOCATION	L0009351	VOLUME	440563.806	3760925.657	199.90
LOCATION	L0009352	VOLUME	440563.705	3760899.657	199.63
LOCATION	L0009353	VOLUME	440563.604	3760873.657	199.36
LOCATION	L0009354	VOLUME	440563.503	3760847.658	199.12
LOCATION	L0009355	VOLUME	440563.403	3760821.658	199.06
LOCATION	L0009356	VOLUME	440563.302	3760795.658	198.89
LOCATION	L0009357	VOLUME	440563.201	3760769.658	198.62
LOCATION	L0009358	VOLUME	440563.100	3760743.658	198.25
LOCATION	L0009359	VOLUME	440563.000	3760717.659	197.87
LOCATION	L0009360	VOLUME	440562.899	3760691.659	197.62
LOCATION	L0009361	VOLUME	440562.798	3760665.659	197.34
LOCATION	L0009362	VOLUME	440562.697	3760639.659	197.04
LOCATION	L0009363	VOLUME	440562.596	3760613.659	196.76
LOCATION	L0009364	VOLUME	440562.496	3760587.660	196.50
LOCATION	L0009365	VOLUME	440562.395	3760561.660	196.27
LOCATION	L0009366	VOLUME	440562.294	3760535.660	196.01
LOCATION	L0009367	VOLUME	440562.193	3760509.660	195.52
LOCATION	L0009368	VOLUME	440567.184	3760488.732	195.46
LOCATION	L0009369	VOLUME	440593.184	3760488.732	195.59
LOCATION	L0009370	VOLUME	440619.184	3760488.732	195.65
LOCATION	L0009371	VOLUME	440619.948	3760514.000	195.86
LOCATION	L0009372	VOLUME	440619.982	3760540.000	196.36
LOCATION	L0009373	VOLUME	440620.015	3760566.000	196.61
LOCATION	L0009374	VOLUME	440620.049	3760592.000	196.86
LOCATION	L0009375	VOLUME	440620.082	3760618.000	197.09
LOCATION	L0009376	VOLUME	440620.116	3760644.000	197.33
LOCATION	L0009377	VOLUME	440620.149	3760670.000	197.59
LOCATION	L0009378	VOLUME	440620.183	3760696.000	197.79
LOCATION	L0009379	VOLUME	440620.216	3760722.000	197.20
LOCATION	L0009380	VOLUME	440620.250	3760748.000	196.49
LOCATION	L0009381	VOLUME	440620.283	3760774.000	197.92
LOCATION	L0009382	VOLUME	440620.317	3760800.000	199.24

LOCATION L0009383	VOLUME	440620.350	3760826.000	199.53
LOCATION L0009384	VOLUME	440620.384	3760852.000	199.81
LOCATION L0009385	VOLUME	440620.417	3760878.000	200.03
LOCATION L0009386	VOLUME	440620.451	3760904.000	200.26
LOCATION L0009387	VOLUME	440620.484	3760930.000	200.53
LOCATION L0009388	VOLUME	440620.518	3760956.000	200.80
LOCATION L0009389	VOLUME	440620.551	3760982.000	201.05
LOCATION L0009390	VOLUME	440620.585	3761008.000	201.30
LOCATION L0009391	VOLUME	440620.618	3761034.000	201.58
LOCATION L0009392	VOLUME	440620.652	3761060.000	201.84
LOCATION L0009393	VOLUME	440620.685	3761086.000	202.05
LOCATION L0009394	VOLUME	440620.719	3761112.000	202.28
LOCATION L0009395	VOLUME	440620.752	3761138.000	202.47
LOCATION L0009396	VOLUME	440620.786	3761164.000	202.64
LOCATION L0009397	VOLUME	440620.819	3761190.000	202.93
LOCATION L0009398	VOLUME	440620.853	3761216.000	203.13
LOCATION L0009399	VOLUME	440626.554	3761236.250	203.35
LOCATION L0009400	VOLUME	440652.552	3761235.909	203.44
LOCATION L0009401	VOLUME	440678.550	3761235.568	203.47
LOCATION L0009402	VOLUME	440680.601	3761211.887	203.27
LOCATION L0009403	VOLUME	440680.276	3761185.889	203.12
LOCATION L0009404	VOLUME	440679.951	3761159.891	202.41
LOCATION L0009405	VOLUME	440679.625	3761133.893	201.66
LOCATION L0009406	VOLUME	440679.300	3761107.895	201.23
LOCATION L0009407	VOLUME	440678.975	3761081.897	200.97
LOCATION L0009408	VOLUME	440678.650	3761055.899	200.72
LOCATION L0009409	VOLUME	440678.325	3761029.901	200.47
LOCATION L0009410	VOLUME	440678.000	3761003.903	200.25
LOCATION L0009411	VOLUME	440677.674	3760977.905	199.97
LOCATION L0009412	VOLUME	440677.349	3760951.907	199.76
LOCATION L0009413	VOLUME	440677.024	3760925.909	199.58
LOCATION L0009414	VOLUME	440676.699	3760899.911	199.35
LOCATION L0009415	VOLUME	440676.374	3760873.913	199.06
LOCATION L0009416	VOLUME	440676.048	3760847.915	198.82
LOCATION L0009417	VOLUME	440675.723	3760821.917	198.63
LOCATION L0009418	VOLUME	440675.398	3760795.919	198.39
LOCATION L0009419	VOLUME	440675.073	3760769.921	196.81
LOCATION L0009420	VOLUME	440674.748	3760743.923	196.13
LOCATION L0009421	VOLUME	440674.423	3760717.925	197.29
LOCATION L0009422	VOLUME	440674.097	3760691.927	197.95
LOCATION L0009423	VOLUME	440673.772	3760665.929	197.74
LOCATION L0009424	VOLUME	440673.447	3760639.931	197.49
LOCATION L0009425	VOLUME	440673.122	3760613.934	197.26
LOCATION L0009426	VOLUME	440672.797	3760587.936	197.03
LOCATION L0009427	VOLUME	440672.472	3760561.938	196.80
LOCATION L0009428	VOLUME	440672.146	3760535.940	196.54
LOCATION L0009429	VOLUME	440671.821	3760509.942	196.02
LOCATION L0009430	VOLUME	440673.289	3760485.685	195.82
LOCATION L0009431	VOLUME	440699.286	3760485.253	195.93

LOCATION	L0009432	VOLUME	440725.282	3760484.822	196.10
LOCATION	L0009433	VOLUME	440735.877	3760499.965	196.30
LOCATION	L0009434	VOLUME	440735.735	3760525.964	196.65
LOCATION	L0009435	VOLUME	440735.594	3760551.964	196.99
LOCATION	L0009436	VOLUME	440735.453	3760577.964	197.21
LOCATION	L0009437	VOLUME	440735.312	3760603.963	197.43
LOCATION	L0009438	VOLUME	440735.171	3760629.963	197.60
LOCATION	L0009439	VOLUME	440735.030	3760655.963	197.83
LOCATION	L0009440	VOLUME	440734.889	3760681.962	198.05
LOCATION	L0009441	VOLUME	440734.747	3760707.962	198.20
LOCATION	L0009442	VOLUME	440734.606	3760733.961	198.27
LOCATION	L0009443	VOLUME	440734.465	3760759.961	198.42
LOCATION	L0009444	VOLUME	440734.324	3760785.961	199.14
LOCATION	L0009445	VOLUME	440734.183	3760811.960	199.39
LOCATION	L0009446	VOLUME	440734.042	3760837.960	199.64
LOCATION	L0009447	VOLUME	440733.901	3760863.959	199.84
LOCATION	L0009448	VOLUME	440733.760	3760889.959	200.04
LOCATION	L0009449	VOLUME	440733.618	3760915.959	200.26
LOCATION	L0009450	VOLUME	440733.477	3760941.958	200.49
LOCATION	L0009451	VOLUME	440733.336	3760967.958	200.70
LOCATION	L0009452	VOLUME	440733.195	3760993.958	200.93
LOCATION	L0009453	VOLUME	440733.054	3761019.957	201.19
LOCATION	L0009454	VOLUME	440732.913	3761045.957	201.44
LOCATION	L0009455	VOLUME	440732.772	3761071.956	201.69
LOCATION	L0009456	VOLUME	440732.631	3761097.956	201.94
LOCATION	L0009457	VOLUME	440732.489	3761123.956	202.17
LOCATION	L0009458	VOLUME	440732.348	3761149.955	202.37
LOCATION	L0009459	VOLUME	440732.207	3761175.955	202.70
LOCATION	L0009460	VOLUME	440732.066	3761201.955	203.00
LOCATION	L0009461	VOLUME	440731.925	3761227.954	203.26
LOCATION	L0009462	VOLUME	440746.418	3761238.776	203.29
LOCATION	L0009463	VOLUME	440772.395	3761237.687	202.99
LOCATION	L0009464	VOLUME	440782.389	3761220.587	202.73
LOCATION	L0009465	VOLUME	440783.525	3761194.611	202.41
LOCATION	L0009466	VOLUME	440784.661	3761168.636	202.13

\*\* End of LINE VOLUME Source ID = SLINE25

\*\* Source Parameters \*\*

\*\* LINE VOLUME Source ID = SLINE13

SRCPARAM	L0008412	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008413	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008414	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008415	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008416	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008417	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008418	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008419	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008420	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008421	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008422	0.000001688	3.15	12.09	2.93

SRCPARAM	L0008423	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008424	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008425	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008426	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008427	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008428	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008429	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008430	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008431	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008432	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008433	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008434	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008435	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008436	0.000001688	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE14

SRCPARAM	L0008437	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008438	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008439	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008440	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008441	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008442	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008443	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008444	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008445	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008446	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008447	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008448	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008449	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008450	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008451	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008452	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008453	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008454	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008455	0.000001642	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE15

SRCPARAM	L0008456	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008457	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008458	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008459	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008460	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008461	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008462	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008463	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008464	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008465	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008466	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008467	0.000001987	3.15	14.42	2.93





SRCPARAM	L0008517	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008518	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008519	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008520	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008521	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008522	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008523	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008524	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008525	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008526	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008527	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008528	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008529	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008530	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008531	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008532	0.000001987	3.15	14.42	2.93

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\*\* LINE VOLUME Source ID = SLINE16

SRCPARAM	L0008533	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008534	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008535	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008536	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008537	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008538	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008539	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008540	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008541	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008542	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008543	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008544	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008545	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008546	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008547	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008548	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008549	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008550	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008551	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008552	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008553	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008554	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008555	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008556	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008557	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008558	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008559	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008560	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008561	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008562	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008563	0.000002297	2.89	16.74	2.69





SRCPARAM	L0008662	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008663	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008664	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008665	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008666	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008667	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008668	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008669	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008670	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008671	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008672	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008673	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008674	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008675	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008676	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008677	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008678	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008679	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008680	0.000002297	2.89	16.74	2.69

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\*\* LINE VOLUME Source ID = SLINE17

SRCPARAM	L0008681	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008682	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008683	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008684	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008685	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008686	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008687	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008688	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008689	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008690	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008691	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008692	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008693	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008694	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008695	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008696	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008697	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008698	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008699	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008700	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008701	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008702	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008703	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008704	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008705	0.000001628	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE18

SRCPARAM	L0008706	0.000001659	3.15	12.09	2.93
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SRCPARAM	L0008854	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008855	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008856	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008857	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008858	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008859	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008860	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008861	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008862	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008863	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008864	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008865	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008866	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008867	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008868	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008869	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008870	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008871	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008872	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008873	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008874	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008875	0.000001659	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE19

SRCPARAM	L0008876	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008877	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008878	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008879	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008880	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008881	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008882	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008883	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008884	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008885	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008886	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008887	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008888	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008889	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008890	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008891	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008892	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008893	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008894	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008895	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008896	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008897	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008898	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008899	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008900	0.000001672	3.15	12.09	2.93

SRCPARAM	L0008901	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008902	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008903	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008904	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008905	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008906	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008907	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008908	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008909	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008910	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008911	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008912	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008913	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008914	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008915	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008916	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008917	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008918	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008919	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008920	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008921	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008922	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008923	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008924	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008925	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008926	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008927	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008928	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008929	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008930	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008931	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008932	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008933	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008934	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008935	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008936	0.000001672	3.15	12.09	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE20

SRCPARAM	L0008937	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008938	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008939	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008940	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008941	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008942	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008943	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008944	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008945	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008946	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008947	0.000001677	3.15	12.09	2.93

SRCPARAM	L0008948	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008949	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008950	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008951	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008952	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008953	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008954	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008955	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008956	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008957	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008958	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008959	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008960	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008961	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008962	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008963	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008964	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008965	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008966	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008967	0.000001677	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE21

SRCPARAM	L0008968	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008969	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008970	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008971	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008972	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008973	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008974	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008975	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008976	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008977	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008978	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008979	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008980	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008981	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008982	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008983	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008984	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008985	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008986	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008987	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008988	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008989	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008990	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008991	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008992	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008993	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008994	0.000001653	3.15	12.09	2.93





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** LINE VOLUME Source ID = SLINE22
SRCPARAM L0009092 0.000001641 3.15 12.09 2.93
SRCPARAM L0009093 0.000001641 3.15 12.09 2.93
SRCPARAM L0009094 0.000001641 3.15 12.09 2.93
SRCPARAM L0009095 0.000001641 3.15 12.09 2.93
SRCPARAM L0009096 0.000001641 3.15 12.09 2.93
SRCPARAM L0009097 0.000001641 3.15 12.09 2.93
SRCPARAM L0009098 0.000001641 3.15 12.09 2.93
SRCPARAM L0009099 0.000001641 3.15 12.09 2.93
SRCPARAM L0009100 0.000001641 3.15 12.09 2.93
SRCPARAM L0009101 0.000001641 3.15 12.09 2.93
SRCPARAM L0009102 0.000001641 3.15 12.09 2.93
SRCPARAM L0009103 0.000001641 3.15 12.09 2.93
SRCPARAM L0009104 0.000001641 3.15 12.09 2.93
SRCPARAM L0009105 0.000001641 3.15 12.09 2.93
SRCPARAM L0009106 0.000001641 3.15 12.09 2.93
SRCPARAM L0009107 0.000001641 3.15 12.09 2.93
SRCPARAM L0009108 0.000001641 3.15 12.09 2.93
SRCPARAM L0009109 0.000001641 3.15 12.09 2.93
SRCPARAM L0009110 0.000001641 3.15 12.09 2.93
SRCPARAM L0009111 0.000001641 3.15 12.09 2.93
SRCPARAM L0009112 0.000001641 3.15 12.09 2.93
SRCPARAM L0009113 0.000001641 3.15 12.09 2.93
SRCPARAM L0009114 0.000001641 3.15 12.09 2.93
SRCPARAM L0009115 0.000001641 3.15 12.09 2.93
SRCPARAM L0009116 0.000001641 3.15 12.09 2.93
SRCPARAM L0009117 0.000001641 3.15 12.09 2.93
SRCPARAM L0009118 0.000001641 3.15 12.09 2.93
SRCPARAM L0009119 0.000001641 3.15 12.09 2.93
SRCPARAM L0009120 0.000001641 3.15 12.09 2.93
SRCPARAM L0009121 0.000001641 3.15 12.09 2.93
SRCPARAM L0009122 0.000001641 3.15 12.09 2.93
SRCPARAM L0009123 0.000001641 3.15 12.09 2.93
SRCPARAM L0009124 0.000001641 3.15 12.09 2.93
SRCPARAM L0009125 0.000001641 3.15 12.09 2.93
SRCPARAM L0009126 0.000001641 3.15 12.09 2.93
SRCPARAM L0009127 0.000001641 3.15 12.09 2.93
SRCPARAM L0009128 0.000001641 3.15 12.09 2.93
SRCPARAM L0009129 0.000001641 3.15 12.09 2.93
SRCPARAM L0009130 0.000001641 3.15 12.09 2.93

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** LINE VOLUME Source ID = SLINE23
SRCPARAM L0009131 0.00000165 3.15 12.09 2.93
SRCPARAM L0009132 0.00000165 3.15 12.09 2.93
SRCPARAM L0009133 0.00000165 3.15 12.09 2.93
SRCPARAM L0009134 0.00000165 3.15 12.09 2.93
SRCPARAM L0009135 0.00000165 3.15 12.09 2.93
SRCPARAM L0009136 0.00000165 3.15 12.09 2.93
SRCPARAM L0009137 0.00000165 3.15 12.09 2.93

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SRCPARAM	L0009138	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009139	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009140	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009141	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009142	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009143	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009144	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009145	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009146	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009147	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009148	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009149	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009150	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009151	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009152	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009153	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009154	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009155	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009156	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009157	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009158	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009159	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009160	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009161	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009162	0.00000165	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE24

SRCPARAM	L0009163	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009164	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009165	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009166	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009167	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009168	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009169	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009170	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009171	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009172	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009173	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009174	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009175	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009176	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009177	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009178	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009179	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009180	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009181	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009182	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009183	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009184	0.000001972	3.15	14.42	2.93





SRCPARAM	L0009234	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009235	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009236	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009237	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009238	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009239	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009240	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009241	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009242	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009243	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009244	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009245	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009246	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009247	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009248	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009249	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009250	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009251	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009252	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009253	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009254	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009255	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009256	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009257	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009258	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009259	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009260	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009261	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009262	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009263	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009264	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009265	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009266	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009267	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009268	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009269	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009270	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009271	0.000001972	3.15	14.42	2.93

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\*\* LINE VOLUME Source ID = SLINE25

SRCPARAM	L0009272	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009273	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009274	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009275	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009276	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009277	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009278	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009279	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009280	0.000003354	0.00	12.09	3.56







SRCPARAM	L0009428	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009429	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009430	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009431	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009432	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009433	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009434	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009435	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009436	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009437	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009438	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009439	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009440	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009441	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009442	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009443	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009444	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009445	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009446	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009447	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009448	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009449	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009450	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009451	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009452	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009453	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009454	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009455	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009456	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009457	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009458	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009459	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009460	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009461	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009462	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009463	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009464	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009465	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009466	0.000003354	0.00	12.09	3.56

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URBANSRC ALL

SRCGROUP ALL

SO FINISHED

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\*\* AERMOD Receptor Pathway

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RE STARTING
  INCLUDED ORBP_Mitigated_Construction.rou
RE FINISHED
**
*****
** AERMOD Meteorology Pathway
*****
**
**
ME STARTING
  SURFFILE ..\KCNO_V9_ADJU\KCNO_v9.SFC
  PROFFILE ..\KCNO_V9_ADJU\KCNO_v9.PFL
  SURFDATA 3179 2012
  UAIRDATA 3190 2012
  PROFBASE 198.0 METERS
ME FINISHED
**
*****
** AERMOD Output Pathway
*****
**
**
OU STARTING
  RECTABLE ALLAVE 1ST
  RECTABLE 1 1ST
  RECTABLE 24 1ST
** Auto-Generated Plotfiles
  PLOTFILE 1 ALL 1ST ORBP_MITIGATED_CONSTRUCTION.AD\01H1GALL.PLT 31
  PLOTFILE 24 ALL 1ST ORBP_MITIGATED_CONSTRUCTION.AD\24H1GALL.PLT 32
  PLOTFILE PERIOD ALL ORBP_MITIGATED_CONSTRUCTION.AD\PE00GALL.PLT 33
  SUMMFILE ORBP_Mitigated_Construction.sum
OU FINISHED
**
*****
** Project Parameters
*****
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
**

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**
*****
**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.0.0
** Lakes Environmental Software Inc.
** Date: 8/24/2021
** File: C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Mitigated_Construction\ORBP_Mitigated_Construction.ADI
**
*****
**
**
*****
** AERMOD Control Pathway
*****
**
**
CO STARTING
  TITLEONE C:\Lakes\AERMOD View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U
  MODELOPT DFAULT CONC
  AVERTIME 1 24 PERIOD
  URBANOPT 2035210 San_Bernardino_County
  POLLUTID PM_10
  RUNORNOT RUN
  ERRORFIL ORBP_Mitigated_Construction.err
CO FINISHED
**
*****
** AERMOD Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE13
** DESCRSRC West Access Road - Sultana 15 mph
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0000422
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440392.516, 3761134.605, 201.61, 3.15, 12.09
** 440390.843, 3760473.617, 195.36, 3.15, 12.09

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** -----
LOCATION L0008412      VOLUME  440392.483 3761121.605 201.48
LOCATION L0008413      VOLUME  440392.418 3761095.606 201.17
LOCATION L0008414      VOLUME  440392.352 3761069.606 200.87
LOCATION L0008415      VOLUME  440392.286 3761043.606 200.56
LOCATION L0008416      VOLUME  440392.220 3761017.606 200.25
LOCATION L0008417      VOLUME  440392.154 3760991.606 199.95
LOCATION L0008418      VOLUME  440392.089 3760965.606 199.68
LOCATION L0008419      VOLUME  440392.023 3760939.606 199.43
LOCATION L0008420      VOLUME  440391.957 3760913.606 199.16
LOCATION L0008421      VOLUME  440391.891 3760887.606 198.93
LOCATION L0008422      VOLUME  440391.825 3760861.606 198.72
LOCATION L0008423      VOLUME  440391.759 3760835.606 198.48
LOCATION L0008424      VOLUME  440391.694 3760809.606 198.22
LOCATION L0008425      VOLUME  440391.628 3760783.607 197.97
LOCATION L0008426      VOLUME  440391.562 3760757.607 197.71
LOCATION L0008427      VOLUME  440391.496 3760731.607 197.44
LOCATION L0008428      VOLUME  440391.430 3760705.607 197.19
LOCATION L0008429      VOLUME  440391.364 3760679.607 196.95
LOCATION L0008430      VOLUME  440391.299 3760653.607 196.72
LOCATION L0008431      VOLUME  440391.233 3760627.607 196.51
LOCATION L0008432      VOLUME  440391.167 3760601.607 196.30
LOCATION L0008433      VOLUME  440391.101 3760575.607 196.08
LOCATION L0008434      VOLUME  440391.035 3760549.607 195.89
LOCATION L0008435      VOLUME  440390.970 3760523.607 195.68
LOCATION L0008436      VOLUME  440390.904 3760497.607 195.53

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\*\* End of LINE VOLUME Source ID = SLINE13

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** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE14
** DESCRSRC Merril W of Site 50 mph
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0000312
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440391.194, 3760467.870, 195.22, 3.15, 12.09
** 439902.492, 3760463.238, 193.60, 3.15, 12.09

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** -----
LOCATION L0008437      VOLUME  440378.195 3760467.747 195.12
LOCATION L0008438      VOLUME  440352.196 3760467.500 194.83
LOCATION L0008439      VOLUME  440326.197 3760467.254 194.71
LOCATION L0008440      VOLUME  440300.199 3760467.008 194.61
LOCATION L0008441      VOLUME  440274.200 3760466.761 194.52
LOCATION L0008442      VOLUME  440248.201 3760466.515 194.35
LOCATION L0008443      VOLUME  440222.202 3760466.268 194.19
LOCATION L0008444      VOLUME  440196.203 3760466.022 194.09

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LOCATION	L0008445	VOLUME	440170.204	3760465.775	193.96
LOCATION	L0008446	VOLUME	440144.206	3760465.529	193.82
LOCATION	L0008447	VOLUME	440118.207	3760465.282	193.71
LOCATION	L0008448	VOLUME	440092.208	3760465.036	193.66
LOCATION	L0008449	VOLUME	440066.209	3760464.790	193.63
LOCATION	L0008450	VOLUME	440040.210	3760464.543	193.60
LOCATION	L0008451	VOLUME	440014.211	3760464.297	193.59
LOCATION	L0008452	VOLUME	439988.213	3760464.050	193.57
LOCATION	L0008453	VOLUME	439962.214	3760463.804	193.57
LOCATION	L0008454	VOLUME	439936.215	3760463.557	193.63
LOCATION	L0008455	VOLUME	439910.216	3760463.311	193.67

\*\* End of LINE VOLUME Source ID = SLINE14

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE15

\*\* DESCRSRC Euclide South of Merril 45 mph

\*\* PREFIX

\*\* Length of Side = 31.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000153

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 439894.728, 3760450.854, 193.57, 3.15, 14.42

\*\* 439882.847, 3758051.793, 175.42, 3.15, 14.42

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LOCATION	L0008456	VOLUME	439894.651	3760435.354	193.42
LOCATION	L0008457	VOLUME	439894.497	3760404.354	193.22
LOCATION	L0008458	VOLUME	439894.344	3760373.355	193.05
LOCATION	L0008459	VOLUME	439894.190	3760342.355	192.86
LOCATION	L0008460	VOLUME	439894.037	3760311.356	192.61
LOCATION	L0008461	VOLUME	439893.883	3760280.356	192.34
LOCATION	L0008462	VOLUME	439893.730	3760249.356	192.06
LOCATION	L0008463	VOLUME	439893.576	3760218.357	191.79
LOCATION	L0008464	VOLUME	439893.423	3760187.357	191.52
LOCATION	L0008465	VOLUME	439893.269	3760156.357	191.32
LOCATION	L0008466	VOLUME	439893.116	3760125.358	191.16
LOCATION	L0008467	VOLUME	439892.962	3760094.358	191.03
LOCATION	L0008468	VOLUME	439892.809	3760063.359	190.90
LOCATION	L0008469	VOLUME	439892.655	3760032.359	190.76
LOCATION	L0008470	VOLUME	439892.502	3760001.359	190.60
LOCATION	L0008471	VOLUME	439892.348	3759970.360	190.44
LOCATION	L0008472	VOLUME	439892.195	3759939.360	190.27
LOCATION	L0008473	VOLUME	439892.041	3759908.360	190.10
LOCATION	L0008474	VOLUME	439891.888	3759877.361	189.91
LOCATION	L0008475	VOLUME	439891.734	3759846.361	189.67
LOCATION	L0008476	VOLUME	439891.581	3759815.362	189.41
LOCATION	L0008477	VOLUME	439891.427	3759784.362	189.14
LOCATION	L0008478	VOLUME	439891.274	3759753.362	188.87

LOCATION L0008479	VOLUME	439891.120	3759722.363	188.57
LOCATION L0008480	VOLUME	439890.967	3759691.363	188.30
LOCATION L0008481	VOLUME	439890.813	3759660.364	188.05
LOCATION L0008482	VOLUME	439890.660	3759629.364	187.78
LOCATION L0008483	VOLUME	439890.506	3759598.364	187.52
LOCATION L0008484	VOLUME	439890.352	3759567.365	187.26
LOCATION L0008485	VOLUME	439890.199	3759536.365	187.01
LOCATION L0008486	VOLUME	439890.045	3759505.365	186.78
LOCATION L0008487	VOLUME	439889.892	3759474.366	186.59
LOCATION L0008488	VOLUME	439889.738	3759443.366	186.40
LOCATION L0008489	VOLUME	439889.585	3759412.367	186.20
LOCATION L0008490	VOLUME	439889.431	3759381.367	185.98
LOCATION L0008491	VOLUME	439889.278	3759350.367	185.79
LOCATION L0008492	VOLUME	439889.124	3759319.368	185.62
LOCATION L0008493	VOLUME	439888.971	3759288.368	185.43
LOCATION L0008494	VOLUME	439888.817	3759257.368	185.17
LOCATION L0008495	VOLUME	439888.664	3759226.369	184.88
LOCATION L0008496	VOLUME	439888.510	3759195.369	184.57
LOCATION L0008497	VOLUME	439888.357	3759164.370	184.29
LOCATION L0008498	VOLUME	439888.203	3759133.370	183.99
LOCATION L0008499	VOLUME	439888.050	3759102.370	183.75
LOCATION L0008500	VOLUME	439887.896	3759071.371	183.55
LOCATION L0008501	VOLUME	439887.743	3759040.371	183.39
LOCATION L0008502	VOLUME	439887.589	3759009.372	183.24
LOCATION L0008503	VOLUME	439887.436	3758978.372	183.05
LOCATION L0008504	VOLUME	439887.282	3758947.372	182.83
LOCATION L0008505	VOLUME	439887.129	3758916.373	182.56
LOCATION L0008506	VOLUME	439886.975	3758885.373	182.21
LOCATION L0008507	VOLUME	439886.822	3758854.373	181.90
LOCATION L0008508	VOLUME	439886.668	3758823.374	181.56
LOCATION L0008509	VOLUME	439886.515	3758792.374	181.26
LOCATION L0008510	VOLUME	439886.361	3758761.375	181.04
LOCATION L0008511	VOLUME	439886.208	3758730.375	180.85
LOCATION L0008512	VOLUME	439886.054	3758699.375	180.68
LOCATION L0008513	VOLUME	439885.901	3758668.376	180.48
LOCATION L0008514	VOLUME	439885.747	3758637.376	180.25
LOCATION L0008515	VOLUME	439885.594	3758606.376	180.00
LOCATION L0008516	VOLUME	439885.440	3758575.377	179.78
LOCATION L0008517	VOLUME	439885.287	3758544.377	179.58
LOCATION L0008518	VOLUME	439885.133	3758513.378	179.37
LOCATION L0008519	VOLUME	439884.980	3758482.378	179.09
LOCATION L0008520	VOLUME	439884.826	3758451.378	178.77
LOCATION L0008521	VOLUME	439884.673	3758420.379	178.42
LOCATION L0008522	VOLUME	439884.519	3758389.379	178.08
LOCATION L0008523	VOLUME	439884.366	3758358.379	177.78
LOCATION L0008524	VOLUME	439884.212	3758327.380	177.48
LOCATION L0008525	VOLUME	439884.059	3758296.380	177.24
LOCATION L0008526	VOLUME	439883.905	3758265.381	177.02
LOCATION L0008527	VOLUME	439883.752	3758234.381	176.77

LOCATION	L0008528	VOLUME	439883.598	3758203.381	176.52
LOCATION	L0008529	VOLUME	439883.444	3758172.382	176.26
LOCATION	L0008530	VOLUME	439883.291	3758141.382	176.00
LOCATION	L0008531	VOLUME	439883.137	3758110.383	175.77
LOCATION	L0008532	VOLUME	439882.984	3758079.383	175.59

\*\* End of LINE VOLUME Source ID = SLINE15

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 \*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE16

\*\* DESCRSRC Euclide N of Merril 45 MPH

\*\* PREFIX

\*\* Length of Side = 36.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.00034

\*\* Vertical Dimension = 5.78

\*\* SZINIT = 2.69

\*\* Nodes = 4

\*\* 439893.985, 3760466.447, 193.63, 2.89, 16.74

\*\* 439902.153, 3763463.230, 227.18, 2.89, 16.74

\*\* 439912.548, 3763601.338, 228.39, 2.89, 16.74

\*\* 439915.518, 3765792.495, 254.78, 2.89, 16.74

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LOCATION	L0008533	VOLUME	439894.034	3760484.447	193.85
LOCATION	L0008534	VOLUME	439894.132	3760520.446	194.19
LOCATION	L0008535	VOLUME	439894.230	3760556.446	194.55
LOCATION	L0008536	VOLUME	439894.328	3760592.446	194.87
LOCATION	L0008537	VOLUME	439894.427	3760628.446	195.19
LOCATION	L0008538	VOLUME	439894.525	3760664.446	195.50
LOCATION	L0008539	VOLUME	439894.623	3760700.446	195.83
LOCATION	L0008540	VOLUME	439894.721	3760736.446	196.22
LOCATION	L0008541	VOLUME	439894.819	3760772.445	196.64
LOCATION	L0008542	VOLUME	439894.917	3760808.445	197.09
LOCATION	L0008543	VOLUME	439895.015	3760844.445	197.60
LOCATION	L0008544	VOLUME	439895.113	3760880.445	198.09
LOCATION	L0008545	VOLUME	439895.211	3760916.445	198.56
LOCATION	L0008546	VOLUME	439895.310	3760952.445	199.00
LOCATION	L0008547	VOLUME	439895.408	3760988.445	199.46
LOCATION	L0008548	VOLUME	439895.506	3761024.445	199.92
LOCATION	L0008549	VOLUME	439895.604	3761060.444	200.35
LOCATION	L0008550	VOLUME	439895.702	3761096.444	200.72
LOCATION	L0008551	VOLUME	439895.800	3761132.444	201.08
LOCATION	L0008552	VOLUME	439895.898	3761168.444	201.46
LOCATION	L0008553	VOLUME	439895.996	3761204.444	201.79
LOCATION	L0008554	VOLUME	439896.095	3761240.444	202.06
LOCATION	L0008555	VOLUME	439896.193	3761276.444	202.40
LOCATION	L0008556	VOLUME	439896.291	3761312.443	202.79
LOCATION	L0008557	VOLUME	439896.389	3761348.443	203.17
LOCATION	L0008558	VOLUME	439896.487	3761384.443	203.62
LOCATION	L0008559	VOLUME	439896.585	3761420.443	204.07

LOCATION L0008560	VOLUME	439896.683	3761456.443	204.49
LOCATION L0008561	VOLUME	439896.781	3761492.443	204.90
LOCATION L0008562	VOLUME	439896.879	3761528.443	205.33
LOCATION L0008563	VOLUME	439896.978	3761564.443	205.74
LOCATION L0008564	VOLUME	439897.076	3761600.442	206.09
LOCATION L0008565	VOLUME	439897.174	3761636.442	206.37
LOCATION L0008566	VOLUME	439897.272	3761672.442	206.67
LOCATION L0008567	VOLUME	439897.370	3761708.442	206.97
LOCATION L0008568	VOLUME	439897.468	3761744.442	207.28
LOCATION L0008569	VOLUME	439897.566	3761780.442	207.61
LOCATION L0008570	VOLUME	439897.664	3761816.442	207.93
LOCATION L0008571	VOLUME	439897.763	3761852.441	208.24
LOCATION L0008572	VOLUME	439897.861	3761888.441	208.54
LOCATION L0008573	VOLUME	439897.959	3761924.441	208.86
LOCATION L0008574	VOLUME	439898.057	3761960.441	209.18
LOCATION L0008575	VOLUME	439898.155	3761996.441	209.49
LOCATION L0008576	VOLUME	439898.253	3762032.441	209.76
LOCATION L0008577	VOLUME	439898.351	3762068.441	210.03
LOCATION L0008578	VOLUME	439898.449	3762104.441	210.31
LOCATION L0008579	VOLUME	439898.547	3762140.440	210.55
LOCATION L0008580	VOLUME	439898.646	3762176.440	210.85
LOCATION L0008581	VOLUME	439898.744	3762212.440	211.26
LOCATION L0008582	VOLUME	439898.842	3762248.440	211.77
LOCATION L0008583	VOLUME	439898.940	3762284.440	212.37
LOCATION L0008584	VOLUME	439899.038	3762320.440	212.95
LOCATION L0008585	VOLUME	439899.136	3762356.440	213.47
LOCATION L0008586	VOLUME	439899.234	3762392.439	213.94
LOCATION L0008587	VOLUME	439899.332	3762428.439	214.41
LOCATION L0008588	VOLUME	439899.431	3762464.439	214.87
LOCATION L0008589	VOLUME	439899.529	3762500.439	215.27
LOCATION L0008590	VOLUME	439899.627	3762536.439	215.67
LOCATION L0008591	VOLUME	439899.725	3762572.439	216.08
LOCATION L0008592	VOLUME	439899.823	3762608.439	216.52
LOCATION L0008593	VOLUME	439899.921	3762644.439	217.01
LOCATION L0008594	VOLUME	439900.019	3762680.438	217.48
LOCATION L0008595	VOLUME	439900.117	3762716.438	217.98
LOCATION L0008596	VOLUME	439900.215	3762752.438	218.46
LOCATION L0008597	VOLUME	439900.314	3762788.438	218.96
LOCATION L0008598	VOLUME	439900.412	3762824.438	219.46
LOCATION L0008599	VOLUME	439900.510	3762860.438	219.99
LOCATION L0008600	VOLUME	439900.608	3762896.438	220.50
LOCATION L0008601	VOLUME	439900.706	3762932.437	220.93
LOCATION L0008602	VOLUME	439900.804	3762968.437	221.31
LOCATION L0008603	VOLUME	439900.902	3763004.437	221.71
LOCATION L0008604	VOLUME	439901.000	3763040.437	222.07
LOCATION L0008605	VOLUME	439901.098	3763076.437	222.48
LOCATION L0008606	VOLUME	439901.197	3763112.437	222.92
LOCATION L0008607	VOLUME	439901.295	3763148.437	223.40
LOCATION L0008608	VOLUME	439901.393	3763184.437	223.91

LOCATION L0008609	VOLUME	439901.491	3763220.436	224.44
LOCATION L0008610	VOLUME	439901.589	3763256.436	224.97
LOCATION L0008611	VOLUME	439901.687	3763292.436	225.41
LOCATION L0008612	VOLUME	439901.785	3763328.436	225.83
LOCATION L0008613	VOLUME	439901.883	3763364.436	226.22
LOCATION L0008614	VOLUME	439901.982	3763400.436	226.57
LOCATION L0008615	VOLUME	439902.080	3763436.436	226.88
LOCATION L0008616	VOLUME	439902.844	3763472.410	227.21
LOCATION L0008617	VOLUME	439905.546	3763508.308	227.55
LOCATION L0008618	VOLUME	439908.248	3763544.206	227.87
LOCATION L0008619	VOLUME	439910.950	3763580.105	228.17
LOCATION L0008620	VOLUME	439912.568	3763616.045	228.46
LOCATION L0008621	VOLUME	439912.617	3763652.045	228.76
LOCATION L0008622	VOLUME	439912.665	3763688.045	229.12
LOCATION L0008623	VOLUME	439912.714	3763724.045	229.40
LOCATION L0008624	VOLUME	439912.763	3763760.045	229.65
LOCATION L0008625	VOLUME	439912.812	3763796.045	229.92
LOCATION L0008626	VOLUME	439912.861	3763832.045	230.22
LOCATION L0008627	VOLUME	439912.909	3763868.045	230.54
LOCATION L0008628	VOLUME	439912.958	3763904.045	230.93
LOCATION L0008629	VOLUME	439913.007	3763940.045	231.41
LOCATION L0008630	VOLUME	439913.056	3763976.044	231.93
LOCATION L0008631	VOLUME	439913.105	3764012.044	232.48
LOCATION L0008632	VOLUME	439913.153	3764048.044	233.06
LOCATION L0008633	VOLUME	439913.202	3764084.044	233.63
LOCATION L0008634	VOLUME	439913.251	3764120.044	234.17
LOCATION L0008635	VOLUME	439913.300	3764156.044	234.76
LOCATION L0008636	VOLUME	439913.349	3764192.044	235.34
LOCATION L0008637	VOLUME	439913.397	3764228.044	235.93
LOCATION L0008638	VOLUME	439913.446	3764264.044	236.50
LOCATION L0008639	VOLUME	439913.495	3764300.044	237.09
LOCATION L0008640	VOLUME	439913.544	3764336.044	237.65
LOCATION L0008641	VOLUME	439913.593	3764372.044	238.14
LOCATION L0008642	VOLUME	439913.641	3764408.044	238.51
LOCATION L0008643	VOLUME	439913.690	3764444.044	238.76
LOCATION L0008644	VOLUME	439913.739	3764480.044	238.94
LOCATION L0008645	VOLUME	439913.788	3764516.044	239.14
LOCATION L0008646	VOLUME	439913.837	3764552.044	239.32
LOCATION L0008647	VOLUME	439913.885	3764588.044	239.55
LOCATION L0008648	VOLUME	439913.934	3764624.044	239.91
LOCATION L0008649	VOLUME	439913.983	3764660.044	240.33
LOCATION L0008650	VOLUME	439914.032	3764696.044	240.78
LOCATION L0008651	VOLUME	439914.081	3764732.044	241.22
LOCATION L0008652	VOLUME	439914.129	3764768.044	241.87
LOCATION L0008653	VOLUME	439914.178	3764804.044	242.52
LOCATION L0008654	VOLUME	439914.227	3764840.044	243.09
LOCATION L0008655	VOLUME	439914.276	3764876.044	243.65
LOCATION L0008656	VOLUME	439914.324	3764912.044	244.15
LOCATION L0008657	VOLUME	439914.373	3764948.044	244.65

LOCATION	VOLUME			
L0008658	439914.422	3764984.044	245.21	
L0008659	439914.471	3765020.044	245.75	
L0008660	439914.520	3765056.043	246.10	
L0008661	439914.568	3765092.043	246.38	
L0008662	439914.617	3765128.043	246.65	
L0008663	439914.666	3765164.043	246.95	
L0008664	439914.715	3765200.043	247.30	
L0008665	439914.764	3765236.043	247.82	
L0008666	439914.812	3765272.043	248.35	
L0008667	439914.861	3765308.043	248.96	
L0008668	439914.910	3765344.043	249.57	
L0008669	439914.959	3765380.043	250.15	
L0008670	439915.008	3765416.043	250.77	
L0008671	439915.056	3765452.043	251.36	
L0008672	439915.105	3765488.043	251.81	
L0008673	439915.154	3765524.043	252.12	
L0008674	439915.203	3765560.043	252.55	
L0008675	439915.252	3765596.043	252.94	
L0008676	439915.300	3765632.043	253.19	
L0008677	439915.349	3765668.043	253.63	
L0008678	439915.398	3765704.043	254.14	
L0008679	439915.447	3765740.043	254.48	
L0008680	439915.496	3765776.043	254.77	

\*\* End of LINE VOLUME Source ID = SLINE16

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE17

\*\* DESCRSRC East Access Road Campus 25 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000407

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440788.002, 3761131.581, 201.87, 3.15, 12.09

\*\* 440792.839, 3760493.155, 196.84, 3.15, 12.09

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LOCATION	VOLUME			
L0008681	440788.101	3761118.581	201.62	
L0008682	440788.297	3761092.582	201.37	
L0008683	440788.494	3761066.583	201.14	
L0008684	440788.691	3761040.584	200.92	
L0008685	440788.888	3761014.584	200.72	
L0008686	440789.085	3760988.585	200.51	
L0008687	440789.282	3760962.586	200.30	
L0008688	440789.479	3760936.587	200.11	
L0008689	440789.676	3760910.587	199.91	
L0008690	440789.873	3760884.588	199.74	
L0008691	440790.070	3760858.589	199.60	

LOCATION L0008692	VOLUME	440790.267	3760832.590	199.52
LOCATION L0008693	VOLUME	440790.464	3760806.590	199.45
LOCATION L0008694	VOLUME	440790.661	3760780.591	199.30
LOCATION L0008695	VOLUME	440790.858	3760754.592	198.99
LOCATION L0008696	VOLUME	440791.055	3760728.593	198.81
LOCATION L0008697	VOLUME	440791.252	3760702.593	198.61
LOCATION L0008698	VOLUME	440791.449	3760676.594	198.40
LOCATION L0008699	VOLUME	440791.646	3760650.595	198.19
LOCATION L0008700	VOLUME	440791.843	3760624.595	197.97
LOCATION L0008701	VOLUME	440792.040	3760598.596	197.72
LOCATION L0008702	VOLUME	440792.237	3760572.597	197.45
LOCATION L0008703	VOLUME	440792.434	3760546.598	197.22
LOCATION L0008704	VOLUME	440792.631	3760520.598	197.02
LOCATION L0008705	VOLUME	440792.828	3760494.599	196.88

\*\* End of LINE VOLUME Source ID = SLINE17

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE18

\*\* DESCRSRC Merrill East of Site 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000282

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 4

\*\* 440792.839, 3760468.972, 196.77, 3.15, 12.09

\*\* 443966.833, 3760482.272, 204.47, 3.15, 12.09

\*\* 444151.831, 3760416.979, 202.33, 3.15, 12.09

\*\* 445194.110, 3760409.724, 201.48, 3.15, 12.09

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LOCATION L0008706	VOLUME	440805.838	3760469.026	196.69
LOCATION L0008707	VOLUME	440831.838	3760469.135	196.70
LOCATION L0008708	VOLUME	440857.838	3760469.244	196.88
LOCATION L0008709	VOLUME	440883.838	3760469.353	197.13
LOCATION L0008710	VOLUME	440909.838	3760469.462	197.39
LOCATION L0008711	VOLUME	440935.837	3760469.571	197.56
LOCATION L0008712	VOLUME	440961.837	3760469.680	197.64
LOCATION L0008713	VOLUME	440987.837	3760469.789	197.74
LOCATION L0008714	VOLUME	441013.837	3760469.898	197.89
LOCATION L0008715	VOLUME	441039.836	3760470.007	198.06
LOCATION L0008716	VOLUME	441065.836	3760470.116	198.25
LOCATION L0008717	VOLUME	441091.836	3760470.225	198.46
LOCATION L0008718	VOLUME	441117.836	3760470.334	198.59
LOCATION L0008719	VOLUME	441143.836	3760470.443	198.64
LOCATION L0008720	VOLUME	441169.835	3760470.552	198.63
LOCATION L0008721	VOLUME	441195.835	3760470.661	198.95
LOCATION L0008722	VOLUME	441221.835	3760470.770	198.86
LOCATION L0008723	VOLUME	441247.835	3760470.879	198.67

LOCATION L0008724	VOLUME	441273.834	3760470.988	198.71
LOCATION L0008725	VOLUME	441299.834	3760471.096	198.79
LOCATION L0008726	VOLUME	441325.834	3760471.205	198.90
LOCATION L0008727	VOLUME	441351.834	3760471.314	198.98
LOCATION L0008728	VOLUME	441377.833	3760471.423	199.10
LOCATION L0008729	VOLUME	441403.833	3760471.532	199.23
LOCATION L0008730	VOLUME	441429.833	3760471.641	199.30
LOCATION L0008731	VOLUME	441455.833	3760471.750	199.33
LOCATION L0008732	VOLUME	441481.833	3760471.859	199.62
LOCATION L0008733	VOLUME	441507.832	3760471.968	199.82
LOCATION L0008734	VOLUME	441533.832	3760472.077	199.93
LOCATION L0008735	VOLUME	441559.832	3760472.186	199.99
LOCATION L0008736	VOLUME	441585.832	3760472.295	200.00
LOCATION L0008737	VOLUME	441611.831	3760472.404	200.07
LOCATION L0008738	VOLUME	441637.831	3760472.513	200.18
LOCATION L0008739	VOLUME	441663.831	3760472.622	200.19
LOCATION L0008740	VOLUME	441689.831	3760472.731	200.18
LOCATION L0008741	VOLUME	441715.830	3760472.840	200.15
LOCATION L0008742	VOLUME	441741.830	3760472.949	200.10
LOCATION L0008743	VOLUME	441767.830	3760473.058	200.08
LOCATION L0008744	VOLUME	441793.830	3760473.167	200.09
LOCATION L0008745	VOLUME	441819.830	3760473.275	200.09
LOCATION L0008746	VOLUME	441845.829	3760473.384	200.08
LOCATION L0008747	VOLUME	441871.829	3760473.493	200.12
LOCATION L0008748	VOLUME	441897.829	3760473.602	200.15
LOCATION L0008749	VOLUME	441923.829	3760473.711	200.22
LOCATION L0008750	VOLUME	441949.828	3760473.820	200.29
LOCATION L0008751	VOLUME	441975.828	3760473.929	200.11
LOCATION L0008752	VOLUME	442001.828	3760474.038	199.94
LOCATION L0008753	VOLUME	442027.828	3760474.147	200.38
LOCATION L0008754	VOLUME	442053.828	3760474.256	200.42
LOCATION L0008755	VOLUME	442079.827	3760474.365	200.43
LOCATION L0008756	VOLUME	442105.827	3760474.474	200.40
LOCATION L0008757	VOLUME	442131.827	3760474.583	200.37
LOCATION L0008758	VOLUME	442157.827	3760474.692	200.38
LOCATION L0008759	VOLUME	442183.826	3760474.801	200.40
LOCATION L0008760	VOLUME	442209.826	3760474.910	200.40
LOCATION L0008761	VOLUME	442235.826	3760475.019	200.44
LOCATION L0008762	VOLUME	442261.826	3760475.128	200.55
LOCATION L0008763	VOLUME	442287.825	3760475.237	200.67
LOCATION L0008764	VOLUME	442313.825	3760475.346	200.80
LOCATION L0008765	VOLUME	442339.825	3760475.455	200.98
LOCATION L0008766	VOLUME	442365.825	3760475.563	201.07
LOCATION L0008767	VOLUME	442391.825	3760475.672	201.05
LOCATION L0008768	VOLUME	442417.824	3760475.781	201.12
LOCATION L0008769	VOLUME	442443.824	3760475.890	201.14
LOCATION L0008770	VOLUME	442469.824	3760475.999	201.12
LOCATION L0008771	VOLUME	442495.824	3760476.108	201.09
LOCATION L0008772	VOLUME	442521.823	3760476.217	201.06



LOCATION L0008773	VOLUME	442547.823	3760476.326	201.01
LOCATION L0008774	VOLUME	442573.823	3760476.435	200.96
LOCATION L0008775	VOLUME	442599.823	3760476.544	200.85
LOCATION L0008776	VOLUME	442625.823	3760476.653	200.70
LOCATION L0008777	VOLUME	442651.822	3760476.762	200.64
LOCATION L0008778	VOLUME	442677.822	3760476.871	200.61
LOCATION L0008779	VOLUME	442703.822	3760476.980	200.62
LOCATION L0008780	VOLUME	442729.822	3760477.089	200.73
LOCATION L0008781	VOLUME	442755.821	3760477.198	200.85
LOCATION L0008782	VOLUME	442781.821	3760477.307	200.82
LOCATION L0008783	VOLUME	442807.821	3760477.416	200.80
LOCATION L0008784	VOLUME	442833.821	3760477.525	200.83
LOCATION L0008785	VOLUME	442859.820	3760477.634	200.98
LOCATION L0008786	VOLUME	442885.820	3760477.742	201.07
LOCATION L0008787	VOLUME	442911.820	3760477.851	201.13
LOCATION L0008788	VOLUME	442937.820	3760477.960	201.24
LOCATION L0008789	VOLUME	442963.820	3760478.069	201.34
LOCATION L0008790	VOLUME	442989.819	3760478.178	201.66
LOCATION L0008791	VOLUME	443015.819	3760478.287	201.87
LOCATION L0008792	VOLUME	443041.819	3760478.396	201.68
LOCATION L0008793	VOLUME	443067.819	3760478.505	201.58
LOCATION L0008794	VOLUME	443093.818	3760478.614	201.61
LOCATION L0008795	VOLUME	443119.818	3760478.723	201.69
LOCATION L0008796	VOLUME	443145.818	3760478.832	201.82
LOCATION L0008797	VOLUME	443171.818	3760478.941	202.12
LOCATION L0008798	VOLUME	443197.817	3760479.050	202.75
LOCATION L0008799	VOLUME	443223.817	3760479.159	203.08
LOCATION L0008800	VOLUME	443249.817	3760479.268	203.11
LOCATION L0008801	VOLUME	443275.817	3760479.377	203.19
LOCATION L0008802	VOLUME	443301.817	3760479.486	203.21
LOCATION L0008803	VOLUME	443327.816	3760479.595	203.34
LOCATION L0008804	VOLUME	443353.816	3760479.704	203.23
LOCATION L0008805	VOLUME	443379.816	3760479.813	203.32
LOCATION L0008806	VOLUME	443405.816	3760479.922	203.44
LOCATION L0008807	VOLUME	443431.815	3760480.030	203.41
LOCATION L0008808	VOLUME	443457.815	3760480.139	203.39
LOCATION L0008809	VOLUME	443483.815	3760480.248	203.40
LOCATION L0008810	VOLUME	443509.815	3760480.357	203.34
LOCATION L0008811	VOLUME	443535.815	3760480.466	203.32
LOCATION L0008812	VOLUME	443561.814	3760480.575	203.18
LOCATION L0008813	VOLUME	443587.814	3760480.684	203.18
LOCATION L0008814	VOLUME	443613.814	3760480.793	203.46
LOCATION L0008815	VOLUME	443639.814	3760480.902	203.54
LOCATION L0008816	VOLUME	443665.813	3760481.011	203.63
LOCATION L0008817	VOLUME	443691.813	3760481.120	203.67
LOCATION L0008818	VOLUME	443717.813	3760481.229	203.73
LOCATION L0008819	VOLUME	443743.813	3760481.338	203.77
LOCATION L0008820	VOLUME	443769.812	3760481.447	203.85
LOCATION L0008821	VOLUME	443795.812	3760481.556	204.00

LOCATION	L0008822	VOLUME	443821.812	3760481.665	204.17
LOCATION	L0008823	VOLUME	443847.812	3760481.774	204.20
LOCATION	L0008824	VOLUME	443873.812	3760481.883	204.53
LOCATION	L0008825	VOLUME	443899.811	3760481.992	203.97
LOCATION	L0008826	VOLUME	443925.811	3760482.101	204.05
LOCATION	L0008827	VOLUME	443951.811	3760482.210	204.58
LOCATION	L0008828	VOLUME	443977.185	3760478.619	204.36
LOCATION	L0008829	VOLUME	444001.703	3760469.965	203.93
LOCATION	L0008830	VOLUME	444026.220	3760461.312	203.42
LOCATION	L0008831	VOLUME	444050.738	3760452.659	203.27
LOCATION	L0008832	VOLUME	444075.256	3760444.005	203.00
LOCATION	L0008833	VOLUME	444099.774	3760435.352	202.74
LOCATION	L0008834	VOLUME	444124.291	3760426.699	202.61
LOCATION	L0008835	VOLUME	444148.809	3760418.045	202.42
LOCATION	L0008836	VOLUME	444174.626	3760416.820	202.24
LOCATION	L0008837	VOLUME	444200.625	3760416.639	202.16
LOCATION	L0008838	VOLUME	444226.625	3760416.458	202.11
LOCATION	L0008839	VOLUME	444252.624	3760416.277	202.08
LOCATION	L0008840	VOLUME	444278.623	3760416.096	202.08
LOCATION	L0008841	VOLUME	444304.623	3760415.915	202.08
LOCATION	L0008842	VOLUME	444330.622	3760415.734	202.05
LOCATION	L0008843	VOLUME	444356.621	3760415.553	202.09
LOCATION	L0008844	VOLUME	444382.621	3760415.372	202.09
LOCATION	L0008845	VOLUME	444408.620	3760415.191	201.88
LOCATION	L0008846	VOLUME	444434.620	3760415.010	201.81
LOCATION	L0008847	VOLUME	444460.619	3760414.830	201.86
LOCATION	L0008848	VOLUME	444486.618	3760414.649	201.93
LOCATION	L0008849	VOLUME	444512.618	3760414.468	201.96
LOCATION	L0008850	VOLUME	444538.617	3760414.287	202.07
LOCATION	L0008851	VOLUME	444564.616	3760414.106	202.19
LOCATION	L0008852	VOLUME	444590.616	3760413.925	202.08
LOCATION	L0008853	VOLUME	444616.615	3760413.744	198.42
LOCATION	L0008854	VOLUME	444642.615	3760413.563	197.62
LOCATION	L0008855	VOLUME	444668.614	3760413.382	201.81
LOCATION	L0008856	VOLUME	444694.613	3760413.201	202.20
LOCATION	L0008857	VOLUME	444720.613	3760413.020	201.98
LOCATION	L0008858	VOLUME	444746.612	3760412.839	201.80
LOCATION	L0008859	VOLUME	444772.611	3760412.658	201.20
LOCATION	L0008860	VOLUME	444798.611	3760412.477	200.69
LOCATION	L0008861	VOLUME	444824.610	3760412.296	201.48
LOCATION	L0008862	VOLUME	444850.609	3760412.115	201.42
LOCATION	L0008863	VOLUME	444876.609	3760411.934	201.16
LOCATION	L0008864	VOLUME	444902.608	3760411.753	201.20
LOCATION	L0008865	VOLUME	444928.608	3760411.572	201.45
LOCATION	L0008866	VOLUME	444954.607	3760411.391	201.75
LOCATION	L0008867	VOLUME	444980.606	3760411.210	201.86
LOCATION	L0008868	VOLUME	445006.606	3760411.029	201.80
LOCATION	L0008869	VOLUME	445032.605	3760410.848	201.77
LOCATION	L0008870	VOLUME	445058.604	3760410.667	201.77

LOCATION	L0008871	VOLUME	445084.604	3760410.486	201.74
LOCATION	L0008872	VOLUME	445110.603	3760410.305	201.77
LOCATION	L0008873	VOLUME	445136.603	3760410.124	201.91
LOCATION	L0008874	VOLUME	445162.602	3760409.943	201.80
LOCATION	L0008875	VOLUME	445188.601	3760409.762	201.42

\*\* End of LINE VOLUME Source ID = SLINE18

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 \*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE19

\*\* DESCRSRC Archibald North of Merrill 55 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000102

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445197.002, 3760432.429, 201.58, 3.15, 12.09

\*\* 445203.414, 3762029.057, 216.23, 3.15, 12.09

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LOCATION	L0008876	VOLUME	445197.054	3760445.429	201.61
LOCATION	L0008877	VOLUME	445197.159	3760471.429	201.78
LOCATION	L0008878	VOLUME	445197.263	3760497.429	201.94
LOCATION	L0008879	VOLUME	445197.368	3760523.429	202.11
LOCATION	L0008880	VOLUME	445197.472	3760549.428	202.26
LOCATION	L0008881	VOLUME	445197.576	3760575.428	202.43
LOCATION	L0008882	VOLUME	445197.681	3760601.428	202.62
LOCATION	L0008883	VOLUME	445197.785	3760627.428	202.85
LOCATION	L0008884	VOLUME	445197.890	3760653.428	203.09
LOCATION	L0008885	VOLUME	445197.994	3760679.427	203.34
LOCATION	L0008886	VOLUME	445198.098	3760705.427	203.60
LOCATION	L0008887	VOLUME	445198.203	3760731.427	203.84
LOCATION	L0008888	VOLUME	445198.307	3760757.427	204.09
LOCATION	L0008889	VOLUME	445198.412	3760783.427	204.31
LOCATION	L0008890	VOLUME	445198.516	3760809.426	204.58
LOCATION	L0008891	VOLUME	445198.621	3760835.426	204.84
LOCATION	L0008892	VOLUME	445198.725	3760861.426	205.09
LOCATION	L0008893	VOLUME	445198.829	3760887.426	205.36
LOCATION	L0008894	VOLUME	445198.934	3760913.426	205.59
LOCATION	L0008895	VOLUME	445199.038	3760939.425	205.83
LOCATION	L0008896	VOLUME	445199.143	3760965.425	206.10
LOCATION	L0008897	VOLUME	445199.247	3760991.425	206.35
LOCATION	L0008898	VOLUME	445199.351	3761017.425	206.59
LOCATION	L0008899	VOLUME	445199.456	3761043.424	206.83
LOCATION	L0008900	VOLUME	445199.560	3761069.424	207.07
LOCATION	L0008901	VOLUME	445199.665	3761095.424	207.30
LOCATION	L0008902	VOLUME	445199.769	3761121.424	207.55
LOCATION	L0008903	VOLUME	445199.874	3761147.424	207.81
LOCATION	L0008904	VOLUME	445199.978	3761173.423	208.02

LOCATION L0008905	VOLUME	445200.082	3761199.423	208.30
LOCATION L0008906	VOLUME	445200.187	3761225.423	208.72
LOCATION L0008907	VOLUME	445200.291	3761251.423	209.11
LOCATION L0008908	VOLUME	445200.396	3761277.423	209.39
LOCATION L0008909	VOLUME	445200.500	3761303.422	209.67
LOCATION L0008910	VOLUME	445200.604	3761329.422	209.96
LOCATION L0008911	VOLUME	445200.709	3761355.422	210.20
LOCATION L0008912	VOLUME	445200.813	3761381.422	210.41
LOCATION L0008913	VOLUME	445200.918	3761407.422	210.60
LOCATION L0008914	VOLUME	445201.022	3761433.421	210.77
LOCATION L0008915	VOLUME	445201.127	3761459.421	210.92
LOCATION L0008916	VOLUME	445201.231	3761485.421	211.13
LOCATION L0008917	VOLUME	445201.335	3761511.421	211.35
LOCATION L0008918	VOLUME	445201.440	3761537.420	211.52
LOCATION L0008919	VOLUME	445201.544	3761563.420	211.70
LOCATION L0008920	VOLUME	445201.649	3761589.420	211.90
LOCATION L0008921	VOLUME	445201.753	3761615.420	212.09
LOCATION L0008922	VOLUME	445201.857	3761641.420	212.27
LOCATION L0008923	VOLUME	445201.962	3761667.419	212.45
LOCATION L0008924	VOLUME	445202.066	3761693.419	212.61
LOCATION L0008925	VOLUME	445202.171	3761719.419	212.77
LOCATION L0008926	VOLUME	445202.275	3761745.419	213.00
LOCATION L0008927	VOLUME	445202.380	3761771.419	213.31
LOCATION L0008928	VOLUME	445202.484	3761797.418	213.59
LOCATION L0008929	VOLUME	445202.588	3761823.418	213.87
LOCATION L0008930	VOLUME	445202.693	3761849.418	214.14
LOCATION L0008931	VOLUME	445202.797	3761875.418	214.43
LOCATION L0008932	VOLUME	445202.902	3761901.418	214.72
LOCATION L0008933	VOLUME	445203.006	3761927.417	215.03
LOCATION L0008934	VOLUME	445203.110	3761953.417	215.33
LOCATION L0008935	VOLUME	445203.215	3761979.417	215.64
LOCATION L0008936	VOLUME	445203.319	3762005.417	215.92

\*\* End of LINE VOLUME Source ID = SLINE19

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE20

\*\* DESCRSRC Archibald South of Merrill 55 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000052

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445190.590, 3760393.956, 201.32, 3.15, 12.09

\*\* 445213.033, 3759579.612, 197.47, 3.15, 12.09

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LOCATION L0008937	VOLUME	445190.948	3760380.961	201.25
LOCATION L0008938	VOLUME	445191.664	3760354.971	201.07

LOCATION L0008939	VOLUME	445192.381	3760328.981	200.90
LOCATION L0008940	VOLUME	445193.097	3760302.991	200.72
LOCATION L0008941	VOLUME	445193.813	3760277.001	200.57
LOCATION L0008942	VOLUME	445194.529	3760251.011	200.42
LOCATION L0008943	VOLUME	445195.246	3760225.021	200.27
LOCATION L0008944	VOLUME	445195.962	3760199.030	200.12
LOCATION L0008945	VOLUME	445196.678	3760173.040	199.96
LOCATION L0008946	VOLUME	445197.394	3760147.050	199.80
LOCATION L0008947	VOLUME	445198.111	3760121.060	199.64
LOCATION L0008948	VOLUME	445198.827	3760095.070	199.49
LOCATION L0008949	VOLUME	445199.543	3760069.080	199.32
LOCATION L0008950	VOLUME	445200.259	3760043.090	199.14
LOCATION L0008951	VOLUME	445200.976	3760017.100	198.96
LOCATION L0008952	VOLUME	445201.692	3759991.109	198.82
LOCATION L0008953	VOLUME	445202.408	3759965.119	198.64
LOCATION L0008954	VOLUME	445203.125	3759939.129	198.60
LOCATION L0008955	VOLUME	445203.841	3759913.139	198.65
LOCATION L0008956	VOLUME	445204.557	3759887.149	198.74
LOCATION L0008957	VOLUME	445205.273	3759861.159	198.79
LOCATION L0008958	VOLUME	445205.990	3759835.169	198.62
LOCATION L0008959	VOLUME	445206.706	3759809.178	198.12
LOCATION L0008960	VOLUME	445207.422	3759783.188	198.27
LOCATION L0008961	VOLUME	445208.138	3759757.198	198.31
LOCATION L0008962	VOLUME	445208.855	3759731.208	198.20
LOCATION L0008963	VOLUME	445209.571	3759705.218	198.10
LOCATION L0008964	VOLUME	445210.287	3759679.228	197.99
LOCATION L0008965	VOLUME	445211.003	3759653.238	197.83
LOCATION L0008966	VOLUME	445211.720	3759627.248	197.71
LOCATION L0008967	VOLUME	445212.436	3759601.257	197.57

\*\* End of LINE VOLUME Source ID = SLINE20

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE21

\*\* DESCRSRC Limonite West of Hamner 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000205

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445208.816, 3759586.179, 197.53, 3.15, 12.09

\*\* 448421.656, 3759563.991, 203.23, 3.15, 12.09

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LOCATION L0008968	VOLUME	445221.815	3759586.089	197.44
LOCATION L0008969	VOLUME	445247.815	3759585.910	197.38
LOCATION L0008970	VOLUME	445273.814	3759585.730	197.39
LOCATION L0008971	VOLUME	445299.813	3759585.551	197.38
LOCATION L0008972	VOLUME	445325.813	3759585.371	197.43

LOCATION L0008973	VOLUME	445351.812	3759585.192	197.43
LOCATION L0008974	VOLUME	445377.812	3759585.012	197.46
LOCATION L0008975	VOLUME	445403.811	3759584.833	197.48
LOCATION L0008976	VOLUME	445429.810	3759584.653	197.56
LOCATION L0008977	VOLUME	445455.810	3759584.473	197.63
LOCATION L0008978	VOLUME	445481.809	3759584.294	197.63
LOCATION L0008979	VOLUME	445507.808	3759584.114	197.63
LOCATION L0008980	VOLUME	445533.808	3759583.935	197.73
LOCATION L0008981	VOLUME	445559.807	3759583.755	197.78
LOCATION L0008982	VOLUME	445585.807	3759583.576	197.85
LOCATION L0008983	VOLUME	445611.806	3759583.396	198.20
LOCATION L0008984	VOLUME	445637.805	3759583.217	198.31
LOCATION L0008985	VOLUME	445663.805	3759583.037	198.15
LOCATION L0008986	VOLUME	445689.804	3759582.857	198.11
LOCATION L0008987	VOLUME	445715.803	3759582.678	198.45
LOCATION L0008988	VOLUME	445741.803	3759582.498	198.66
LOCATION L0008989	VOLUME	445767.802	3759582.319	198.70
LOCATION L0008990	VOLUME	445793.802	3759582.139	198.86
LOCATION L0008991	VOLUME	445819.801	3759581.960	198.90
LOCATION L0008992	VOLUME	445845.800	3759581.780	198.97
LOCATION L0008993	VOLUME	445871.800	3759581.601	199.06
LOCATION L0008994	VOLUME	445897.799	3759581.421	199.08
LOCATION L0008995	VOLUME	445923.798	3759581.241	199.07
LOCATION L0008996	VOLUME	445949.798	3759581.062	199.03
LOCATION L0008997	VOLUME	445975.797	3759580.882	198.99
LOCATION L0008998	VOLUME	446001.797	3759580.703	198.83
LOCATION L0008999	VOLUME	446027.796	3759580.523	199.03
LOCATION L0009000	VOLUME	446053.795	3759580.344	199.25
LOCATION L0009001	VOLUME	446079.795	3759580.164	199.31
LOCATION L0009002	VOLUME	446105.794	3759579.985	199.37
LOCATION L0009003	VOLUME	446131.794	3759579.805	199.47
LOCATION L0009004	VOLUME	446157.793	3759579.625	199.58
LOCATION L0009005	VOLUME	446183.792	3759579.446	199.71
LOCATION L0009006	VOLUME	446209.792	3759579.266	199.83
LOCATION L0009007	VOLUME	446235.791	3759579.087	199.95
LOCATION L0009008	VOLUME	446261.790	3759578.907	200.08
LOCATION L0009009	VOLUME	446287.790	3759578.728	200.22
LOCATION L0009010	VOLUME	446313.789	3759578.548	200.33
LOCATION L0009011	VOLUME	446339.789	3759578.369	200.38
LOCATION L0009012	VOLUME	446365.788	3759578.189	200.38
LOCATION L0009013	VOLUME	446391.787	3759578.010	200.27
LOCATION L0009014	VOLUME	446417.787	3759577.830	200.16
LOCATION L0009015	VOLUME	446443.786	3759577.650	200.42
LOCATION L0009016	VOLUME	446469.785	3759577.471	200.88
LOCATION L0009017	VOLUME	446495.785	3759577.291	201.11
LOCATION L0009018	VOLUME	446521.784	3759577.112	201.23
LOCATION L0009019	VOLUME	446547.784	3759576.932	201.36
LOCATION L0009020	VOLUME	446573.783	3759576.753	201.49
LOCATION L0009021	VOLUME	446599.782	3759576.573	201.61

LOCATION L0009022	VOLUME	446625.782	3759576.394	201.74
LOCATION L0009023	VOLUME	446651.781	3759576.214	201.85
LOCATION L0009024	VOLUME	446677.781	3759576.034	201.97
LOCATION L0009025	VOLUME	446703.780	3759575.855	202.14
LOCATION L0009026	VOLUME	446729.779	3759575.675	202.28
LOCATION L0009027	VOLUME	446755.779	3759575.496	202.28
LOCATION L0009028	VOLUME	446781.778	3759575.316	202.08
LOCATION L0009029	VOLUME	446807.777	3759575.137	201.79
LOCATION L0009030	VOLUME	446833.777	3759574.957	201.68
LOCATION L0009031	VOLUME	446859.776	3759574.778	201.57
LOCATION L0009032	VOLUME	446885.776	3759574.598	201.31
LOCATION L0009033	VOLUME	446911.775	3759574.418	201.16
LOCATION L0009034	VOLUME	446937.774	3759574.239	201.14
LOCATION L0009035	VOLUME	446963.774	3759574.059	201.13
LOCATION L0009036	VOLUME	446989.773	3759573.880	201.19
LOCATION L0009037	VOLUME	447015.772	3759573.700	201.32
LOCATION L0009038	VOLUME	447041.772	3759573.521	201.43
LOCATION L0009039	VOLUME	447067.771	3759573.341	201.44
LOCATION L0009040	VOLUME	447093.771	3759573.162	201.34
LOCATION L0009041	VOLUME	447119.770	3759572.982	201.26
LOCATION L0009042	VOLUME	447145.769	3759572.802	201.16
LOCATION L0009043	VOLUME	447171.769	3759572.623	201.03
LOCATION L0009044	VOLUME	447197.768	3759572.443	200.91
LOCATION L0009045	VOLUME	447223.767	3759572.264	200.58
LOCATION L0009046	VOLUME	447249.767	3759572.084	200.58
LOCATION L0009047	VOLUME	447275.766	3759571.905	200.77
LOCATION L0009048	VOLUME	447301.766	3759571.725	200.92
LOCATION L0009049	VOLUME	447327.765	3759571.546	201.04
LOCATION L0009050	VOLUME	447353.764	3759571.366	201.18
LOCATION L0009051	VOLUME	447379.764	3759571.186	201.29
LOCATION L0009052	VOLUME	447405.763	3759571.007	201.34
LOCATION L0009053	VOLUME	447431.763	3759570.827	201.32
LOCATION L0009054	VOLUME	447457.762	3759570.648	201.23
LOCATION L0009055	VOLUME	447483.761	3759570.468	201.12
LOCATION L0009056	VOLUME	447509.761	3759570.289	201.01
LOCATION L0009057	VOLUME	447535.760	3759570.109	200.91
LOCATION L0009058	VOLUME	447561.759	3759569.930	200.62
LOCATION L0009059	VOLUME	447587.759	3759569.750	200.50
LOCATION L0009060	VOLUME	447613.758	3759569.570	200.62
LOCATION L0009061	VOLUME	447639.758	3759569.391	201.05
LOCATION L0009062	VOLUME	447665.757	3759569.211	201.09
LOCATION L0009063	VOLUME	447691.756	3759569.032	201.13
LOCATION L0009064	VOLUME	447717.756	3759568.852	201.12
LOCATION L0009065	VOLUME	447743.755	3759568.673	201.07
LOCATION L0009066	VOLUME	447769.754	3759568.493	201.07
LOCATION L0009067	VOLUME	447795.754	3759568.314	201.09
LOCATION L0009068	VOLUME	447821.753	3759568.134	201.07
LOCATION L0009069	VOLUME	447847.753	3759567.954	200.98
LOCATION L0009070	VOLUME	447873.752	3759567.775	200.98

LOCATION L0009071	VOLUME	447899.751	3759567.595	201.05
LOCATION L0009072	VOLUME	447925.751	3759567.416	201.13
LOCATION L0009073	VOLUME	447951.750	3759567.236	201.25
LOCATION L0009074	VOLUME	447977.750	3759567.057	201.37
LOCATION L0009075	VOLUME	448003.749	3759566.877	201.43
LOCATION L0009076	VOLUME	448029.748	3759566.698	201.49
LOCATION L0009077	VOLUME	448055.748	3759566.518	201.63
LOCATION L0009078	VOLUME	448081.747	3759566.339	201.71
LOCATION L0009079	VOLUME	448107.746	3759566.159	201.76
LOCATION L0009080	VOLUME	448133.746	3759565.979	201.75
LOCATION L0009081	VOLUME	448159.745	3759565.800	201.70
LOCATION L0009082	VOLUME	448185.745	3759565.620	201.68
LOCATION L0009083	VOLUME	448211.744	3759565.441	201.71
LOCATION L0009084	VOLUME	448237.743	3759565.261	201.78
LOCATION L0009085	VOLUME	448263.743	3759565.082	201.95
LOCATION L0009086	VOLUME	448289.742	3759564.902	202.15
LOCATION L0009087	VOLUME	448315.741	3759564.723	202.31
LOCATION L0009088	VOLUME	448341.741	3759564.543	202.55
LOCATION L0009089	VOLUME	448367.740	3759564.363	202.83
LOCATION L0009090	VOLUME	448393.740	3759564.184	203.08
LOCATION L0009091	VOLUME	448419.739	3759564.004	203.22

\*\* End of LINE VOLUME Source ID = SLINE21

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 \*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE22

\*\* DESCRSRC Limonite East of Hamner 45 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000064

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 448433.751, 3759567.438, 203.30, 3.15, 12.09

\*\* 449436.212, 3759550.509, 204.35, 3.15, 12.09

\*\*

LOCATION L0009092	VOLUME	448446.749	3759567.219	203.28
LOCATION L0009093	VOLUME	448472.745	3759566.780	203.20
LOCATION L0009094	VOLUME	448498.741	3759566.341	203.07
LOCATION L0009095	VOLUME	448524.738	3759565.902	203.02
LOCATION L0009096	VOLUME	448550.734	3759565.463	202.91
LOCATION L0009097	VOLUME	448576.730	3759565.024	202.89
LOCATION L0009098	VOLUME	448602.727	3759564.585	203.21
LOCATION L0009099	VOLUME	448628.723	3759564.146	203.51
LOCATION L0009100	VOLUME	448654.719	3759563.707	203.50
LOCATION L0009101	VOLUME	448680.715	3759563.268	203.48
LOCATION L0009102	VOLUME	448706.712	3759562.829	203.56
LOCATION L0009103	VOLUME	448732.708	3759562.389	203.67
LOCATION L0009104	VOLUME	448758.704	3759561.950	203.86



LOCATION L0009105	VOLUME	448784.701	3759561.511	203.99
LOCATION L0009106	VOLUME	448810.697	3759561.072	203.90
LOCATION L0009107	VOLUME	448836.693	3759560.633	203.95
LOCATION L0009108	VOLUME	448862.689	3759560.194	203.89
LOCATION L0009109	VOLUME	448888.686	3759559.755	203.57
LOCATION L0009110	VOLUME	448914.682	3759559.316	203.51
LOCATION L0009111	VOLUME	448940.678	3759558.877	203.83
LOCATION L0009112	VOLUME	448966.675	3759558.438	203.93
LOCATION L0009113	VOLUME	448992.671	3759557.999	204.17
LOCATION L0009114	VOLUME	449018.667	3759557.560	204.56
LOCATION L0009115	VOLUME	449044.663	3759557.121	204.89
LOCATION L0009116	VOLUME	449070.660	3759556.682	205.18
LOCATION L0009117	VOLUME	449096.656	3759556.243	205.41
LOCATION L0009118	VOLUME	449122.652	3759555.804	205.48
LOCATION L0009119	VOLUME	449148.649	3759555.365	205.25
LOCATION L0009120	VOLUME	449174.645	3759554.926	205.78
LOCATION L0009121	VOLUME	449200.641	3759554.487	206.53
LOCATION L0009122	VOLUME	449226.638	3759554.048	205.42
LOCATION L0009123	VOLUME	449252.634	3759553.609	204.31
LOCATION L0009124	VOLUME	449278.630	3759553.170	202.22
LOCATION L0009125	VOLUME	449304.626	3759552.731	201.60
LOCATION L0009126	VOLUME	449330.623	3759552.292	203.11
LOCATION L0009127	VOLUME	449356.619	3759551.853	204.32
LOCATION L0009128	VOLUME	449382.615	3759551.414	205.11
LOCATION L0009129	VOLUME	449408.612	3759550.975	205.53
LOCATION L0009130	VOLUME	449434.608	3759550.536	204.55

\*\* End of LINE VOLUME Source ID = SLINE22

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE23

\*\* DESCRSRC Edison 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000528

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445228.172, 3762001.993, 216.23, 3.15, 12.09

\*\* 446055.217, 3762005.931, 218.73, 3.15, 12.09

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LOCATION L0009131	VOLUME	445241.172	3762002.055	216.17
LOCATION L0009132	VOLUME	445267.171	3762002.179	216.48
LOCATION L0009133	VOLUME	445293.171	3762002.302	216.54
LOCATION L0009134	VOLUME	445319.171	3762002.426	217.04
LOCATION L0009135	VOLUME	445345.171	3762002.550	217.35
LOCATION L0009136	VOLUME	445371.170	3762002.674	217.64
LOCATION L0009137	VOLUME	445397.170	3762002.798	217.99
LOCATION L0009138	VOLUME	445423.170	3762002.922	218.27

LOCATION L0009139	VOLUME	445449.169	3762003.045	218.44
LOCATION L0009140	VOLUME	445475.169	3762003.169	218.50
LOCATION L0009141	VOLUME	445501.169	3762003.293	218.44
LOCATION L0009142	VOLUME	445527.169	3762003.417	218.23
LOCATION L0009143	VOLUME	445553.168	3762003.541	218.19
LOCATION L0009144	VOLUME	445579.168	3762003.664	218.14
LOCATION L0009145	VOLUME	445605.168	3762003.788	218.09
LOCATION L0009146	VOLUME	445631.167	3762003.912	218.10
LOCATION L0009147	VOLUME	445657.167	3762004.036	218.06
LOCATION L0009148	VOLUME	445683.167	3762004.160	217.91
LOCATION L0009149	VOLUME	445709.166	3762004.283	217.70
LOCATION L0009150	VOLUME	445735.166	3762004.407	217.28
LOCATION L0009151	VOLUME	445761.166	3762004.531	216.90
LOCATION L0009152	VOLUME	445787.166	3762004.655	216.96
LOCATION L0009153	VOLUME	445813.165	3762004.779	217.38
LOCATION L0009154	VOLUME	445839.165	3762004.902	217.69
LOCATION L0009155	VOLUME	445865.165	3762005.026	217.94
LOCATION L0009156	VOLUME	445891.164	3762005.150	218.24
LOCATION L0009157	VOLUME	445917.164	3762005.274	218.05
LOCATION L0009158	VOLUME	445943.164	3762005.398	218.24
LOCATION L0009159	VOLUME	445969.164	3762005.521	218.48
LOCATION L0009160	VOLUME	445995.163	3762005.645	218.61
LOCATION L0009161	VOLUME	446021.163	3762005.769	218.61
LOCATION L0009162	VOLUME	446047.163	3762005.893	218.63

\*\* End of LINE VOLUME Source ID = SLINE23

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE24

\*\* DESCRSRC Ontario Ranch Road 50 MPH

\*\* PREFIX

\*\* Length of Side = 31.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000215

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 8

\*\* 446065.063, 3762013.808, 218.80, 3.15, 14.42

\*\* 446293.485, 3762124.081, 220.01, 3.15, 14.42

\*\* 446500.247, 3762297.366, 221.42, 3.15, 14.42

\*\* 446722.761, 3762397.793, 222.35, 3.15, 14.42

\*\* 446819.250, 3762403.701, 222.18, 3.15, 14.42

\*\* 448441.834, 3762389.917, 225.33, 3.15, 14.42

\*\* 448792.344, 3762411.577, 226.13, 3.15, 14.42

\*\* 449294.479, 3762594.709, 233.70, 3.15, 14.42

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LOCATION L0009163	VOLUME	446079.022	3762020.547	218.95
LOCATION L0009164	VOLUME	446106.939	3762034.024	219.27
LOCATION L0009165	VOLUME	446134.856	3762047.501	219.30
LOCATION L0009166	VOLUME	446162.773	3762060.978	219.54

LOCATION L0009167	VOLUME	446190.690	3762074.455	219.63
LOCATION L0009168	VOLUME	446218.607	3762087.933	219.78
LOCATION L0009169	VOLUME	446246.524	3762101.410	219.88
LOCATION L0009170	VOLUME	446274.441	3762114.887	220.00
LOCATION L0009171	VOLUME	446301.037	3762130.410	220.13
LOCATION L0009172	VOLUME	446324.796	3762150.322	220.33
LOCATION L0009173	VOLUME	446348.555	3762170.234	220.43
LOCATION L0009174	VOLUME	446372.314	3762190.147	220.66
LOCATION L0009175	VOLUME	446396.073	3762210.059	220.91
LOCATION L0009176	VOLUME	446419.833	3762229.972	220.98
LOCATION L0009177	VOLUME	446443.592	3762249.884	221.28
LOCATION L0009178	VOLUME	446467.351	3762269.797	221.28
LOCATION L0009179	VOLUME	446491.110	3762289.709	221.36
LOCATION L0009180	VOLUME	446517.636	3762305.215	221.68
LOCATION L0009181	VOLUME	446545.892	3762317.967	221.71
LOCATION L0009182	VOLUME	446574.147	3762330.720	221.88
LOCATION L0009183	VOLUME	446602.403	3762343.472	221.99
LOCATION L0009184	VOLUME	446630.658	3762356.225	222.17
LOCATION L0009185	VOLUME	446658.914	3762368.977	222.43
LOCATION L0009186	VOLUME	446687.169	3762381.730	222.48
LOCATION L0009187	VOLUME	446715.425	3762394.482	222.88
LOCATION L0009188	VOLUME	446745.669	3762399.196	222.92
LOCATION L0009189	VOLUME	446776.612	3762401.090	222.76
LOCATION L0009190	VOLUME	446807.554	3762402.985	222.19
LOCATION L0009191	VOLUME	446838.531	3762403.537	221.88
LOCATION L0009192	VOLUME	446869.530	3762403.274	221.96
LOCATION L0009193	VOLUME	446900.529	3762403.010	221.98
LOCATION L0009194	VOLUME	446931.528	3762402.747	222.17
LOCATION L0009195	VOLUME	446962.527	3762402.484	222.50
LOCATION L0009196	VOLUME	446993.525	3762402.220	222.57
LOCATION L0009197	VOLUME	447024.524	3762401.957	222.59
LOCATION L0009198	VOLUME	447055.523	3762401.694	222.70
LOCATION L0009199	VOLUME	447086.522	3762401.430	222.95
LOCATION L0009200	VOLUME	447117.521	3762401.167	223.14
LOCATION L0009201	VOLUME	447148.520	3762400.904	223.29
LOCATION L0009202	VOLUME	447179.519	3762400.640	223.34
LOCATION L0009203	VOLUME	447210.518	3762400.377	223.38
LOCATION L0009204	VOLUME	447241.516	3762400.114	223.28
LOCATION L0009205	VOLUME	447272.515	3762399.850	223.39
LOCATION L0009206	VOLUME	447303.514	3762399.587	223.48
LOCATION L0009207	VOLUME	447334.513	3762399.324	223.41
LOCATION L0009208	VOLUME	447365.512	3762399.060	223.31
LOCATION L0009209	VOLUME	447396.511	3762398.797	223.21
LOCATION L0009210	VOLUME	447427.510	3762398.534	223.15
LOCATION L0009211	VOLUME	447458.509	3762398.270	223.11
LOCATION L0009212	VOLUME	447489.507	3762398.007	222.98
LOCATION L0009213	VOLUME	447520.506	3762397.743	222.80
LOCATION L0009214	VOLUME	447551.505	3762397.480	222.72
LOCATION L0009215	VOLUME	447582.504	3762397.217	222.66

LOCATION	L0009216	VOLUME	447613.503	3762396.953	222.54
LOCATION	L0009217	VOLUME	447644.502	3762396.690	222.38
LOCATION	L0009218	VOLUME	447675.501	3762396.427	222.48
LOCATION	L0009219	VOLUME	447706.500	3762396.163	222.63
LOCATION	L0009220	VOLUME	447737.499	3762395.900	222.78
LOCATION	L0009221	VOLUME	447768.497	3762395.637	222.92
LOCATION	L0009222	VOLUME	447799.496	3762395.373	223.06
LOCATION	L0009223	VOLUME	447830.495	3762395.110	223.18
LOCATION	L0009224	VOLUME	447861.494	3762394.847	223.30
LOCATION	L0009225	VOLUME	447892.493	3762394.583	223.39
LOCATION	L0009226	VOLUME	447923.492	3762394.320	223.49
LOCATION	L0009227	VOLUME	447954.491	3762394.057	223.66
LOCATION	L0009228	VOLUME	447985.490	3762393.793	223.82
LOCATION	L0009229	VOLUME	448016.488	3762393.530	223.93
LOCATION	L0009230	VOLUME	448047.487	3762393.267	224.04
LOCATION	L0009231	VOLUME	448078.486	3762393.003	224.13
LOCATION	L0009232	VOLUME	448109.485	3762392.740	224.28
LOCATION	L0009233	VOLUME	448140.484	3762392.477	224.42
LOCATION	L0009234	VOLUME	448171.483	3762392.213	224.59
LOCATION	L0009235	VOLUME	448202.482	3762391.950	224.77
LOCATION	L0009236	VOLUME	448233.481	3762391.687	224.90
LOCATION	L0009237	VOLUME	448264.480	3762391.423	225.07
LOCATION	L0009238	VOLUME	448295.478	3762391.160	225.24
LOCATION	L0009239	VOLUME	448326.477	3762390.897	225.33
LOCATION	L0009240	VOLUME	448357.476	3762390.633	225.38
LOCATION	L0009241	VOLUME	448388.475	3762390.370	225.39
LOCATION	L0009242	VOLUME	448419.474	3762390.107	225.36
LOCATION	L0009243	VOLUME	448450.457	3762390.450	225.32
LOCATION	L0009244	VOLUME	448481.398	3762392.362	225.21
LOCATION	L0009245	VOLUME	448512.339	3762394.274	225.02
LOCATION	L0009246	VOLUME	448543.280	3762396.186	224.88
LOCATION	L0009247	VOLUME	448574.221	3762398.098	224.77
LOCATION	L0009248	VOLUME	448605.162	3762400.010	224.69
LOCATION	L0009249	VOLUME	448636.103	3762401.922	224.54
LOCATION	L0009250	VOLUME	448667.044	3762403.834	224.41
LOCATION	L0009251	VOLUME	448697.984	3762405.746	224.44
LOCATION	L0009252	VOLUME	448728.925	3762407.658	224.73
LOCATION	L0009253	VOLUME	448759.866	3762409.570	225.55
LOCATION	L0009254	VOLUME	448790.807	3762411.482	225.87
LOCATION	L0009255	VOLUME	448820.021	3762421.671	225.69
LOCATION	L0009256	VOLUME	448849.145	3762432.293	226.70
LOCATION	L0009257	VOLUME	448878.268	3762442.914	227.66
LOCATION	L0009258	VOLUME	448907.392	3762453.536	228.07
LOCATION	L0009259	VOLUME	448936.516	3762464.158	229.27
LOCATION	L0009260	VOLUME	448965.639	3762474.779	229.74
LOCATION	L0009261	VOLUME	448994.763	3762485.401	230.27
LOCATION	L0009262	VOLUME	449023.886	3762496.022	233.06
LOCATION	L0009263	VOLUME	449053.010	3762506.644	234.84
LOCATION	L0009264	VOLUME	449082.133	3762517.265	235.04

LOCATION L0009265	VOLUME	449111.257	3762527.887	232.42
LOCATION L0009266	VOLUME	449140.381	3762538.508	227.42
LOCATION L0009267	VOLUME	449169.504	3762549.130	226.85
LOCATION L0009268	VOLUME	449198.628	3762559.751	227.04
LOCATION L0009269	VOLUME	449227.751	3762570.373	227.98
LOCATION L0009270	VOLUME	449256.875	3762580.995	232.17
LOCATION L0009271	VOLUME	449285.999	3762591.616	233.05

\*\* End of LINE VOLUME Source ID = SLINE24

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE25

\*\* DESCRSRC Onsite Construction

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000654

\*\* Vertical Dimension = 7.65

\*\* SZINIT = 3.56

\*\* Nodes = 16

\*\* 440391.592, 3761147.692, 201.79, 0.00, 12.09

\*\* 440392.555, 3761231.507, 202.60, 0.00, 12.09

\*\* 440451.322, 3761231.507, 202.67, 0.00, 12.09

\*\* 440450.359, 3760484.879, 195.14, 0.00, 12.09

\*\* 440509.126, 3760483.915, 195.24, 0.00, 12.09

\*\* 440503.345, 3761232.471, 202.87, 0.00, 12.09

\*\* 440565.002, 3761234.398, 203.21, 0.00, 12.09

\*\* 440562.112, 3760488.732, 195.43, 0.00, 12.09

\*\* 440619.916, 3760488.732, 195.62, 0.00, 12.09

\*\* 440620.879, 3761236.324, 203.37, 0.00, 12.09

\*\* 440680.897, 3761235.538, 203.52, 0.00, 12.09

\*\* 440671.518, 3760485.715, 195.76, 0.00, 12.09

\*\* 440735.960, 3760484.644, 196.24, 0.00, 12.09

\*\* 440731.863, 3761239.386, 203.39, 0.00, 12.09

\*\* 440781.658, 3761237.299, 203.18, 0.00, 12.09

\*\* 440785.619, 3761146.729, 202.07, 0.00, 12.09

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LOCATION L0009272	VOLUME	440391.741	3761160.692	201.86
LOCATION L0009273	VOLUME	440392.040	3761186.690	202.14
LOCATION L0009274	VOLUME	440392.339	3761212.688	202.40
LOCATION L0009275	VOLUME	440399.735	3761231.507	202.56
LOCATION L0009276	VOLUME	440425.735	3761231.507	202.47
LOCATION L0009277	VOLUME	440451.322	3761231.095	202.53
LOCATION L0009278	VOLUME	440451.288	3761205.095	202.12
LOCATION L0009279	VOLUME	440451.255	3761179.095	201.86
LOCATION L0009280	VOLUME	440451.221	3761153.095	201.66
LOCATION L0009281	VOLUME	440451.188	3761127.095	201.47
LOCATION L0009282	VOLUME	440451.154	3761101.095	201.16
LOCATION L0009283	VOLUME	440451.120	3761075.095	200.86
LOCATION L0009284	VOLUME	440451.087	3761049.095	200.57

LOCATION	L0009285	VOLUME	440451.053	3761023.095	200.30
LOCATION	L0009286	VOLUME	440451.020	3760997.095	200.06
LOCATION	L0009287	VOLUME	440450.986	3760971.095	199.81
LOCATION	L0009288	VOLUME	440450.953	3760945.095	199.58
LOCATION	L0009289	VOLUME	440450.919	3760919.095	199.36
LOCATION	L0009290	VOLUME	440450.886	3760893.095	199.16
LOCATION	L0009291	VOLUME	440450.852	3760867.095	198.94
LOCATION	L0009292	VOLUME	440450.818	3760841.095	198.69
LOCATION	L0009293	VOLUME	440450.785	3760815.095	198.44
LOCATION	L0009294	VOLUME	440450.751	3760789.095	198.19
LOCATION	L0009295	VOLUME	440450.718	3760763.095	197.89
LOCATION	L0009296	VOLUME	440450.684	3760737.095	197.59
LOCATION	L0009297	VOLUME	440450.651	3760711.095	197.29
LOCATION	L0009298	VOLUME	440450.617	3760685.095	197.01
LOCATION	L0009299	VOLUME	440450.584	3760659.096	196.75
LOCATION	L0009300	VOLUME	440450.550	3760633.096	196.50
LOCATION	L0009301	VOLUME	440450.517	3760607.096	196.25
LOCATION	L0009302	VOLUME	440450.483	3760581.096	196.03
LOCATION	L0009303	VOLUME	440450.449	3760555.096	195.82
LOCATION	L0009304	VOLUME	440450.416	3760529.096	195.47
LOCATION	L0009305	VOLUME	440450.382	3760503.096	195.13
LOCATION	L0009306	VOLUME	440458.141	3760484.751	195.15
LOCATION	L0009307	VOLUME	440484.137	3760484.325	195.17
LOCATION	L0009308	VOLUME	440509.118	3760484.923	195.24
LOCATION	L0009309	VOLUME	440508.917	3760510.923	195.31
LOCATION	L0009310	VOLUME	440508.716	3760536.922	195.77
LOCATION	L0009311	VOLUME	440508.516	3760562.921	195.97
LOCATION	L0009312	VOLUME	440508.315	3760588.920	196.17
LOCATION	L0009313	VOLUME	440508.114	3760614.919	196.42
LOCATION	L0009314	VOLUME	440507.913	3760640.919	196.70
LOCATION	L0009315	VOLUME	440507.713	3760666.918	196.98
LOCATION	L0009316	VOLUME	440507.512	3760692.917	197.27
LOCATION	L0009317	VOLUME	440507.311	3760718.916	197.58
LOCATION	L0009318	VOLUME	440507.110	3760744.916	197.89
LOCATION	L0009319	VOLUME	440506.909	3760770.915	198.20
LOCATION	L0009320	VOLUME	440506.709	3760796.914	198.46
LOCATION	L0009321	VOLUME	440506.508	3760822.913	198.66
LOCATION	L0009322	VOLUME	440506.307	3760848.912	198.83
LOCATION	L0009323	VOLUME	440506.106	3760874.912	199.06
LOCATION	L0009324	VOLUME	440505.906	3760900.911	199.27
LOCATION	L0009325	VOLUME	440505.705	3760926.910	199.51
LOCATION	L0009326	VOLUME	440505.504	3760952.909	199.74
LOCATION	L0009327	VOLUME	440505.303	3760978.909	199.96
LOCATION	L0009328	VOLUME	440505.103	3761004.908	200.19
LOCATION	L0009329	VOLUME	440504.902	3761030.907	200.44
LOCATION	L0009330	VOLUME	440504.701	3761056.906	200.74
LOCATION	L0009331	VOLUME	440504.500	3761082.905	201.07
LOCATION	L0009332	VOLUME	440504.300	3761108.905	201.40
LOCATION	L0009333	VOLUME	440504.099	3761134.904	201.70

LOCATION	L0009334	VOLUME	440503.898	3761160.903	201.93
LOCATION	L0009335	VOLUME	440503.697	3761186.902	202.11
LOCATION	L0009336	VOLUME	440503.496	3761212.902	202.35
LOCATION	L0009337	VOLUME	440509.772	3761232.672	202.73
LOCATION	L0009338	VOLUME	440535.760	3761233.484	202.82
LOCATION	L0009339	VOLUME	440561.747	3761234.296	203.10
LOCATION	L0009340	VOLUME	440564.914	3761211.655	202.93
LOCATION	L0009341	VOLUME	440564.813	3761185.655	202.56
LOCATION	L0009342	VOLUME	440564.713	3761159.655	202.37
LOCATION	L0009343	VOLUME	440564.612	3761133.655	202.30
LOCATION	L0009344	VOLUME	440564.511	3761107.656	202.16
LOCATION	L0009345	VOLUME	440564.410	3761081.656	201.88
LOCATION	L0009346	VOLUME	440564.310	3761055.656	201.44
LOCATION	L0009347	VOLUME	440564.209	3761029.656	200.89
LOCATION	L0009348	VOLUME	440564.108	3761003.656	200.61
LOCATION	L0009349	VOLUME	440564.007	3760977.657	200.37
LOCATION	L0009350	VOLUME	440563.906	3760951.657	200.14
LOCATION	L0009351	VOLUME	440563.806	3760925.657	199.90
LOCATION	L0009352	VOLUME	440563.705	3760899.657	199.63
LOCATION	L0009353	VOLUME	440563.604	3760873.657	199.36
LOCATION	L0009354	VOLUME	440563.503	3760847.658	199.12
LOCATION	L0009355	VOLUME	440563.403	3760821.658	199.06
LOCATION	L0009356	VOLUME	440563.302	3760795.658	198.89
LOCATION	L0009357	VOLUME	440563.201	3760769.658	198.62
LOCATION	L0009358	VOLUME	440563.100	3760743.658	198.25
LOCATION	L0009359	VOLUME	440563.000	3760717.659	197.87
LOCATION	L0009360	VOLUME	440562.899	3760691.659	197.62
LOCATION	L0009361	VOLUME	440562.798	3760665.659	197.34
LOCATION	L0009362	VOLUME	440562.697	3760639.659	197.04
LOCATION	L0009363	VOLUME	440562.596	3760613.659	196.76
LOCATION	L0009364	VOLUME	440562.496	3760587.660	196.50
LOCATION	L0009365	VOLUME	440562.395	3760561.660	196.27
LOCATION	L0009366	VOLUME	440562.294	3760535.660	196.01
LOCATION	L0009367	VOLUME	440562.193	3760509.660	195.52
LOCATION	L0009368	VOLUME	440567.184	3760488.732	195.46
LOCATION	L0009369	VOLUME	440593.184	3760488.732	195.59
LOCATION	L0009370	VOLUME	440619.184	3760488.732	195.65
LOCATION	L0009371	VOLUME	440619.948	3760514.000	195.86
LOCATION	L0009372	VOLUME	440619.982	3760540.000	196.36
LOCATION	L0009373	VOLUME	440620.015	3760566.000	196.61
LOCATION	L0009374	VOLUME	440620.049	3760592.000	196.86
LOCATION	L0009375	VOLUME	440620.082	3760618.000	197.09
LOCATION	L0009376	VOLUME	440620.116	3760644.000	197.33
LOCATION	L0009377	VOLUME	440620.149	3760670.000	197.59
LOCATION	L0009378	VOLUME	440620.183	3760696.000	197.79
LOCATION	L0009379	VOLUME	440620.216	3760722.000	197.20
LOCATION	L0009380	VOLUME	440620.250	3760748.000	196.49
LOCATION	L0009381	VOLUME	440620.283	3760774.000	197.92
LOCATION	L0009382	VOLUME	440620.317	3760800.000	199.24

LOCATION L0009383	VOLUME	440620.350	3760826.000	199.53
LOCATION L0009384	VOLUME	440620.384	3760852.000	199.81
LOCATION L0009385	VOLUME	440620.417	3760878.000	200.03
LOCATION L0009386	VOLUME	440620.451	3760904.000	200.26
LOCATION L0009387	VOLUME	440620.484	3760930.000	200.53
LOCATION L0009388	VOLUME	440620.518	3760956.000	200.80
LOCATION L0009389	VOLUME	440620.551	3760982.000	201.05
LOCATION L0009390	VOLUME	440620.585	3761008.000	201.30
LOCATION L0009391	VOLUME	440620.618	3761034.000	201.58
LOCATION L0009392	VOLUME	440620.652	3761060.000	201.84
LOCATION L0009393	VOLUME	440620.685	3761086.000	202.05
LOCATION L0009394	VOLUME	440620.719	3761112.000	202.28
LOCATION L0009395	VOLUME	440620.752	3761138.000	202.47
LOCATION L0009396	VOLUME	440620.786	3761164.000	202.64
LOCATION L0009397	VOLUME	440620.819	3761190.000	202.93
LOCATION L0009398	VOLUME	440620.853	3761216.000	203.13
LOCATION L0009399	VOLUME	440626.554	3761236.250	203.35
LOCATION L0009400	VOLUME	440652.552	3761235.909	203.44
LOCATION L0009401	VOLUME	440678.550	3761235.568	203.47
LOCATION L0009402	VOLUME	440680.601	3761211.887	203.27
LOCATION L0009403	VOLUME	440680.276	3761185.889	203.12
LOCATION L0009404	VOLUME	440679.951	3761159.891	202.41
LOCATION L0009405	VOLUME	440679.625	3761133.893	201.66
LOCATION L0009406	VOLUME	440679.300	3761107.895	201.23
LOCATION L0009407	VOLUME	440678.975	3761081.897	200.97
LOCATION L0009408	VOLUME	440678.650	3761055.899	200.72
LOCATION L0009409	VOLUME	440678.325	3761029.901	200.47
LOCATION L0009410	VOLUME	440678.000	3761003.903	200.25
LOCATION L0009411	VOLUME	440677.674	3760977.905	199.97
LOCATION L0009412	VOLUME	440677.349	3760951.907	199.76
LOCATION L0009413	VOLUME	440677.024	3760925.909	199.58
LOCATION L0009414	VOLUME	440676.699	3760899.911	199.35
LOCATION L0009415	VOLUME	440676.374	3760873.913	199.06
LOCATION L0009416	VOLUME	440676.048	3760847.915	198.82
LOCATION L0009417	VOLUME	440675.723	3760821.917	198.63
LOCATION L0009418	VOLUME	440675.398	3760795.919	198.39
LOCATION L0009419	VOLUME	440675.073	3760769.921	196.81
LOCATION L0009420	VOLUME	440674.748	3760743.923	196.13
LOCATION L0009421	VOLUME	440674.423	3760717.925	197.29
LOCATION L0009422	VOLUME	440674.097	3760691.927	197.95
LOCATION L0009423	VOLUME	440673.772	3760665.929	197.74
LOCATION L0009424	VOLUME	440673.447	3760639.931	197.49
LOCATION L0009425	VOLUME	440673.122	3760613.934	197.26
LOCATION L0009426	VOLUME	440672.797	3760587.936	197.03
LOCATION L0009427	VOLUME	440672.472	3760561.938	196.80
LOCATION L0009428	VOLUME	440672.146	3760535.940	196.54
LOCATION L0009429	VOLUME	440671.821	3760509.942	196.02
LOCATION L0009430	VOLUME	440673.289	3760485.685	195.82
LOCATION L0009431	VOLUME	440699.286	3760485.253	195.93



LOCATION	L0009432	VOLUME	440725.282	3760484.822	196.10
LOCATION	L0009433	VOLUME	440735.877	3760499.965	196.30
LOCATION	L0009434	VOLUME	440735.735	3760525.964	196.65
LOCATION	L0009435	VOLUME	440735.594	3760551.964	196.99
LOCATION	L0009436	VOLUME	440735.453	3760577.964	197.21
LOCATION	L0009437	VOLUME	440735.312	3760603.963	197.43
LOCATION	L0009438	VOLUME	440735.171	3760629.963	197.60
LOCATION	L0009439	VOLUME	440735.030	3760655.963	197.83
LOCATION	L0009440	VOLUME	440734.889	3760681.962	198.05
LOCATION	L0009441	VOLUME	440734.747	3760707.962	198.20
LOCATION	L0009442	VOLUME	440734.606	3760733.961	198.27
LOCATION	L0009443	VOLUME	440734.465	3760759.961	198.42
LOCATION	L0009444	VOLUME	440734.324	3760785.961	199.14
LOCATION	L0009445	VOLUME	440734.183	3760811.960	199.39
LOCATION	L0009446	VOLUME	440734.042	3760837.960	199.64
LOCATION	L0009447	VOLUME	440733.901	3760863.959	199.84
LOCATION	L0009448	VOLUME	440733.760	3760889.959	200.04
LOCATION	L0009449	VOLUME	440733.618	3760915.959	200.26
LOCATION	L0009450	VOLUME	440733.477	3760941.958	200.49
LOCATION	L0009451	VOLUME	440733.336	3760967.958	200.70
LOCATION	L0009452	VOLUME	440733.195	3760993.958	200.93
LOCATION	L0009453	VOLUME	440733.054	3761019.957	201.19
LOCATION	L0009454	VOLUME	440732.913	3761045.957	201.44
LOCATION	L0009455	VOLUME	440732.772	3761071.956	201.69
LOCATION	L0009456	VOLUME	440732.631	3761097.956	201.94
LOCATION	L0009457	VOLUME	440732.489	3761123.956	202.17
LOCATION	L0009458	VOLUME	440732.348	3761149.955	202.37
LOCATION	L0009459	VOLUME	440732.207	3761175.955	202.70
LOCATION	L0009460	VOLUME	440732.066	3761201.955	203.00
LOCATION	L0009461	VOLUME	440731.925	3761227.954	203.26
LOCATION	L0009462	VOLUME	440746.418	3761238.776	203.29
LOCATION	L0009463	VOLUME	440772.395	3761237.687	202.99
LOCATION	L0009464	VOLUME	440782.389	3761220.587	202.73
LOCATION	L0009465	VOLUME	440783.525	3761194.611	202.41
LOCATION	L0009466	VOLUME	440784.661	3761168.636	202.13

\*\* End of LINE VOLUME Source ID = SLINE25

\*\* Source Parameters \*\*

\*\* LINE VOLUME Source ID = SLINE13

SRCPARAM	L0008412	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008413	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008414	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008415	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008416	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008417	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008418	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008419	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008420	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008421	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008422	0.000001688	3.15	12.09	2.93

SRCPARAM	L0008423	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008424	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008425	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008426	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008427	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008428	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008429	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008430	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008431	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008432	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008433	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008434	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008435	0.000001688	3.15	12.09	2.93
SRCPARAM	L0008436	0.000001688	3.15	12.09	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE14

SRCPARAM	L0008437	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008438	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008439	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008440	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008441	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008442	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008443	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008444	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008445	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008446	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008447	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008448	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008449	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008450	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008451	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008452	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008453	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008454	0.000001642	3.15	12.09	2.93
SRCPARAM	L0008455	0.000001642	3.15	12.09	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE15

SRCPARAM	L0008456	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008457	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008458	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008459	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008460	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008461	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008462	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008463	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008464	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008465	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008466	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008467	0.000001987	3.15	14.42	2.93



SRCPARAM	L0008517	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008518	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008519	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008520	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008521	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008522	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008523	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008524	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008525	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008526	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008527	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008528	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008529	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008530	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008531	0.000001987	3.15	14.42	2.93
SRCPARAM	L0008532	0.000001987	3.15	14.42	2.93

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\*\* LINE VOLUME Source ID = SLINE16

SRCPARAM	L0008533	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008534	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008535	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008536	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008537	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008538	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008539	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008540	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008541	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008542	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008543	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008544	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008545	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008546	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008547	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008548	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008549	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008550	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008551	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008552	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008553	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008554	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008555	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008556	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008557	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008558	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008559	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008560	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008561	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008562	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008563	0.000002297	2.89	16.74	2.69





SRCPARAM	L0008662	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008663	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008664	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008665	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008666	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008667	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008668	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008669	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008670	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008671	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008672	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008673	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008674	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008675	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008676	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008677	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008678	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008679	0.000002297	2.89	16.74	2.69
SRCPARAM	L0008680	0.000002297	2.89	16.74	2.69

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\*\* LINE VOLUME Source ID = SLINE17

SRCPARAM	L0008681	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008682	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008683	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008684	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008685	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008686	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008687	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008688	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008689	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008690	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008691	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008692	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008693	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008694	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008695	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008696	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008697	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008698	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008699	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008700	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008701	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008702	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008703	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008704	0.000001628	3.15	12.09	2.93
SRCPARAM	L0008705	0.000001628	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE18

SRCPARAM	L0008706	0.000001659	3.15	12.09	2.93
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SRCPARAM	L0008854	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008855	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008856	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008857	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008858	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008859	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008860	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008861	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008862	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008863	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008864	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008865	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008866	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008867	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008868	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008869	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008870	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008871	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008872	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008873	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008874	0.000001659	3.15	12.09	2.93
SRCPARAM	L0008875	0.000001659	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE19

SRCPARAM	L0008876	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008877	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008878	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008879	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008880	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008881	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008882	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008883	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008884	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008885	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008886	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008887	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008888	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008889	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008890	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008891	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008892	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008893	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008894	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008895	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008896	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008897	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008898	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008899	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008900	0.000001672	3.15	12.09	2.93

SRCPARAM	L0008901	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008902	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008903	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008904	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008905	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008906	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008907	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008908	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008909	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008910	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008911	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008912	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008913	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008914	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008915	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008916	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008917	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008918	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008919	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008920	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008921	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008922	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008923	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008924	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008925	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008926	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008927	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008928	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008929	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008930	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008931	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008932	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008933	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008934	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008935	0.000001672	3.15	12.09	2.93
SRCPARAM	L0008936	0.000001672	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE20

SRCPARAM	L0008937	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008938	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008939	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008940	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008941	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008942	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008943	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008944	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008945	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008946	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008947	0.000001677	3.15	12.09	2.93

SRCPARAM	L0008948	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008949	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008950	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008951	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008952	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008953	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008954	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008955	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008956	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008957	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008958	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008959	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008960	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008961	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008962	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008963	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008964	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008965	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008966	0.000001677	3.15	12.09	2.93
SRCPARAM	L0008967	0.000001677	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE21

SRCPARAM	L0008968	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008969	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008970	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008971	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008972	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008973	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008974	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008975	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008976	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008977	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008978	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008979	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008980	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008981	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008982	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008983	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008984	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008985	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008986	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008987	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008988	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008989	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008990	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008991	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008992	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008993	0.000001653	3.15	12.09	2.93
SRCPARAM	L0008994	0.000001653	3.15	12.09	2.93





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** LINE VOLUME Source ID = SLINE22
SRCPARAM L0009092 0.000001641 3.15 12.09 2.93
SRCPARAM L0009093 0.000001641 3.15 12.09 2.93
SRCPARAM L0009094 0.000001641 3.15 12.09 2.93
SRCPARAM L0009095 0.000001641 3.15 12.09 2.93
SRCPARAM L0009096 0.000001641 3.15 12.09 2.93
SRCPARAM L0009097 0.000001641 3.15 12.09 2.93
SRCPARAM L0009098 0.000001641 3.15 12.09 2.93
SRCPARAM L0009099 0.000001641 3.15 12.09 2.93
SRCPARAM L0009100 0.000001641 3.15 12.09 2.93
SRCPARAM L0009101 0.000001641 3.15 12.09 2.93
SRCPARAM L0009102 0.000001641 3.15 12.09 2.93
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SRCPARAM L0009105 0.000001641 3.15 12.09 2.93
SRCPARAM L0009106 0.000001641 3.15 12.09 2.93
SRCPARAM L0009107 0.000001641 3.15 12.09 2.93
SRCPARAM L0009108 0.000001641 3.15 12.09 2.93
SRCPARAM L0009109 0.000001641 3.15 12.09 2.93
SRCPARAM L0009110 0.000001641 3.15 12.09 2.93
SRCPARAM L0009111 0.000001641 3.15 12.09 2.93
SRCPARAM L0009112 0.000001641 3.15 12.09 2.93
SRCPARAM L0009113 0.000001641 3.15 12.09 2.93
SRCPARAM L0009114 0.000001641 3.15 12.09 2.93
SRCPARAM L0009115 0.000001641 3.15 12.09 2.93
SRCPARAM L0009116 0.000001641 3.15 12.09 2.93
SRCPARAM L0009117 0.000001641 3.15 12.09 2.93
SRCPARAM L0009118 0.000001641 3.15 12.09 2.93
SRCPARAM L0009119 0.000001641 3.15 12.09 2.93
SRCPARAM L0009120 0.000001641 3.15 12.09 2.93
SRCPARAM L0009121 0.000001641 3.15 12.09 2.93
SRCPARAM L0009122 0.000001641 3.15 12.09 2.93
SRCPARAM L0009123 0.000001641 3.15 12.09 2.93
SRCPARAM L0009124 0.000001641 3.15 12.09 2.93
SRCPARAM L0009125 0.000001641 3.15 12.09 2.93
SRCPARAM L0009126 0.000001641 3.15 12.09 2.93
SRCPARAM L0009127 0.000001641 3.15 12.09 2.93
SRCPARAM L0009128 0.000001641 3.15 12.09 2.93
SRCPARAM L0009129 0.000001641 3.15 12.09 2.93
SRCPARAM L0009130 0.000001641 3.15 12.09 2.93

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```

** LINE VOLUME Source ID = SLINE23
SRCPARAM L0009131 0.00000165 3.15 12.09 2.93
SRCPARAM L0009132 0.00000165 3.15 12.09 2.93
SRCPARAM L0009133 0.00000165 3.15 12.09 2.93
SRCPARAM L0009134 0.00000165 3.15 12.09 2.93
SRCPARAM L0009135 0.00000165 3.15 12.09 2.93
SRCPARAM L0009136 0.00000165 3.15 12.09 2.93
SRCPARAM L0009137 0.00000165 3.15 12.09 2.93

```



SRCPARAM	L0009138	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009139	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009140	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009141	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009142	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009143	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009144	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009145	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009146	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009147	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009148	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009149	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009150	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009151	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009152	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009153	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009154	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009155	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009156	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009157	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009158	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009159	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009160	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009161	0.00000165	3.15	12.09	2.93
SRCPARAM	L0009162	0.00000165	3.15	12.09	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE24

SRCPARAM	L0009163	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009164	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009165	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009166	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009167	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009168	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009169	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009170	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009171	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009172	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009173	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009174	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009175	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009176	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009177	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009178	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009179	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009180	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009181	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009182	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009183	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009184	0.000001972	3.15	14.42	2.93



SRCPARAM	L0009234	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009235	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009236	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009237	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009238	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009239	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009240	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009241	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009242	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009243	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009244	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009245	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009246	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009247	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009248	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009249	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009250	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009251	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009252	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009253	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009254	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009255	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009256	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009257	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009258	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009259	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009260	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009261	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009262	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009263	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009264	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009265	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009266	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009267	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009268	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009269	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009270	0.000001972	3.15	14.42	2.93
SRCPARAM	L0009271	0.000001972	3.15	14.42	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE25

SRCPARAM	L0009272	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009273	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009274	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009275	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009276	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009277	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009278	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009279	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009280	0.000003354	0.00	12.09	3.56







SRCPARAM	L0009428	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009429	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009430	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009431	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009432	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009433	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009434	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009435	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009436	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009437	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009438	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009439	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009440	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009441	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009442	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009443	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009444	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009445	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009446	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009447	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009448	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009449	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009450	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009451	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009452	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009453	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009454	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009455	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009456	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009457	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009458	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009459	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009460	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009461	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009462	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009463	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009464	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009465	0.000003354	0.00	12.09	3.56
SRCPARAM	L0009466	0.000003354	0.00	12.09	3.56

\*\* -----

URBANSRC ALL

SRCGROUP ALL

SO FINISHED

\*\*

\*\*\*\*\*

\*\* AERMOD Receptor Pathway

\*\*\*\*\*

\*\*

\*\*

RE STARTING  
INCLUDED ORBP\_Mitigated\_Construction.rou

RE FINISHED

\*\*

\*\*\*\*\*

\*\* AERMOD Meteorology Pathway

\*\*\*\*\*

\*\*

\*\*

ME STARTING

SURFFILE ..\KCNO\_V9\_ADJU\KCNO\_v9.SFC

PROFFILE ..\KCNO\_V9\_ADJU\KCNO\_v9.PFL

SURFDATA 3179 2012

UAIRDATA 3190 2012

PROFBASE 198.0 METERS

ME FINISHED

\*\*

\*\*\*\*\*

\*\* AERMOD Output Pathway

\*\*\*\*\*

\*\*

\*\*

OU STARTING

RECTABLE ALLAVE 1ST

RECTABLE 1 1ST

RECTABLE 24 1ST

\*\* Auto-Generated Plotfiles

PLOTFILE 1 ALL 1ST ORBP\_MITIGATED\_CONSTRUCTION.AD\01H1GALL.PLT 31

PLOTFILE 24 ALL 1ST ORBP\_MITIGATED\_CONSTRUCTION.AD\24H1GALL.PLT 32

PLOTFILE PERIOD ALL ORBP\_MITIGATED\_CONSTRUCTION.AD\PE00GALL.PLT 33

SUMMFILE ORBP\_Mitigated\_Construction.sum

OU FINISHED

\*\*\* Message Summary For AERMOD Model Setup \*\*\*

----- Summary of Total Messages -----

A Total of	0 Fatal Error Message(s)
A Total of	2 Warning Message(s)
A Total of	0 Informational Message(s)

\*\*\*\*\* FATAL ERROR MESSAGES \*\*\*\*\*  
\*\*\* NONE \*\*\*

\*\*\*\*\* WARNING MESSAGES \*\*\*\*\*  
ME W186 2416 MEOPEN: THRESH\_1MIN 1-min ASOS wind speed threshold used



0.50  
ME W187 2416 MEOPEN: ADJ\_U\* Option for Stable Low Winds used in AERMET

\*\*\*\*\*  
\*\*\* SETUP Finishes Successfully \*\*\*  
\*\*\*\*\*

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
\*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
\*\*\* 10:27:03

PAGE 1

\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* MODEL SETUP OPTIONS SUMMARY

\*\*\*

-----  
\*\*Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --

\*\*NO GAS DEPOSITION Data Provided.

\*\*NO PARTICLE DEPOSITION Data Provided.

\*\*Model Uses NO DRY DEPLETION. DRYDPLT = F

\*\*Model Uses NO WET DEPLETION. WETDPLT = F

\*\*Model Uses URBAN Dispersion Algorithm for the SBL for 1055 Source(s),  
for Total of 1 Urban Area(s):  
Urban Population = 2035210.0 ; Urban Roughness Length = 1.000 m

\*\*Model Uses Regulatory DEFAULT Options:

1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay.
6. Urban Roughness Length of 1.0 Meter Assumed.

\*\*Other Options Specified:

ADJ\_U\* - Use ADJ\_U\* option for SBL in AERMET

CCVR\_Sub - Meteorological data includes CCVR substitutions

TEMP\_Sub - Meteorological data includes TEMP substitutions

\*\*Model Assumes No FLAGPOLE Receptor Heights.

\*\*The User Specified a Pollutant Type of: PM\_10

\*\*Model Calculates 2 Short Term Average(s) of: 1-HR 24-HR  
and Calculates PERIOD Averages

\*\*This Run Includes: 1055 Source(s); 1 Source Group(s); and 572  
Receptor(s)

with: 0 POINT(s), including  
0 POINTCAP(s) and 0 POINTHOR(s)  
and: 1055 VOLUME source(s)  
and: 0 AREA type source(s)  
and: 0 LINE source(s)  
and: 0 RLINE/RLINEXT source(s)  
and: 0 OPENPIT source(s)  
and: 0 BUOYANT LINE source(s) with a total of 0 line(s)

\*\*Model Set To Continue RUNNING After the Setup Testing.

\*\*The AERMET Input Meteorological Data Version Date: 16216

\*\*Output Options Selected:

Model Outputs Tables of PERIOD Averages by Receptor  
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE  
Keyword)  
Model Outputs External File(s) of High Values for Plotting (PLOTFILE  
Keyword)  
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE  
Keyword)

\*\*NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours  
m for Missing Hours  
b for Both Calm and  
Missing Hours

\*\*Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 198.00 ; Decay  
Coef. = 0.000 ; Rot. Angle = 0.0  
Emission Units = GRAMS/SEC ;  
Emission Rate Unit Factor = 0.10000E+07  
Output Units = MICROGRAMS/M\*\*3

\*\*Approximate Storage Requirements of Model = 4.0 MB of RAM.

\*\*Input Runstream File: aermod.inp

\*\*Output Print File: aermod.out

\*\*Detailed Error/Message File: ORBP\_Mitigated\_Construction.err

\*\*File for Summary of Results: ORBP\_Mitigated\_Construction.sum

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
\*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
\*\*\* 10:27:03

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	(GRAMS/SEC)	X	Y	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	VARY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
		BY						
L0008412		0	0.16880E-05	440392.5	3761121.6	201.5	3.15	12.09
2.93	YES							
L0008413		0	0.16880E-05	440392.4	3761095.6	201.2	3.15	12.09
2.93	YES							
L0008414		0	0.16880E-05	440392.4	3761069.6	200.9	3.15	12.09
2.93	YES							
L0008415		0	0.16880E-05	440392.3	3761043.6	200.6	3.15	12.09
2.93	YES							
L0008416		0	0.16880E-05	440392.2	3761017.6	200.2	3.15	12.09
2.93	YES							
L0008417		0	0.16880E-05	440392.2	3760991.6	200.0	3.15	12.09
2.93	YES							
L0008418		0	0.16880E-05	440392.1	3760965.6	199.7	3.15	12.09
2.93	YES							
L0008419		0	0.16880E-05	440392.0	3760939.6	199.4	3.15	12.09
2.93	YES							
L0008420		0	0.16880E-05	440392.0	3760913.6	199.2	3.15	12.09
2.93	YES							
L0008421		0	0.16880E-05	440391.9	3760887.6	198.9	3.15	12.09
2.93	YES							
L0008422		0	0.16880E-05	440391.8	3760861.6	198.7	3.15	12.09
2.93	YES							
L0008423		0	0.16880E-05	440391.8	3760835.6	198.5	3.15	12.09
2.93	YES							
L0008424		0	0.16880E-05	440391.7	3760809.6	198.2	3.15	12.09
2.93	YES							

L0008425	0	0.16880E-05	440391.6	3760783.6	198.0	3.15	12.09
2.93 YES							
L0008426	0	0.16880E-05	440391.6	3760757.6	197.7	3.15	12.09
2.93 YES							
L0008427	0	0.16880E-05	440391.5	3760731.6	197.4	3.15	12.09
2.93 YES							
L0008428	0	0.16880E-05	440391.4	3760705.6	197.2	3.15	12.09
2.93 YES							
L0008429	0	0.16880E-05	440391.4	3760679.6	197.0	3.15	12.09
2.93 YES							
L0008430	0	0.16880E-05	440391.3	3760653.6	196.7	3.15	12.09
2.93 YES							
L0008431	0	0.16880E-05	440391.2	3760627.6	196.5	3.15	12.09
2.93 YES							
L0008432	0	0.16880E-05	440391.2	3760601.6	196.3	3.15	12.09
2.93 YES							
L0008433	0	0.16880E-05	440391.1	3760575.6	196.1	3.15	12.09
2.93 YES							
L0008434	0	0.16880E-05	440391.0	3760549.6	195.9	3.15	12.09
2.93 YES							
L0008435	0	0.16880E-05	440391.0	3760523.6	195.7	3.15	12.09
2.93 YES							
L0008436	0	0.16880E-05	440390.9	3760497.6	195.5	3.15	12.09
2.93 YES							
L0008437	0	0.16420E-05	440378.2	3760467.7	195.1	3.15	12.09
2.93 YES							
L0008438	0	0.16420E-05	440352.2	3760467.5	194.8	3.15	12.09
2.93 YES							
L0008439	0	0.16420E-05	440326.2	3760467.3	194.7	3.15	12.09
2.93 YES							
L0008440	0	0.16420E-05	440300.2	3760467.0	194.6	3.15	12.09
2.93 YES							
L0008441	0	0.16420E-05	440274.2	3760466.8	194.5	3.15	12.09
2.93 YES							
L0008442	0	0.16420E-05	440248.2	3760466.5	194.4	3.15	12.09
2.93 YES							
L0008443	0	0.16420E-05	440222.2	3760466.3	194.2	3.15	12.09
2.93 YES							
L0008444	0	0.16420E-05	440196.2	3760466.0	194.1	3.15	12.09
2.93 YES							
L0008445	0	0.16420E-05	440170.2	3760465.8	194.0	3.15	12.09
2.93 YES							
L0008446	0	0.16420E-05	440144.2	3760465.5	193.8	3.15	12.09
2.93 YES							
L0008447	0	0.16420E-05	440118.2	3760465.3	193.7	3.15	12.09
2.93 YES							
L0008448	0	0.16420E-05	440092.2	3760465.0	193.7	3.15	12.09
2.93 YES							
L0008449	0	0.16420E-05	440066.2	3760464.8	193.6	3.15	12.09

2.93 YES  
L0008450 0 0.16420E-05 440040.2 3760464.5 193.6 3.15 12.09

2.93 YES  
L0008451 0 0.16420E-05 440014.2 3760464.3 193.6 3.15 12.09

2.93 YES

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD

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\*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	SOURCE	SCALAR	VARY	X	Y	(METERS)	(METERS)	(METERS)
ID		CATS.	BY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)								

L0008452 0 0.16420E-05 439988.2 3760464.0 193.6 3.15 12.09

2.93 YES

L0008453 0 0.16420E-05 439962.2 3760463.8 193.6 3.15 12.09

2.93 YES

L0008454 0 0.16420E-05 439936.2 3760463.6 193.6 3.15 12.09

2.93 YES

L0008455 0 0.16420E-05 439910.2 3760463.3 193.7 3.15 12.09

2.93 YES

L0008456 0 0.19870E-05 439894.7 3760435.4 193.4 3.15 14.42

2.93 YES

L0008457 0 0.19870E-05 439894.5 3760404.4 193.2 3.15 14.42

2.93 YES

L0008458 0 0.19870E-05 439894.3 3760373.4 193.1 3.15 14.42

2.93 YES

L0008459 0 0.19870E-05 439894.2 3760342.4 192.9 3.15 14.42

2.93 YES

L0008460 0 0.19870E-05 439894.0 3760311.4 192.6 3.15 14.42

2.93 YES

L0008461 0 0.19870E-05 439893.9 3760280.4 192.3 3.15 14.42

2.93 YES

L0008462 0 0.19870E-05 439893.7 3760249.4 192.1 3.15 14.42

2.93 YES

L0008463 0 0.19870E-05 439893.6 3760218.4 191.8 3.15 14.42

2.93 YES

L0008464	0	0.19870E-05	439893.4	3760187.4	191.5	3.15	14.42
2.93 YES							
L0008465	0	0.19870E-05	439893.3	3760156.4	191.3	3.15	14.42
2.93 YES							
L0008466	0	0.19870E-05	439893.1	3760125.4	191.2	3.15	14.42
2.93 YES							
L0008467	0	0.19870E-05	439893.0	3760094.4	191.0	3.15	14.42
2.93 YES							
L0008468	0	0.19870E-05	439892.8	3760063.4	190.9	3.15	14.42
2.93 YES							
L0008469	0	0.19870E-05	439892.7	3760032.4	190.8	3.15	14.42
2.93 YES							
L0008470	0	0.19870E-05	439892.5	3760001.4	190.6	3.15	14.42
2.93 YES							
L0008471	0	0.19870E-05	439892.3	3759970.4	190.4	3.15	14.42
2.93 YES							
L0008472	0	0.19870E-05	439892.2	3759939.4	190.3	3.15	14.42
2.93 YES							
L0008473	0	0.19870E-05	439892.0	3759908.4	190.1	3.15	14.42
2.93 YES							
L0008474	0	0.19870E-05	439891.9	3759877.4	189.9	3.15	14.42
2.93 YES							
L0008475	0	0.19870E-05	439891.7	3759846.4	189.7	3.15	14.42
2.93 YES							
L0008476	0	0.19870E-05	439891.6	3759815.4	189.4	3.15	14.42
2.93 YES							
L0008477	0	0.19870E-05	439891.4	3759784.4	189.1	3.15	14.42
2.93 YES							
L0008478	0	0.19870E-05	439891.3	3759753.4	188.9	3.15	14.42
2.93 YES							
L0008479	0	0.19870E-05	439891.1	3759722.4	188.6	3.15	14.42
2.93 YES							
L0008480	0	0.19870E-05	439891.0	3759691.4	188.3	3.15	14.42
2.93 YES							
L0008481	0	0.19870E-05	439890.8	3759660.4	188.1	3.15	14.42
2.93 YES							
L0008482	0	0.19870E-05	439890.7	3759629.4	187.8	3.15	14.42
2.93 YES							
L0008483	0	0.19870E-05	439890.5	3759598.4	187.5	3.15	14.42
2.93 YES							
L0008484	0	0.19870E-05	439890.4	3759567.4	187.3	3.15	14.42
2.93 YES							
L0008485	0	0.19870E-05	439890.2	3759536.4	187.0	3.15	14.42
2.93 YES							
L0008486	0	0.19870E-05	439890.0	3759505.4	186.8	3.15	14.42
2.93 YES							
L0008487	0	0.19870E-05	439889.9	3759474.4	186.6	3.15	14.42
2.93 YES							
L0008488	0	0.19870E-05	439889.7	3759443.4	186.4	3.15	14.42

2.93 YES  
 L0008489 0 0.19870E-05 439889.6 3759412.4 186.2 3.15 14.42  
 2.93 YES  
 L0008490 0 0.19870E-05 439889.4 3759381.4 186.0 3.15 14.42  
 2.93 YES  
 L0008491 0 0.19870E-05 439889.3 3759350.4 185.8 3.15 14.42  
 2.93 YES

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE	BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	VARY	X	Y	(METERS)	(METERS)
(METERS)		CATS.	BY	(METERS)	(METERS)	(METERS)	(METERS)
L0008492		0	0.19870E-05	439889.1	3759319.4	185.6	3.15 14.42
2.93	YES						
L0008493		0	0.19870E-05	439889.0	3759288.4	185.4	3.15 14.42
2.93	YES						
L0008494		0	0.19870E-05	439888.8	3759257.4	185.2	3.15 14.42
2.93	YES						
L0008495		0	0.19870E-05	439888.7	3759226.4	184.9	3.15 14.42
2.93	YES						
L0008496		0	0.19870E-05	439888.5	3759195.4	184.6	3.15 14.42
2.93	YES						
L0008497		0	0.19870E-05	439888.4	3759164.4	184.3	3.15 14.42
2.93	YES						
L0008498		0	0.19870E-05	439888.2	3759133.4	184.0	3.15 14.42
2.93	YES						
L0008499		0	0.19870E-05	439888.0	3759102.4	183.8	3.15 14.42
2.93	YES						
L0008500		0	0.19870E-05	439887.9	3759071.4	183.6	3.15 14.42
2.93	YES						
L0008501		0	0.19870E-05	439887.7	3759040.4	183.4	3.15 14.42
2.93	YES						
L0008502		0	0.19870E-05	439887.6	3759009.4	183.2	3.15 14.42
2.93	YES						

L0008503	0	0.19870E-05	439887.4	3758978.4	183.1	3.15	14.42
2.93 YES							
L0008504	0	0.19870E-05	439887.3	3758947.4	182.8	3.15	14.42
2.93 YES							
L0008505	0	0.19870E-05	439887.1	3758916.4	182.6	3.15	14.42
2.93 YES							
L0008506	0	0.19870E-05	439887.0	3758885.4	182.2	3.15	14.42
2.93 YES							
L0008507	0	0.19870E-05	439886.8	3758854.4	181.9	3.15	14.42
2.93 YES							
L0008508	0	0.19870E-05	439886.7	3758823.4	181.6	3.15	14.42
2.93 YES							
L0008509	0	0.19870E-05	439886.5	3758792.4	181.3	3.15	14.42
2.93 YES							
L0008510	0	0.19870E-05	439886.4	3758761.4	181.0	3.15	14.42
2.93 YES							
L0008511	0	0.19870E-05	439886.2	3758730.4	180.9	3.15	14.42
2.93 YES							
L0008512	0	0.19870E-05	439886.1	3758699.4	180.7	3.15	14.42
2.93 YES							
L0008513	0	0.19870E-05	439885.9	3758668.4	180.5	3.15	14.42
2.93 YES							
L0008514	0	0.19870E-05	439885.7	3758637.4	180.2	3.15	14.42
2.93 YES							
L0008515	0	0.19870E-05	439885.6	3758606.4	180.0	3.15	14.42
2.93 YES							
L0008516	0	0.19870E-05	439885.4	3758575.4	179.8	3.15	14.42
2.93 YES							
L0008517	0	0.19870E-05	439885.3	3758544.4	179.6	3.15	14.42
2.93 YES							
L0008518	0	0.19870E-05	439885.1	3758513.4	179.4	3.15	14.42
2.93 YES							
L0008519	0	0.19870E-05	439885.0	3758482.4	179.1	3.15	14.42
2.93 YES							
L0008520	0	0.19870E-05	439884.8	3758451.4	178.8	3.15	14.42
2.93 YES							
L0008521	0	0.19870E-05	439884.7	3758420.4	178.4	3.15	14.42
2.93 YES							
L0008522	0	0.19870E-05	439884.5	3758389.4	178.1	3.15	14.42
2.93 YES							
L0008523	0	0.19870E-05	439884.4	3758358.4	177.8	3.15	14.42
2.93 YES							
L0008524	0	0.19870E-05	439884.2	3758327.4	177.5	3.15	14.42
2.93 YES							
L0008525	0	0.19870E-05	439884.1	3758296.4	177.2	3.15	14.42
2.93 YES							
L0008526	0	0.19870E-05	439883.9	3758265.4	177.0	3.15	14.42
2.93 YES							
L0008527	0	0.19870E-05	439883.8	3758234.4	176.8	3.15	14.42



2.93 YES  
 L0008528 0 0.19870E-05 439883.6 3758203.4 176.5 3.15 14.42  
 2.93 YES  
 L0008529 0 0.19870E-05 439883.4 3758172.4 176.3 3.15 14.42  
 2.93 YES  
 L0008530 0 0.19870E-05 439883.3 3758141.4 176.0 3.15 14.42  
 2.93 YES  
 L0008531 0 0.19870E-05 439883.1 3758110.4 175.8 3.15 14.42  
 2.93 YES

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	ID	SCALAR	VARY		X	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)
L0008532		0	0.19870E-05	439883.0	3758079.4	175.6	3.15	14.42
2.93	YES							
L0008533		0	0.22970E-05	439894.0	3760484.4	193.9	2.89	16.74
2.69	YES							
L0008534		0	0.22970E-05	439894.1	3760520.4	194.2	2.89	16.74
2.69	YES							
L0008535		0	0.22970E-05	439894.2	3760556.4	194.6	2.89	16.74
2.69	YES							
L0008536		0	0.22970E-05	439894.3	3760592.4	194.9	2.89	16.74
2.69	YES							
L0008537		0	0.22970E-05	439894.4	3760628.4	195.2	2.89	16.74
2.69	YES							
L0008538		0	0.22970E-05	439894.5	3760664.4	195.5	2.89	16.74
2.69	YES							
L0008539		0	0.22970E-05	439894.6	3760700.4	195.8	2.89	16.74
2.69	YES							
L0008540		0	0.22970E-05	439894.7	3760736.4	196.2	2.89	16.74
2.69	YES							
L0008541		0	0.22970E-05	439894.8	3760772.4	196.6	2.89	16.74
2.69	YES							

L0008542	0	0.22970E-05	439894.9	3760808.4	197.1	2.89	16.74
2.69 YES							
L0008543	0	0.22970E-05	439895.0	3760844.4	197.6	2.89	16.74
2.69 YES							
L0008544	0	0.22970E-05	439895.1	3760880.4	198.1	2.89	16.74
2.69 YES							
L0008545	0	0.22970E-05	439895.2	3760916.4	198.6	2.89	16.74
2.69 YES							
L0008546	0	0.22970E-05	439895.3	3760952.4	199.0	2.89	16.74
2.69 YES							
L0008547	0	0.22970E-05	439895.4	3760988.4	199.5	2.89	16.74
2.69 YES							
L0008548	0	0.22970E-05	439895.5	3761024.4	199.9	2.89	16.74
2.69 YES							
L0008549	0	0.22970E-05	439895.6	3761060.4	200.4	2.89	16.74
2.69 YES							
L0008550	0	0.22970E-05	439895.7	3761096.4	200.7	2.89	16.74
2.69 YES							
L0008551	0	0.22970E-05	439895.8	3761132.4	201.1	2.89	16.74
2.69 YES							
L0008552	0	0.22970E-05	439895.9	3761168.4	201.5	2.89	16.74
2.69 YES							
L0008553	0	0.22970E-05	439896.0	3761204.4	201.8	2.89	16.74
2.69 YES							
L0008554	0	0.22970E-05	439896.1	3761240.4	202.1	2.89	16.74
2.69 YES							
L0008555	0	0.22970E-05	439896.2	3761276.4	202.4	2.89	16.74
2.69 YES							
L0008556	0	0.22970E-05	439896.3	3761312.4	202.8	2.89	16.74
2.69 YES							
L0008557	0	0.22970E-05	439896.4	3761348.4	203.2	2.89	16.74
2.69 YES							
L0008558	0	0.22970E-05	439896.5	3761384.4	203.6	2.89	16.74
2.69 YES							
L0008559	0	0.22970E-05	439896.6	3761420.4	204.1	2.89	16.74
2.69 YES							
L0008560	0	0.22970E-05	439896.7	3761456.4	204.5	2.89	16.74
2.69 YES							
L0008561	0	0.22970E-05	439896.8	3761492.4	204.9	2.89	16.74
2.69 YES							
L0008562	0	0.22970E-05	439896.9	3761528.4	205.3	2.89	16.74
2.69 YES							
L0008563	0	0.22970E-05	439897.0	3761564.4	205.7	2.89	16.74
2.69 YES							
L0008564	0	0.22970E-05	439897.1	3761600.4	206.1	2.89	16.74
2.69 YES							
L0008565	0	0.22970E-05	439897.2	3761636.4	206.4	2.89	16.74
2.69 YES							
L0008566	0	0.22970E-05	439897.3	3761672.4	206.7	2.89	16.74

2.69	YES							
L0008567		0	0.22970E-05	439897.4	3761708.4	207.0	2.89	16.74
2.69	YES							
L0008568		0	0.22970E-05	439897.5	3761744.4	207.3	2.89	16.74
2.69	YES							
L0008569		0	0.22970E-05	439897.6	3761780.4	207.6	2.89	16.74
2.69	YES							
L0008570		0	0.22970E-05	439897.7	3761816.4	207.9	2.89	16.74
2.69	YES							
L0008571		0	0.22970E-05	439897.8	3761852.4	208.2	2.89	16.74

2.69 YES  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		X	Y	HEIGHT	SY
ID	SOURCE	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY					
L0008572		0	0.22970E-05	439897.9	3761888.4	208.5	2.89	16.74
2.69	YES							
L0008573		0	0.22970E-05	439898.0	3761924.4	208.9	2.89	16.74
2.69	YES							
L0008574		0	0.22970E-05	439898.1	3761960.4	209.2	2.89	16.74
2.69	YES							
L0008575		0	0.22970E-05	439898.2	3761996.4	209.5	2.89	16.74
2.69	YES							
L0008576		0	0.22970E-05	439898.3	3762032.4	209.8	2.89	16.74
2.69	YES							
L0008577		0	0.22970E-05	439898.4	3762068.4	210.0	2.89	16.74
2.69	YES							
L0008578		0	0.22970E-05	439898.4	3762104.4	210.3	2.89	16.74
2.69	YES							
L0008579		0	0.22970E-05	439898.5	3762140.4	210.6	2.89	16.74
2.69	YES							
L0008580		0	0.22970E-05	439898.6	3762176.4	210.9	2.89	16.74
2.69	YES							

L0008581	0	0.22970E-05	439898.7	3762212.4	211.3	2.89	16.74
2.69 YES							
L0008582	0	0.22970E-05	439898.8	3762248.4	211.8	2.89	16.74
2.69 YES							
L0008583	0	0.22970E-05	439898.9	3762284.4	212.4	2.89	16.74
2.69 YES							
L0008584	0	0.22970E-05	439899.0	3762320.4	213.0	2.89	16.74
2.69 YES							
L0008585	0	0.22970E-05	439899.1	3762356.4	213.5	2.89	16.74
2.69 YES							
L0008586	0	0.22970E-05	439899.2	3762392.4	213.9	2.89	16.74
2.69 YES							
L0008587	0	0.22970E-05	439899.3	3762428.4	214.4	2.89	16.74
2.69 YES							
L0008588	0	0.22970E-05	439899.4	3762464.4	214.9	2.89	16.74
2.69 YES							
L0008589	0	0.22970E-05	439899.5	3762500.4	215.3	2.89	16.74
2.69 YES							
L0008590	0	0.22970E-05	439899.6	3762536.4	215.7	2.89	16.74
2.69 YES							
L0008591	0	0.22970E-05	439899.7	3762572.4	216.1	2.89	16.74
2.69 YES							
L0008592	0	0.22970E-05	439899.8	3762608.4	216.5	2.89	16.74
2.69 YES							
L0008593	0	0.22970E-05	439899.9	3762644.4	217.0	2.89	16.74
2.69 YES							
L0008594	0	0.22970E-05	439900.0	3762680.4	217.5	2.89	16.74
2.69 YES							
L0008595	0	0.22970E-05	439900.1	3762716.4	218.0	2.89	16.74
2.69 YES							
L0008596	0	0.22970E-05	439900.2	3762752.4	218.5	2.89	16.74
2.69 YES							
L0008597	0	0.22970E-05	439900.3	3762788.4	219.0	2.89	16.74
2.69 YES							
L0008598	0	0.22970E-05	439900.4	3762824.4	219.5	2.89	16.74
2.69 YES							
L0008599	0	0.22970E-05	439900.5	3762860.4	220.0	2.89	16.74
2.69 YES							
L0008600	0	0.22970E-05	439900.6	3762896.4	220.5	2.89	16.74
2.69 YES							
L0008601	0	0.22970E-05	439900.7	3762932.4	220.9	2.89	16.74
2.69 YES							
L0008602	0	0.22970E-05	439900.8	3762968.4	221.3	2.89	16.74
2.69 YES							
L0008603	0	0.22970E-05	439900.9	3763004.4	221.7	2.89	16.74
2.69 YES							
L0008604	0	0.22970E-05	439901.0	3763040.4	222.1	2.89	16.74
2.69 YES							
L0008605	0	0.22970E-05	439901.1	3763076.4	222.5	2.89	16.74

2.69	YES							
L0008606		0	0.22970E-05	439901.2	3763112.4	222.9	2.89	16.74
2.69	YES							
L0008607		0	0.22970E-05	439901.3	3763148.4	223.4	2.89	16.74
2.69	YES							
L0008608		0	0.22970E-05	439901.4	3763184.4	223.9	2.89	16.74
2.69	YES							
L0008609		0	0.22970E-05	439901.5	3763220.4	224.4	2.89	16.74
2.69	YES							
L0008610		0	0.22970E-05	439901.6	3763256.4	225.0	2.89	16.74
2.69	YES							
L0008611		0	0.22970E-05	439901.7	3763292.4	225.4	2.89	16.74

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 10:27:03

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	SOURCE	SCALAR	VARY	X	Y	(METERS)	(METERS)	(METERS)
ID		CATS.	BY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)								
L0008612		0	0.22970E-05	439901.8	3763328.4	225.8	2.89	16.74
2.69	YES							
L0008613		0	0.22970E-05	439901.9	3763364.4	226.2	2.89	16.74
2.69	YES							
L0008614		0	0.22970E-05	439902.0	3763400.4	226.6	2.89	16.74
2.69	YES							
L0008615		0	0.22970E-05	439902.1	3763436.4	226.9	2.89	16.74
2.69	YES							
L0008616		0	0.22970E-05	439902.8	3763472.4	227.2	2.89	16.74
2.69	YES							
L0008617		0	0.22970E-05	439905.5	3763508.3	227.6	2.89	16.74
2.69	YES							
L0008618		0	0.22970E-05	439908.2	3763544.2	227.9	2.89	16.74
2.69	YES							
L0008619		0	0.22970E-05	439911.0	3763580.1	228.2	2.89	16.74
2.69	YES							

L0008620	0	0.22970E-05	439912.6	3763616.0	228.5	2.89	16.74
2.69 YES							
L0008621	0	0.22970E-05	439912.6	3763652.0	228.8	2.89	16.74
2.69 YES							
L0008622	0	0.22970E-05	439912.7	3763688.0	229.1	2.89	16.74
2.69 YES							
L0008623	0	0.22970E-05	439912.7	3763724.0	229.4	2.89	16.74
2.69 YES							
L0008624	0	0.22970E-05	439912.8	3763760.0	229.7	2.89	16.74
2.69 YES							
L0008625	0	0.22970E-05	439912.8	3763796.0	229.9	2.89	16.74
2.69 YES							
L0008626	0	0.22970E-05	439912.9	3763832.0	230.2	2.89	16.74
2.69 YES							
L0008627	0	0.22970E-05	439912.9	3763868.0	230.5	2.89	16.74
2.69 YES							
L0008628	0	0.22970E-05	439913.0	3763904.0	230.9	2.89	16.74
2.69 YES							
L0008629	0	0.22970E-05	439913.0	3763940.0	231.4	2.89	16.74
2.69 YES							
L0008630	0	0.22970E-05	439913.1	3763976.0	231.9	2.89	16.74
2.69 YES							
L0008631	0	0.22970E-05	439913.1	3764012.0	232.5	2.89	16.74
2.69 YES							
L0008632	0	0.22970E-05	439913.2	3764048.0	233.1	2.89	16.74
2.69 YES							
L0008633	0	0.22970E-05	439913.2	3764084.0	233.6	2.89	16.74
2.69 YES							
L0008634	0	0.22970E-05	439913.3	3764120.0	234.2	2.89	16.74
2.69 YES							
L0008635	0	0.22970E-05	439913.3	3764156.0	234.8	2.89	16.74
2.69 YES							
L0008636	0	0.22970E-05	439913.3	3764192.0	235.3	2.89	16.74
2.69 YES							
L0008637	0	0.22970E-05	439913.4	3764228.0	235.9	2.89	16.74
2.69 YES							
L0008638	0	0.22970E-05	439913.4	3764264.0	236.5	2.89	16.74
2.69 YES							
L0008639	0	0.22970E-05	439913.5	3764300.0	237.1	2.89	16.74
2.69 YES							
L0008640	0	0.22970E-05	439913.5	3764336.0	237.7	2.89	16.74
2.69 YES							
L0008641	0	0.22970E-05	439913.6	3764372.0	238.1	2.89	16.74
2.69 YES							
L0008642	0	0.22970E-05	439913.6	3764408.0	238.5	2.89	16.74
2.69 YES							
L0008643	0	0.22970E-05	439913.7	3764444.0	238.8	2.89	16.74
2.69 YES							
L0008644	0	0.22970E-05	439913.7	3764480.0	238.9	2.89	16.74

2.69	YES							
L0008645		0	0.22970E-05	439913.8	3764516.0	239.1	2.89	16.74
2.69	YES							
L0008646		0	0.22970E-05	439913.8	3764552.0	239.3	2.89	16.74
2.69	YES							
L0008647		0	0.22970E-05	439913.9	3764588.0	239.6	2.89	16.74
2.69	YES							
L0008648		0	0.22970E-05	439913.9	3764624.0	239.9	2.89	16.74
2.69	YES							
L0008649		0	0.22970E-05	439914.0	3764660.0	240.3	2.89	16.74
2.69	YES							
L0008650		0	0.22970E-05	439914.0	3764696.0	240.8	2.89	16.74
2.69	YES							
L0008651		0	0.22970E-05	439914.1	3764732.0	241.2	2.89	16.74

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2.69      YES
^ *** AERMOD - VERSION 21112 ***      *** C:\Lakes\AERMOD
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*** AERMET - VERSION 16216 ***      ***
***      ***      10:27:03

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	PART.	(GRAMS/SEC)	X	ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	VARY			(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)

L0008652		0	0.22970E-05	439914.1	3764768.0	241.9	2.89	16.74
2.69	YES							
L0008653		0	0.22970E-05	439914.2	3764804.0	242.5	2.89	16.74
2.69	YES							
L0008654		0	0.22970E-05	439914.2	3764840.0	243.1	2.89	16.74
2.69	YES							
L0008655		0	0.22970E-05	439914.3	3764876.0	243.7	2.89	16.74
2.69	YES							
L0008656		0	0.22970E-05	439914.3	3764912.0	244.2	2.89	16.74
2.69	YES							
L0008657		0	0.22970E-05	439914.4	3764948.0	244.7	2.89	16.74
2.69	YES							
L0008658		0	0.22970E-05	439914.4	3764984.0	245.2	2.89	16.74
2.69	YES							

L0008659	0	0.22970E-05	439914.5	3765020.0	245.8	2.89	16.74
2.69 YES							
L0008660	0	0.22970E-05	439914.5	3765056.0	246.1	2.89	16.74
2.69 YES							
L0008661	0	0.22970E-05	439914.6	3765092.0	246.4	2.89	16.74
2.69 YES							
L0008662	0	0.22970E-05	439914.6	3765128.0	246.7	2.89	16.74
2.69 YES							
L0008663	0	0.22970E-05	439914.7	3765164.0	247.0	2.89	16.74
2.69 YES							
L0008664	0	0.22970E-05	439914.7	3765200.0	247.3	2.89	16.74
2.69 YES							
L0008665	0	0.22970E-05	439914.8	3765236.0	247.8	2.89	16.74
2.69 YES							
L0008666	0	0.22970E-05	439914.8	3765272.0	248.4	2.89	16.74
2.69 YES							
L0008667	0	0.22970E-05	439914.9	3765308.0	249.0	2.89	16.74
2.69 YES							
L0008668	0	0.22970E-05	439914.9	3765344.0	249.6	2.89	16.74
2.69 YES							
L0008669	0	0.22970E-05	439915.0	3765380.0	250.2	2.89	16.74
2.69 YES							
L0008670	0	0.22970E-05	439915.0	3765416.0	250.8	2.89	16.74
2.69 YES							
L0008671	0	0.22970E-05	439915.1	3765452.0	251.4	2.89	16.74
2.69 YES							
L0008672	0	0.22970E-05	439915.1	3765488.0	251.8	2.89	16.74
2.69 YES							
L0008673	0	0.22970E-05	439915.2	3765524.0	252.1	2.89	16.74
2.69 YES							
L0008674	0	0.22970E-05	439915.2	3765560.0	252.6	2.89	16.74
2.69 YES							
L0008675	0	0.22970E-05	439915.3	3765596.0	252.9	2.89	16.74
2.69 YES							
L0008676	0	0.22970E-05	439915.3	3765632.0	253.2	2.89	16.74
2.69 YES							
L0008677	0	0.22970E-05	439915.3	3765668.0	253.6	2.89	16.74
2.69 YES							
L0008678	0	0.22970E-05	439915.4	3765704.0	254.1	2.89	16.74
2.69 YES							
L0008679	0	0.22970E-05	439915.4	3765740.0	254.5	2.89	16.74
2.69 YES							
L0008680	0	0.22970E-05	439915.5	3765776.0	254.8	2.89	16.74
2.69 YES							
L0008681	0	0.16280E-05	440788.1	3761118.6	201.6	3.15	12.09
2.93 YES							
L0008682	0	0.16280E-05	440788.3	3761092.6	201.4	3.15	12.09
2.93 YES							
L0008683	0	0.16280E-05	440788.5	3761066.6	201.1	3.15	12.09



2.93	YES							
L0008684		0	0.16280E-05	440788.7	3761040.6	200.9	3.15	12.09
2.93	YES							
L0008685		0	0.16280E-05	440788.9	3761014.6	200.7	3.15	12.09
2.93	YES							
L0008686		0	0.16280E-05	440789.1	3760988.6	200.5	3.15	12.09
2.93	YES							
L0008687		0	0.16280E-05	440789.3	3760962.6	200.3	3.15	12.09
2.93	YES							
L0008688		0	0.16280E-05	440789.5	3760936.6	200.1	3.15	12.09
2.93	YES							
L0008689		0	0.16280E-05	440789.7	3760910.6	199.9	3.15	12.09
2.93	YES							
L0008690		0	0.16280E-05	440789.9	3760884.6	199.7	3.15	12.09
2.93	YES							
L0008691		0	0.16280E-05	440790.1	3760858.6	199.6	3.15	12.09

2.93 YES  
 \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 10:27:03

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	PART.	(GRAMS/SEC)	X	ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	VARY			(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)

L0008692		0	0.16280E-05	440790.3	3760832.6	199.5	3.15	12.09
2.93	YES							
L0008693		0	0.16280E-05	440790.5	3760806.6	199.5	3.15	12.09
2.93	YES							
L0008694		0	0.16280E-05	440790.7	3760780.6	199.3	3.15	12.09
2.93	YES							
L0008695		0	0.16280E-05	440790.9	3760754.6	199.0	3.15	12.09
2.93	YES							
L0008696		0	0.16280E-05	440791.1	3760728.6	198.8	3.15	12.09
2.93	YES							
L0008697		0	0.16280E-05	440791.3	3760702.6	198.6	3.15	12.09
2.93	YES							

L0008698	0	0.16280E-05	440791.4	3760676.6	198.4	3.15	12.09
2.93 YES							
L0008699	0	0.16280E-05	440791.6	3760650.6	198.2	3.15	12.09
2.93 YES							
L0008700	0	0.16280E-05	440791.8	3760624.6	198.0	3.15	12.09
2.93 YES							
L0008701	0	0.16280E-05	440792.0	3760598.6	197.7	3.15	12.09
2.93 YES							
L0008702	0	0.16280E-05	440792.2	3760572.6	197.5	3.15	12.09
2.93 YES							
L0008703	0	0.16280E-05	440792.4	3760546.6	197.2	3.15	12.09
2.93 YES							
L0008704	0	0.16280E-05	440792.6	3760520.6	197.0	3.15	12.09
2.93 YES							
L0008705	0	0.16280E-05	440792.8	3760494.6	196.9	3.15	12.09
2.93 YES							
L0008706	0	0.16590E-05	440805.8	3760469.0	196.7	3.15	12.09
2.93 YES							
L0008707	0	0.16590E-05	440831.8	3760469.1	196.7	3.15	12.09
2.93 YES							
L0008708	0	0.16590E-05	440857.8	3760469.2	196.9	3.15	12.09
2.93 YES							
L0008709	0	0.16590E-05	440883.8	3760469.4	197.1	3.15	12.09
2.93 YES							
L0008710	0	0.16590E-05	440909.8	3760469.5	197.4	3.15	12.09
2.93 YES							
L0008711	0	0.16590E-05	440935.8	3760469.6	197.6	3.15	12.09
2.93 YES							
L0008712	0	0.16590E-05	440961.8	3760469.7	197.6	3.15	12.09
2.93 YES							
L0008713	0	0.16590E-05	440987.8	3760469.8	197.7	3.15	12.09
2.93 YES							
L0008714	0	0.16590E-05	441013.8	3760469.9	197.9	3.15	12.09
2.93 YES							
L0008715	0	0.16590E-05	441039.8	3760470.0	198.1	3.15	12.09
2.93 YES							
L0008716	0	0.16590E-05	441065.8	3760470.1	198.2	3.15	12.09
2.93 YES							
L0008717	0	0.16590E-05	441091.8	3760470.2	198.5	3.15	12.09
2.93 YES							
L0008718	0	0.16590E-05	441117.8	3760470.3	198.6	3.15	12.09
2.93 YES							
L0008719	0	0.16590E-05	441143.8	3760470.4	198.6	3.15	12.09
2.93 YES							
L0008720	0	0.16590E-05	441169.8	3760470.6	198.6	3.15	12.09
2.93 YES							
L0008721	0	0.16590E-05	441195.8	3760470.7	199.0	3.15	12.09
2.93 YES							
L0008722	0	0.16590E-05	441221.8	3760470.8	198.9	3.15	12.09

2.93	YES							
L0008723		0	0.16590E-05	441247.8	3760470.9	198.7	3.15	12.09
2.93	YES							
L0008724		0	0.16590E-05	441273.8	3760471.0	198.7	3.15	12.09
2.93	YES							
L0008725		0	0.16590E-05	441299.8	3760471.1	198.8	3.15	12.09
2.93	YES							
L0008726		0	0.16590E-05	441325.8	3760471.2	198.9	3.15	12.09
2.93	YES							
L0008727		0	0.16590E-05	441351.8	3760471.3	199.0	3.15	12.09
2.93	YES							
L0008728		0	0.16590E-05	441377.8	3760471.4	199.1	3.15	12.09
2.93	YES							
L0008729		0	0.16590E-05	441403.8	3760471.5	199.2	3.15	12.09
2.93	YES							
L0008730		0	0.16590E-05	441429.8	3760471.6	199.3	3.15	12.09
2.93	YES							
L0008731		0	0.16590E-05	441455.8	3760471.8	199.3	3.15	12.09
2.93	YES							

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	ID	SCALAR	(GRAMS/SEC)	X	Y	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	VARY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
		BY						

L0008732		0	0.16590E-05	441481.8	3760471.9	199.6	3.15	12.09
2.93	YES							
L0008733		0	0.16590E-05	441507.8	3760472.0	199.8	3.15	12.09
2.93	YES							
L0008734		0	0.16590E-05	441533.8	3760472.1	199.9	3.15	12.09
2.93	YES							
L0008735		0	0.16590E-05	441559.8	3760472.2	200.0	3.15	12.09
2.93	YES							
L0008736		0	0.16590E-05	441585.8	3760472.3	200.0	3.15	12.09
2.93	YES							

L0008737	0	0.16590E-05	441611.8	3760472.4	200.1	3.15	12.09
2.93	YES						
L0008738	0	0.16590E-05	441637.8	3760472.5	200.2	3.15	12.09
2.93	YES						
L0008739	0	0.16590E-05	441663.8	3760472.6	200.2	3.15	12.09
2.93	YES						
L0008740	0	0.16590E-05	441689.8	3760472.7	200.2	3.15	12.09
2.93	YES						
L0008741	0	0.16590E-05	441715.8	3760472.8	200.2	3.15	12.09
2.93	YES						
L0008742	0	0.16590E-05	441741.8	3760472.9	200.1	3.15	12.09
2.93	YES						
L0008743	0	0.16590E-05	441767.8	3760473.1	200.1	3.15	12.09
2.93	YES						
L0008744	0	0.16590E-05	441793.8	3760473.2	200.1	3.15	12.09
2.93	YES						
L0008745	0	0.16590E-05	441819.8	3760473.3	200.1	3.15	12.09
2.93	YES						
L0008746	0	0.16590E-05	441845.8	3760473.4	200.1	3.15	12.09
2.93	YES						
L0008747	0	0.16590E-05	441871.8	3760473.5	200.1	3.15	12.09
2.93	YES						
L0008748	0	0.16590E-05	441897.8	3760473.6	200.2	3.15	12.09
2.93	YES						
L0008749	0	0.16590E-05	441923.8	3760473.7	200.2	3.15	12.09
2.93	YES						
L0008750	0	0.16590E-05	441949.8	3760473.8	200.3	3.15	12.09
2.93	YES						
L0008751	0	0.16590E-05	441975.8	3760473.9	200.1	3.15	12.09
2.93	YES						
L0008752	0	0.16590E-05	442001.8	3760474.0	199.9	3.15	12.09
2.93	YES						
L0008753	0	0.16590E-05	442027.8	3760474.1	200.4	3.15	12.09
2.93	YES						
L0008754	0	0.16590E-05	442053.8	3760474.3	200.4	3.15	12.09
2.93	YES						
L0008755	0	0.16590E-05	442079.8	3760474.4	200.4	3.15	12.09
2.93	YES						
L0008756	0	0.16590E-05	442105.8	3760474.5	200.4	3.15	12.09
2.93	YES						
L0008757	0	0.16590E-05	442131.8	3760474.6	200.4	3.15	12.09
2.93	YES						
L0008758	0	0.16590E-05	442157.8	3760474.7	200.4	3.15	12.09
2.93	YES						
L0008759	0	0.16590E-05	442183.8	3760474.8	200.4	3.15	12.09
2.93	YES						
L0008760	0	0.16590E-05	442209.8	3760474.9	200.4	3.15	12.09
2.93	YES						
L0008761	0	0.16590E-05	442235.8	3760475.0	200.4	3.15	12.09

2.93	YES							
L0008762		0	0.16590E-05	442261.8	3760475.1	200.6	3.15	12.09
2.93	YES							
L0008763		0	0.16590E-05	442287.8	3760475.2	200.7	3.15	12.09
2.93	YES							
L0008764		0	0.16590E-05	442313.8	3760475.3	200.8	3.15	12.09
2.93	YES							
L0008765		0	0.16590E-05	442339.8	3760475.5	201.0	3.15	12.09
2.93	YES							
L0008766		0	0.16590E-05	442365.8	3760475.6	201.1	3.15	12.09
2.93	YES							
L0008767		0	0.16590E-05	442391.8	3760475.7	201.1	3.15	12.09
2.93	YES							
L0008768		0	0.16590E-05	442417.8	3760475.8	201.1	3.15	12.09
2.93	YES							
L0008769		0	0.16590E-05	442443.8	3760475.9	201.1	3.15	12.09
2.93	YES							
L0008770		0	0.16590E-05	442469.8	3760476.0	201.1	3.15	12.09
2.93	YES							
L0008771		0	0.16590E-05	442495.8	3760476.1	201.1	3.15	12.09

2.93 YES  
 ▲ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	(GRAMS/SEC)	X	Y	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	VARY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
		BY						

L0008772		0	0.16590E-05	442521.8	3760476.2	201.1	3.15	12.09
2.93	YES							
L0008773		0	0.16590E-05	442547.8	3760476.3	201.0	3.15	12.09
2.93	YES							
L0008774		0	0.16590E-05	442573.8	3760476.4	201.0	3.15	12.09
2.93	YES							
L0008775		0	0.16590E-05	442599.8	3760476.5	200.9	3.15	12.09
2.93	YES							

L0008776	0	0.16590E-05	442625.8	3760476.7	200.7	3.15	12.09
2.93 YES							
L0008777	0	0.16590E-05	442651.8	3760476.8	200.6	3.15	12.09
2.93 YES							
L0008778	0	0.16590E-05	442677.8	3760476.9	200.6	3.15	12.09
2.93 YES							
L0008779	0	0.16590E-05	442703.8	3760477.0	200.6	3.15	12.09
2.93 YES							
L0008780	0	0.16590E-05	442729.8	3760477.1	200.7	3.15	12.09
2.93 YES							
L0008781	0	0.16590E-05	442755.8	3760477.2	200.9	3.15	12.09
2.93 YES							
L0008782	0	0.16590E-05	442781.8	3760477.3	200.8	3.15	12.09
2.93 YES							
L0008783	0	0.16590E-05	442807.8	3760477.4	200.8	3.15	12.09
2.93 YES							
L0008784	0	0.16590E-05	442833.8	3760477.5	200.8	3.15	12.09
2.93 YES							
L0008785	0	0.16590E-05	442859.8	3760477.6	201.0	3.15	12.09
2.93 YES							
L0008786	0	0.16590E-05	442885.8	3760477.7	201.1	3.15	12.09
2.93 YES							
L0008787	0	0.16590E-05	442911.8	3760477.9	201.1	3.15	12.09
2.93 YES							
L0008788	0	0.16590E-05	442937.8	3760478.0	201.2	3.15	12.09
2.93 YES							
L0008789	0	0.16590E-05	442963.8	3760478.1	201.3	3.15	12.09
2.93 YES							
L0008790	0	0.16590E-05	442989.8	3760478.2	201.7	3.15	12.09
2.93 YES							
L0008791	0	0.16590E-05	443015.8	3760478.3	201.9	3.15	12.09
2.93 YES							
L0008792	0	0.16590E-05	443041.8	3760478.4	201.7	3.15	12.09
2.93 YES							
L0008793	0	0.16590E-05	443067.8	3760478.5	201.6	3.15	12.09
2.93 YES							
L0008794	0	0.16590E-05	443093.8	3760478.6	201.6	3.15	12.09
2.93 YES							
L0008795	0	0.16590E-05	443119.8	3760478.7	201.7	3.15	12.09
2.93 YES							
L0008796	0	0.16590E-05	443145.8	3760478.8	201.8	3.15	12.09
2.93 YES							
L0008797	0	0.16590E-05	443171.8	3760478.9	202.1	3.15	12.09
2.93 YES							
L0008798	0	0.16590E-05	443197.8	3760479.0	202.8	3.15	12.09
2.93 YES							
L0008799	0	0.16590E-05	443223.8	3760479.2	203.1	3.15	12.09
2.93 YES							
L0008800	0	0.16590E-05	443249.8	3760479.3	203.1	3.15	12.09

2.93	YES							
L0008801		0	0.16590E-05	443275.8	3760479.4	203.2	3.15	12.09
2.93	YES							
L0008802		0	0.16590E-05	443301.8	3760479.5	203.2	3.15	12.09
2.93	YES							
L0008803		0	0.16590E-05	443327.8	3760479.6	203.3	3.15	12.09
2.93	YES							
L0008804		0	0.16590E-05	443353.8	3760479.7	203.2	3.15	12.09
2.93	YES							
L0008805		0	0.16590E-05	443379.8	3760479.8	203.3	3.15	12.09
2.93	YES							
L0008806		0	0.16590E-05	443405.8	3760479.9	203.4	3.15	12.09
2.93	YES							
L0008807		0	0.16590E-05	443431.8	3760480.0	203.4	3.15	12.09
2.93	YES							
L0008808		0	0.16590E-05	443457.8	3760480.1	203.4	3.15	12.09
2.93	YES							
L0008809		0	0.16590E-05	443483.8	3760480.2	203.4	3.15	12.09
2.93	YES							
L0008810		0	0.16590E-05	443509.8	3760480.4	203.3	3.15	12.09
2.93	YES							
L0008811		0	0.16590E-05	443535.8	3760480.5	203.3	3.15	12.09
2.93	YES							

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	ID	SCALAR	VARY		X	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)

L0008812		0	0.16590E-05	443561.8	3760480.6	203.2	3.15	12.09
2.93	YES							
L0008813		0	0.16590E-05	443587.8	3760480.7	203.2	3.15	12.09
2.93	YES							
L0008814		0	0.16590E-05	443613.8	3760480.8	203.5	3.15	12.09
2.93	YES							

L0008815	0	0.16590E-05	443639.8	3760480.9	203.5	3.15	12.09
2.93	YES						
L0008816	0	0.16590E-05	443665.8	3760481.0	203.6	3.15	12.09
2.93	YES						
L0008817	0	0.16590E-05	443691.8	3760481.1	203.7	3.15	12.09
2.93	YES						
L0008818	0	0.16590E-05	443717.8	3760481.2	203.7	3.15	12.09
2.93	YES						
L0008819	0	0.16590E-05	443743.8	3760481.3	203.8	3.15	12.09
2.93	YES						
L0008820	0	0.16590E-05	443769.8	3760481.4	203.9	3.15	12.09
2.93	YES						
L0008821	0	0.16590E-05	443795.8	3760481.6	204.0	3.15	12.09
2.93	YES						
L0008822	0	0.16590E-05	443821.8	3760481.7	204.2	3.15	12.09
2.93	YES						
L0008823	0	0.16590E-05	443847.8	3760481.8	204.2	3.15	12.09
2.93	YES						
L0008824	0	0.16590E-05	443873.8	3760481.9	204.5	3.15	12.09
2.93	YES						
L0008825	0	0.16590E-05	443899.8	3760482.0	204.0	3.15	12.09
2.93	YES						
L0008826	0	0.16590E-05	443925.8	3760482.1	204.1	3.15	12.09
2.93	YES						
L0008827	0	0.16590E-05	443951.8	3760482.2	204.6	3.15	12.09
2.93	YES						
L0008828	0	0.16590E-05	443977.2	3760478.6	204.4	3.15	12.09
2.93	YES						
L0008829	0	0.16590E-05	444001.7	3760470.0	203.9	3.15	12.09
2.93	YES						
L0008830	0	0.16590E-05	444026.2	3760461.3	203.4	3.15	12.09
2.93	YES						
L0008831	0	0.16590E-05	444050.7	3760452.7	203.3	3.15	12.09
2.93	YES						
L0008832	0	0.16590E-05	444075.3	3760444.0	203.0	3.15	12.09
2.93	YES						
L0008833	0	0.16590E-05	444099.8	3760435.4	202.7	3.15	12.09
2.93	YES						
L0008834	0	0.16590E-05	444124.3	3760426.7	202.6	3.15	12.09
2.93	YES						
L0008835	0	0.16590E-05	444148.8	3760418.0	202.4	3.15	12.09
2.93	YES						
L0008836	0	0.16590E-05	444174.6	3760416.8	202.2	3.15	12.09
2.93	YES						
L0008837	0	0.16590E-05	444200.6	3760416.6	202.2	3.15	12.09
2.93	YES						
L0008838	0	0.16590E-05	444226.6	3760416.5	202.1	3.15	12.09
2.93	YES						
L0008839	0	0.16590E-05	444252.6	3760416.3	202.1	3.15	12.09



2.93	YES							
L0008840		0	0.16590E-05	444278.6	3760416.1	202.1	3.15	12.09
2.93	YES							
L0008841		0	0.16590E-05	444304.6	3760415.9	202.1	3.15	12.09
2.93	YES							
L0008842		0	0.16590E-05	444330.6	3760415.7	202.1	3.15	12.09
2.93	YES							
L0008843		0	0.16590E-05	444356.6	3760415.6	202.1	3.15	12.09
2.93	YES							
L0008844		0	0.16590E-05	444382.6	3760415.4	202.1	3.15	12.09
2.93	YES							
L0008845		0	0.16590E-05	444408.6	3760415.2	201.9	3.15	12.09
2.93	YES							
L0008846		0	0.16590E-05	444434.6	3760415.0	201.8	3.15	12.09
2.93	YES							
L0008847		0	0.16590E-05	444460.6	3760414.8	201.9	3.15	12.09
2.93	YES							
L0008848		0	0.16590E-05	444486.6	3760414.6	201.9	3.15	12.09
2.93	YES							
L0008849		0	0.16590E-05	444512.6	3760414.5	202.0	3.15	12.09
2.93	YES							
L0008850		0	0.16590E-05	444538.6	3760414.3	202.1	3.15	12.09
2.93	YES							
L0008851		0	0.16590E-05	444564.6	3760414.1	202.2	3.15	12.09

2.93 YES  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	PART.	(GRAMS/SEC)	X	ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)

L0008852		0	0.16590E-05	444590.6	3760413.9	202.1	3.15	12.09
2.93	YES							
L0008853		0	0.16590E-05	444616.6	3760413.7	198.4	3.15	12.09
2.93	YES							

L0008854	0	0.16590E-05	444642.6	3760413.6	197.6	3.15	12.09
2.93	YES						
L0008855	0	0.16590E-05	444668.6	3760413.4	201.8	3.15	12.09
2.93	YES						
L0008856	0	0.16590E-05	444694.6	3760413.2	202.2	3.15	12.09
2.93	YES						
L0008857	0	0.16590E-05	444720.6	3760413.0	202.0	3.15	12.09
2.93	YES						
L0008858	0	0.16590E-05	444746.6	3760412.8	201.8	3.15	12.09
2.93	YES						
L0008859	0	0.16590E-05	444772.6	3760412.7	201.2	3.15	12.09
2.93	YES						
L0008860	0	0.16590E-05	444798.6	3760412.5	200.7	3.15	12.09
2.93	YES						
L0008861	0	0.16590E-05	444824.6	3760412.3	201.5	3.15	12.09
2.93	YES						
L0008862	0	0.16590E-05	444850.6	3760412.1	201.4	3.15	12.09
2.93	YES						
L0008863	0	0.16590E-05	444876.6	3760411.9	201.2	3.15	12.09
2.93	YES						
L0008864	0	0.16590E-05	444902.6	3760411.8	201.2	3.15	12.09
2.93	YES						
L0008865	0	0.16590E-05	444928.6	3760411.6	201.5	3.15	12.09
2.93	YES						
L0008866	0	0.16590E-05	444954.6	3760411.4	201.8	3.15	12.09
2.93	YES						
L0008867	0	0.16590E-05	444980.6	3760411.2	201.9	3.15	12.09
2.93	YES						
L0008868	0	0.16590E-05	445006.6	3760411.0	201.8	3.15	12.09
2.93	YES						
L0008869	0	0.16590E-05	445032.6	3760410.8	201.8	3.15	12.09
2.93	YES						
L0008870	0	0.16590E-05	445058.6	3760410.7	201.8	3.15	12.09
2.93	YES						
L0008871	0	0.16590E-05	445084.6	3760410.5	201.7	3.15	12.09
2.93	YES						
L0008872	0	0.16590E-05	445110.6	3760410.3	201.8	3.15	12.09
2.93	YES						
L0008873	0	0.16590E-05	445136.6	3760410.1	201.9	3.15	12.09
2.93	YES						
L0008874	0	0.16590E-05	445162.6	3760409.9	201.8	3.15	12.09
2.93	YES						
L0008875	0	0.16590E-05	445188.6	3760409.8	201.4	3.15	12.09
2.93	YES						
L0008876	0	0.16720E-05	445197.1	3760445.4	201.6	3.15	12.09
2.93	YES						
L0008877	0	0.16720E-05	445197.2	3760471.4	201.8	3.15	12.09
2.93	YES						
L0008878	0	0.16720E-05	445197.3	3760497.4	201.9	3.15	12.09

2.93	YES							
L0008879		0	0.16720E-05	445197.4	3760523.4	202.1	3.15	12.09
2.93	YES							
L0008880		0	0.16720E-05	445197.5	3760549.4	202.3	3.15	12.09
2.93	YES							
L0008881		0	0.16720E-05	445197.6	3760575.4	202.4	3.15	12.09
2.93	YES							
L0008882		0	0.16720E-05	445197.7	3760601.4	202.6	3.15	12.09
2.93	YES							
L0008883		0	0.16720E-05	445197.8	3760627.4	202.9	3.15	12.09
2.93	YES							
L0008884		0	0.16720E-05	445197.9	3760653.4	203.1	3.15	12.09
2.93	YES							
L0008885		0	0.16720E-05	445198.0	3760679.4	203.3	3.15	12.09
2.93	YES							
L0008886		0	0.16720E-05	445198.1	3760705.4	203.6	3.15	12.09
2.93	YES							
L0008887		0	0.16720E-05	445198.2	3760731.4	203.8	3.15	12.09
2.93	YES							
L0008888		0	0.16720E-05	445198.3	3760757.4	204.1	3.15	12.09
2.93	YES							
L0008889		0	0.16720E-05	445198.4	3760783.4	204.3	3.15	12.09
2.93	YES							
L0008890		0	0.16720E-05	445198.5	3760809.4	204.6	3.15	12.09
2.93	YES							
L0008891		0	0.16720E-05	445198.6	3760835.4	204.8	3.15	12.09

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	SOURCE	SCALAR	VARY		X	Y		
ID		CATS.			(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		BY						

L0008892		0	0.16720E-05	445198.7	3760861.4	205.1	3.15	12.09
2.93	YES							

L0008893	0	0.16720E-05	445198.8	3760887.4	205.4	3.15	12.09
2.93 YES							
L0008894	0	0.16720E-05	445198.9	3760913.4	205.6	3.15	12.09
2.93 YES							
L0008895	0	0.16720E-05	445199.0	3760939.4	205.8	3.15	12.09
2.93 YES							
L0008896	0	0.16720E-05	445199.1	3760965.4	206.1	3.15	12.09
2.93 YES							
L0008897	0	0.16720E-05	445199.2	3760991.4	206.4	3.15	12.09
2.93 YES							
L0008898	0	0.16720E-05	445199.4	3761017.4	206.6	3.15	12.09
2.93 YES							
L0008899	0	0.16720E-05	445199.5	3761043.4	206.8	3.15	12.09
2.93 YES							
L0008900	0	0.16720E-05	445199.6	3761069.4	207.1	3.15	12.09
2.93 YES							
L0008901	0	0.16720E-05	445199.7	3761095.4	207.3	3.15	12.09
2.93 YES							
L0008902	0	0.16720E-05	445199.8	3761121.4	207.6	3.15	12.09
2.93 YES							
L0008903	0	0.16720E-05	445199.9	3761147.4	207.8	3.15	12.09
2.93 YES							
L0008904	0	0.16720E-05	445200.0	3761173.4	208.0	3.15	12.09
2.93 YES							
L0008905	0	0.16720E-05	445200.1	3761199.4	208.3	3.15	12.09
2.93 YES							
L0008906	0	0.16720E-05	445200.2	3761225.4	208.7	3.15	12.09
2.93 YES							
L0008907	0	0.16720E-05	445200.3	3761251.4	209.1	3.15	12.09
2.93 YES							
L0008908	0	0.16720E-05	445200.4	3761277.4	209.4	3.15	12.09
2.93 YES							
L0008909	0	0.16720E-05	445200.5	3761303.4	209.7	3.15	12.09
2.93 YES							
L0008910	0	0.16720E-05	445200.6	3761329.4	210.0	3.15	12.09
2.93 YES							
L0008911	0	0.16720E-05	445200.7	3761355.4	210.2	3.15	12.09
2.93 YES							
L0008912	0	0.16720E-05	445200.8	3761381.4	210.4	3.15	12.09
2.93 YES							
L0008913	0	0.16720E-05	445200.9	3761407.4	210.6	3.15	12.09
2.93 YES							
L0008914	0	0.16720E-05	445201.0	3761433.4	210.8	3.15	12.09
2.93 YES							
L0008915	0	0.16720E-05	445201.1	3761459.4	210.9	3.15	12.09
2.93 YES							
L0008916	0	0.16720E-05	445201.2	3761485.4	211.1	3.15	12.09
2.93 YES							
L0008917	0	0.16720E-05	445201.3	3761511.4	211.4	3.15	12.09

2.93	YES							
L0008918		0	0.16720E-05	445201.4	3761537.4	211.5	3.15	12.09
2.93	YES							
L0008919		0	0.16720E-05	445201.5	3761563.4	211.7	3.15	12.09
2.93	YES							
L0008920		0	0.16720E-05	445201.6	3761589.4	211.9	3.15	12.09
2.93	YES							
L0008921		0	0.16720E-05	445201.8	3761615.4	212.1	3.15	12.09
2.93	YES							
L0008922		0	0.16720E-05	445201.9	3761641.4	212.3	3.15	12.09
2.93	YES							
L0008923		0	0.16720E-05	445202.0	3761667.4	212.5	3.15	12.09
2.93	YES							
L0008924		0	0.16720E-05	445202.1	3761693.4	212.6	3.15	12.09
2.93	YES							
L0008925		0	0.16720E-05	445202.2	3761719.4	212.8	3.15	12.09
2.93	YES							
L0008926		0	0.16720E-05	445202.3	3761745.4	213.0	3.15	12.09
2.93	YES							
L0008927		0	0.16720E-05	445202.4	3761771.4	213.3	3.15	12.09
2.93	YES							
L0008928		0	0.16720E-05	445202.5	3761797.4	213.6	3.15	12.09
2.93	YES							
L0008929		0	0.16720E-05	445202.6	3761823.4	213.9	3.15	12.09
2.93	YES							
L0008930		0	0.16720E-05	445202.7	3761849.4	214.1	3.15	12.09
2.93	YES							
L0008931		0	0.16720E-05	445202.8	3761875.4	214.4	3.15	12.09

2.93 YES  
 \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.	
SOURCE	SCALAR	EMISSION	PART.	(GRAMS/SEC)	X	Y	ELEV.	HEIGHT	SY
SZ	SOURCE	SCALAR	VARY				(METERS)	(METERS)	(METERS)
ID	CATS.			(METERS)	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)	BY								

L0008932	0	0.16720E-05	445202.9	3761901.4	214.7	3.15	12.09
2.93 YES							
L0008933	0	0.16720E-05	445203.0	3761927.4	215.0	3.15	12.09
2.93 YES							
L0008934	0	0.16720E-05	445203.1	3761953.4	215.3	3.15	12.09
2.93 YES							
L0008935	0	0.16720E-05	445203.2	3761979.4	215.6	3.15	12.09
2.93 YES							
L0008936	0	0.16720E-05	445203.3	3762005.4	215.9	3.15	12.09
2.93 YES							
L0008937	0	0.16770E-05	445190.9	3760381.0	201.2	3.15	12.09
2.93 YES							
L0008938	0	0.16770E-05	445191.7	3760355.0	201.1	3.15	12.09
2.93 YES							
L0008939	0	0.16770E-05	445192.4	3760329.0	200.9	3.15	12.09
2.93 YES							
L0008940	0	0.16770E-05	445193.1	3760303.0	200.7	3.15	12.09
2.93 YES							
L0008941	0	0.16770E-05	445193.8	3760277.0	200.6	3.15	12.09
2.93 YES							
L0008942	0	0.16770E-05	445194.5	3760251.0	200.4	3.15	12.09
2.93 YES							
L0008943	0	0.16770E-05	445195.2	3760225.0	200.3	3.15	12.09
2.93 YES							
L0008944	0	0.16770E-05	445196.0	3760199.0	200.1	3.15	12.09
2.93 YES							
L0008945	0	0.16770E-05	445196.7	3760173.0	200.0	3.15	12.09
2.93 YES							
L0008946	0	0.16770E-05	445197.4	3760147.0	199.8	3.15	12.09
2.93 YES							
L0008947	0	0.16770E-05	445198.1	3760121.1	199.6	3.15	12.09
2.93 YES							
L0008948	0	0.16770E-05	445198.8	3760095.1	199.5	3.15	12.09
2.93 YES							
L0008949	0	0.16770E-05	445199.5	3760069.1	199.3	3.15	12.09
2.93 YES							
L0008950	0	0.16770E-05	445200.3	3760043.1	199.1	3.15	12.09
2.93 YES							
L0008951	0	0.16770E-05	445201.0	3760017.1	199.0	3.15	12.09
2.93 YES							
L0008952	0	0.16770E-05	445201.7	3759991.1	198.8	3.15	12.09
2.93 YES							
L0008953	0	0.16770E-05	445202.4	3759965.1	198.6	3.15	12.09
2.93 YES							
L0008954	0	0.16770E-05	445203.1	3759939.1	198.6	3.15	12.09
2.93 YES							
L0008955	0	0.16770E-05	445203.8	3759913.1	198.7	3.15	12.09
2.93 YES							
L0008956	0	0.16770E-05	445204.6	3759887.1	198.7	3.15	12.09

2.93	YES							
L0008957		0	0.16770E-05	445205.3	3759861.2	198.8	3.15	12.09
2.93	YES							
L0008958		0	0.16770E-05	445206.0	3759835.2	198.6	3.15	12.09
2.93	YES							
L0008959		0	0.16770E-05	445206.7	3759809.2	198.1	3.15	12.09
2.93	YES							
L0008960		0	0.16770E-05	445207.4	3759783.2	198.3	3.15	12.09
2.93	YES							
L0008961		0	0.16770E-05	445208.1	3759757.2	198.3	3.15	12.09
2.93	YES							
L0008962		0	0.16770E-05	445208.9	3759731.2	198.2	3.15	12.09
2.93	YES							
L0008963		0	0.16770E-05	445209.6	3759705.2	198.1	3.15	12.09
2.93	YES							
L0008964		0	0.16770E-05	445210.3	3759679.2	198.0	3.15	12.09
2.93	YES							
L0008965		0	0.16770E-05	445211.0	3759653.2	197.8	3.15	12.09
2.93	YES							
L0008966		0	0.16770E-05	445211.7	3759627.2	197.7	3.15	12.09
2.93	YES							
L0008967		0	0.16770E-05	445212.4	3759601.3	197.6	3.15	12.09
2.93	YES							
L0008968		0	0.16530E-05	445221.8	3759586.1	197.4	3.15	12.09
2.93	YES							
L0008969		0	0.16530E-05	445247.8	3759585.9	197.4	3.15	12.09
2.93	YES							
L0008970		0	0.16530E-05	445273.8	3759585.7	197.4	3.15	12.09
2.93	YES							
L0008971		0	0.16530E-05	445299.8	3759585.6	197.4	3.15	12.09

^ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.	
SZ	SOURCE	EMISSION	PART.	(GRAMS/SEC)	X	Y	ELEV.	HEIGHT	SY
(METERS)	ID	SCALAR	VARY	CATS.	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
		BY							

L0008972	0	0.16530E-05	445325.8	3759585.4	197.4	3.15	12.09
2.93 YES							
L0008973	0	0.16530E-05	445351.8	3759585.2	197.4	3.15	12.09
2.93 YES							
L0008974	0	0.16530E-05	445377.8	3759585.0	197.5	3.15	12.09
2.93 YES							
L0008975	0	0.16530E-05	445403.8	3759584.8	197.5	3.15	12.09
2.93 YES							
L0008976	0	0.16530E-05	445429.8	3759584.7	197.6	3.15	12.09
2.93 YES							
L0008977	0	0.16530E-05	445455.8	3759584.5	197.6	3.15	12.09
2.93 YES							
L0008978	0	0.16530E-05	445481.8	3759584.3	197.6	3.15	12.09
2.93 YES							
L0008979	0	0.16530E-05	445507.8	3759584.1	197.6	3.15	12.09
2.93 YES							
L0008980	0	0.16530E-05	445533.8	3759583.9	197.7	3.15	12.09
2.93 YES							
L0008981	0	0.16530E-05	445559.8	3759583.8	197.8	3.15	12.09
2.93 YES							
L0008982	0	0.16530E-05	445585.8	3759583.6	197.9	3.15	12.09
2.93 YES							
L0008983	0	0.16530E-05	445611.8	3759583.4	198.2	3.15	12.09
2.93 YES							
L0008984	0	0.16530E-05	445637.8	3759583.2	198.3	3.15	12.09
2.93 YES							
L0008985	0	0.16530E-05	445663.8	3759583.0	198.2	3.15	12.09
2.93 YES							
L0008986	0	0.16530E-05	445689.8	3759582.9	198.1	3.15	12.09
2.93 YES							
L0008987	0	0.16530E-05	445715.8	3759582.7	198.5	3.15	12.09
2.93 YES							
L0008988	0	0.16530E-05	445741.8	3759582.5	198.7	3.15	12.09
2.93 YES							
L0008989	0	0.16530E-05	445767.8	3759582.3	198.7	3.15	12.09
2.93 YES							
L0008990	0	0.16530E-05	445793.8	3759582.1	198.9	3.15	12.09
2.93 YES							
L0008991	0	0.16530E-05	445819.8	3759582.0	198.9	3.15	12.09
2.93 YES							
L0008992	0	0.16530E-05	445845.8	3759581.8	199.0	3.15	12.09
2.93 YES							
L0008993	0	0.16530E-05	445871.8	3759581.6	199.1	3.15	12.09
2.93 YES							
L0008994	0	0.16530E-05	445897.8	3759581.4	199.1	3.15	12.09
2.93 YES							
L0008995	0	0.16530E-05	445923.8	3759581.2	199.1	3.15	12.09



2.93	YES							
L0008996		0	0.16530E-05	445949.8	3759581.1	199.0	3.15	12.09
2.93	YES							
L0008997		0	0.16530E-05	445975.8	3759580.9	199.0	3.15	12.09
2.93	YES							
L0008998		0	0.16530E-05	446001.8	3759580.7	198.8	3.15	12.09
2.93	YES							
L0008999		0	0.16530E-05	446027.8	3759580.5	199.0	3.15	12.09
2.93	YES							
L0009000		0	0.16530E-05	446053.8	3759580.3	199.2	3.15	12.09
2.93	YES							
L0009001		0	0.16530E-05	446079.8	3759580.2	199.3	3.15	12.09
2.93	YES							
L0009002		0	0.16530E-05	446105.8	3759580.0	199.4	3.15	12.09
2.93	YES							
L0009003		0	0.16530E-05	446131.8	3759579.8	199.5	3.15	12.09
2.93	YES							
L0009004		0	0.16530E-05	446157.8	3759579.6	199.6	3.15	12.09
2.93	YES							
L0009005		0	0.16530E-05	446183.8	3759579.4	199.7	3.15	12.09
2.93	YES							
L0009006		0	0.16530E-05	446209.8	3759579.3	199.8	3.15	12.09
2.93	YES							
L0009007		0	0.16530E-05	446235.8	3759579.1	200.0	3.15	12.09
2.93	YES							
L0009008		0	0.16530E-05	446261.8	3759578.9	200.1	3.15	12.09
2.93	YES							
L0009009		0	0.16530E-05	446287.8	3759578.7	200.2	3.15	12.09
2.93	YES							
L0009010		0	0.16530E-05	446313.8	3759578.5	200.3	3.15	12.09
2.93	YES							
L0009011		0	0.16530E-05	446339.8	3759578.4	200.4	3.15	12.09
2.93	YES							

\*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*      08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
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\*\*\* MODELOPTs:    RegDEFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.	
SZ	SOURCE	EMISSION	PART.	(GRAMS/SEC)	X	Y	ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	VARY	CATS.	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)

(METERS)

BY

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L0009012	0	0.16530E-05	446365.8	3759578.2	200.4	3.15	12.09
2.93 YES							
L0009013	0	0.16530E-05	446391.8	3759578.0	200.3	3.15	12.09
2.93 YES							
L0009014	0	0.16530E-05	446417.8	3759577.8	200.2	3.15	12.09
2.93 YES							
L0009015	0	0.16530E-05	446443.8	3759577.6	200.4	3.15	12.09
2.93 YES							
L0009016	0	0.16530E-05	446469.8	3759577.5	200.9	3.15	12.09
2.93 YES							
L0009017	0	0.16530E-05	446495.8	3759577.3	201.1	3.15	12.09
2.93 YES							
L0009018	0	0.16530E-05	446521.8	3759577.1	201.2	3.15	12.09
2.93 YES							
L0009019	0	0.16530E-05	446547.8	3759576.9	201.4	3.15	12.09
2.93 YES							
L0009020	0	0.16530E-05	446573.8	3759576.8	201.5	3.15	12.09
2.93 YES							
L0009021	0	0.16530E-05	446599.8	3759576.6	201.6	3.15	12.09
2.93 YES							
L0009022	0	0.16530E-05	446625.8	3759576.4	201.7	3.15	12.09
2.93 YES							
L0009023	0	0.16530E-05	446651.8	3759576.2	201.9	3.15	12.09
2.93 YES							
L0009024	0	0.16530E-05	446677.8	3759576.0	202.0	3.15	12.09
2.93 YES							
L0009025	0	0.16530E-05	446703.8	3759575.9	202.1	3.15	12.09
2.93 YES							
L0009026	0	0.16530E-05	446729.8	3759575.7	202.3	3.15	12.09
2.93 YES							
L0009027	0	0.16530E-05	446755.8	3759575.5	202.3	3.15	12.09
2.93 YES							
L0009028	0	0.16530E-05	446781.8	3759575.3	202.1	3.15	12.09
2.93 YES							
L0009029	0	0.16530E-05	446807.8	3759575.1	201.8	3.15	12.09
2.93 YES							
L0009030	0	0.16530E-05	446833.8	3759575.0	201.7	3.15	12.09
2.93 YES							
L0009031	0	0.16530E-05	446859.8	3759574.8	201.6	3.15	12.09
2.93 YES							
L0009032	0	0.16530E-05	446885.8	3759574.6	201.3	3.15	12.09
2.93 YES							
L0009033	0	0.16530E-05	446911.8	3759574.4	201.2	3.15	12.09
2.93 YES							
L0009034	0	0.16530E-05	446937.8	3759574.2	201.1	3.15	12.09

2.93	YES							
L0009035		0	0.16530E-05	446963.8	3759574.1	201.1	3.15	12.09
2.93	YES							
L0009036		0	0.16530E-05	446989.8	3759573.9	201.2	3.15	12.09
2.93	YES							
L0009037		0	0.16530E-05	447015.8	3759573.7	201.3	3.15	12.09
2.93	YES							
L0009038		0	0.16530E-05	447041.8	3759573.5	201.4	3.15	12.09
2.93	YES							
L0009039		0	0.16530E-05	447067.8	3759573.3	201.4	3.15	12.09
2.93	YES							
L0009040		0	0.16530E-05	447093.8	3759573.2	201.3	3.15	12.09
2.93	YES							
L0009041		0	0.16530E-05	447119.8	3759573.0	201.3	3.15	12.09
2.93	YES							
L0009042		0	0.16530E-05	447145.8	3759572.8	201.2	3.15	12.09
2.93	YES							
L0009043		0	0.16530E-05	447171.8	3759572.6	201.0	3.15	12.09
2.93	YES							
L0009044		0	0.16530E-05	447197.8	3759572.4	200.9	3.15	12.09
2.93	YES							
L0009045		0	0.16530E-05	447223.8	3759572.3	200.6	3.15	12.09
2.93	YES							
L0009046		0	0.16530E-05	447249.8	3759572.1	200.6	3.15	12.09
2.93	YES							
L0009047		0	0.16530E-05	447275.8	3759571.9	200.8	3.15	12.09
2.93	YES							
L0009048		0	0.16530E-05	447301.8	3759571.7	200.9	3.15	12.09
2.93	YES							
L0009049		0	0.16530E-05	447327.8	3759571.5	201.0	3.15	12.09
2.93	YES							
L0009050		0	0.16530E-05	447353.8	3759571.4	201.2	3.15	12.09
2.93	YES							
L0009051		0	0.16530E-05	447379.8	3759571.2	201.3	3.15	12.09
2.93	YES							

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
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\*\*\* MODELOPTs:      RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE			ELEV.	HEIGHT	SY
		PART.	(GRAMS/SEC)	X	Y			

SZ	SOURCE	SCALAR	VARY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
ID		CATS.	BY					
(METERS)								
L0009052		0	0.16530E-05	447405.8	3759571.0	201.3	3.15	12.09
2.93	YES							
L0009053		0	0.16530E-05	447431.8	3759570.8	201.3	3.15	12.09
2.93	YES							
L0009054		0	0.16530E-05	447457.8	3759570.6	201.2	3.15	12.09
2.93	YES							
L0009055		0	0.16530E-05	447483.8	3759570.5	201.1	3.15	12.09
2.93	YES							
L0009056		0	0.16530E-05	447509.8	3759570.3	201.0	3.15	12.09
2.93	YES							
L0009057		0	0.16530E-05	447535.8	3759570.1	200.9	3.15	12.09
2.93	YES							
L0009058		0	0.16530E-05	447561.8	3759569.9	200.6	3.15	12.09
2.93	YES							
L0009059		0	0.16530E-05	447587.8	3759569.8	200.5	3.15	12.09
2.93	YES							
L0009060		0	0.16530E-05	447613.8	3759569.6	200.6	3.15	12.09
2.93	YES							
L0009061		0	0.16530E-05	447639.8	3759569.4	201.1	3.15	12.09
2.93	YES							
L0009062		0	0.16530E-05	447665.8	3759569.2	201.1	3.15	12.09
2.93	YES							
L0009063		0	0.16530E-05	447691.8	3759569.0	201.1	3.15	12.09
2.93	YES							
L0009064		0	0.16530E-05	447717.8	3759568.9	201.1	3.15	12.09
2.93	YES							
L0009065		0	0.16530E-05	447743.8	3759568.7	201.1	3.15	12.09
2.93	YES							
L0009066		0	0.16530E-05	447769.8	3759568.5	201.1	3.15	12.09
2.93	YES							
L0009067		0	0.16530E-05	447795.8	3759568.3	201.1	3.15	12.09
2.93	YES							
L0009068		0	0.16530E-05	447821.8	3759568.1	201.1	3.15	12.09
2.93	YES							
L0009069		0	0.16530E-05	447847.8	3759568.0	201.0	3.15	12.09
2.93	YES							
L0009070		0	0.16530E-05	447873.8	3759567.8	201.0	3.15	12.09
2.93	YES							
L0009071		0	0.16530E-05	447899.8	3759567.6	201.1	3.15	12.09
2.93	YES							
L0009072		0	0.16530E-05	447925.8	3759567.4	201.1	3.15	12.09
2.93	YES							
L0009073		0	0.16530E-05	447951.8	3759567.2	201.2	3.15	12.09

2.93	YES							
L0009074		0	0.16530E-05	447977.8	3759567.1	201.4	3.15	12.09
2.93	YES							
L0009075		0	0.16530E-05	448003.7	3759566.9	201.4	3.15	12.09
2.93	YES							
L0009076		0	0.16530E-05	448029.7	3759566.7	201.5	3.15	12.09
2.93	YES							
L0009077		0	0.16530E-05	448055.7	3759566.5	201.6	3.15	12.09
2.93	YES							
L0009078		0	0.16530E-05	448081.7	3759566.3	201.7	3.15	12.09
2.93	YES							
L0009079		0	0.16530E-05	448107.7	3759566.2	201.8	3.15	12.09
2.93	YES							
L0009080		0	0.16530E-05	448133.7	3759566.0	201.8	3.15	12.09
2.93	YES							
L0009081		0	0.16530E-05	448159.7	3759565.8	201.7	3.15	12.09
2.93	YES							
L0009082		0	0.16530E-05	448185.7	3759565.6	201.7	3.15	12.09
2.93	YES							
L0009083		0	0.16530E-05	448211.7	3759565.4	201.7	3.15	12.09
2.93	YES							
L0009084		0	0.16530E-05	448237.7	3759565.3	201.8	3.15	12.09
2.93	YES							
L0009085		0	0.16530E-05	448263.7	3759565.1	202.0	3.15	12.09
2.93	YES							
L0009086		0	0.16530E-05	448289.7	3759564.9	202.2	3.15	12.09
2.93	YES							
L0009087		0	0.16530E-05	448315.7	3759564.7	202.3	3.15	12.09
2.93	YES							
L0009088		0	0.16530E-05	448341.7	3759564.5	202.6	3.15	12.09
2.93	YES							
L0009089		0	0.16530E-05	448367.7	3759564.4	202.8	3.15	12.09
2.93	YES							
L0009090		0	0.16530E-05	448393.7	3759564.2	203.1	3.15	12.09
2.93	YES							
L0009091		0	0.16530E-05	448419.7	3759564.0	203.2	3.15	12.09

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\*\*\* VOLUME SOURCE DATA \*\*\*

NUMBER EMISSION RATE BASE RELEASE INIT.

INIT. SZ	URBAN SOURCE SOURCE ID (METERS)	EMISSION RATE PART. (GRAMS/SEC) SCALAR VARY CATS. BY	X (METERS)	Y (METERS)	ELEV. (METERS)	HEIGHT (METERS)	SY (METERS)	
L0009092		0	0.16410E-05	448446.7	3759567.2	203.3	3.15	12.09
2.93	YES							
L0009093		0	0.16410E-05	448472.7	3759566.8	203.2	3.15	12.09
2.93	YES							
L0009094		0	0.16410E-05	448498.7	3759566.3	203.1	3.15	12.09
2.93	YES							
L0009095		0	0.16410E-05	448524.7	3759565.9	203.0	3.15	12.09
2.93	YES							
L0009096		0	0.16410E-05	448550.7	3759565.5	202.9	3.15	12.09
2.93	YES							
L0009097		0	0.16410E-05	448576.7	3759565.0	202.9	3.15	12.09
2.93	YES							
L0009098		0	0.16410E-05	448602.7	3759564.6	203.2	3.15	12.09
2.93	YES							
L0009099		0	0.16410E-05	448628.7	3759564.1	203.5	3.15	12.09
2.93	YES							
L0009100		0	0.16410E-05	448654.7	3759563.7	203.5	3.15	12.09
2.93	YES							
L0009101		0	0.16410E-05	448680.7	3759563.3	203.5	3.15	12.09
2.93	YES							
L0009102		0	0.16410E-05	448706.7	3759562.8	203.6	3.15	12.09
2.93	YES							
L0009103		0	0.16410E-05	448732.7	3759562.4	203.7	3.15	12.09
2.93	YES							
L0009104		0	0.16410E-05	448758.7	3759561.9	203.9	3.15	12.09
2.93	YES							
L0009105		0	0.16410E-05	448784.7	3759561.5	204.0	3.15	12.09
2.93	YES							
L0009106		0	0.16410E-05	448810.7	3759561.1	203.9	3.15	12.09
2.93	YES							
L0009107		0	0.16410E-05	448836.7	3759560.6	204.0	3.15	12.09
2.93	YES							
L0009108		0	0.16410E-05	448862.7	3759560.2	203.9	3.15	12.09
2.93	YES							
L0009109		0	0.16410E-05	448888.7	3759559.8	203.6	3.15	12.09
2.93	YES							
L0009110		0	0.16410E-05	448914.7	3759559.3	203.5	3.15	12.09
2.93	YES							
L0009111		0	0.16410E-05	448940.7	3759558.9	203.8	3.15	12.09
2.93	YES							
L0009112		0	0.16410E-05	448966.7	3759558.4	203.9	3.15	12.09

2.93	YES							
L0009113		0	0.16410E-05	448992.7	3759558.0	204.2	3.15	12.09
2.93	YES							
L0009114		0	0.16410E-05	449018.7	3759557.6	204.6	3.15	12.09
2.93	YES							
L0009115		0	0.16410E-05	449044.7	3759557.1	204.9	3.15	12.09
2.93	YES							
L0009116		0	0.16410E-05	449070.7	3759556.7	205.2	3.15	12.09
2.93	YES							
L0009117		0	0.16410E-05	449096.7	3759556.2	205.4	3.15	12.09
2.93	YES							
L0009118		0	0.16410E-05	449122.7	3759555.8	205.5	3.15	12.09
2.93	YES							
L0009119		0	0.16410E-05	449148.6	3759555.4	205.2	3.15	12.09
2.93	YES							
L0009120		0	0.16410E-05	449174.6	3759554.9	205.8	3.15	12.09
2.93	YES							
L0009121		0	0.16410E-05	449200.6	3759554.5	206.5	3.15	12.09
2.93	YES							
L0009122		0	0.16410E-05	449226.6	3759554.0	205.4	3.15	12.09
2.93	YES							
L0009123		0	0.16410E-05	449252.6	3759553.6	204.3	3.15	12.09
2.93	YES							
L0009124		0	0.16410E-05	449278.6	3759553.2	202.2	3.15	12.09
2.93	YES							
L0009125		0	0.16410E-05	449304.6	3759552.7	201.6	3.15	12.09
2.93	YES							
L0009126		0	0.16410E-05	449330.6	3759552.3	203.1	3.15	12.09
2.93	YES							
L0009127		0	0.16410E-05	449356.6	3759551.9	204.3	3.15	12.09
2.93	YES							
L0009128		0	0.16410E-05	449382.6	3759551.4	205.1	3.15	12.09
2.93	YES							
L0009129		0	0.16410E-05	449408.6	3759551.0	205.5	3.15	12.09
2.93	YES							
L0009130		0	0.16410E-05	449434.6	3759550.5	204.6	3.15	12.09
2.93	YES							
L0009131		0	0.16500E-05	445241.2	3762002.1	216.2	3.15	12.09

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\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE	BASE	RELEASE	INIT.	
SZ	SOURCE	EMISSION	RATE		ELEV.	HEIGHT	SY	
(METERS)	ID	SCALAR	(GRAMS/SEC)	X	Y	(METERS)	(METERS)	
		CATS.	VARY	(METERS)	(METERS)	(METERS)	(METERS)	
			BY					
L0009132		0	0.16500E-05	445267.2	3762002.2	216.5	3.15	12.09
2.93	YES							
L0009133		0	0.16500E-05	445293.2	3762002.3	216.5	3.15	12.09
2.93	YES							
L0009134		0	0.16500E-05	445319.2	3762002.4	217.0	3.15	12.09
2.93	YES							
L0009135		0	0.16500E-05	445345.2	3762002.5	217.4	3.15	12.09
2.93	YES							
L0009136		0	0.16500E-05	445371.2	3762002.7	217.6	3.15	12.09
2.93	YES							
L0009137		0	0.16500E-05	445397.2	3762002.8	218.0	3.15	12.09
2.93	YES							
L0009138		0	0.16500E-05	445423.2	3762002.9	218.3	3.15	12.09
2.93	YES							
L0009139		0	0.16500E-05	445449.2	3762003.0	218.4	3.15	12.09
2.93	YES							
L0009140		0	0.16500E-05	445475.2	3762003.2	218.5	3.15	12.09
2.93	YES							
L0009141		0	0.16500E-05	445501.2	3762003.3	218.4	3.15	12.09
2.93	YES							
L0009142		0	0.16500E-05	445527.2	3762003.4	218.2	3.15	12.09
2.93	YES							
L0009143		0	0.16500E-05	445553.2	3762003.5	218.2	3.15	12.09
2.93	YES							
L0009144		0	0.16500E-05	445579.2	3762003.7	218.1	3.15	12.09
2.93	YES							
L0009145		0	0.16500E-05	445605.2	3762003.8	218.1	3.15	12.09
2.93	YES							
L0009146		0	0.16500E-05	445631.2	3762003.9	218.1	3.15	12.09
2.93	YES							
L0009147		0	0.16500E-05	445657.2	3762004.0	218.1	3.15	12.09
2.93	YES							
L0009148		0	0.16500E-05	445683.2	3762004.2	217.9	3.15	12.09
2.93	YES							
L0009149		0	0.16500E-05	445709.2	3762004.3	217.7	3.15	12.09
2.93	YES							
L0009150		0	0.16500E-05	445735.2	3762004.4	217.3	3.15	12.09
2.93	YES							
L0009151		0	0.16500E-05	445761.2	3762004.5	216.9	3.15	12.09



2.93	YES							
L0009152		0	0.16500E-05	445787.2	3762004.7	217.0	3.15	12.09
2.93	YES							
L0009153		0	0.16500E-05	445813.2	3762004.8	217.4	3.15	12.09
2.93	YES							
L0009154		0	0.16500E-05	445839.2	3762004.9	217.7	3.15	12.09
2.93	YES							
L0009155		0	0.16500E-05	445865.2	3762005.0	217.9	3.15	12.09
2.93	YES							
L0009156		0	0.16500E-05	445891.2	3762005.1	218.2	3.15	12.09
2.93	YES							
L0009157		0	0.16500E-05	445917.2	3762005.3	218.1	3.15	12.09
2.93	YES							
L0009158		0	0.16500E-05	445943.2	3762005.4	218.2	3.15	12.09
2.93	YES							
L0009159		0	0.16500E-05	445969.2	3762005.5	218.5	3.15	12.09
2.93	YES							
L0009160		0	0.16500E-05	445995.2	3762005.6	218.6	3.15	12.09
2.93	YES							
L0009161		0	0.16500E-05	446021.2	3762005.8	218.6	3.15	12.09
2.93	YES							
L0009162		0	0.16500E-05	446047.2	3762005.9	218.6	3.15	12.09
2.93	YES							
L0009163		0	0.19720E-05	446079.0	3762020.5	219.0	3.15	14.42
2.93	YES							
L0009164		0	0.19720E-05	446106.9	3762034.0	219.3	3.15	14.42
2.93	YES							
L0009165		0	0.19720E-05	446134.9	3762047.5	219.3	3.15	14.42
2.93	YES							
L0009166		0	0.19720E-05	446162.8	3762061.0	219.5	3.15	14.42
2.93	YES							
L0009167		0	0.19720E-05	446190.7	3762074.5	219.6	3.15	14.42
2.93	YES							
L0009168		0	0.19720E-05	446218.6	3762087.9	219.8	3.15	14.42
2.93	YES							
L0009169		0	0.19720E-05	446246.5	3762101.4	219.9	3.15	14.42
2.93	YES							
L0009170		0	0.19720E-05	446274.4	3762114.9	220.0	3.15	14.42
2.93	YES							
L0009171		0	0.19720E-05	446301.0	3762130.4	220.1	3.15	14.42

2.93 YES  
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\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE	BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE	(GRAMS/SEC)	X	Y	SY
(METERS)	ID	SCALAR	VARY		(METERS)	(METERS)	(METERS)
		CATS.	BY		(METERS)	(METERS)	(METERS)
L0009172		0	0.19720E-05	446324.8	3762150.3	220.3	14.42
2.93	YES						
L0009173		0	0.19720E-05	446348.6	3762170.2	220.4	14.42
2.93	YES						
L0009174		0	0.19720E-05	446372.3	3762190.1	220.7	14.42
2.93	YES						
L0009175		0	0.19720E-05	446396.1	3762210.1	220.9	14.42
2.93	YES						
L0009176		0	0.19720E-05	446419.8	3762230.0	221.0	14.42
2.93	YES						
L0009177		0	0.19720E-05	446443.6	3762249.9	221.3	14.42
2.93	YES						
L0009178		0	0.19720E-05	446467.4	3762269.8	221.3	14.42
2.93	YES						
L0009179		0	0.19720E-05	446491.1	3762289.7	221.4	14.42
2.93	YES						
L0009180		0	0.19720E-05	446517.6	3762305.2	221.7	14.42
2.93	YES						
L0009181		0	0.19720E-05	446545.9	3762318.0	221.7	14.42
2.93	YES						
L0009182		0	0.19720E-05	446574.1	3762330.7	221.9	14.42
2.93	YES						
L0009183		0	0.19720E-05	446602.4	3762343.5	222.0	14.42
2.93	YES						
L0009184		0	0.19720E-05	446630.7	3762356.2	222.2	14.42
2.93	YES						
L0009185		0	0.19720E-05	446658.9	3762369.0	222.4	14.42
2.93	YES						
L0009186		0	0.19720E-05	446687.2	3762381.7	222.5	14.42
2.93	YES						
L0009187		0	0.19720E-05	446715.4	3762394.5	222.9	14.42
2.93	YES						
L0009188		0	0.19720E-05	446745.7	3762399.2	222.9	14.42
2.93	YES						
L0009189		0	0.19720E-05	446776.6	3762401.1	222.8	14.42
2.93	YES						
L0009190		0	0.19720E-05	446807.6	3762403.0	222.2	14.42

2.93	YES							
L0009191		0	0.19720E-05	446838.5	3762403.5	221.9	3.15	14.42
2.93	YES							
L0009192		0	0.19720E-05	446869.5	3762403.3	222.0	3.15	14.42
2.93	YES							
L0009193		0	0.19720E-05	446900.5	3762403.0	222.0	3.15	14.42
2.93	YES							
L0009194		0	0.19720E-05	446931.5	3762402.7	222.2	3.15	14.42
2.93	YES							
L0009195		0	0.19720E-05	446962.5	3762402.5	222.5	3.15	14.42
2.93	YES							
L0009196		0	0.19720E-05	446993.5	3762402.2	222.6	3.15	14.42
2.93	YES							
L0009197		0	0.19720E-05	447024.5	3762402.0	222.6	3.15	14.42
2.93	YES							
L0009198		0	0.19720E-05	447055.5	3762401.7	222.7	3.15	14.42
2.93	YES							
L0009199		0	0.19720E-05	447086.5	3762401.4	223.0	3.15	14.42
2.93	YES							
L0009200		0	0.19720E-05	447117.5	3762401.2	223.1	3.15	14.42
2.93	YES							
L0009201		0	0.19720E-05	447148.5	3762400.9	223.3	3.15	14.42
2.93	YES							
L0009202		0	0.19720E-05	447179.5	3762400.6	223.3	3.15	14.42
2.93	YES							
L0009203		0	0.19720E-05	447210.5	3762400.4	223.4	3.15	14.42
2.93	YES							
L0009204		0	0.19720E-05	447241.5	3762400.1	223.3	3.15	14.42
2.93	YES							
L0009205		0	0.19720E-05	447272.5	3762399.8	223.4	3.15	14.42
2.93	YES							
L0009206		0	0.19720E-05	447303.5	3762399.6	223.5	3.15	14.42
2.93	YES							
L0009207		0	0.19720E-05	447334.5	3762399.3	223.4	3.15	14.42
2.93	YES							
L0009208		0	0.19720E-05	447365.5	3762399.1	223.3	3.15	14.42
2.93	YES							
L0009209		0	0.19720E-05	447396.5	3762398.8	223.2	3.15	14.42
2.93	YES							
L0009210		0	0.19720E-05	447427.5	3762398.5	223.2	3.15	14.42
2.93	YES							
L0009211		0	0.19720E-05	447458.5	3762398.3	223.1	3.15	14.42

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*      08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
                                  \*\*\*      10:27:03

\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE		X	ELEV.	HEIGHT	SY
SZ	SOURCE	PART.	(GRAMS/SEC)		Y	(METERS)	(METERS)	(METERS)
ID		SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY					
L0009212		0	0.19720E-05	447489.5	3762398.0	223.0	3.15	14.42
2.93	YES							
L0009213		0	0.19720E-05	447520.5	3762397.7	222.8	3.15	14.42
2.93	YES							
L0009214		0	0.19720E-05	447551.5	3762397.5	222.7	3.15	14.42
2.93	YES							
L0009215		0	0.19720E-05	447582.5	3762397.2	222.7	3.15	14.42
2.93	YES							
L0009216		0	0.19720E-05	447613.5	3762397.0	222.5	3.15	14.42
2.93	YES							
L0009217		0	0.19720E-05	447644.5	3762396.7	222.4	3.15	14.42
2.93	YES							
L0009218		0	0.19720E-05	447675.5	3762396.4	222.5	3.15	14.42
2.93	YES							
L0009219		0	0.19720E-05	447706.5	3762396.2	222.6	3.15	14.42
2.93	YES							
L0009220		0	0.19720E-05	447737.5	3762395.9	222.8	3.15	14.42
2.93	YES							
L0009221		0	0.19720E-05	447768.5	3762395.6	222.9	3.15	14.42
2.93	YES							
L0009222		0	0.19720E-05	447799.5	3762395.4	223.1	3.15	14.42
2.93	YES							
L0009223		0	0.19720E-05	447830.5	3762395.1	223.2	3.15	14.42
2.93	YES							
L0009224		0	0.19720E-05	447861.5	3762394.8	223.3	3.15	14.42
2.93	YES							
L0009225		0	0.19720E-05	447892.5	3762394.6	223.4	3.15	14.42
2.93	YES							
L0009226		0	0.19720E-05	447923.5	3762394.3	223.5	3.15	14.42
2.93	YES							
L0009227		0	0.19720E-05	447954.5	3762394.1	223.7	3.15	14.42
2.93	YES							
L0009228		0	0.19720E-05	447985.5	3762393.8	223.8	3.15	14.42
2.93	YES							
L0009229		0	0.19720E-05	448016.5	3762393.5	223.9	3.15	14.42

2.93	YES							
L0009230		0	0.19720E-05	448047.5	3762393.3	224.0	3.15	14.42
2.93	YES							
L0009231		0	0.19720E-05	448078.5	3762393.0	224.1	3.15	14.42
2.93	YES							
L0009232		0	0.19720E-05	448109.5	3762392.7	224.3	3.15	14.42
2.93	YES							
L0009233		0	0.19720E-05	448140.5	3762392.5	224.4	3.15	14.42
2.93	YES							
L0009234		0	0.19720E-05	448171.5	3762392.2	224.6	3.15	14.42
2.93	YES							
L0009235		0	0.19720E-05	448202.5	3762391.9	224.8	3.15	14.42
2.93	YES							
L0009236		0	0.19720E-05	448233.5	3762391.7	224.9	3.15	14.42
2.93	YES							
L0009237		0	0.19720E-05	448264.5	3762391.4	225.1	3.15	14.42
2.93	YES							
L0009238		0	0.19720E-05	448295.5	3762391.2	225.2	3.15	14.42
2.93	YES							
L0009239		0	0.19720E-05	448326.5	3762390.9	225.3	3.15	14.42
2.93	YES							
L0009240		0	0.19720E-05	448357.5	3762390.6	225.4	3.15	14.42
2.93	YES							
L0009241		0	0.19720E-05	448388.5	3762390.4	225.4	3.15	14.42
2.93	YES							
L0009242		0	0.19720E-05	448419.5	3762390.1	225.4	3.15	14.42
2.93	YES							
L0009243		0	0.19720E-05	448450.5	3762390.4	225.3	3.15	14.42
2.93	YES							
L0009244		0	0.19720E-05	448481.4	3762392.4	225.2	3.15	14.42
2.93	YES							
L0009245		0	0.19720E-05	448512.3	3762394.3	225.0	3.15	14.42
2.93	YES							
L0009246		0	0.19720E-05	448543.3	3762396.2	224.9	3.15	14.42
2.93	YES							
L0009247		0	0.19720E-05	448574.2	3762398.1	224.8	3.15	14.42
2.93	YES							
L0009248		0	0.19720E-05	448605.2	3762400.0	224.7	3.15	14.42
2.93	YES							
L0009249		0	0.19720E-05	448636.1	3762401.9	224.5	3.15	14.42
2.93	YES							
L0009250		0	0.19720E-05	448667.0	3762403.8	224.4	3.15	14.42
2.93	YES							
L0009251		0	0.19720E-05	448698.0	3762405.7	224.4	3.15	14.42

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 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
                                  \*\*\*      10:27:03

\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	ID	SCALAR	(GRAMS/SEC)	X	Y	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	VARY	(METERS)	(METERS)			
		BY						
L0009252		0	0.19720E-05	448728.9	3762407.7	224.7	3.15	14.42
2.93	YES							
L0009253		0	0.19720E-05	448759.9	3762409.6	225.6	3.15	14.42
2.93	YES							
L0009254		0	0.19720E-05	448790.8	3762411.5	225.9	3.15	14.42
2.93	YES							
L0009255		0	0.19720E-05	448820.0	3762421.7	225.7	3.15	14.42
2.93	YES							
L0009256		0	0.19720E-05	448849.1	3762432.3	226.7	3.15	14.42
2.93	YES							
L0009257		0	0.19720E-05	448878.3	3762442.9	227.7	3.15	14.42
2.93	YES							
L0009258		0	0.19720E-05	448907.4	3762453.5	228.1	3.15	14.42
2.93	YES							
L0009259		0	0.19720E-05	448936.5	3762464.2	229.3	3.15	14.42
2.93	YES							
L0009260		0	0.19720E-05	448965.6	3762474.8	229.7	3.15	14.42
2.93	YES							
L0009261		0	0.19720E-05	448994.8	3762485.4	230.3	3.15	14.42
2.93	YES							
L0009262		0	0.19720E-05	449023.9	3762496.0	233.1	3.15	14.42
2.93	YES							
L0009263		0	0.19720E-05	449053.0	3762506.6	234.8	3.15	14.42
2.93	YES							
L0009264		0	0.19720E-05	449082.1	3762517.3	235.0	3.15	14.42
2.93	YES							
L0009265		0	0.19720E-05	449111.3	3762527.9	232.4	3.15	14.42
2.93	YES							
L0009266		0	0.19720E-05	449140.4	3762538.5	227.4	3.15	14.42
2.93	YES							
L0009267		0	0.19720E-05	449169.5	3762549.1	226.9	3.15	14.42
2.93	YES							
L0009268		0	0.19720E-05	449198.6	3762559.8	227.0	3.15	14.42

2.93	YES							
L0009269		0	0.19720E-05	449227.8	3762570.4	228.0	3.15	14.42
2.93	YES							
L0009270		0	0.19720E-05	449256.9	3762581.0	232.2	3.15	14.42
2.93	YES							
L0009271		0	0.19720E-05	449286.0	3762591.6	233.1	3.15	14.42
2.93	YES							
L0009272		0	0.33540E-05	440391.7	3761160.7	201.9	0.00	12.09
3.56	YES							
L0009273		0	0.33540E-05	440392.0	3761186.7	202.1	0.00	12.09
3.56	YES							
L0009274		0	0.33540E-05	440392.3	3761212.7	202.4	0.00	12.09
3.56	YES							
L0009275		0	0.33540E-05	440399.7	3761231.5	202.6	0.00	12.09
3.56	YES							
L0009276		0	0.33540E-05	440425.7	3761231.5	202.5	0.00	12.09
3.56	YES							
L0009277		0	0.33540E-05	440451.3	3761231.1	202.5	0.00	12.09
3.56	YES							
L0009278		0	0.33540E-05	440451.3	3761205.1	202.1	0.00	12.09
3.56	YES							
L0009279		0	0.33540E-05	440451.3	3761179.1	201.9	0.00	12.09
3.56	YES							
L0009280		0	0.33540E-05	440451.2	3761153.1	201.7	0.00	12.09
3.56	YES							
L0009281		0	0.33540E-05	440451.2	3761127.1	201.5	0.00	12.09
3.56	YES							
L0009282		0	0.33540E-05	440451.2	3761101.1	201.2	0.00	12.09
3.56	YES							
L0009283		0	0.33540E-05	440451.1	3761075.1	200.9	0.00	12.09
3.56	YES							
L0009284		0	0.33540E-05	440451.1	3761049.1	200.6	0.00	12.09
3.56	YES							
L0009285		0	0.33540E-05	440451.1	3761023.1	200.3	0.00	12.09
3.56	YES							
L0009286		0	0.33540E-05	440451.0	3760997.1	200.1	0.00	12.09
3.56	YES							
L0009287		0	0.33540E-05	440451.0	3760971.1	199.8	0.00	12.09
3.56	YES							
L0009288		0	0.33540E-05	440451.0	3760945.1	199.6	0.00	12.09
3.56	YES							
L0009289		0	0.33540E-05	440450.9	3760919.1	199.4	0.00	12.09
3.56	YES							
L0009290		0	0.33540E-05	440450.9	3760893.1	199.2	0.00	12.09
3.56	YES							
L0009291		0	0.33540E-05	440450.9	3760867.1	198.9	0.00	12.09

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\*\*\* AERMET - VERSION 16216 \*\*\*  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	SOURCE	SCALAR	VARY	X	Y	(METERS)	(METERS)	(METERS)
ID		CATS.	BY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)								
L0009292		0	0.33540E-05	440450.8	3760841.1	198.7	0.00	12.09
3.56	YES							
L0009293		0	0.33540E-05	440450.8	3760815.1	198.4	0.00	12.09
3.56	YES							
L0009294		0	0.33540E-05	440450.8	3760789.1	198.2	0.00	12.09
3.56	YES							
L0009295		0	0.33540E-05	440450.7	3760763.1	197.9	0.00	12.09
3.56	YES							
L0009296		0	0.33540E-05	440450.7	3760737.1	197.6	0.00	12.09
3.56	YES							
L0009297		0	0.33540E-05	440450.7	3760711.1	197.3	0.00	12.09
3.56	YES							
L0009298		0	0.33540E-05	440450.6	3760685.1	197.0	0.00	12.09
3.56	YES							
L0009299		0	0.33540E-05	440450.6	3760659.1	196.8	0.00	12.09
3.56	YES							
L0009300		0	0.33540E-05	440450.5	3760633.1	196.5	0.00	12.09
3.56	YES							
L0009301		0	0.33540E-05	440450.5	3760607.1	196.2	0.00	12.09
3.56	YES							
L0009302		0	0.33540E-05	440450.5	3760581.1	196.0	0.00	12.09
3.56	YES							
L0009303		0	0.33540E-05	440450.4	3760555.1	195.8	0.00	12.09
3.56	YES							
L0009304		0	0.33540E-05	440450.4	3760529.1	195.5	0.00	12.09
3.56	YES							
L0009305		0	0.33540E-05	440450.4	3760503.1	195.1	0.00	12.09
3.56	YES							
L0009306		0	0.33540E-05	440458.1	3760484.8	195.2	0.00	12.09
3.56	YES							
L0009307		0	0.33540E-05	440484.1	3760484.3	195.2	0.00	12.09



3.56	YES							
L0009308		0	0.33540E-05	440509.1	3760484.9	195.2	0.00	12.09
3.56	YES							
L0009309		0	0.33540E-05	440508.9	3760510.9	195.3	0.00	12.09
3.56	YES							
L0009310		0	0.33540E-05	440508.7	3760536.9	195.8	0.00	12.09
3.56	YES							
L0009311		0	0.33540E-05	440508.5	3760562.9	196.0	0.00	12.09
3.56	YES							
L0009312		0	0.33540E-05	440508.3	3760588.9	196.2	0.00	12.09
3.56	YES							
L0009313		0	0.33540E-05	440508.1	3760614.9	196.4	0.00	12.09
3.56	YES							
L0009314		0	0.33540E-05	440507.9	3760640.9	196.7	0.00	12.09
3.56	YES							
L0009315		0	0.33540E-05	440507.7	3760666.9	197.0	0.00	12.09
3.56	YES							
L0009316		0	0.33540E-05	440507.5	3760692.9	197.3	0.00	12.09
3.56	YES							
L0009317		0	0.33540E-05	440507.3	3760718.9	197.6	0.00	12.09
3.56	YES							
L0009318		0	0.33540E-05	440507.1	3760744.9	197.9	0.00	12.09
3.56	YES							
L0009319		0	0.33540E-05	440506.9	3760770.9	198.2	0.00	12.09
3.56	YES							
L0009320		0	0.33540E-05	440506.7	3760796.9	198.5	0.00	12.09
3.56	YES							
L0009321		0	0.33540E-05	440506.5	3760822.9	198.7	0.00	12.09
3.56	YES							
L0009322		0	0.33540E-05	440506.3	3760848.9	198.8	0.00	12.09
3.56	YES							
L0009323		0	0.33540E-05	440506.1	3760874.9	199.1	0.00	12.09
3.56	YES							
L0009324		0	0.33540E-05	440505.9	3760900.9	199.3	0.00	12.09
3.56	YES							
L0009325		0	0.33540E-05	440505.7	3760926.9	199.5	0.00	12.09
3.56	YES							
L0009326		0	0.33540E-05	440505.5	3760952.9	199.7	0.00	12.09
3.56	YES							
L0009327		0	0.33540E-05	440505.3	3760978.9	200.0	0.00	12.09
3.56	YES							
L0009328		0	0.33540E-05	440505.1	3761004.9	200.2	0.00	12.09
3.56	YES							
L0009329		0	0.33540E-05	440504.9	3761030.9	200.4	0.00	12.09
3.56	YES							
L0009330		0	0.33540E-05	440504.7	3761056.9	200.7	0.00	12.09
3.56	YES							
L0009331		0	0.33540E-05	440504.5	3761082.9	201.1	0.00	12.09
3.56	YES							

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*  
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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		X	ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	(GRAMS/SEC)	VARY	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY					
L0009332		0	0.33540E-05		440504.3	3761108.9	201.4	12.09
3.56	YES						0.00	
L0009333		0	0.33540E-05		440504.1	3761134.9	201.7	12.09
3.56	YES						0.00	
L0009334		0	0.33540E-05		440503.9	3761160.9	201.9	12.09
3.56	YES						0.00	
L0009335		0	0.33540E-05		440503.7	3761186.9	202.1	12.09
3.56	YES						0.00	
L0009336		0	0.33540E-05		440503.5	3761212.9	202.4	12.09
3.56	YES						0.00	
L0009337		0	0.33540E-05		440509.8	3761232.7	202.7	12.09
3.56	YES						0.00	
L0009338		0	0.33540E-05		440535.8	3761233.5	202.8	12.09
3.56	YES						0.00	
L0009339		0	0.33540E-05		440561.7	3761234.3	203.1	12.09
3.56	YES						0.00	
L0009340		0	0.33540E-05		440564.9	3761211.7	202.9	12.09
3.56	YES						0.00	
L0009341		0	0.33540E-05		440564.8	3761185.7	202.6	12.09
3.56	YES						0.00	
L0009342		0	0.33540E-05		440564.7	3761159.7	202.4	12.09
3.56	YES						0.00	
L0009343		0	0.33540E-05		440564.6	3761133.7	202.3	12.09
3.56	YES						0.00	
L0009344		0	0.33540E-05		440564.5	3761107.7	202.2	12.09
3.56	YES						0.00	
L0009345		0	0.33540E-05		440564.4	3761081.7	201.9	12.09
3.56	YES						0.00	
L0009346		0	0.33540E-05		440564.3	3761055.7	201.4	12.09

3.56	YES							
L0009347		0	0.33540E-05	440564.2	3761029.7	200.9	0.00	12.09
3.56	YES							
L0009348		0	0.33540E-05	440564.1	3761003.7	200.6	0.00	12.09
3.56	YES							
L0009349		0	0.33540E-05	440564.0	3760977.7	200.4	0.00	12.09
3.56	YES							
L0009350		0	0.33540E-05	440563.9	3760951.7	200.1	0.00	12.09
3.56	YES							
L0009351		0	0.33540E-05	440563.8	3760925.7	199.9	0.00	12.09
3.56	YES							
L0009352		0	0.33540E-05	440563.7	3760899.7	199.6	0.00	12.09
3.56	YES							
L0009353		0	0.33540E-05	440563.6	3760873.7	199.4	0.00	12.09
3.56	YES							
L0009354		0	0.33540E-05	440563.5	3760847.7	199.1	0.00	12.09
3.56	YES							
L0009355		0	0.33540E-05	440563.4	3760821.7	199.1	0.00	12.09
3.56	YES							
L0009356		0	0.33540E-05	440563.3	3760795.7	198.9	0.00	12.09
3.56	YES							
L0009357		0	0.33540E-05	440563.2	3760769.7	198.6	0.00	12.09
3.56	YES							
L0009358		0	0.33540E-05	440563.1	3760743.7	198.2	0.00	12.09
3.56	YES							
L0009359		0	0.33540E-05	440563.0	3760717.7	197.9	0.00	12.09
3.56	YES							
L0009360		0	0.33540E-05	440562.9	3760691.7	197.6	0.00	12.09
3.56	YES							
L0009361		0	0.33540E-05	440562.8	3760665.7	197.3	0.00	12.09
3.56	YES							
L0009362		0	0.33540E-05	440562.7	3760639.7	197.0	0.00	12.09
3.56	YES							
L0009363		0	0.33540E-05	440562.6	3760613.7	196.8	0.00	12.09
3.56	YES							
L0009364		0	0.33540E-05	440562.5	3760587.7	196.5	0.00	12.09
3.56	YES							
L0009365		0	0.33540E-05	440562.4	3760561.7	196.3	0.00	12.09
3.56	YES							
L0009366		0	0.33540E-05	440562.3	3760535.7	196.0	0.00	12.09
3.56	YES							
L0009367		0	0.33540E-05	440562.2	3760509.7	195.5	0.00	12.09
3.56	YES							
L0009368		0	0.33540E-05	440567.2	3760488.7	195.5	0.00	12.09
3.56	YES							
L0009369		0	0.33540E-05	440593.2	3760488.7	195.6	0.00	12.09
3.56	YES							
L0009370		0	0.33540E-05	440619.2	3760488.7	195.7	0.00	12.09
3.56	YES							

L0009371            0   0.33540E-05  440619.9 3760514.0  195.9        0.00    12.09  
 3.56        YES  
 \*\*\* AERMOD - VERSION 21112 \*\*\*        \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*        08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*        \*\*\*  
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\*\*\* MODELOPTs:        RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE	BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	PART.	(GRAMS/SEC)	X	Y	SY
(METERS)	ID	SCALAR	VARY	CATS.	(METERS)	(METERS)	(METERS)
		BY			ELEV.	HEIGHT	
L0009372	0	0.33540E-05	440620.0	3760540.0	196.4	0.00	12.09
3.56	YES						
L0009373	0	0.33540E-05	440620.0	3760566.0	196.6	0.00	12.09
3.56	YES						
L0009374	0	0.33540E-05	440620.0	3760592.0	196.9	0.00	12.09
3.56	YES						
L0009375	0	0.33540E-05	440620.1	3760618.0	197.1	0.00	12.09
3.56	YES						
L0009376	0	0.33540E-05	440620.1	3760644.0	197.3	0.00	12.09
3.56	YES						
L0009377	0	0.33540E-05	440620.1	3760670.0	197.6	0.00	12.09
3.56	YES						
L0009378	0	0.33540E-05	440620.2	3760696.0	197.8	0.00	12.09
3.56	YES						
L0009379	0	0.33540E-05	440620.2	3760722.0	197.2	0.00	12.09
3.56	YES						
L0009380	0	0.33540E-05	440620.2	3760748.0	196.5	0.00	12.09
3.56	YES						
L0009381	0	0.33540E-05	440620.3	3760774.0	197.9	0.00	12.09
3.56	YES						
L0009382	0	0.33540E-05	440620.3	3760800.0	199.2	0.00	12.09
3.56	YES						
L0009383	0	0.33540E-05	440620.3	3760826.0	199.5	0.00	12.09
3.56	YES						
L0009384	0	0.33540E-05	440620.4	3760852.0	199.8	0.00	12.09
3.56	YES						
L0009385	0	0.33540E-05	440620.4	3760878.0	200.0	0.00	12.09

3.56	YES							
L0009386		0	0.33540E-05	440620.5	3760904.0	200.3	0.00	12.09
3.56	YES							
L0009387		0	0.33540E-05	440620.5	3760930.0	200.5	0.00	12.09
3.56	YES							
L0009388		0	0.33540E-05	440620.5	3760956.0	200.8	0.00	12.09
3.56	YES							
L0009389		0	0.33540E-05	440620.6	3760982.0	201.1	0.00	12.09
3.56	YES							
L0009390		0	0.33540E-05	440620.6	3761008.0	201.3	0.00	12.09
3.56	YES							
L0009391		0	0.33540E-05	440620.6	3761034.0	201.6	0.00	12.09
3.56	YES							
L0009392		0	0.33540E-05	440620.7	3761060.0	201.8	0.00	12.09
3.56	YES							
L0009393		0	0.33540E-05	440620.7	3761086.0	202.1	0.00	12.09
3.56	YES							
L0009394		0	0.33540E-05	440620.7	3761112.0	202.3	0.00	12.09
3.56	YES							
L0009395		0	0.33540E-05	440620.8	3761138.0	202.5	0.00	12.09
3.56	YES							
L0009396		0	0.33540E-05	440620.8	3761164.0	202.6	0.00	12.09
3.56	YES							
L0009397		0	0.33540E-05	440620.8	3761190.0	202.9	0.00	12.09
3.56	YES							
L0009398		0	0.33540E-05	440620.9	3761216.0	203.1	0.00	12.09
3.56	YES							
L0009399		0	0.33540E-05	440626.6	3761236.2	203.4	0.00	12.09
3.56	YES							
L0009400		0	0.33540E-05	440652.6	3761235.9	203.4	0.00	12.09
3.56	YES							
L0009401		0	0.33540E-05	440678.5	3761235.6	203.5	0.00	12.09
3.56	YES							
L0009402		0	0.33540E-05	440680.6	3761211.9	203.3	0.00	12.09
3.56	YES							
L0009403		0	0.33540E-05	440680.3	3761185.9	203.1	0.00	12.09
3.56	YES							
L0009404		0	0.33540E-05	440680.0	3761159.9	202.4	0.00	12.09
3.56	YES							
L0009405		0	0.33540E-05	440679.6	3761133.9	201.7	0.00	12.09
3.56	YES							
L0009406		0	0.33540E-05	440679.3	3761107.9	201.2	0.00	12.09
3.56	YES							
L0009407		0	0.33540E-05	440679.0	3761081.9	201.0	0.00	12.09
3.56	YES							
L0009408		0	0.33540E-05	440678.6	3761055.9	200.7	0.00	12.09
3.56	YES							
L0009409		0	0.33540E-05	440678.3	3761029.9	200.5	0.00	12.09
3.56	YES							

L0009410           0   0.33540E-05  440678.0 3761003.9   200.2       0.00     12.09  
 3.56     YES  
 L0009411           0   0.33540E-05  440677.7 3760977.9   200.0       0.00     12.09  
 3.56     YES

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\*\*\* MODELOPTs:    RegDFault  CONC  ELEV  URBAN  ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		X	Y	HEIGHT	SY
(METERS)	ID	SCALAR	(GRAMS/SEC)	VARY	(METERS)	(METERS)	(METERS)	(METERS)
		CATS.	BY					

L0009412	0	0.33540E-05	440677.3	3760951.9	199.8	0.00	12.09
3.56	YES						
L0009413	0	0.33540E-05	440677.0	3760925.9	199.6	0.00	12.09
3.56	YES						
L0009414	0	0.33540E-05	440676.7	3760899.9	199.4	0.00	12.09
3.56	YES						
L0009415	0	0.33540E-05	440676.4	3760873.9	199.1	0.00	12.09
3.56	YES						
L0009416	0	0.33540E-05	440676.0	3760847.9	198.8	0.00	12.09
3.56	YES						
L0009417	0	0.33540E-05	440675.7	3760821.9	198.6	0.00	12.09
3.56	YES						
L0009418	0	0.33540E-05	440675.4	3760795.9	198.4	0.00	12.09
3.56	YES						
L0009419	0	0.33540E-05	440675.1	3760769.9	196.8	0.00	12.09
3.56	YES						
L0009420	0	0.33540E-05	440674.7	3760743.9	196.1	0.00	12.09
3.56	YES						
L0009421	0	0.33540E-05	440674.4	3760717.9	197.3	0.00	12.09
3.56	YES						
L0009422	0	0.33540E-05	440674.1	3760691.9	198.0	0.00	12.09
3.56	YES						
L0009423	0	0.33540E-05	440673.8	3760665.9	197.7	0.00	12.09
3.56	YES						
L0009424	0	0.33540E-05	440673.4	3760639.9	197.5	0.00	12.09

3.56	YES							
L0009425		0	0.33540E-05	440673.1	3760613.9	197.3	0.00	12.09
3.56	YES							
L0009426		0	0.33540E-05	440672.8	3760587.9	197.0	0.00	12.09
3.56	YES							
L0009427		0	0.33540E-05	440672.5	3760561.9	196.8	0.00	12.09
3.56	YES							
L0009428		0	0.33540E-05	440672.1	3760535.9	196.5	0.00	12.09
3.56	YES							
L0009429		0	0.33540E-05	440671.8	3760509.9	196.0	0.00	12.09
3.56	YES							
L0009430		0	0.33540E-05	440673.3	3760485.7	195.8	0.00	12.09
3.56	YES							
L0009431		0	0.33540E-05	440699.3	3760485.3	195.9	0.00	12.09
3.56	YES							
L0009432		0	0.33540E-05	440725.3	3760484.8	196.1	0.00	12.09
3.56	YES							
L0009433		0	0.33540E-05	440735.9	3760500.0	196.3	0.00	12.09
3.56	YES							
L0009434		0	0.33540E-05	440735.7	3760526.0	196.7	0.00	12.09
3.56	YES							
L0009435		0	0.33540E-05	440735.6	3760552.0	197.0	0.00	12.09
3.56	YES							
L0009436		0	0.33540E-05	440735.5	3760578.0	197.2	0.00	12.09
3.56	YES							
L0009437		0	0.33540E-05	440735.3	3760604.0	197.4	0.00	12.09
3.56	YES							
L0009438		0	0.33540E-05	440735.2	3760630.0	197.6	0.00	12.09
3.56	YES							
L0009439		0	0.33540E-05	440735.0	3760656.0	197.8	0.00	12.09
3.56	YES							
L0009440		0	0.33540E-05	440734.9	3760682.0	198.1	0.00	12.09
3.56	YES							
L0009441		0	0.33540E-05	440734.7	3760708.0	198.2	0.00	12.09
3.56	YES							
L0009442		0	0.33540E-05	440734.6	3760734.0	198.3	0.00	12.09
3.56	YES							
L0009443		0	0.33540E-05	440734.5	3760760.0	198.4	0.00	12.09
3.56	YES							
L0009444		0	0.33540E-05	440734.3	3760786.0	199.1	0.00	12.09
3.56	YES							
L0009445		0	0.33540E-05	440734.2	3760812.0	199.4	0.00	12.09
3.56	YES							
L0009446		0	0.33540E-05	440734.0	3760838.0	199.6	0.00	12.09
3.56	YES							
L0009447		0	0.33540E-05	440733.9	3760864.0	199.8	0.00	12.09
3.56	YES							
L0009448		0	0.33540E-05	440733.8	3760890.0	200.0	0.00	12.09
3.56	YES							

L0009449	0	0.33540E-05	440733.6	3760916.0	200.3	0.00	12.09
3.56	YES						
L0009450	0	0.33540E-05	440733.5	3760942.0	200.5	0.00	12.09
3.56	YES						
L0009451	0	0.33540E-05	440733.3	3760968.0	200.7	0.00	12.09
3.56	YES						

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\*\*\* MODELOPTs:      RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		X	ELEV.	HEIGHT	SY
(METERS)	ID	SCALAR	(GRAMS/SEC)	VARY	(METERS)	(METERS)	(METERS)	(METERS)
		CATS.	BY					

L0009452	0	0.33540E-05	440733.2	3760994.0	200.9	0.00	12.09
3.56	YES						
L0009453	0	0.33540E-05	440733.1	3761020.0	201.2	0.00	12.09
3.56	YES						
L0009454	0	0.33540E-05	440732.9	3761046.0	201.4	0.00	12.09
3.56	YES						
L0009455	0	0.33540E-05	440732.8	3761072.0	201.7	0.00	12.09
3.56	YES						
L0009456	0	0.33540E-05	440732.6	3761098.0	201.9	0.00	12.09
3.56	YES						
L0009457	0	0.33540E-05	440732.5	3761124.0	202.2	0.00	12.09
3.56	YES						
L0009458	0	0.33540E-05	440732.3	3761150.0	202.4	0.00	12.09
3.56	YES						
L0009459	0	0.33540E-05	440732.2	3761176.0	202.7	0.00	12.09
3.56	YES						
L0009460	0	0.33540E-05	440732.1	3761202.0	203.0	0.00	12.09
3.56	YES						
L0009461	0	0.33540E-05	440731.9	3761228.0	203.3	0.00	12.09
3.56	YES						
L0009462	0	0.33540E-05	440746.4	3761238.8	203.3	0.00	12.09
3.56	YES						
L0009463	0	0.33540E-05	440772.4	3761237.7	203.0	0.00	12.09



3.56 YES  
 L0009464 0 0.33540E-05 440782.4 3761220.6 202.7 0.00 12.09  
 3.56 YES  
 L0009465 0 0.33540E-05 440783.5 3761194.6 202.4 0.00 12.09  
 3.56 YES  
 L0009466 0 0.33540E-05 440784.7 3761168.6 202.1 0.00 12.09  
 3.56 YES

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID -----	SOURCE IDs -----
ALL L0008417	L0008412 , L0008413 , L0008414 , L0008415 , L0008416 , , L0008418 , L0008419 ,
L0008425	L0008420 , L0008421 , L0008422 , L0008423 , L0008424 , , L0008426 , L0008427 ,
L0008433	L0008428 , L0008429 , L0008430 , L0008431 , L0008432 , , L0008434 , L0008435 ,
L0008441	L0008436 , L0008437 , L0008438 , L0008439 , L0008440 , , L0008442 , L0008443 ,
L0008449	L0008444 , L0008445 , L0008446 , L0008447 , L0008448 , , L0008450 , L0008451 ,
L0008457	L0008452 , L0008453 , L0008454 , L0008455 , L0008456 , , L0008458 , L0008459 ,
L0008465	L0008460 , L0008461 , L0008462 , L0008463 , L0008464 , , L0008466 , L0008467 ,
L0008473	L0008468 , L0008469 , L0008470 , L0008471 , L0008472 , , L0008474 , L0008475 ,
L0008481	L0008476 , L0008477 , L0008478 , L0008479 , L0008480 , , L0008482 , L0008483 ,

L0008489      L0008484      , L0008485      , L0008486      , L0008487      , L0008488      ,  
                  , L0008490      , L0008491      ,  
  
 L0008497      L0008492      , L0008493      , L0008494      , L0008495      , L0008496      ,  
                  , L0008498      , L0008499      ,  
  
 L0008505      L0008500      , L0008501      , L0008502      , L0008503      , L0008504      ,  
                  , L0008506      , L0008507      ,  
  
 L0008513      L0008508      , L0008509      , L0008510      , L0008511      , L0008512      ,  
                  , L0008514      , L0008515      ,  
  
 L0008521      L0008516      , L0008517      , L0008518      , L0008519      , L0008520      ,  
                  , L0008522      , L0008523      ,  
  
 L0008529      L0008524      , L0008525      , L0008526      , L0008527      , L0008528      ,  
                  , L0008530      , L0008531      ,  
  
 L0008537      L0008532      , L0008533      , L0008534      , L0008535      , L0008536      ,  
                  , L0008538      , L0008539      ,  
  
 L0008545      L0008540      , L0008541      , L0008542      , L0008543      , L0008544      ,  
                  , L0008546      , L0008547      ,  
  
 L0008553      L0008548      , L0008549      , L0008550      , L0008551      , L0008552      ,  
                  , L0008554      , L0008555      ,  
  
 L0008561      L0008556      , L0008557      , L0008558      , L0008559      , L0008560      ,  
                  , L0008562      , L0008563      ,  
  
 L0008569      L0008564      , L0008565      , L0008566      , L0008567      , L0008568      ,  
                  , L0008570      , L0008571      ,

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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID  
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SOURCE IDs  
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L0008577      L0008572      , L0008573      , L0008574      , L0008575      , L0008576      ,  
                  , L0008578      , L0008579      ,

L0008585	L0008580 , L0008586	, L0008581 , L0008587	, L0008582 ,	, L0008583	, L0008584	,
L0008593	L0008588 , L0008594	, L0008589 , L0008595	, L0008590 ,	, L0008591	, L0008592	,
L0008601	L0008596 , L0008602	, L0008597 , L0008603	, L0008598 ,	, L0008599	, L0008600	,
L0008609	L0008604 , L0008610	, L0008605 , L0008611	, L0008606 ,	, L0008607	, L0008608	,
L0008617	L0008612 , L0008618	, L0008613 , L0008619	, L0008614 ,	, L0008615	, L0008616	,
L0008625	L0008620 , L0008626	, L0008621 , L0008627	, L0008622 ,	, L0008623	, L0008624	,
L0008633	L0008628 , L0008634	, L0008629 , L0008635	, L0008630 ,	, L0008631	, L0008632	,
L0008641	L0008636 , L0008642	, L0008637 , L0008643	, L0008638 ,	, L0008639	, L0008640	,
L0008649	L0008644 , L0008650	, L0008645 , L0008651	, L0008646 ,	, L0008647	, L0008648	,
L0008657	L0008652 , L0008658	, L0008653 , L0008659	, L0008654 ,	, L0008655	, L0008656	,
L0008665	L0008660 , L0008666	, L0008661 , L0008667	, L0008662 ,	, L0008663	, L0008664	,
L0008673	L0008668 , L0008674	, L0008669 , L0008675	, L0008670 ,	, L0008671	, L0008672	,
L0008681	L0008676 , L0008682	, L0008677 , L0008683	, L0008678 ,	, L0008679	, L0008680	,
L0008689	L0008684 , L0008690	, L0008685 , L0008691	, L0008686 ,	, L0008687	, L0008688	,
L0008697	L0008692 , L0008698	, L0008693 , L0008699	, L0008694 ,	, L0008695	, L0008696	,
L0008705	L0008700 , L0008706	, L0008701 , L0008707	, L0008702 ,	, L0008703	, L0008704	,

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L0008713      L0008708      , L0008709      , L0008710      , L0008711      , L0008712      ,
, L0008714      , L0008715      ,

L0008721      L0008716      , L0008717      , L0008718      , L0008719      , L0008720      ,
, L0008722      , L0008723      ,

L0008729      L0008724      , L0008725      , L0008726      , L0008727      , L0008728      ,
, L0008730      , L0008731      ,
^ *** AERMOD - VERSION 21112 *** *** C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U ***      08/24/21
*** AERMET - VERSION 16216 *** ***
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID	SOURCE IDs					
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L0008737	L0008732	, L0008733	, L0008734	, L0008735	, L0008736	,
	, L0008738	, L0008739	,			
L0008745	L0008740	, L0008741	, L0008742	, L0008743	, L0008744	,
	, L0008746	, L0008747	,			
L0008753	L0008748	, L0008749	, L0008750	, L0008751	, L0008752	,
	, L0008754	, L0008755	,			
L0008761	L0008756	, L0008757	, L0008758	, L0008759	, L0008760	,
	, L0008762	, L0008763	,			
L0008769	L0008764	, L0008765	, L0008766	, L0008767	, L0008768	,
	, L0008770	, L0008771	,			
L0008777	L0008772	, L0008773	, L0008774	, L0008775	, L0008776	,
	, L0008778	, L0008779	,			
L0008785	L0008780	, L0008781	, L0008782	, L0008783	, L0008784	,
	, L0008786	, L0008787	,			
L0008793	L0008788	, L0008789	, L0008790	, L0008791	, L0008792	,
	, L0008794	, L0008795	,			
L0008801	L0008796	, L0008797	, L0008798	, L0008799	, L0008800	,
	, L0008802	, L0008803	,			

L0008809      L0008804      , L0008805      , L0008806      , L0008807      , L0008808      ,  
                   , L0008810      , L0008811      ,  
  
 L0008817      L0008812      , L0008813      , L0008814      , L0008815      , L0008816      ,  
                   , L0008818      , L0008819      ,  
  
 L0008825      L0008820      , L0008821      , L0008822      , L0008823      , L0008824      ,  
                   , L0008826      , L0008827      ,  
  
 L0008833      L0008828      , L0008829      , L0008830      , L0008831      , L0008832      ,  
                   , L0008834      , L0008835      ,  
  
 L0008841      L0008836      , L0008837      , L0008838      , L0008839      , L0008840      ,  
                   , L0008842      , L0008843      ,  
  
 L0008849      L0008844      , L0008845      , L0008846      , L0008847      , L0008848      ,  
                   , L0008850      , L0008851      ,  
  
 L0008857      L0008852      , L0008853      , L0008854      , L0008855      , L0008856      ,  
                   , L0008858      , L0008859      ,  
  
 L0008865      L0008860      , L0008861      , L0008862      , L0008863      , L0008864      ,  
                   , L0008866      , L0008867      ,  
  
 L0008873      L0008868      , L0008869      , L0008870      , L0008871      , L0008872      ,  
                   , L0008874      , L0008875      ,  
  
 L0008881      L0008876      , L0008877      , L0008878      , L0008879      , L0008880      ,  
                   , L0008882      , L0008883      ,  
  
 L0008889      L0008884      , L0008885      , L0008886      , L0008887      , L0008888      ,  
                   , L0008890      , L0008891      ,

^ \*\*\* AERMOD - VERSION 21112 \*\*\*      C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*      08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID  
-----

SOURCE IDs  
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L0008892      , L0008893      , L0008894      , L0008895      , L0008896      ,

L0008897 , L0008898 , L0008899 ,  
L0008905 L0008900 , L0008901 , L0008902 , L0008903 , L0008904 ,  
, L0008906 , L0008907 ,  
L0008913 L0008908 , L0008909 , L0008910 , L0008911 , L0008912 ,  
, L0008914 , L0008915 ,  
L0008921 L0008916 , L0008917 , L0008918 , L0008919 , L0008920 ,  
, L0008922 , L0008923 ,  
L0008929 L0008924 , L0008925 , L0008926 , L0008927 , L0008928 ,  
, L0008930 , L0008931 ,  
L0008937 L0008932 , L0008933 , L0008934 , L0008935 , L0008936 ,  
, L0008938 , L0008939 ,  
L0008945 L0008940 , L0008941 , L0008942 , L0008943 , L0008944 ,  
, L0008946 , L0008947 ,  
L0008953 L0008948 , L0008949 , L0008950 , L0008951 , L0008952 ,  
, L0008954 , L0008955 ,  
L0008961 L0008956 , L0008957 , L0008958 , L0008959 , L0008960 ,  
, L0008962 , L0008963 ,  
L0008969 L0008964 , L0008965 , L0008966 , L0008967 , L0008968 ,  
, L0008970 , L0008971 ,  
L0008977 L0008972 , L0008973 , L0008974 , L0008975 , L0008976 ,  
, L0008978 , L0008979 ,  
L0008985 L0008980 , L0008981 , L0008982 , L0008983 , L0008984 ,  
, L0008986 , L0008987 ,  
L0008993 L0008988 , L0008989 , L0008990 , L0008991 , L0008992 ,  
, L0008994 , L0008995 ,  
L0009001 L0008996 , L0008997 , L0008998 , L0008999 , L0009000 ,  
, L0009002 , L0009003 ,  
L0009009 L0009004 , L0009005 , L0009006 , L0009007 , L0009008 ,  
, L0009010 , L0009011 ,  
L0009017 L0009012 , L0009013 , L0009014 , L0009015 , L0009016 ,  
, L0009018 , L0009019 ,  
L0009025 L0009020 , L0009021 , L0009022 , L0009023 , L0009024 ,  
, L0009026 , L0009027 ,

L0009033      L0009028      , L0009029      , L0009030      , L0009031      , L0009032      ,  
                 , L0009034      , L0009035      ,

L0009041      L0009036      , L0009037      , L0009038      , L0009039      , L0009040      ,  
                 , L0009042      , L0009043      ,

L0009049      L0009044      , L0009045      , L0009046      , L0009047      , L0009048      ,  
                 , L0009050      , L0009051      ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
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\*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID	SOURCE IDs
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L0009057	L0009052      , L0009053      , L0009054      , L0009055      , L0009056      , , L0009058      , L0009059      ,
L0009065	L0009060      , L0009061      , L0009062      , L0009063      , L0009064      , , L0009066      , L0009067      ,
L0009073	L0009068      , L0009069      , L0009070      , L0009071      , L0009072      , , L0009074      , L0009075      ,
L0009081	L0009076      , L0009077      , L0009078      , L0009079      , L0009080      , , L0009082      , L0009083      ,
L0009089	L0009084      , L0009085      , L0009086      , L0009087      , L0009088      , , L0009090      , L0009091      ,
L0009097	L0009092      , L0009093      , L0009094      , L0009095      , L0009096      , , L0009098      , L0009099      ,
L0009105	L0009100      , L0009101      , L0009102      , L0009103      , L0009104      , , L0009106      , L0009107      ,
L0009113	L0009108      , L0009109      , L0009110      , L0009111      , L0009112      , , L0009114      , L0009115      ,
	L0009116      , L0009117      , L0009118      , L0009119      , L0009120      ,

L0009121 , L0009122 , L0009123 ,  
 L0009129 , L0009130 , L0009131 , L0009124 , L0009125 , L0009126 , L0009127 , L0009128 ,  
 L0009137 , L0009138 , L0009139 , L0009132 , L0009133 , L0009134 , L0009135 , L0009136 ,  
 L0009145 , L0009146 , L0009147 , L0009140 , L0009141 , L0009142 , L0009143 , L0009144 ,  
 L0009153 , L0009154 , L0009155 , L0009148 , L0009149 , L0009150 , L0009151 , L0009152 ,  
 L0009161 , L0009162 , L0009163 , L0009156 , L0009157 , L0009158 , L0009159 , L0009160 ,  
 L0009169 , L0009170 , L0009171 , L0009164 , L0009165 , L0009166 , L0009167 , L0009168 ,  
 L0009177 , L0009178 , L0009179 , L0009172 , L0009173 , L0009174 , L0009175 , L0009176 ,  
 L0009185 , L0009186 , L0009187 , L0009180 , L0009181 , L0009182 , L0009183 , L0009184 ,  
 L0009193 , L0009194 , L0009195 , L0009188 , L0009189 , L0009190 , L0009191 , L0009192 ,  
 L0009201 , L0009202 , L0009203 , L0009196 , L0009197 , L0009198 , L0009199 , L0009200 ,  
 L0009209 , L0009210 , L0009211 , L0009204 , L0009205 , L0009206 , L0009207 , L0009208 ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID  
-----

SOURCE IDs  
-----



L0009217      L0009212      , L0009213      , L0009214      , L0009215      , L0009216      ,  
                   , L0009218      , L0009219      ,  
  
 L0009225      L0009220      , L0009221      , L0009222      , L0009223      , L0009224      ,  
                   , L0009226      , L0009227      ,  
  
 L0009233      L0009228      , L0009229      , L0009230      , L0009231      , L0009232      ,  
                   , L0009234      , L0009235      ,  
  
 L0009241      L0009236      , L0009237      , L0009238      , L0009239      , L0009240      ,  
                   , L0009242      , L0009243      ,  
  
 L0009249      L0009244      , L0009245      , L0009246      , L0009247      , L0009248      ,  
                   , L0009250      , L0009251      ,  
  
 L0009257      L0009252      , L0009253      , L0009254      , L0009255      , L0009256      ,  
                   , L0009258      , L0009259      ,  
  
 L0009265      L0009260      , L0009261      , L0009262      , L0009263      , L0009264      ,  
                   , L0009266      , L0009267      ,  
  
 L0009273      L0009268      , L0009269      , L0009270      , L0009271      , L0009272      ,  
                   , L0009274      , L0009275      ,  
  
 L0009281      L0009276      , L0009277      , L0009278      , L0009279      , L0009280      ,  
                   , L0009282      , L0009283      ,  
  
 L0009289      L0009284      , L0009285      , L0009286      , L0009287      , L0009288      ,  
                   , L0009290      , L0009291      ,  
  
 L0009297      L0009292      , L0009293      , L0009294      , L0009295      , L0009296      ,  
                   , L0009298      , L0009299      ,  
  
 L0009305      L0009300      , L0009301      , L0009302      , L0009303      , L0009304      ,  
                   , L0009306      , L0009307      ,  
  
 L0009313      L0009308      , L0009309      , L0009310      , L0009311      , L0009312      ,  
                   , L0009314      , L0009315      ,  
  
 L0009321      L0009316      , L0009317      , L0009318      , L0009319      , L0009320      ,  
                   , L0009322      , L0009323      ,  
  
 L0009329      L0009324      , L0009325      , L0009326      , L0009327      , L0009328      ,  
                   , L0009330      , L0009331      ,  
  
 L0009337      L0009332      , L0009333      , L0009334      , L0009335      , L0009336      ,  
                   , L0009338      , L0009339      ,  
  
 L0009340      , L0009341      , L0009342      , L0009343      , L0009344      ,

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L0009345 , L0009346 , L0009347 ,
      L0009348 , L0009349 , L0009350 , L0009351 , L0009352 ,
L0009353 , L0009354 , L0009355 ,
      L0009356 , L0009357 , L0009358 , L0009359 , L0009360 ,
L0009361 , L0009362 , L0009363 ,
      L0009364 , L0009365 , L0009366 , L0009367 , L0009368 ,
L0009369 , L0009370 , L0009371 ,
^ *** AERMOD - VERSION 21112 *** *** C:\Lakes\AERMOD
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID	SOURCE IDs
-----	-----
L0009377	L0009372 , L0009373 , L0009374 , L0009375 , L0009376 , L0009378 , L0009379 ,
L0009385	L0009380 , L0009381 , L0009382 , L0009383 , L0009384 , L0009386 , L0009387 ,
L0009393	L0009388 , L0009389 , L0009390 , L0009391 , L0009392 , L0009394 , L0009395 ,
L0009401	L0009396 , L0009397 , L0009398 , L0009399 , L0009400 , L0009402 , L0009403 ,
L0009409	L0009404 , L0009405 , L0009406 , L0009407 , L0009408 , L0009410 , L0009411 ,
L0009417	L0009412 , L0009413 , L0009414 , L0009415 , L0009416 , L0009418 , L0009419 ,
L0009425	L0009420 , L0009421 , L0009422 , L0009423 , L0009424 , L0009426 , L0009427 ,
L0009433	L0009428 , L0009429 , L0009430 , L0009431 , L0009432 , L0009434 , L0009435 ,

L0009441      L0009436      , L0009437      , L0009438      , L0009439      , L0009440      ,  
                  , L0009442      , L0009443      ,  
  
 L0009449      L0009444      , L0009445      , L0009446      , L0009447      , L0009448      ,  
                  , L0009450      , L0009451      ,  
  
 L0009457      L0009452      , L0009453      , L0009454      , L0009455      , L0009456      ,  
                  , L0009458      , L0009459      ,  
  
 L0009465      L0009460      , L0009461      , L0009462      , L0009463      , L0009464      ,  
                  , L0009466      ,

^ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID	URBAN POP	SOURCE IDs				
-----	-----	-----				
L0008416	2035210.	L0008412	, L0008413	, L0008414	, L0008415	,
L0008419	, L0008417	, L0008418	,			
L0008425	L0008420	, L0008421	, L0008422	, L0008423	, L0008424	,
	, L0008426	, L0008427	,			
L0008433	L0008428	, L0008429	, L0008430	, L0008431	, L0008432	,
	, L0008434	, L0008435	,			
L0008441	L0008436	, L0008437	, L0008438	, L0008439	, L0008440	,
	, L0008442	, L0008443	,			
L0008449	L0008444	, L0008445	, L0008446	, L0008447	, L0008448	,
	, L0008450	, L0008451	,			
L0008457	L0008452	, L0008453	, L0008454	, L0008455	, L0008456	,
	, L0008458	, L0008459	,			
L0008465	L0008460	, L0008461	, L0008462	, L0008463	, L0008464	,
	, L0008466	, L0008467	,			

L0008473      L0008468      , L0008469      , L0008470      , L0008471      , L0008472      ,  
                  , L0008474      , L0008475      ,  
  
 L0008481      L0008476      , L0008477      , L0008478      , L0008479      , L0008480      ,  
                  , L0008482      , L0008483      ,  
  
 L0008489      L0008484      , L0008485      , L0008486      , L0008487      , L0008488      ,  
                  , L0008490      , L0008491      ,  
  
 L0008497      L0008492      , L0008493      , L0008494      , L0008495      , L0008496      ,  
                  , L0008498      , L0008499      ,  
  
 L0008505      L0008500      , L0008501      , L0008502      , L0008503      , L0008504      ,  
                  , L0008506      , L0008507      ,  
  
 L0008513      L0008508      , L0008509      , L0008510      , L0008511      , L0008512      ,  
                  , L0008514      , L0008515      ,  
  
 L0008521      L0008516      , L0008517      , L0008518      , L0008519      , L0008520      ,  
                  , L0008522      , L0008523      ,  
  
 L0008529      L0008524      , L0008525      , L0008526      , L0008527      , L0008528      ,  
                  , L0008530      , L0008531      ,  
  
 L0008537      L0008532      , L0008533      , L0008534      , L0008535      , L0008536      ,  
                  , L0008538      , L0008539      ,  
  
 L0008545      L0008540      , L0008541      , L0008542      , L0008543      , L0008544      ,  
                  , L0008546      , L0008547      ,  
  
 L0008553      L0008548      , L0008549      , L0008550      , L0008551      , L0008552      ,  
                  , L0008554      , L0008555      ,  
  
 L0008561      L0008556      , L0008557      , L0008558      , L0008559      , L0008560      ,  
                  , L0008562      , L0008563      ,  
  
 L0008569      L0008564      , L0008565      , L0008566      , L0008567      , L0008568      ,  
                  , L0008570      , L0008571      ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID -----	URBAN POP -----	SOURCE IDs -----				
L0008577	L0008572 , L0008578	, L0008573 , L0008579	, L0008574 ,	, L0008575 ,	, L0008576 ,	
L0008585	L0008580 , L0008586	, L0008581 , L0008587	, L0008582 ,	, L0008583 ,	, L0008584 ,	
L0008593	L0008588 , L0008594	, L0008589 , L0008595	, L0008590 ,	, L0008591 ,	, L0008592 ,	
L0008601	L0008596 , L0008602	, L0008597 , L0008603	, L0008598 ,	, L0008599 ,	, L0008600 ,	
L0008609	L0008604 , L0008610	, L0008605 , L0008611	, L0008606 ,	, L0008607 ,	, L0008608 ,	
L0008617	L0008612 , L0008618	, L0008613 , L0008619	, L0008614 ,	, L0008615 ,	, L0008616 ,	
L0008625	L0008620 , L0008626	, L0008621 , L0008627	, L0008622 ,	, L0008623 ,	, L0008624 ,	
L0008633	L0008628 , L0008634	, L0008629 , L0008635	, L0008630 ,	, L0008631 ,	, L0008632 ,	
L0008641	L0008636 , L0008642	, L0008637 , L0008643	, L0008638 ,	, L0008639 ,	, L0008640 ,	
L0008649	L0008644 , L0008650	, L0008645 , L0008651	, L0008646 ,	, L0008647 ,	, L0008648 ,	
L0008657	L0008652 , L0008658	, L0008653 , L0008659	, L0008654 ,	, L0008655 ,	, L0008656 ,	
L0008665	L0008660 , L0008666	, L0008661 , L0008667	, L0008662 ,	, L0008663 ,	, L0008664 ,	
L0008673	L0008668 , L0008674	, L0008669 , L0008675	, L0008670 ,	, L0008671 ,	, L0008672 ,	
L0008681	L0008676 , L0008682	, L0008677 , L0008683	, L0008678 ,	, L0008679 ,	, L0008680 ,	
L0008689	L0008684 , L0008690	, L0008685 , L0008691	, L0008686 ,	, L0008687 ,	, L0008688 ,	

L0008697      L0008692      , L0008693      , L0008694      , L0008695      , L0008696      ,  
                  , L0008698      , L0008699      ,  
  
 L0008705      L0008700      , L0008701      , L0008702      , L0008703      , L0008704      ,  
                  , L0008706      , L0008707      ,  
  
 L0008713      L0008708      , L0008709      , L0008710      , L0008711      , L0008712      ,  
                  , L0008714      , L0008715      ,  
  
 L0008721      L0008716      , L0008717      , L0008718      , L0008719      , L0008720      ,  
                  , L0008722      , L0008723      ,  
  
 L0008729      L0008724      , L0008725      , L0008726      , L0008727      , L0008728      ,  
                  , L0008730      , L0008731      ,

\*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
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\*\*\* MODELOPTs:      RegDFault      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID	URBAN POP	SOURCE IDs
-----	-----	-----
L0008737	L0008732      , L0008738	L0008733      , L0008734      , L0008735      , L0008736      , , L0008739      ,
L0008745	L0008740      , L0008746	L0008741      , L0008742      , L0008743      , L0008744      , , L0008747      ,
L0008753	L0008748      , L0008754	L0008749      , L0008750      , L0008751      , L0008752      , , L0008755      ,
L0008761	L0008756      , L0008762	L0008757      , L0008758      , L0008759      , L0008760      , , L0008763      ,
L0008769	L0008764      , L0008770	L0008765      , L0008766      , L0008767      , L0008768      , , L0008771      ,
L0008777	L0008772      , L0008778	L0008773      , L0008774      , L0008775      , L0008776      , , L0008779      ,

L0008785      L0008780      , L0008781      , L0008782      , L0008783      , L0008784      ,  
                  , L0008786      , L0008787      ,  
  
 L0008793      L0008788      , L0008789      , L0008790      , L0008791      , L0008792      ,  
                  , L0008794      , L0008795      ,  
  
 L0008801      L0008796      , L0008797      , L0008798      , L0008799      , L0008800      ,  
                  , L0008802      , L0008803      ,  
  
 L0008809      L0008804      , L0008805      , L0008806      , L0008807      , L0008808      ,  
                  , L0008810      , L0008811      ,  
  
 L0008817      L0008812      , L0008813      , L0008814      , L0008815      , L0008816      ,  
                  , L0008818      , L0008819      ,  
  
 L0008825      L0008820      , L0008821      , L0008822      , L0008823      , L0008824      ,  
                  , L0008826      , L0008827      ,  
  
 L0008833      L0008828      , L0008829      , L0008830      , L0008831      , L0008832      ,  
                  , L0008834      , L0008835      ,  
  
 L0008841      L0008836      , L0008837      , L0008838      , L0008839      , L0008840      ,  
                  , L0008842      , L0008843      ,  
  
 L0008849      L0008844      , L0008845      , L0008846      , L0008847      , L0008848      ,  
                  , L0008850      , L0008851      ,  
  
 L0008857      L0008852      , L0008853      , L0008854      , L0008855      , L0008856      ,  
                  , L0008858      , L0008859      ,  
  
 L0008865      L0008860      , L0008861      , L0008862      , L0008863      , L0008864      ,  
                  , L0008866      , L0008867      ,  
  
 L0008873      L0008868      , L0008869      , L0008870      , L0008871      , L0008872      ,  
                  , L0008874      , L0008875      ,  
  
 L0008881      L0008876      , L0008877      , L0008878      , L0008879      , L0008880      ,  
                  , L0008882      , L0008883      ,  
  
 L0008889      L0008884      , L0008885      , L0008886      , L0008887      , L0008888      ,  
                  , L0008890      , L0008891      ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      C:\Lakes\AERMOD  
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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID -----	URBAN POP -----	SOURCE IDs -----					
L0008897	L0008892 , L0008898	, L0008893 , L0008899	, L0008894 ,	, L0008895	, L0008896	,	
L0008905	L0008900 , L0008906	, L0008901 , L0008907	, L0008902 ,	, L0008903	, L0008904	,	
L0008913	L0008908 , L0008914	, L0008909 , L0008915	, L0008910 ,	, L0008911	, L0008912	,	
L0008921	L0008916 , L0008922	, L0008917 , L0008923	, L0008918 ,	, L0008919	, L0008920	,	
L0008929	L0008924 , L0008930	, L0008925 , L0008931	, L0008926 ,	, L0008927	, L0008928	,	
L0008937	L0008932 , L0008938	, L0008933 , L0008939	, L0008934 ,	, L0008935	, L0008936	,	
L0008945	L0008940 , L0008946	, L0008941 , L0008947	, L0008942 ,	, L0008943	, L0008944	,	
L0008953	L0008948 , L0008954	, L0008949 , L0008955	, L0008950 ,	, L0008951	, L0008952	,	
L0008961	L0008956 , L0008962	, L0008957 , L0008963	, L0008958 ,	, L0008959	, L0008960	,	
L0008969	L0008964 , L0008970	, L0008965 , L0008971	, L0008966 ,	, L0008967	, L0008968	,	
L0008977	L0008972 , L0008978	, L0008973 , L0008979	, L0008974 ,	, L0008975	, L0008976	,	
L0008985	L0008980 , L0008986	, L0008981 , L0008987	, L0008982 ,	, L0008983	, L0008984	,	
L0008993	L0008988 , L0008994	, L0008989 , L0008995	, L0008990 ,	, L0008991	, L0008992	,	
L0009001	L0008996 , L0009002	, L0008997 , L0009003	, L0008998 ,	, L0008999	, L0009000	,	



L0009009      L0009004      , L0009005      , L0009006      , L0009007      , L0009008      ,  
                  , L0009010      , L0009011      ,  
  
 L0009017      L0009012      , L0009013      , L0009014      , L0009015      , L0009016      ,  
                  , L0009018      , L0009019      ,  
  
 L0009025      L0009020      , L0009021      , L0009022      , L0009023      , L0009024      ,  
                  , L0009026      , L0009027      ,  
  
 L0009033      L0009028      , L0009029      , L0009030      , L0009031      , L0009032      ,  
                  , L0009034      , L0009035      ,  
  
 L0009041      L0009036      , L0009037      , L0009038      , L0009039      , L0009040      ,  
                  , L0009042      , L0009043      ,  
  
 L0009049      L0009044      , L0009045      , L0009046      , L0009047      , L0009048      ,  
                  , L0009050      , L0009051      ,

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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID	URBAN POP	SOURCE IDs
-----	-----	-----
L0009057	L0009052      , L0009058	L0009052      , L0009053      , L0009054      , L0009055      , L0009056      , , L0009059
L0009065	L0009060      , L0009066	L0009060      , L0009061      , L0009062      , L0009063      , L0009064      , , L0009067
L0009073	L0009068      , L0009074	L0009068      , L0009069      , L0009070      , L0009071      , L0009072      , , L0009075
L0009081	L0009076      , L0009082	L0009076      , L0009077      , L0009078      , L0009079      , L0009080      , , L0009083
L0009089	L0009084      , L0009090	L0009084      , L0009085      , L0009086      , L0009087      , L0009088      , , L0009091

L0009097      L0009092      , L0009093      , L0009094      , L0009095      , L0009096      ,  
                   , L0009098      , L0009099      ,  
  
 L0009105      L0009100      , L0009101      , L0009102      , L0009103      , L0009104      ,  
                   , L0009106      , L0009107      ,  
  
 L0009113      L0009108      , L0009109      , L0009110      , L0009111      , L0009112      ,  
                   , L0009114      , L0009115      ,  
  
 L0009121      L0009116      , L0009117      , L0009118      , L0009119      , L0009120      ,  
                   , L0009122      , L0009123      ,  
  
 L0009129      L0009124      , L0009125      , L0009126      , L0009127      , L0009128      ,  
                   , L0009130      , L0009131      ,  
  
 L0009137      L0009132      , L0009133      , L0009134      , L0009135      , L0009136      ,  
                   , L0009138      , L0009139      ,  
  
 L0009145      L0009140      , L0009141      , L0009142      , L0009143      , L0009144      ,  
                   , L0009146      , L0009147      ,  
  
 L0009153      L0009148      , L0009149      , L0009150      , L0009151      , L0009152      ,  
                   , L0009154      , L0009155      ,  
  
 L0009161      L0009156      , L0009157      , L0009158      , L0009159      , L0009160      ,  
                   , L0009162      , L0009163      ,  
  
 L0009169      L0009164      , L0009165      , L0009166      , L0009167      , L0009168      ,  
                   , L0009170      , L0009171      ,  
  
 L0009177      L0009172      , L0009173      , L0009174      , L0009175      , L0009176      ,  
                   , L0009178      , L0009179      ,  
  
 L0009185      L0009180      , L0009181      , L0009182      , L0009183      , L0009184      ,  
                   , L0009186      , L0009187      ,  
  
 L0009193      L0009188      , L0009189      , L0009190      , L0009191      , L0009192      ,  
                   , L0009194      , L0009195      ,  
  
 L0009201      L0009196      , L0009197      , L0009198      , L0009199      , L0009200      ,  
                   , L0009202      , L0009203      ,  
  
 L0009209      L0009204      , L0009205      , L0009206      , L0009207      , L0009208      ,  
                   , L0009210      , L0009211      ,

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID	URBAN POP	SOURCE IDs					
-----	-----	-----					
L0009217	L0009212 , L0009218	, L0009213 , L0009219	, L0009214 ,	, L0009215 ,	, L0009216 ,		
L0009225	L0009220 , L0009226	, L0009221 , L0009227	, L0009222 ,	, L0009223 ,	, L0009224 ,		
L0009233	L0009228 , L0009234	, L0009229 , L0009235	, L0009230 ,	, L0009231 ,	, L0009232 ,		
L0009241	L0009236 , L0009242	, L0009237 , L0009243	, L0009238 ,	, L0009239 ,	, L0009240 ,		
L0009249	L0009244 , L0009250	, L0009245 , L0009251	, L0009246 ,	, L0009247 ,	, L0009248 ,		
L0009257	L0009252 , L0009258	, L0009253 , L0009259	, L0009254 ,	, L0009255 ,	, L0009256 ,		
L0009265	L0009260 , L0009266	, L0009261 , L0009267	, L0009262 ,	, L0009263 ,	, L0009264 ,		
L0009273	L0009268 , L0009274	, L0009269 , L0009275	, L0009270 ,	, L0009271 ,	, L0009272 ,		
L0009281	L0009276 , L0009282	, L0009277 , L0009283	, L0009278 ,	, L0009279 ,	, L0009280 ,		
L0009289	L0009284 , L0009290	, L0009285 , L0009291	, L0009286 ,	, L0009287 ,	, L0009288 ,		
L0009297	L0009292 , L0009298	, L0009293 , L0009299	, L0009294 ,	, L0009295 ,	, L0009296 ,		
L0009305	L0009300 , L0009306	, L0009301 , L0009307	, L0009302 ,	, L0009303 ,	, L0009304 ,		
L0009313	L0009308 , L0009314	, L0009309 , L0009315	, L0009310 ,	, L0009311 ,	, L0009312 ,		

L0009321      L0009316      , L0009317      , L0009318      , L0009319      , L0009320      ,  
                   , L0009322      , L0009323      ,  
  
 L0009329      L0009324      , L0009325      , L0009326      , L0009327      , L0009328      ,  
                   , L0009330      , L0009331      ,  
  
 L0009337      L0009332      , L0009333      , L0009334      , L0009335      , L0009336      ,  
                   , L0009338      , L0009339      ,  
  
 L0009345      L0009340      , L0009341      , L0009342      , L0009343      , L0009344      ,  
                   , L0009346      , L0009347      ,  
  
 L0009353      L0009348      , L0009349      , L0009350      , L0009351      , L0009352      ,  
                   , L0009354      , L0009355      ,  
  
 L0009361      L0009356      , L0009357      , L0009358      , L0009359      , L0009360      ,  
                   , L0009362      , L0009363      ,  
  
 L0009369      L0009364      , L0009365      , L0009366      , L0009367      , L0009368      ,  
                   , L0009370      , L0009371      ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID	URBAN POP	SOURCE IDs
-----	-----	-----
L0009377	L0009372      , L0009378	L0009373      , L0009374      , L0009375      , L0009376      , , L0009379      ,
L0009385	L0009380      , L0009386	L0009381      , L0009382      , L0009383      , L0009384      , , L0009387      ,
L0009393	L0009388      , L0009394	L0009389      , L0009390      , L0009391      , L0009392      , , L0009395      ,
L0009401	L0009396      , L0009402	L0009397      , L0009398      , L0009399      , L0009400      , , L0009403      ,

L0009409      L0009404      , L0009405      , L0009406      , L0009407      , L0009408      ,  
                  , L0009410      , L0009411      ,  
  
 L0009417      L0009412      , L0009413      , L0009414      , L0009415      , L0009416      ,  
                  , L0009418      , L0009419      ,  
  
 L0009425      L0009420      , L0009421      , L0009422      , L0009423      , L0009424      ,  
                  , L0009426      , L0009427      ,  
  
 L0009433      L0009428      , L0009429      , L0009430      , L0009431      , L0009432      ,  
                  , L0009434      , L0009435      ,  
  
 L0009441      L0009436      , L0009437      , L0009438      , L0009439      , L0009440      ,  
                  , L0009442      , L0009443      ,  
  
 L0009449      L0009444      , L0009445      , L0009446      , L0009447      , L0009448      ,  
                  , L0009450      , L0009451      ,  
  
 L0009457      L0009452      , L0009453      , L0009454      , L0009455      , L0009456      ,  
                  , L0009458      , L0009459      ,  
  
 L0009465      L0009460      , L0009461      , L0009462      , L0009463      , L0009464      ,  
                  , L0009466      ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
 (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
 (METERS)

( 440566.1, 3761307.7,      204.0,      204.0,      0.0);      ( 440754.0,  
 3761303.2,      204.1,      204.1,      0.0);  
 ( 440851.5, 3761299.5,      204.2,      204.2,      0.0);      ( 440971.9,  
 3761298.6,      204.3,      204.3,      0.0);  
 ( 440893.9, 3761226.5,      204.0,      204.0,      0.0);      ( 441213.1,  
 3761237.7,      204.1,      204.1,      0.0);  
 ( 441159.8, 3761390.7,      205.1,      205.1,      0.0);      ( 441227.4,  
 3761481.3,      206.3,      206.3,      0.0);  
 ( 441082.1, 3761541.4,      206.4,      206.4,      0.0);      ( 441232.2,  
 3761830.6,      208.8,      208.8,      0.0);  
 ( 441646.9, 3761227.7,      205.0,      205.0,      0.0);      ( 441817.1,  
 3761247.3,      205.5,      205.5,      0.0);  
 ( 442032.0, 3761370.5,      206.8,      206.8,      0.0);      ( 442032.0,  
 3761419.3,      207.1,      207.1,      0.0);

( 442027.4, 3761327.6, 206.3, 206.3, 0.0); ( 441953.5,  
 3761508.7, 207.9, 207.9, 0.0);  
 ( 442028.7, 3761572.7, 208.0, 208.0, 0.0); ( 440323.6,  
 3761295.4, 203.4, 203.4, 0.0);  
 ( 440261.5, 3761302.2, 203.4, 203.4, 0.0); ( 440432.9,  
 3761497.0, 205.5, 205.5, 0.0);  
 ( 440427.0, 3761600.6, 206.9, 206.9, 0.0); ( 440485.5,  
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 ( 440533.9, 3762035.0, 211.0, 211.0, 0.0); ( 440588.1,  
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 ( 440657.3, 3762052.1, 211.3, 211.3, 0.0); ( 440598.0,  
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 ( 440897.0, 3762038.4, 211.6, 211.6, 0.0); ( 439514.8,  
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 ( 439564.8, 3761885.5, 207.0, 207.0, 0.0); ( 439864.8,  
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 ( 439762.6, 3760864.6, 199.0, 199.0, 0.0); ( 439812.6,  
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 ( 439862.6, 3760864.6, 198.7, 198.7, 0.0); ( 439512.6,  
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 ( 439562.6, 3760914.6, 198.9, 198.9, 0.0); ( 439612.6,  
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 ( 439662.6, 3760914.6, 199.2, 199.2, 0.0); ( 439712.6,  
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 ( 439762.6, 3760914.6, 199.9, 199.9, 0.0); ( 439812.6,

3760914.6, 199.6, 199.6, 0.0);  
 ( 439862.6, 3760914.6, 199.3, 199.3, 0.0); ( 439512.6,  
 3760964.6, 198.7, 198.7, 0.0);  
 ( 439562.6, 3760964.6, 199.3, 199.3, 0.0); ( 439612.6,  
 3760964.6, 199.1, 199.1, 0.0);  
 ( 439662.6, 3760964.6, 199.5, 199.5, 0.0); ( 439712.6,  
 3760964.6, 199.7, 199.7, 0.0);  
 ( 439762.6, 3760964.6, 200.3, 200.3, 0.0); ( 439812.6,  
 3760964.6, 199.9, 199.9, 0.0);  
 ( 439862.6, 3760964.6, 199.7, 199.7, 0.0); ( 439512.6,  
 3761014.6, 199.1, 199.1, 0.0);  
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 ( 439862.6, 3761064.6, 200.6, 200.6, 0.0); ( 439512.6,  
 3761114.6, 200.0, 200.0, 0.0);

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
 (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
 (METERS)

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
 (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
 (METERS)

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
 (X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
 (METERS)

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( 444074.8, 3760507.8, 202.9, 202.9, 0.0); ( 444028.6,
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( 443982.4, 3760545.9, 205.0, 205.0, 0.0); ( 443933.8,
3760552.7, 205.4, 205.4, 0.0);
( 443874.9, 3760534.7, 204.9, 204.9, 0.0); ( 443824.9,
3760534.5, 204.6, 204.6, 0.0);

```

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^ *** AERMOD - VERSION 21112 *** *** C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U ***
*** AERMET - VERSION 16216 *** ***
***
10:27:03

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)

(METERS)

( 443774.9, 3760534.3, 204.3, 204.3, 0.0); ( 443724.9, 3760534.1, 204.2, 204.2, 0.0);  
( 443674.9, 3760533.8, 204.0, 204.0, 0.0); ( 443624.9, 3760533.6, 203.7, 203.7, 0.0);  
( 443574.9, 3760533.4, 203.3, 203.3, 0.0); ( 443524.9, 3760533.2, 203.8, 203.8, 0.0);  
( 443474.9, 3760533.0, 203.8, 203.8, 0.0); ( 443424.9, 3760532.8, 204.1, 204.1, 0.0);  
( 443374.9, 3760532.5, 203.5, 203.5, 0.0); ( 443324.9, 3760532.3, 203.6, 203.6, 0.0);  
( 443274.9, 3760532.1, 203.6, 203.6, 0.0); ( 443224.9, 3760531.9, 203.5, 203.5, 0.0);  
( 443174.9, 3760531.6, 202.9, 202.9, 0.0); ( 443124.9, 3760531.4, 202.8, 202.8, 0.0);  
( 443074.9, 3760531.2, 202.6, 202.6, 0.0); ( 443024.9, 3760531.0, 202.6, 202.6, 0.0);  
( 442974.9, 3760530.8, 201.6, 201.6, 0.0); ( 442924.9, 3760530.5, 201.3, 201.3, 0.0);  
( 442874.9, 3760530.3, 201.3, 201.3, 0.0); ( 442824.9, 3760530.1, 201.2, 201.2, 0.0);  
( 442774.9, 3760529.9, 200.9, 200.9, 0.0); ( 442724.9, 3760529.7, 199.1, 199.1, 0.0);  
( 442674.9, 3760529.5, 198.0, 198.0, 0.0); ( 442624.9, 3760529.2, 198.9, 198.9, 0.0);  
( 442574.9, 3760529.0, 201.1, 201.1, 0.0); ( 442524.9, 3760528.8, 201.1, 201.1, 0.0);  
( 442474.9, 3760528.6, 201.1, 201.1, 0.0); ( 442424.9, 3760528.4, 201.2, 201.2, 0.0);  
( 442374.9, 3760528.1, 201.2, 201.2, 0.0); ( 442324.9, 3760527.9, 201.2, 201.2, 0.0);  
( 442274.9, 3760527.7, 200.9, 200.9, 0.0); ( 442224.9, 3760527.5, 200.7, 200.7, 0.0);  
( 442174.9, 3760527.3, 200.5, 200.5, 0.0); ( 442124.9, 3760527.0, 200.5, 200.5, 0.0);  
( 442074.9, 3760526.8, 200.5, 200.5, 0.0); ( 442024.9, 3760526.6, 200.6, 200.6, 0.0);  
( 441974.9, 3760526.4, 200.6, 200.6, 0.0); ( 441924.9, 3760526.2, 200.2, 200.2, 0.0);  
( 441874.9, 3760525.9, 200.0, 200.0, 0.0); ( 441824.9, 3760525.7, 200.0, 200.0, 0.0);  
( 441774.9, 3760525.5, 200.1, 200.1, 0.0); ( 441724.9, 3760525.3, 200.2, 200.2, 0.0);  
( 441674.9, 3760525.1, 200.2, 200.2, 0.0); ( 441624.9, 3760524.8, 200.1, 200.1, 0.0);  
( 441574.9, 3760524.6, 199.7, 199.7, 0.0); ( 441524.9, 3760524.4, 199.5, 199.5, 0.0);  
( 441474.9, 3760524.2, 199.7, 199.7, 0.0); ( 441424.9,

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 ( 441274.9, 3760523.3, 199.2, 199.2, 0.0); ( 441224.9,  
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 ( 441174.9, 3760522.9, 199.3, 199.3, 0.0); ( 441124.9,  
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 ( 441074.9, 3760522.4, 199.4, 199.4, 0.0); ( 441024.9,  
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 ( 440374.9, 3760519.4, 195.4, 195.4, 0.0); ( 440324.9,  
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 ( 440274.9, 3760518.9, 194.5, 194.5, 0.0); ( 440224.9,  
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 ( 440174.9, 3760518.5, 193.8, 193.8, 0.0); ( 440124.9,  
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 ( 439974.9, 3760517.6, 193.7, 193.7, 0.0); ( 439933.8,  
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 ( 445138.9, 3760315.7, 201.1, 201.1, 0.0); ( 445165.1,  
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 ( 445167.0, 3759566.2, 197.2, 197.2, 0.0); ( 445208.3,  
 3759556.8, 197.4, 197.4, 0.0);  
 ( 445258.3, 3759556.1, 197.4, 197.4, 0.0); ( 445308.3,  
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 ( 449408.0, 3759503.8, 204.6, 204.6, 0.0); ( 449423.8,  
 3759603.6, 203.6, 203.6, 0.0);  
 ( 445238.8, 3760499.2, 202.5, 202.5, 0.0); ( 445239.4,  
 3760549.2, 202.9, 202.9, 0.0);  
 ( 449255.9, 3762522.0, 228.8, 235.3, 0.0); ( 449232.2,  
 3762619.7, 227.1, 235.3, 0.0);  
 ( 445265.8, 3762064.9, 217.3, 217.3, 0.0); ( 445215.8,  
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 ( 445165.8, 3762064.9, 216.8, 216.8, 0.0); ( 445156.7,  
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 ( 445139.7, 3760573.6, 202.9, 202.9, 0.0); ( 445139.1,  
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 ( 441152.0, 3762046.6, 210.9, 210.9, 0.0); ( 441564.9,  
 3762050.1, 210.9, 210.9, 0.0);

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

( 439944.2, 3762179.8, 211.5, 211.5, 0.0); ( 439944.4,  
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( 439944.6, 3762279.8, 212.7, 212.7, 0.0); ( 439944.8,  
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( 439945.0, 3762379.8, 213.3, 213.3, 0.0); ( 439945.2,  
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( 439945.4, 3762479.8, 214.8, 214.8, 0.0); ( 439945.5,  
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( 439945.8, 3762579.8, 216.4, 216.4, 0.0); ( 439945.9,  
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( 439946.1, 3762679.8, 217.9, 217.9, 0.0); ( 439946.3,  
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( 439958.3, 3765779.8, 255.3, 255.3, 0.0); ( 439846.5,  
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( 439846.3, 3762719.3, 217.9, 217.9, 0.0); ( 439846.1,  
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( 439845.9, 3762619.3, 216.2, 216.2, 0.0); ( 439845.7,  
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( 439845.5, 3762519.3, 214.8, 214.8, 0.0); ( 439845.3,  
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( 439845.1, 3762419.3, 214.0, 214.0, 0.0); ( 439844.9,  
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( 439844.7, 3762319.3, 212.9, 212.9, 0.0); ( 439844.5,  
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( 439844.3, 3762219.3, 211.3, 211.3, 0.0); ( 446702.5,  
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( 446751.2, 3762345.4, 222.2, 222.2, 0.0); ( 446708.4,  
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( 439619.7, 3759944.1, 189.6, 189.6, 0.0); ( 439669.7,  
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( 439469.7, 3759994.1, 189.4, 189.4, 0.0); ( 439519.7,  
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 ( 439669.7, 3760094.1, 191.0, 191.0, 0.0); ( 439719.7,  
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 ( 439419.7, 3760144.1, 190.8, 190.8, 0.0); ( 439469.7,  
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 ( 439619.7, 3760144.1, 190.9, 190.9, 0.0); ( 439669.7,  
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 ( 439719.7, 3760144.1, 191.4, 191.4, 0.0); ( 439319.7,  
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 ( 439469.7, 3760194.1, 191.2, 191.2, 0.0); ( 439519.7,  
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 ( 439319.7, 3760244.1, 190.6, 190.6, 0.0); ( 439369.7,  
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 ( 439619.7, 3760244.1, 191.2, 191.2, 0.0); ( 439669.7,  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

( 439719.7, 3760244.1, 192.1, 192.1, 0.0); ( 439319.7,  
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( 439369.7, 3760294.1, 191.5, 191.5, 0.0); ( 439419.7,  
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( 439469.7, 3760294.1, 191.4, 191.4, 0.0); ( 439519.7,  
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( 439569.7, 3760294.1, 191.8, 191.8, 0.0); ( 439619.7,  
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( 439669.7, 3760294.1, 191.8, 191.8, 0.0); ( 439719.7,  
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( 439519.7, 3760344.1, 191.8, 191.8, 0.0); ( 439569.7,  
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( 439569.7, 3760394.1, 192.4, 192.4, 0.0); ( 439619.7,  
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( 439669.7, 3760394.1, 193.0, 193.0, 0.0); ( 439719.7,  
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( 439874.2, 3765787.4, 254.7, 254.7, 0.0); ( 438730.2,  
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( 439155.5, 3762752.4, 216.4, 216.4, 0.0); ( 438236.3,  
3763973.0, 230.2, 230.2, 0.0);

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

BE PERFORMED \*  
FASTAREA/FASTALL

\* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT  
LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR

DISTANCE (METERS)	SOURCE	- - RECEPTOR LOCATION - -	
	ID	XR (METERS)	YR (METERS)
- - -			
-9.39	L0008435	440374.9	3760519.4
-17.10	L0008456	439908.5	3760435.0
-0.20	L0008536	439858.5	3760592.9
0.33	L0008539	439859.1	3760692.9
-0.07	L0008540	439859.4	3760742.9
-0.89	L0008543	439860.0	3760842.9
0.15	L0008544	439862.6	3760864.6
-3.34	L0008545	439862.6	3760914.6
-1.09	L0008546	439862.6	3760964.6
-1.67	L0008548	439862.6	3761014.6
-2.73	L0008549	439862.6	3761064.6
-2.49	L0008552	439862.6	3761164.6
-1.08	L0008553	439862.6	3761214.6
-0.40	L0008555	439862.6	3761264.6
-2.24	L0008556	439862.6	3761314.6
-1.53	L0008559	439862.6	3761414.6
-0.94	L0008560	439862.6	3761464.6
	L0008562	439862.6	3761514.6





1.00	1.20	9.	7.9	281.4	2.0								
12	01	01	1	04	-3.5	0.078	-9.000	-9.000	-999.	52.	11.9	0.09	0.74
1.00	0.94	21.	7.9	282.0	2.0								
12	01	01	1	05	-8.4	0.119	-9.000	-9.000	-999.	99.	18.1	0.09	0.74
1.00	1.45	353.	7.9	279.9	2.0								
12	01	01	1	06	-7.6	0.113	-9.000	-9.000	-999.	91.	17.0	0.09	0.74
1.00	1.38	325.	7.9	277.5	2.0								
12	01	01	1	07	-8.0	0.117	-9.000	-9.000	-999.	96.	17.7	0.09	0.74
1.00	1.42	313.	7.9	281.4	2.0								
12	01	01	1	08	-5.2	0.101	-9.000	-9.000	-999.	77.	17.5	0.09	0.74
0.53	1.23	19.	7.9	280.9	2.0								
12	01	01	1	09	23.2	0.117	0.267	0.012	29.	97.	-6.2	0.09	0.74
0.31	0.96	318.	7.9	287.5	2.0								
12	01	01	1	10	65.2	0.101	0.531	0.014	82.	77.	-1.4	0.09	0.74
0.24	0.63	244.	7.9	291.4	2.0								
12	01	01	1	11	95.5	0.162	0.778	0.008	176.	156.	-4.0	0.09	0.74
0.21	1.23	91.	7.9	296.4	2.0								
12	01	01	1	12	110.8	0.197	1.018	0.005	338.	209.	-6.1	0.09	0.74
0.20	1.60	90.	7.9	299.9	2.0								
12	01	01	1	13	110.5	0.229	1.184	0.005	534.	262.	-9.6	0.09	0.74
0.20	1.98	92.	7.9	302.0	2.0								
12	01	01	1	14	94.6	0.185	1.215	0.005	674.	191.	-5.9	0.09	0.74
0.21	1.50	73.	7.9	303.1	2.0								
12	01	01	1	15	68.6	0.187	1.184	0.005	858.	194.	-8.4	0.09	0.74
0.25	1.59	64.	7.9	303.1	2.0								
12	01	01	1	16	24.9	0.255	0.862	0.005	911.	308.	-58.8	0.09	0.74
0.34	2.61	92.	7.9	300.4	2.0								
12	01	01	1	17	-13.7	0.168	-9.000	-9.000	-999.	168.	31.1	0.09	0.74
0.62	1.98	107.	7.9	295.4	2.0								
12	01	01	1	18	-26.7	0.279	-9.000	-9.000	-999.	354.	85.6	0.09	0.74
1.00	3.22	134.	7.9	291.4	2.0								
12	01	01	1	19	-8.0	0.118	-9.000	-9.000	-999.	120.	18.2	0.09	0.74
1.00	1.43	37.	7.9	290.4	2.0								
12	01	01	1	20	-7.7	0.115	-9.000	-9.000	-999.	94.	17.6	0.09	0.74
1.00	1.40	49.	7.9	287.0	2.0								
12	01	01	1	21	-9.7	0.130	-9.000	-9.000	-999.	113.	20.2	0.09	0.74
1.00	1.57	26.	7.9	288.8	2.0								
12	01	01	1	22	-4.8	0.090	-9.000	-9.000	-999.	65.	13.6	0.09	0.74
1.00	1.11	56.	7.9	284.9	2.0								
12	01	01	1	23	-11.5	0.141	-9.000	-9.000	-999.	127.	21.9	0.09	0.74
1.00	1.69	36.	7.9	282.0	2.0								
12	01	01	1	24	-16.9	0.172	-9.000	-9.000	-999.	171.	32.4	0.09	0.74
1.00	2.03	33.	7.9	279.9	2.0								

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
12	01	01	01	7.9	1	313.	0.73	279.3	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

\*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
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\*\*\* AERMET - VERSION 16216 \*\*\*

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\*\*\* 10:27:03

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
\*\*\*

VALUES FOR SOURCE GROUP: ALL

INCLUDING SOURCE(S): L0008412 , L0008413  
, L0008414 , L0008415 , L0008416 ,  
L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
, L0008422 , L0008423 , L0008424 ,  
L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
, L0008430 , L0008431 , L0008432 ,  
L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
, L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
440566.09	3761307.70	0.00775	440753.96
3761303.17	0.00809		
440851.52	3761299.51	0.00657	440971.94
3761298.60	0.00475		
440893.94	3761226.53	0.00812	441213.06
3761237.69	0.00334		
441159.80	3761390.72	0.00268	441227.40
3761481.34	0.00205		
441082.11	3761541.41	0.00193	441232.16
3761830.62	0.00106		
441646.93	3761227.68	0.00198	441817.10
3761247.30	0.00168		
442031.98	3761370.48	0.00132	442031.98
3761419.29	0.00128		
442027.42	3761327.59	0.00137	441953.51
3761508.71	0.00125		
442028.70	3761572.71	0.00114	440323.58
3761295.37	0.00467		
440261.53	3761302.22	0.00376	440432.94

3761497.04	0.00264			
440427.03	3761600.65	0.00202		440485.55
3762029.06	0.00106			
440533.86	3762034.96	0.00103		440588.09
3762034.96	0.00101			
440657.35	3762052.07	0.00096		440598.04
3762118.06	0.00093			
440231.97	3762035.21	0.00129		440283.76
3762037.11	0.00122			
440897.05	3762038.37	0.00088		439514.80
3761885.55	0.00094			
439564.80	3761885.55	0.00101		439864.80
3761885.55	0.00288			
439514.80	3761935.55	0.00090		439564.80
3761935.55	0.00098			
439864.80	3761935.55	0.00291		439514.80
3761985.55	0.00089			
439564.80	3761985.55	0.00096		439864.80
3761985.55	0.00285			
439514.80	3762035.55	0.00087		439564.80
3762035.55	0.00094			
439864.80	3762035.55	0.00278		439864.80
3762085.55	0.00360			
439514.80	3762135.55	0.00083		439564.80
3762135.55	0.00090			
439614.80	3762135.55	0.00098		439664.80
3762135.55	0.00109			
439714.80	3762135.55	0.00124		439764.80
3762135.55	0.00150			
439864.80	3762135.55	0.00271		439512.61
3760864.65	0.00136			
439562.61	3760864.65	0.00149		439612.61
3760864.65	0.00164			
439662.61	3760864.65	0.00183		439712.61
3760864.65	0.00208			
439762.61	3760864.65	0.00244		439812.61
3760864.65	0.00307			
439862.61	3760864.65	0.00404		439512.61
3760914.65	0.00135			
439562.61	3760914.65	0.00147		439612.61
3760914.65	0.00162			
439662.61	3760914.65	0.00181		439712.61
3760914.65	0.00206			
439762.61	3760914.65	0.00241		439812.61
3760914.65	0.00304			
439862.61	3760914.65	0.00390		439512.61
3760964.65	0.00134			
439562.61	3760964.65	0.00146		439612.61
3760964.65	0.00161			



439662.61	3760964.65	0.00179	439712.61
3760964.65	0.00204		
439762.61	3760964.65	0.00239	439812.61
3760964.65	0.00301		
439862.61	3760964.65	0.00396	439512.61
3761014.65	0.00132		
439562.61	3761014.65	0.00144	439612.61
3761014.65	0.00159		
439662.61	3761014.65	0.00177	439712.61
3761014.65	0.00201		
439762.61	3761014.65	0.00236	439812.61
3761014.65	0.00298		

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 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*  
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\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL                    INCLUDING SOURCE(S):            L0008412            , L0008413  
 , L0008414            , L0008415            , L0008416            ,  
                                          L0008417            , L0008418            , L0008419            , L0008420            , L0008421  
 , L0008422            , L0008423            , L0008424            ,  
                                          L0008425            , L0008426            , L0008427            , L0008428            , L0008429  
 , L0008430            , L0008431            , L0008432            ,  
                                          L0008433            , L0008434            , L0008435            , L0008436            , L0008437  
 , L0008438            , L0008439            , . . .            ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10    IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
439862.61	3761014.65	0.00386	439512.61
3761064.65	0.00131		
439562.61	3761064.65	0.00143	439612.61
3761064.65	0.00157		
439662.61	3761064.65	0.00175	439712.61
3761064.65	0.00198		
439762.61	3761064.65	0.00233	439812.61
3761064.65	0.00295		

3761114.65	439862.61	3761064.65	0.00380	439512.61
	0.00129			
3761114.65	439562.61	3761114.65	0.00141	439612.61
	0.00155			
3761114.65	439662.61	3761114.65	0.00172	439712.61
	0.00196			
3761114.65	439762.61	3761114.65	0.00230	439812.61
	0.00290			
3761164.65	439862.61	3761114.65	0.00462	439512.61
	0.00127			
3761164.65	439562.61	3761164.65	0.00138	439612.61
	0.00152			
3761164.65	439662.61	3761164.65	0.00169	439712.61
	0.00192			
3761164.65	439762.61	3761164.65	0.00226	439812.61
	0.00285			
3761214.65	439862.61	3761164.65	0.00367	439512.61
	0.00125			
3761214.65	439562.61	3761214.65	0.00136	439612.61
	0.00149			
3761214.65	439662.61	3761214.65	0.00166	439712.61
	0.00189			
3761214.65	439762.61	3761214.65	0.00221	439812.61
	0.00280			
3761264.65	439862.61	3761214.65	0.00368	439512.61
	0.00123			
3761264.65	439562.61	3761264.65	0.00134	439612.61
	0.00147			
3761264.65	439662.61	3761264.65	0.00163	439712.61
	0.00185			
3761264.65	439762.61	3761264.65	0.00217	439812.61
	0.00275			
3761314.65	439862.61	3761264.65	0.00360	439512.61
	0.00121			
3761314.65	439562.61	3761314.65	0.00131	439612.61
	0.00143			
3761314.65	439662.61	3761314.65	0.00160	439712.61
	0.00182			
3761314.65	439762.61	3761314.65	0.00213	439812.61
	0.00269			
3761364.65	439862.61	3761314.65	0.00348	439512.61
	0.00119			
3761364.65	439562.61	3761364.65	0.00129	439612.61
	0.00141			
3761364.65	439662.61	3761364.65	0.00156	439712.61
	0.00177			
3761364.65	439762.61	3761364.65	0.00208	439812.61
	0.00264			
	439862.61	3761364.65	0.00426	439512.61

3761414.65	0.00116			
439562.61	3761414.65	0.00126		439612.61
3761414.65	0.00138			
439662.61	3761414.65	0.00153		439712.61
3761414.65	0.00173			
439762.61	3761414.65	0.00204		439812.61
3761414.65	0.00259			
439862.61	3761414.65	0.00335		439512.61
3761464.65	0.00113			
439562.61	3761464.65	0.00123		439612.61
3761464.65	0.00135			
439662.61	3761464.65	0.00150		439712.61
3761464.65	0.00170			
439762.61	3761464.65	0.00199		439812.61
3761464.65	0.00253			
439862.61	3761464.65	0.00331		439512.61
3761514.65	0.00112			
439562.61	3761514.65	0.00121		439612.61
3761514.65	0.00132			
439662.61	3761514.65	0.00146		439712.61
3761514.65	0.00166			
439762.61	3761514.65	0.00194		439812.61
3761514.65	0.00248			

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\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL                    INCLUDING SOURCE(S):    L0008412    , L0008413  
 , L0008414    , L0008415    , L0008416    ,  
                                  L0008417    , L0008418    , L0008419    , L0008420    , L0008421  
 , L0008422    , L0008423    , L0008424    ,  
                                  L0008425    , L0008426    , L0008427    , L0008428    , L0008429  
 , L0008430    , L0008431    , L0008432    ,  
                                  L0008433    , L0008434    , L0008435    , L0008436    , L0008437  
 , L0008438    , L0008439    , . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub>    IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)    Y-COORD (M)                    CONC                    X-COORD (M)

Y-COORD (M)	CONC		
439862.61	3761514.65	0.00328	439512.61
3761564.65	0.00110		
439562.61	3761564.65	0.00118	439612.61
3761564.65	0.00129		
439662.61	3761564.65	0.00143	439712.61
3761564.65	0.00162		
439762.61	3761564.65	0.00190	439812.61
3761564.65	0.00242		
439862.61	3761564.65	0.00315	439512.61
3761614.65	0.00107		
439562.61	3761614.65	0.00116	439862.61
3761614.65	0.00390		
439512.61	3761664.65	0.00104	439562.61
3761664.65	0.00112		
439862.61	3761664.65	0.00305	439512.61
3761714.65	0.00102		
439562.61	3761714.65	0.00110	439862.61
3761714.65	0.00300		
439512.61	3761764.65	0.00100	439562.61
3761764.65	0.00107		
439862.61	3761764.65	0.00372	439512.61
3761814.65	0.00098		
439562.61	3761814.65	0.00105	439862.61
3761814.65	0.00288		
439512.61	3761864.65	0.00096	439562.61
3761864.65	0.00102		
439862.61	3761864.65	0.00363	439947.85
3760913.55	0.00497		
439947.57	3760863.55	0.00501	439947.28
3760813.55	0.00504		
439947.00	3760763.55	0.00508	439946.72
3760713.55	0.00511		
439946.44	3760663.55	0.00517	439946.16
3760613.56	0.00525		
439945.87	3760563.56	0.00545	439945.59
3760513.56	0.00614		
439840.54	3760412.27	0.00391	439840.25
3760362.27	0.00379		
439839.97	3760312.27	0.00367	439839.69
3760262.27	0.00357		
439839.41	3760212.27	0.00348	439839.13
3760162.27	0.00340		
439838.84	3760112.27	0.00333	439838.56
3760062.27	0.00326		
439838.28	3760012.27	0.00320	439838.00
3759962.28	0.00314		

439837.72	3759912.28	0.00308	439837.43
3759862.28	0.00303		
439837.15	3759812.28	0.00299	439827.57
3758112.30	0.00184		
439927.52	3758104.25	0.00283	439937.11
3759804.22	0.00413		
439937.39	3759854.22	0.00418	439937.67
3759904.22	0.00425		
439937.95	3759954.22	0.00430	439938.24
3760004.22	0.00436		
439938.52	3760054.22	0.00444	439938.80
3760104.22	0.00452		
439939.08	3760154.22	0.00463	439939.36
3760204.22	0.00474		
439939.65	3760254.22	0.00487	439939.93
3760304.22	0.00504		
439940.21	3760354.21	0.00532	439940.49
3760404.21	0.00595		
439857.97	3760492.88	0.00493	439858.26
3760542.88	0.00485		
439858.54	3760592.88	0.00400	439858.82
3760642.88	0.00474		
439859.10	3760692.88	0.00395	439859.38
3760742.88	0.00394		
439859.67	3760792.88	0.00470	439859.95
3760842.88	0.00388		
439908.55	3760435.04	0.00627	439949.66
3760417.49	0.00607		
439999.66	3760417.71	0.00553	440049.66
3760417.93	0.00544		
440099.66	3760418.15	0.00551	440149.66
3760418.37	0.00567		
440199.66	3760418.59	0.00590	440249.66
3760418.81	0.00622		

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\*\*\* MODELOPTs:      RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL      INCLUDING SOURCE(S):      L0008412      , L0008413  
 , L0008414      , L0008415      , L0008416      ,  
                          L0008417      , L0008418      , L0008419      , L0008420      , L0008421  
 , L0008422      , L0008423      , L0008424      ,  
                          L0008425      , L0008426      , L0008427      , L0008428      , L0008429

, L0008430 , L0008431 , L0008432 ,  
 , L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
440299.66	3760419.03	0.00665	440349.66
3760419.25	0.00716		
440399.66	3760419.46	0.00763	440799.65
3760421.22	0.00774		
440849.65	3760421.44	0.00730	440899.65
3760421.66	0.00681		
440949.65	3760421.88	0.00641	440999.65
3760422.10	0.00608		
441049.65	3760422.32	0.00579	441099.65
3760422.54	0.00555		
441149.65	3760422.76	0.00534	441199.65
3760422.98	0.00518		
441249.65	3760423.20	0.00503	441299.65
3760423.42	0.00490		
441349.65	3760423.64	0.00480	441399.65
3760423.86	0.00471		
441449.65	3760424.07	0.00461	441499.65
3760424.29	0.00452		
441549.65	3760424.51	0.00444	441599.64
3760424.73	0.00438		
441649.64	3760424.95	0.00431	441699.64
3760425.17	0.00426		
441749.64	3760425.39	0.00420	441799.64
3760425.61	0.00416		
441849.64	3760425.83	0.00412	441899.64
3760426.05	0.00408		
441949.64	3760426.27	0.00404	441999.64
3760426.49	0.00399		
442049.64	3760426.71	0.00397	442099.64
3760426.93	0.00393		
442149.64	3760427.15	0.00390	442199.64
3760427.37	0.00388		
442249.64	3760427.59	0.00385	442299.64
3760427.81	0.00383		
442349.64	3760428.03	0.00380	442399.64

3760428.25	0.00380			
442449.64	3760428.47	0.00381		442499.64
3760428.69	0.00380			
442549.64	3760428.90	0.00378		442599.64
3760429.12	0.00372			
442649.63	3760429.34	0.00371		442699.63
3760429.56	0.00371			
442749.63	3760429.78	0.00370		442799.63
3760430.00	0.00369			
442849.63	3760430.22	0.00370		442899.63
3760430.44	0.00367			
442949.63	3760430.66	0.00367		442999.63
3760430.88	0.00365			
443049.63	3760431.10	0.00364		443099.63
3760431.32	0.00363			
443149.63	3760431.54	0.00362		443199.63
3760431.76	0.00360			
443249.63	3760431.98	0.00358		443299.63
3760432.20	0.00357			
443349.63	3760432.42	0.00357		443399.63
3760432.64	0.00357			
443449.63	3760432.86	0.00357		443499.63
3760433.08	0.00356			
443549.63	3760433.30	0.00356		443599.63
3760433.51	0.00358			
443649.63	3760433.73	0.00358		443699.62
3760433.95	0.00357			
443749.62	3760434.17	0.00355		443799.62
3760434.39	0.00355			
443849.62	3760434.61	0.00357		443899.62
3760434.83	0.00362			
443957.56	3760448.00	0.00462		444003.78
3760428.92	0.00400			
444049.99	3760409.83	0.00373		444096.20
3760390.74	0.00352			
444142.42	3760371.65	0.00321		444191.79
3760367.99	0.00328			
444241.79	3760367.35	0.00335		444291.78
3760366.71	0.00339			
444341.78	3760366.07	0.00340		444391.77
3760365.44	0.00340			
444441.77	3760364.80	0.00341		444491.77
3760364.16	0.00341			
444541.76	3760363.52	0.00340		444591.76
3760362.88	0.00339			

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*

08/24/21

10:27:03

\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 , L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 , L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 , L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
444641.75	3760362.25	0.00329	444691.75
3760361.61	0.00342		
444741.75	3760360.97	0.00344	444791.74
3760360.33	0.00346		
444841.74	3760359.69	0.00348	444891.73
3760359.05	0.00352		
444941.73	3760358.42	0.00356	444991.73
3760357.78	0.00363		
445041.72	3760357.14	0.00375	445091.72
3760356.50	0.00395		
445141.71	3760355.86	0.00458	445191.71
3760355.22	0.00354		
445166.91	3760455.55	0.00579	445116.92
3760456.19	0.00464		
445066.92	3760456.83	0.00432	445016.93
3760457.46	0.00416		
444966.93	3760458.10	0.00404	444916.93
3760458.74	0.00396		
444866.94	3760459.38	0.00390	444816.94
3760460.02	0.00383		
444766.95	3760460.66	0.00378	444716.95
3760461.29	0.00375		
444666.95	3760461.93	0.00369	444616.96
3760462.57	0.00357		



444566.96	3760463.21	0.00364	444516.97
3760463.85	0.00365		
444466.97	3760464.48	0.00363	444416.97
3760465.12	0.00361		
444366.98	3760465.76	0.00359	444316.98
3760466.40	0.00358		
444266.99	3760467.04	0.00358	444216.99
3760467.68	0.00362		
444167.26	3760469.59	0.00378	444121.04
3760488.68	0.00351		
444074.83	3760507.76	0.00338	444028.62
3760526.85	0.00319		
443982.40	3760545.94	0.00287	443933.78
3760552.72	0.00279		
443874.89	3760534.72	0.00343	443824.89
3760534.50	0.00344		
443774.89	3760534.29	0.00345	443724.89
3760534.07	0.00345		
443674.89	3760533.85	0.00346	443624.89
3760533.63	0.00346		
443574.89	3760533.41	0.00347	443524.89
3760533.19	0.00347		
443474.89	3760532.97	0.00348	443424.90
3760532.75	0.00348		
443374.90	3760532.53	0.00349	443324.90
3760532.31	0.00350		
443274.90	3760532.09	0.00350	443224.90
3760531.87	0.00351		
443174.90	3760531.65	0.00351	443124.90
3760531.43	0.00352		
443074.90	3760531.21	0.00353	443024.90
3760530.99	0.00354		
442974.90	3760530.77	0.00356	442924.90
3760530.55	0.00357		
442874.90	3760530.33	0.00358	442824.90
3760530.11	0.00360		
442774.90	3760529.89	0.00361	442724.90
3760529.68	0.00354		
442674.90	3760529.46	0.00349	442624.90
3760529.24	0.00356		
442574.90	3760529.02	0.00368	442524.90
3760528.80	0.00369		
442474.90	3760528.58	0.00371	442424.91
3760528.36	0.00374		
442374.91	3760528.14	0.00376	442324.91
3760527.92	0.00378		
442274.91	3760527.70	0.00381	442224.91
3760527.48	0.00384		
442174.91	3760527.26	0.00387	442124.91

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3760527.04      0.00390
                442074.91    3760526.82      0.00394      442024.91
3760526.60      0.00397
                441974.91    3760526.38      0.00401      441924.91
3760526.16      0.00406
                441874.91    3760525.94      0.00410      441824.91
3760525.72      0.00415

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^ *** AERMOD - VERSION 21112 ***      *** C:\Lakes\AERMOD
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*** AERMET - VERSION 16216 ***      ***
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

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*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL      ***
                                INCLUDING SOURCE(S):      L0008412      , L0008413
, L0008414      , L0008415      , L0008416      ,
                L0008417      , L0008418      , L0008419      , L0008420      , L0008421
, L0008422      , L0008423      , L0008424      ,
                L0008425      , L0008426      , L0008427      , L0008428      , L0008429
, L0008430      , L0008431      , L0008432      ,
                L0008433      , L0008434      , L0008435      , L0008436      , L0008437
, L0008438      , L0008439      , . . .      ,

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\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
441774.91	3760525.50	0.00421	441724.91
3760525.28	0.00427		
441674.91	3760525.06	0.00434	441624.91
3760524.85	0.00441		
441574.91	3760524.63	0.00449	441524.91
3760524.41	0.00458		
441474.91	3760524.19	0.00469	441424.91
3760523.97	0.00481		
441374.92	3760523.75	0.00494	441324.92
3760523.53	0.00510		
441274.92	3760523.31	0.00528	441224.92
3760523.09	0.00549		
441174.92	3760522.87	0.00574	441124.92

3760522.65	0.00604		
441074.92	3760522.43	0.00641	441024.92
3760522.21	0.00689		
440974.92	3760521.99	0.00756	440924.92
3760521.77	0.00851		
440874.92	3760521.55	0.01010	440824.92
3760521.33	0.01374		
440374.92	3760519.36	0.01127	440324.93
3760519.14	0.00865		
440274.93	3760518.92	0.00731	440224.93
3760518.70	0.00654		
440174.93	3760518.48	0.00605	440124.93
3760518.26	0.00571		
440074.93	3760518.04	0.00548	440024.93
3760517.82	0.00538		
439974.93	3760517.60	0.00554	439933.82
3760535.15	0.00620		
445138.86	3760315.71	0.00374	445165.09
3759616.20	0.00286		
445166.97	3759566.24	0.00232	445208.34
3759556.77	0.00332		
445258.34	3759556.14	0.00420	445308.34
3759555.51	0.00439		
449408.01	3759503.78	0.00242	449423.82
3759603.59	0.00227		
445238.82	3760499.17	0.00482	445239.41
3760549.16	0.00459		
449255.91	3762522.00	0.00259	449232.19
3762619.67	0.00240		
445265.82	3762064.86	0.00225	445215.82
3762064.86	0.00194		
445165.82	3762064.86	0.00156	445156.70
3762023.50	0.00201		
445139.69	3760573.60	0.00327	445139.10
3760523.60	0.00356		
441152.00	3762046.59	0.00082	441564.94
3762050.09	0.00076		
439944.18	3762179.79	0.00378	439944.37
3762229.79	0.00375		
439944.57	3762279.79	0.00372	439944.77
3762329.79	0.00369		
439944.96	3762379.79	0.00365	439945.16
3762429.79	0.00364		
439945.36	3762479.79	0.00362	439945.55
3762529.79	0.00361		
439945.75	3762579.79	0.00360	439945.94
3762629.79	0.00358		
439946.14	3762679.79	0.00357	439946.34
3762729.79	0.00355		

439958.30	3765779.77	0.00224	439846.49
3762769.33	0.00243		
439846.29	3762719.33	0.00244	439846.10
3762669.33	0.00245		
439845.90	3762619.33	0.00246	439845.71
3762569.33	0.00247		
439845.51	3762519.33	0.00248	439845.31
3762469.33	0.00250		
439845.12	3762419.33	0.00251	439844.92
3762369.33	0.00253		
439844.73	3762319.33	0.00255	439844.53
3762269.33	0.00257		
439844.33	3762219.33	0.00259	446702.53
3762334.08	0.00365		
446751.23	3762345.44	0.00346	446708.40
3762438.13	0.00296		
439319.73	3759944.08	0.00089	439369.73
3759944.08	0.00095		

^ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL    INCLUDING SOURCE(S):    L0008412    ,    L0008413  
 , L0008414    , L0008415    , L0008416    ,  
                  L0008417    , L0008418    , L0008419    , L0008420    , L0008421  
 , L0008422    , L0008423    , L0008424    ,  
                  L0008425    , L0008426    , L0008427    , L0008428    , L0008429  
 , L0008430    , L0008431    , L0008432    ,  
                  L0008433    , L0008434    , L0008435    , L0008436    , L0008437  
 , L0008438    , L0008439    , . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10    IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
439419.73	3759944.08	0.00101	439469.73
3759944.08	0.00108		

439519.73	3759944.08	0.00116	439569.73
3759944.08	0.00125		
439619.73	3759944.08	0.00137	439669.73
3759944.08	0.00152		
439719.73	3759944.08	0.00172	439319.73
3759994.08	0.00091		
439369.73	3759994.08	0.00096	439419.73
3759994.08	0.00103		
439469.73	3759994.08	0.00110	439519.73
3759994.08	0.00118		
439569.73	3759994.08	0.00128	439619.73
3759994.08	0.00140		
439669.73	3759994.08	0.00155	439719.73
3759994.08	0.00176		
439319.73	3760044.08	0.00092	439369.73
3760044.08	0.00098		
439419.73	3760044.08	0.00104	439469.73
3760044.08	0.00112		
439519.73	3760044.08	0.00120	439569.73
3760044.08	0.00131		
439619.73	3760044.08	0.00143	439669.73
3760044.08	0.00159		
439719.73	3760044.08	0.00180	439319.73
3760094.08	0.00094		
439369.73	3760094.08	0.00100	439419.73
3760094.08	0.00106		
439469.73	3760094.08	0.00114	439519.73
3760094.08	0.00123		
439569.73	3760094.08	0.00133	439619.73
3760094.08	0.00146		
439669.73	3760094.08	0.00162	439719.73
3760094.08	0.00185		
439319.73	3760144.08	0.00095	439369.73
3760144.08	0.00101		
439419.73	3760144.08	0.00108	439469.73
3760144.08	0.00116		
439519.73	3760144.08	0.00125	439569.73
3760144.08	0.00136		
439619.73	3760144.08	0.00149	439669.73
3760144.08	0.00166		
439719.73	3760144.08	0.00189	439319.73
3760194.08	0.00096		
439369.73	3760194.08	0.00103	439419.73
3760194.08	0.00110		
439469.73	3760194.08	0.00118	439519.73
3760194.08	0.00127		
439569.73	3760194.08	0.00139	439619.73
3760194.08	0.00152		
439669.73	3760194.08	0.00170	439719.73

3760194.08	0.00194			
439319.73	3760244.08	0.00097		439369.73
3760244.08	0.00104			
439419.73	3760244.08	0.00111		439469.73
3760244.08	0.00120			
439519.73	3760244.08	0.00129		439569.73
3760244.08	0.00141			
439619.73	3760244.08	0.00156		439669.73
3760244.08	0.00174			
439719.73	3760244.08	0.00198		439319.73
3760294.08	0.00099			
439369.73	3760294.08	0.00105		439419.73
3760294.08	0.00113			
439469.73	3760294.08	0.00121		439519.73
3760294.08	0.00132			
439569.73	3760294.08	0.00144		439619.73
3760294.08	0.00159			
439669.73	3760294.08	0.00177		439719.73
3760294.08	0.00203			
439319.73	3760344.08	0.00100		439369.73
3760344.08	0.00106			
439419.73	3760344.08	0.00114		439469.73
3760344.08	0.00123			
439519.73	3760344.08	0.00134		439569.73
3760344.08	0.00146			
439619.73	3760344.08	0.00161		439669.73
3760344.08	0.00181			
439719.73	3760344.08	0.00208		439319.73
3760394.08	0.00101			

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\*\*\* MODELOPTs:      RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL      INCLUDING SOURCE(S):      L0008412      , L0008413  
 , L0008414      , L0008415      , L0008416      ,  
                                  L0008417      , L0008418      , L0008419      , L0008420      , L0008421  
 , L0008422      , L0008423      , L0008424      ,  
                                  L0008425      , L0008426      , L0008427      , L0008428      , L0008429  
 , L0008430      , L0008431      , L0008432      ,  
                                  L0008433      , L0008434      , L0008435      , L0008436      , L0008437  
 , L0008438      , L0008439      , . . .      ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
439369.73	3760394.08	0.00108	439419.73
3760394.08	0.00115		
439469.73	3760394.08	0.00125	439519.73
3760394.08	0.00135		
439569.73	3760394.08	0.00148	439619.73
3760394.08	0.00164		
439669.73	3760394.08	0.00184	439719.73
3760394.08	0.00212		
439874.21	3765787.45	0.00144	438730.25
3763176.04	0.00030		
439155.52	3762752.44	0.00045	438236.34
3763973.00	0.00019		

^ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*    08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL    \*\*\*  
                                  INCLUDING SOURCE(S):    L0008412    , L0008413  
 , L0008414    , L0008415    , L0008416    ,  
                                  L0008417    , L0008418    , L0008419    , L0008420    , L0008421  
 , L0008422    , L0008423    , L0008424    ,  
                                  L0008425    , L0008426    , L0008427    , L0008428    , L0008429  
 , L0008430    , L0008431    , L0008432    ,  
                                  L0008433    , L0008434    , L0008435    , L0008436    , L0008437  
 , L0008438    , L0008439    , . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YMMDDHH)		

440566.09	3761307.70	0.03899	(12070406)	440753.96
3761303.17	0.04305 (16070506)			
440851.52	3761299.51	0.03306	(16111017)	440971.94
3761298.60	0.02092 (15101120)			
440893.94	3761226.53	0.02600	(12102517)	441213.06
3761237.69	0.01423 (15060920)			
441159.80	3761390.72	0.01535	(15072106)	441227.40
3761481.34	0.01466 (15072106)			
441082.11	3761541.41	0.01808	(13063020)	441232.16
3761830.62	0.01503 (15090821)			
441646.93	3761227.68	0.00993	(13051220)	441817.10
3761247.30	0.00906 (15082520)			
442031.98	3761370.48	0.00829	(13082621)	442031.98
3761419.29	0.00827 (13062921)			
442027.42	3761327.59	0.00824	(15082520)	441953.51
3761508.71	0.00882 (14082821)			
442028.70	3761572.71	0.00846	(14082821)	440323.58
3761295.37	0.03168 (16102019)			
440261.53	3761302.22	0.02399	(15060905)	440432.94
3761497.04	0.02604 (16110223)			
440427.03	3761600.65	0.02333	(15032207)	440485.55
3762029.06	0.01784 (12082923)			
440533.86	3762034.96	0.01803	(16072222)	440588.09
3762034.96	0.01771 (16101606)			
440657.35	3762052.07	0.01784	(14091620)	440598.04
3762118.06	0.01712 (16101606)			
440231.97	3762035.21	0.01687	(16061821)	440283.76
3762037.11	0.01722 (16111624)			
440897.05	3762038.37	0.01799	(14120402)	439514.80
3761885.55	0.01071 (16102418)			
439564.80	3761885.55	0.01119	(14030104)	439864.80
3761885.55	0.01870 (16102019)			
439514.80	3761935.55	0.01125	(16040703)	439564.80
3761935.55	0.01163 (15070104)			
439864.80	3761935.55	0.01801	(16102019)	439514.80
3761985.55	0.01116 (15070104)			
439564.80	3761985.55	0.01173	(15070104)	439864.80
3761985.55	0.01917 (13050222)			
439514.80	3762035.55	0.01138	(15070104)	439564.80
3762035.55	0.01182 (15060905)			
439864.80	3762035.55	0.01876	(14091524)	439864.80
3762085.55	0.02063 (14091524)			
439514.80	3762135.55	0.01148	(14010617)	439564.80
3762135.55	0.01197 (15031521)			
439614.80	3762135.55	0.01260	(15090205)	439664.80
3762135.55	0.01336 (15090205)			
439714.80	3762135.55	0.01417	(15100522)	439764.80
3762135.55	0.01518 (12010219)			



439864.80	3762135.55	0.01932	(14091524)	439512.61
3760864.65	0.01060 (16022406)			
439562.61	3760864.65	0.01105	(16022406)	439612.61
3760864.65	0.01159 (13122517)			
439662.61	3760864.65	0.01221	(13122517)	439712.61
3760864.65	0.01295 (13122517)			
439762.61	3760864.65	0.01390	(13122517)	439812.61
3760864.65	0.01528 (13122517)			
439862.61	3760864.65	0.01588	(16092524)	439512.61
3760914.65	0.01063 (15110717)			
439562.61	3760914.65	0.01109	(15110717)	439612.61
3760914.65	0.01162 (15110717)			
439662.61	3760914.65	0.01222	(15110717)	439712.61
3760914.65	0.01293 (15110717)			
439762.61	3760914.65	0.01385	(13122517)	439812.61
3760914.65	0.01521 (13122517)			
439862.61	3760914.65	0.01493	(16092524)	439512.61
3760964.65	0.01066 (15110717)			
439562.61	3760964.65	0.01110	(15110717)	439612.61
3760964.65	0.01162 (15110717)			
439662.61	3760964.65	0.01220	(15110717)	439712.61
3760964.65	0.01290 (15110717)			
439762.61	3760964.65	0.01377	(13122517)	439812.61
3760964.65	0.01513 (13122517)			
439862.61	3760964.65	0.01488	(16110920)	439512.61
3761014.65	0.01064 (15110717)			
439562.61	3761014.65	0.01107	(15110717)	439612.61
3761014.65	0.01157 (15110717)			
439662.61	3761014.65	0.01214	(15110717)	439712.61
3761014.65	0.01283 (15110717)			
439762.61	3761014.65	0.01376	(15063019)	439812.61
3761014.65	0.01515 (15063019)			

^ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*                    08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*  
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\*\*\* MODELOPTs:    RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL                    \*\*\*  
                                          INCLUDING SOURCE(S):    L0008412    , L0008413  
 , L0008414    , L0008415    , L0008416    ,  
                                          L0008417    , L0008418    , L0008419    , L0008420    , L0008421  
 , L0008422    , L0008423    , L0008424    ,  
                                          L0008425    , L0008426    , L0008427    , L0008428    , L0008429  
 , L0008430    , L0008431    , L0008432    ,  
                                          L0008433    , L0008434    , L0008435    , L0008436    , L0008437

, L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
439862.61	3761014.65	0.01541	(15063019)	439512.61
3761064.65	0.01058 (15110717)			
439562.61	3761064.65	0.01100	(15110717)	439612.61
3761064.65	0.01148 (15110717)			
439662.61	3761064.65	0.01211	(15063019)	439712.61
3761064.65	0.01286 (15063019)			
439762.61	3761064.65	0.01380	(15063019)	439812.61
3761064.65	0.01516 (15063019)			
439862.61	3761064.65	0.01463	(15063019)	439512.61
3761114.65	0.01052 (15031224)			
439562.61	3761114.65	0.01098	(15063019)	439612.61
3761114.65	0.01152 (15063019)			
439662.61	3761114.65	0.01213	(15063019)	439712.61
3761114.65	0.01286 (15063019)			
439762.61	3761114.65	0.01379	(15063019)	439812.61
3761114.65	0.01512 (15063019)			
439862.61	3761114.65	0.01746	(15020708)	439512.61
3761164.65	0.01053 (15063019)			
439562.61	3761164.65	0.01099	(15063019)	439612.61
3761164.65	0.01150 (15063019)			
439662.61	3761164.65	0.01209	(15063019)	439712.61
3761164.65	0.01281 (15063019)			
439762.61	3761164.65	0.01373	(15063019)	439812.61
3761164.65	0.01502 (15063019)			
439862.61	3761164.65	0.01505	(15090919)	439512.61
3761214.65	0.01053 (15063019)			
439562.61	3761214.65	0.01096	(15063019)	439612.61
3761214.65	0.01146 (15063019)			
439662.61	3761214.65	0.01204	(15063019)	439712.61
3761214.65	0.01275 (15063019)			
439762.61	3761214.65	0.01365	(15063019)	439812.61
3761214.65	0.01494 (15063019)			
439862.61	3761214.65	0.01449	(15072001)	439512.61
3761264.65	0.01051 (15063019)			
439562.61	3761264.65	0.01094	(15063019)	439612.61
3761264.65	0.01144 (15063019)			
439662.61	3761264.65	0.01202	(15063019)	439712.61

3761264.65	0.01274	(15063019)			
439762.61	3761264.65	0.01365	(15063019)		439812.61
3761264.65	0.01497	(15063019)			
439862.61	3761264.65	0.01574	(15072001)		439512.61
3761314.65	0.01051	(15063019)			
439562.61	3761314.65	0.01094	(15063019)		439612.61
3761314.65	0.01144	(15063019)			
439662.61	3761314.65	0.01205	(15063019)		439712.61
3761314.65	0.01280	(15063019)			
439762.61	3761314.65	0.01375	(15063019)		439812.61
3761314.65	0.01510	(15063019)			
439862.61	3761314.65	0.01516	(14030901)		439512.61
3761364.65	0.01051	(15063019)			
439562.61	3761364.65	0.01095	(15063019)		439612.61
3761364.65	0.01146	(15063019)			
439662.61	3761364.65	0.01206	(15063019)		439712.61
3761364.65	0.01279	(15063019)			
439762.61	3761364.65	0.01371	(15063019)		439812.61
3761364.65	0.01498	(15063019)			
439862.61	3761364.65	0.01733	(14030901)		439512.61
3761414.65	0.01043	(15063019)			
439562.61	3761414.65	0.01084	(15063019)		439612.61
3761414.65	0.01130	(15063019)			
439662.61	3761414.65	0.01180	(15063019)		439712.61
3761414.65	0.01243	(15112017)			
439762.61	3761414.65	0.01337	(15090919)		439812.61
3761414.65	0.01478	(15090919)			
439862.61	3761414.65	0.01614	(13101421)		439512.61
3761464.65	0.01013	(15112017)			
439562.61	3761464.65	0.01058	(15112017)		439612.61
3761464.65	0.01107	(15112017)			
439662.61	3761464.65	0.01167	(15090919)		439712.61
3761464.65	0.01241	(15090919)			
439762.61	3761464.65	0.01334	(15090919)		439812.61
3761464.65	0.01464	(13101421)			
439862.61	3761464.65	0.01553	(16102418)		439512.61
3761514.65	0.01009	(15090919)			
439562.61	3761514.65	0.01053	(15090919)		439612.61
3761514.65	0.01102	(15090919)			
439662.61	3761514.65	0.01159	(15031221)		439712.61
3761514.65	0.01237	(15031221)			
439762.61	3761514.65	0.01342	(13101421)		439812.61
3761514.65	0.01494	(16102418)			

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
439862.61	3761514.65	0.01721	(15070104)	439512.61
3761564.65	0.01000	(15090919)		
439562.61	3761564.65	0.01047	(15031221)	439612.61
3761564.65	0.01105	(15031221)		
439662.61	3761564.65	0.01168	(15031221)	439712.61
3761564.65	0.01247	(13101421)		
439762.61	3761564.65	0.01373	(16102418)	439812.61
3761564.65	0.01532	(16102418)		
439862.61	3761564.65	0.01696	(15070104)	439512.61
3761614.65	0.01006	(15031221)		
439562.61	3761614.65	0.01055	(15031221)	439862.61
3761614.65	0.01879	(15070104)		
439512.61	3761664.65	0.01029	(15031221)	439562.61
3761664.65	0.01071	(15120219)		
439862.61	3761664.65	0.01789	(14010617)	439512.61
3761714.65	0.01023	(15120219)		
439562.61	3761714.65	0.01082	(13101421)	439862.61
3761714.65	0.01744	(15031521)		
439512.61	3761764.65	0.01023	(13101421)	439562.61
3761764.65	0.01092	(16102418)		
439862.61	3761764.65	0.01933	(15031521)	439512.61
3761814.65	0.01035	(16102418)		
439562.61	3761814.65	0.01104	(16102418)	439862.61
3761814.65	0.01816	(16122917)		
439512.61	3761864.65	0.01044	(16102418)	439562.61
3761864.65	0.01106	(16102418)		

439862.61	3761864.65	0.01954	(16122917)	439947.85
3760913.55	0.01473 (16110920)			
439947.57	3760863.55	0.01480	(16110920)	439947.28
3760813.55	0.01481 (15051306)			
439947.00	3760763.55	0.01495	(15051306)	439946.72
3760713.55	0.01504 (15051306)			
439946.44	3760663.55	0.01501	(15051306)	439946.16
3760613.56	0.01499 (14120908)			
439945.87	3760563.56	0.01526	(14011717)	439945.59
3760513.56	0.01672 (12100607)			
439840.54	3760412.27	0.01889	(14051419)	439840.25
3760362.27	0.01784 (14011517)			
439839.97	3760312.27	0.01737	(16101919)	439839.69
3760262.27	0.01704 (16101919)			
439839.41	3760212.27	0.01673	(15031304)	439839.13
3760162.27	0.01658 (15031304)			
439838.84	3760112.27	0.01636	(15031304)	439838.56
3760062.27	0.01615 (16102317)			
439838.28	3760012.27	0.01598	(16102317)	439838.00
3759962.28	0.01589 (14091603)			
439837.72	3759912.28	0.01585	(14091603)	439837.43
3759862.28	0.01573 (15031301)			
439837.15	3759812.28	0.01554	(13112508)	439827.57
3758112.30	0.01080 (13050220)			
439927.52	3758104.25	0.00769	(12012917)	439937.11
3759804.22	0.01274 (15060906)			
439937.39	3759854.22	0.01272	(12020720)	439937.67
3759904.22	0.01310 (13112508)			
439937.95	3759954.22	0.01338	(13112508)	439938.24
3760004.22	0.01357 (14091603)			
439938.52	3760054.22	0.01374	(14091603)	439938.80
3760104.22	0.01391 (16102317)			
439939.08	3760154.22	0.01419	(16102317)	439939.36
3760204.22	0.01445 (15031304)			
439939.65	3760254.22	0.01483	(15031304)	439939.93
3760304.22	0.01533 (16101919)			
439940.21	3760354.21	0.01610	(16101919)	439940.49
3760404.21	0.01755 (14011517)			
439857.97	3760492.88	0.01957	(15100918)	439858.26
3760542.88	0.01809 (14011717)			
439858.54	3760592.88	0.01487	(14011717)	439858.82
3760642.88	0.01758 (14120908)			
439859.10	3760692.88	0.01523	(15051306)	439859.38
3760742.88	0.01495 (15051306)			
439859.67	3760792.88	0.01769	(15051306)	439859.95
3760842.88	0.01495 (16110920)			
439908.55	3760435.04	0.02017	(16061924)	439949.66
3760417.49	0.01840 (12100121)			
439999.66	3760417.71	0.01876	(14011517)	440049.66

3760417.93      0.01944 (14011517)  
                  440099.66    3760418.15      0.02037 (16101919)                    440149.66  
 3760418.37      0.02160 (15031304)  
                  440199.66    3760418.59      0.02336 (14091603)                    440249.66  
 3760418.81      0.02574 (15031301)  
 ▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*                    08/24/21  
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\*\*\* MODELOPTs:    RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL      \*\*\*  
                                          INCLUDING SOURCE(S):    L0008412    , L0008413  
 , L0008414    , L0008415    , L0008416    ,  
                                          L0008417    , L0008418    , L0008419    , L0008420    , L0008421  
 , L0008422    , L0008423    , L0008424    ,  
                                          L0008425    , L0008426    , L0008427    , L0008428    , L0008429  
 , L0008430    , L0008431    , L0008432    ,  
                                          L0008433    , L0008434    , L0008435    , L0008436    , L0008437  
 , L0008438    , L0008439    , . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10    IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YMMDDHH)		
440299.66	3760419.03	0.02910	(13101517)	440349.66
3760419.25	0.03314 (13101517)			
440399.66	3760419.46	0.03552	(14100421)	440799.65
3760421.22	0.03552 (15012217)			
440849.65	3760421.44	0.03313	(12012517)	440899.65
3760421.66	0.02853 (12012517)			
440949.65	3760421.88	0.02552	(13012317)	440999.65
3760422.10	0.02346 (13012317)			
441049.65	3760422.32	0.02183	(15081621)	441099.65
3760422.54	0.02049 (15081621)			
441149.65	3760422.76	0.01934	(15070806)	441199.65
3760422.98	0.01853 (12081121)			
441249.65	3760423.20	0.01786	(12081121)	441299.65
3760423.42	0.01729 (12081121)			
441349.65	3760423.64	0.01685	(12051906)	441399.65

3760423.86	0.01645	(12051906)			
441449.65	3760424.07		0.01605	(13061906)	441499.65
3760424.29	0.01569	(13061906)			
441549.65	3760424.51		0.01536	(13061906)	441599.64
3760424.73	0.01508	(13061906)			
441649.64	3760424.95		0.01479	(13061906)	441699.64
3760425.17	0.01453	(13061906)			
441749.64	3760425.39		0.01430	(13061906)	441799.64
3760425.61	0.01410	(13061906)			
441849.64	3760425.83		0.01390	(13061906)	441899.64
3760426.05	0.01373	(13090521)			
441949.64	3760426.27		0.01356	(13090521)	441999.64
3760426.49	0.01335	(13090521)			
442049.64	3760426.71		0.01324	(15051806)	442099.64
3760426.93	0.01309	(15051806)			
442149.64	3760427.15		0.01296	(15051806)	442199.64
3760427.37	0.01287	(15051806)			
442249.64	3760427.59		0.01274	(15051806)	442299.64
3760427.81	0.01263	(15051806)			
442349.64	3760428.03		0.01253	(15051806)	442399.64
3760428.25	0.01247	(15051806)			
442449.64	3760428.47		0.01244	(15051806)	442499.64
3760428.69	0.01235	(15051806)			
442549.64	3760428.90		0.01226	(15051806)	442599.64
3760429.12	0.01205	(15051806)			
442649.63	3760429.34		0.01197	(15051806)	442699.63
3760429.56	0.01194	(15051806)			
442749.63	3760429.78		0.01189	(15051806)	442799.63
3760430.00	0.01181	(15051806)			
442849.63	3760430.22		0.01177	(15051806)	442899.63
3760430.44	0.01167	(15051806)			
442949.63	3760430.66		0.01162	(13090621)	442999.63
3760430.88	0.01155	(13090621)			
443049.63	3760431.10		0.01148	(13090621)	443099.63
3760431.32	0.01141	(13090621)			
443149.63	3760431.54		0.01137	(13090621)	443199.63
3760431.76	0.01133	(13090621)			
443249.63	3760431.98		0.01124	(13090621)	443299.63
3760432.20	0.01116	(13090621)			
443349.63	3760432.42		0.01111	(13090621)	443399.63
3760432.64	0.01107	(12092607)			
443449.63	3760432.86		0.01104	(12092607)	443499.63
3760433.08	0.01100	(12092607)			
443549.63	3760433.30		0.01097	(12092607)	443599.63
3760433.51	0.01102	(12092607)			
443649.63	3760433.73		0.01103	(12092607)	443699.62
3760433.95	0.01095	(12092607)			
443749.62	3760434.17		0.01087	(12092607)	443799.62
3760434.39	0.01085	(12092607)			

443849.62	3760434.61	0.01088	(12092607)	443899.62
3760434.83	0.01100 (12092607)			
443957.56	3760448.00	0.01275	(16012617)	444003.78
3760428.92	0.01077 (12092607)			
444049.99	3760409.83	0.00975	(12092607)	444096.20
3760390.74	0.00908 (12100607)			
444142.42	3760371.65	0.00841	(12072306)	444191.79
3760367.99	0.00896 (12072306)			
444241.79	3760367.35	0.00960	(12072306)	444291.78
3760366.71	0.00992 (12072306)			
444341.78	3760366.07	0.01007	(13090621)	444391.77
3760365.44	0.01010 (13090621)			
444441.77	3760364.80	0.01012	(12092607)	444491.77
3760364.16	0.01013 (12092607)			
444541.76	3760363.52	0.01011	(12092607)	444591.76
3760362.88	0.01006 (12092607)			

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
444641.75	3760362.25	0.00966	(12092607)	444691.75
3760361.61	0.01004 (12092607)			
444741.75	3760360.97	0.01002	(12092607)	444791.74
3760360.33	0.00999 (12092607)			



444841.74	3760359.69	0.00998	(12092607)	444891.73
3760359.05	0.00999 (12092607)			
444941.73	3760358.42	0.01000	(12092607)	444991.73
3760357.78	0.01003 (12092607)			
445041.72	3760357.14	0.01008	(12092607)	445091.72
3760356.50	0.01029 (12100607)			
445141.71	3760355.86	0.01229	(12100607)	445191.71
3760355.22	0.00985 (14100307)			
445166.91	3760455.55	0.01519	(12100607)	445116.92
3760456.19	0.01160 (12100607)			
445066.92	3760456.83	0.01066	(12100607)	445016.93
3760457.46	0.01015 (12100607)			
444966.93	3760458.10	0.00982	(12100607)	444916.93
3760458.74	0.00958 (12100607)			
444866.94	3760459.38	0.00939	(12100607)	444816.94
3760460.02	0.00922 (12100607)			
444766.95	3760460.66	0.00908	(12100607)	444716.95
3760461.29	0.00898 (12100607)			
444666.95	3760461.93	0.00887	(16012617)	444616.96
3760462.57	0.00870 (12100607)			
444566.96	3760463.21	0.00900	(16012617)	444516.97
3760463.85	0.00905 (16012617)			
444466.97	3760464.48	0.00910	(16012617)	444416.97
3760465.12	0.00918 (16012617)			
444366.98	3760465.76	0.00929	(16012617)	444316.98
3760466.40	0.00945 (16012617)			
444266.99	3760467.04	0.00974	(16012617)	444216.99
3760467.68	0.01027 (16012617)			
444167.26	3760469.59	0.01107	(16012617)	444121.04
3760488.68	0.01053 (16012617)			
444074.83	3760507.76	0.00989	(16012617)	444028.62
3760526.85	0.00911 (13083103)			
443982.40	3760545.94	0.00838	(13083103)	443933.78
3760552.72	0.00834 (13083103)			
443874.89	3760534.72	0.00928	(13083103)	443824.89
3760534.50	0.00924 (13083103)			
443774.89	3760534.29	0.00920	(13083103)	443724.89
3760534.07	0.00921 (13083103)			
443674.89	3760533.85	0.00921	(13083103)	443624.89
3760533.63	0.00915 (13083103)			
443574.89	3760533.41	0.00907	(13083103)	443524.89
3760533.19	0.00923 (13083103)			
443474.89	3760532.97	0.00927	(13083103)	443424.90
3760532.75	0.00942 (13083103)			
443374.90	3760532.53	0.00927	(13083103)	443324.90
3760532.31	0.00934 (13083103)			
443274.90	3760532.09	0.00938	(13083103)	443224.90
3760531.87	0.00938 (13083103)			
443174.90	3760531.65	0.00925	(13083103)	443124.90

3760531.43	0.00926	(13083103)			
443074.90	3760531.21	0.00925	(13083103)		443024.90
3760530.99	0.00929	(13083103)			
442974.90	3760530.77	0.00914	(16012617)		442924.90
3760530.55	0.00918	(16012617)			
442874.90	3760530.33	0.00923	(16012617)		442824.90
3760530.11	0.00927	(16012617)			
442774.90	3760529.89	0.00932	(16012617)		442724.90
3760529.68	0.00919	(16012617)			
442674.90	3760529.46	0.00912	(16012617)		442624.90
3760529.24	0.00929	(16012617)			
442574.90	3760529.02	0.00959	(16012617)		442524.90
3760528.80	0.00966	(16012617)			
442474.90	3760528.58	0.00974	(16012617)		442424.91
3760528.36	0.00983	(16012617)			
442374.91	3760528.14	0.00992	(16012617)		442324.91
3760527.92	0.01001	(16012617)			
442274.91	3760527.70	0.01008	(16012617)		442224.91
3760527.48	0.01016	(16012617)			
442174.91	3760527.26	0.01026	(16012617)		442124.91
3760527.04	0.01037	(16012617)			
442074.91	3760526.82	0.01050	(16012617)		442024.91
3760526.60	0.01063	(16012617)			
441974.91	3760526.38	0.01076	(16012617)		441924.91
3760526.16	0.01088	(16012617)			
441874.91	3760525.94	0.01102	(16012617)		441824.91
3760525.72	0.01119	(16012617)			

^ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*                    08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*  
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\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE    1ST HIGHEST    1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL                    \*\*\*  
                                  INCLUDING SOURCE(S):    L0008412    , L0008413  
 , L0008414    , L0008415    , L0008416    ,  
                                  L0008417    , L0008418    , L0008419    , L0008420    , L0008421  
 , L0008422    , L0008423    , L0008424    ,  
                                  L0008425    , L0008426    , L0008427    , L0008428    , L0008429  
 , L0008430    , L0008431    , L0008432    ,  
                                  L0008433    , L0008434    , L0008435    , L0008436    , L0008437  
 , L0008438    , L0008439    , . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
441774.91	3760525.50	0.01139	(16012617)	441724.91
3760525.28	0.01159	(16012617)		
441674.91	3760525.06	0.01180	(16012617)	441624.91
3760524.85	0.01203	(16012617)		
441574.91	3760524.63	0.01225	(16012617)	441524.91
3760524.41	0.01251	(16012617)		
441474.91	3760524.19	0.01286	(16012617)	441424.91
3760523.97	0.01320	(16012617)		
441374.92	3760523.75	0.01358	(16012617)	441324.92
3760523.53	0.01403	(16012617)		
441274.92	3760523.31	0.01453	(16012617)	441224.92
3760523.09	0.01513	(16012617)		
441174.92	3760522.87	0.01583	(16012617)	441124.92
3760522.65	0.01666	(16012617)		
441074.92	3760522.43	0.01767	(16012617)	441024.92
3760522.21	0.01904	(15081621)		
440974.92	3760521.99	0.02100	(15081621)	440924.92
3760521.77	0.02385	(13012317)		
440874.92	3760521.55	0.02807	(16070906)	440824.92
3760521.33	0.03619	(12012517)		
440374.92	3760519.36	0.03769	(15060906)	440324.93
3760519.14	0.02912	(15060906)		
440274.93	3760518.92	0.02449	(14011717)	440224.93
3760518.70	0.02182	(14011717)		
440174.93	3760518.48	0.02004	(14011717)	440124.93
3760518.26	0.01871	(14011717)		
440074.93	3760518.04	0.01767	(14011717)	440024.93
3760517.82	0.01687	(14011717)		
439974.93	3760517.60	0.01632	(14011717)	439933.82
3760535.15	0.01661	(12100607)		
445138.86	3760315.71	0.01029	(12100607)	445165.09
3759616.20	0.01131	(15051306)		
445166.97	3759566.24	0.00943	(14011717)	445208.34
3759556.77	0.01245	(15060806)		
445258.34	3759556.14	0.01428	(12012917)	445308.34
3759555.51	0.01345	(12012917)		
449408.01	3759503.78	0.00870	(13090621)	449423.82
3759603.59	0.00769	(13041207)		
445238.82	3760499.17	0.01352	(13041207)	445239.41
3760549.16	0.01211	(13041207)		
449255.91	3762522.00	0.00941	(14060706)	449232.19
3762619.67	0.00828	(13041207)		

445265.82	3762064.86	0.01019	(14091620)	445215.82
3762064.86	0.01068 (15090106)			
445165.82	3762064.86	0.00831	(15090204)	445156.70
3762023.50	0.00829 (16072222)			
445139.69	3760573.60	0.00895	(12100607)	445139.10
3760523.60	0.00952 (12100607)			
441152.00	3762046.59	0.01601	(16073005)	441564.94
3762050.09	0.01181 (13050221)			
439944.18	3762179.79	0.01788	(12110421)	439944.37
3762229.79	0.01774 (12110421)			
439944.57	3762279.79	0.01807	(14092706)	439944.77
3762329.79	0.01821 (14092706)			
439944.96	3762379.79	0.01794	(14092706)	439945.16
3762429.79	0.01830 (13082824)			
439945.36	3762479.79	0.01855	(13082824)	439945.55
3762529.79	0.01858 (13082824)			
439945.75	3762579.79	0.01855	(13082824)	439945.94
3762629.79	0.01858 (12071824)			
439946.14	3762679.79	0.01874	(12071824)	439946.34
3762729.79	0.01871 (12071824)			
439958.30	3765779.77	0.01218	(15091922)	439846.49
3762769.33	0.01812 (15070102)			
439846.29	3762719.33	0.01835	(15070102)	439846.10
3762669.33	0.01843 (15070102)			
439845.90	3762619.33	0.01836	(15070102)	439845.71
3762569.33	0.01837 (15100921)			
439845.51	3762519.33	0.01853	(15100921)	439845.31
3762469.33	0.01859 (15100921)			
439845.12	3762419.33	0.01848	(15100921)	439844.92
3762369.33	0.01828 (15062206)			
439844.73	3762319.33	0.01827	(15062206)	439844.53
3762269.33	0.01828 (13012518)			
439844.33	3762219.33	0.01829	(14091524)	446702.53
3762334.08	0.01041 (13083104)			
446751.23	3762345.44	0.00992	(13083104)	446708.40
3762438.13	0.00995 (12081405)			
439319.73	3759944.08	0.00849	(13101522)	439369.73
3759944.08	0.00882 (13101522)			

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 10:27:03

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413

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, L0008414      , L0008415      , L0008416      ,
                  L0008417      , L0008418      , L0008419      , L0008420      , L0008421
, L0008422      , L0008423      , L0008424      ,
                  L0008425      , L0008426      , L0008427      , L0008428      , L0008429
, L0008430      , L0008431      , L0008432      ,
                  L0008433      , L0008434      , L0008435      , L0008436      , L0008437
, L0008438      , L0008439      , . . .

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\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
439419.73	3759944.08	0.00920	(14043002)	439469.73
3759944.08	0.00959	(14043002)		
439519.73	3759944.08	0.01000	(14042901)	439569.73
3759944.08	0.01054	(14042901)		
439619.73	3759944.08	0.01106	(14042901)	439669.73
3759944.08	0.01164	(16021419)		
439719.73	3759944.08	0.01244	(16021419)	439319.73
3759994.08	0.00857	(16101918)		
439369.73	3759994.08	0.00884	(16101918)	439419.73
3759994.08	0.00923	(13101522)		
439469.73	3759994.08	0.00963	(14043002)	439519.73
3759994.08	0.01009	(14043002)		
439569.73	3759994.08	0.01057	(14042901)	439619.73
3759994.08	0.01116	(14042901)		
439669.73	3759994.08	0.01178	(14042901)	439719.73
3759994.08	0.01253	(16021419)		
439319.73	3760044.08	0.00862	(16101918)	439369.73
3760044.08	0.00895	(16101918)		
439419.73	3760044.08	0.00928	(16101918)	439469.73
3760044.08	0.00966	(13101522)		
439519.73	3760044.08	0.01012	(14043002)	439569.73
3760044.08	0.01064	(14043002)		
439619.73	3760044.08	0.01114	(14042901)	439669.73
3760044.08	0.01192	(14042901)		
439719.73	3760044.08	0.01269	(14042901)	439319.73
3760094.08	0.00860	(14051322)		
439369.73	3760094.08	0.00896	(16101918)	439419.73
3760094.08	0.00936	(16101918)		
439469.73	3760094.08	0.00977	(16101918)	439519.73
3760094.08	0.01018	(16101918)		
439569.73	3760094.08	0.01069	(13101522)	439619.73

3760094.08	0.01128	(14043002)			
439669.73	3760094.08		0.01196	(14042901)	439719.73
3760094.08	0.01285	(14042901)			
439319.73	3760144.08		0.00870	(14051322)	439369.73
3760144.08	0.00903	(14051322)			
439419.73	3760144.08		0.00937	(14051322)	439469.73
3760144.08	0.00979	(16101918)			
439519.73	3760144.08		0.01028	(16101918)	439569.73
3760144.08	0.01079	(16101918)			
439619.73	3760144.08		0.01134	(13101522)	439669.73
3760144.08	0.01208	(14043002)			
439719.73	3760144.08		0.01290	(14042901)	439319.73
3760194.08	0.00868	(15031321)			
439369.73	3760194.08		0.00904	(14051322)	439419.73
3760194.08	0.00946	(14051322)			
439469.73	3760194.08		0.00987	(14051322)	439519.73
3760194.08	0.01029	(14051322)			
439569.73	3760194.08		0.01084	(16101918)	439619.73
3760194.08	0.01147	(16101918)			
439669.73	3760194.08		0.01216	(16101918)	439719.73
3760194.08	0.01302	(14043002)			
439319.73	3760244.08		0.00881	(15071824)	439369.73
3760244.08	0.00913	(15071824)			
439419.73	3760244.08		0.00951	(15071824)	439469.73
3760244.08	0.00986	(15031321)			
439519.73	3760244.08		0.01037	(14051322)	439569.73
3760244.08	0.01092	(14051322)			
439619.73	3760244.08		0.01149	(14051322)	439669.73
3760244.08	0.01229	(16101918)			
439719.73	3760244.08		0.01321	(16101918)	439319.73
3760294.08	0.00903	(14051419)			
439369.73	3760294.08		0.00936	(14051419)	439419.73
3760294.08	0.00971	(14051419)			
439469.73	3760294.08		0.01009	(14051419)	439519.73
3760294.08	0.01051	(14051419)			
439569.73	3760294.08		0.01101	(15071824)	439619.73
3760294.08	0.01158	(15031321)			
439669.73	3760294.08		0.01237	(14051322)	439719.73
3760294.08	0.01332	(14051322)			
439319.73	3760344.08		0.00902	(15030621)	439369.73
3760344.08	0.00938	(14051419)			
439419.73	3760344.08		0.00978	(14051419)	439469.73
3760344.08	0.01023	(14051419)			
439519.73	3760344.08		0.01073	(14051419)	439569.73
3760344.08	0.01130	(14051419)			
439619.73	3760344.08		0.01197	(14051419)	439669.73
3760344.08	0.01275	(14051419)			
439719.73	3760344.08		0.01364	(14051419)	439319.73
3760394.08	0.00904	(15030621)			

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC (YYMMDDHH)		
439369.73	3760394.08	0.00939 (15030621)	439419.73
3760394.08	0.00979 (15030621)		
439469.73	3760394.08	0.01023 (15030621)	439519.73
3760394.08	0.01073 (15030621)		
439569.73	3760394.08	0.01131 (15030621)	439619.73
3760394.08	0.01201 (15030621)		
439669.73	3760394.08	0.01289 (14051419)	439719.73
3760394.08	0.01404 (14051419)		
439874.21	3765787.45	0.01328 (13031602)	438730.25
3763176.04	0.00907 (12080924)		
439155.52	3762752.44	0.01031 (14072601)	438236.34
3763973.00	0.00811 (13082623)		

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 10:27:03

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup>

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
440566.09	3761307.70	0.01436c	(12120424)	440753.96
3761303.17	0.01651 (16101624)			
440851.52	3761299.51	0.01537m	(16031424)	440971.94
3761298.60	0.01122 (12120224)			
440893.94	3761226.53	0.01584	(12120224)	441213.06
3761237.69	0.00761 (12120224)			
441159.80	3761390.72	0.00691	(12120224)	441227.40
3761481.34	0.00591m (16031424)			
441082.11	3761541.41	0.00609m	(16031424)	441232.16
3761830.62	0.00348 (13102424)			
441646.93	3761227.68	0.00466m	(12050224)	441817.10
3761247.30	0.00407m (12050224)			
442031.98	3761370.48	0.00313	(13020524)	442031.98
3761419.29	0.00306 (13020524)			
442027.42	3761327.59	0.00322m	(12050224)	441953.51
3761508.71	0.00321 (12120224)			
442028.70	3761572.71	0.00304	(14032624)	440323.58
3761295.37	0.01264 (12020424)			
440261.53	3761302.22	0.01033	(12020424)	440432.94
3761497.04	0.00645m (14021824)			
440427.03	3761600.65	0.00515m	(14021824)	440485.55
3762029.06	0.00271 (12120624)			
440533.86	3762034.96	0.00276c	(12120424)	440588.09
3762034.96	0.00288c (12120424)			
440657.35	3762052.07	0.00291c	(12120424)	440598.04
3762118.06	0.00266c (12120424)			
440231.97	3762035.21	0.00288	(12120624)	440283.76
3762037.11	0.00297 (12120624)			



440897.05	3762038.37	0.00260	(14120424)	439514.80
3761885.55	0.00380 (12020424)			
439564.80	3761885.55	0.00396	(12020424)	439864.80
3761885.55	0.00624m (15011124)			
439514.80	3761935.55	0.00380	(12020424)	439564.80
3761935.55	0.00389 (12020424)			
439864.80	3761935.55	0.00615m	(15011124)	439514.80
3761985.55	0.00366 (12020424)			
439564.80	3761985.55	0.00372	(12020424)	439864.80
3761985.55	0.00634m (15011124)			
439514.80	3762035.55	0.00351	(12020424)	439564.80
3762035.55	0.00353 (12020424)			
439864.80	3762035.55	0.00605m	(15011124)	439864.80
3762085.55	0.00751m (15011124)			
439514.80	3762135.55	0.00309	(12020424)	439564.80
3762135.55	0.00304 (12020424)			
439614.80	3762135.55	0.00299	(12020424)	439664.80
3762135.55	0.00315 (13112324)			
439714.80	3762135.55	0.00349	(13112324)	439764.80
3762135.55	0.00400m (15011124)			
439864.80	3762135.55	0.00601m	(15011124)	439512.61
3760864.65	0.00405 (12122024)			
439562.61	3760864.65	0.00440	(12122024)	439612.61
3760864.65	0.00481 (12122024)			
439662.61	3760864.65	0.00529	(12122024)	439712.61
3760864.65	0.00588 (12122024)			
439762.61	3760864.65	0.00668	(12122024)	439812.61
3760864.65	0.00791 (12122024)			
439862.61	3760864.65	0.00892	(12122024)	439512.61
3760914.65	0.00416 (12122024)			
439562.61	3760914.65	0.00450	(12122024)	439612.61
3760914.65	0.00491 (12122024)			
439662.61	3760914.65	0.00538	(12122024)	439712.61
3760914.65	0.00597 (12122024)			
439762.61	3760914.65	0.00674	(12122024)	439812.61
3760914.65	0.00795 (12122024)			
439862.61	3760914.65	0.00843	(12122024)	439512.61
3760964.65	0.00425 (12122024)			
439562.61	3760964.65	0.00459	(12122024)	439612.61
3760964.65	0.00498 (12122024)			
439662.61	3760964.65	0.00544	(12122024)	439712.61
3760964.65	0.00600 (12122024)			
439762.61	3760964.65	0.00675	(12122024)	439812.61
3760964.65	0.00793 (12122024)			
439862.61	3760964.65	0.00850	(12122024)	439512.61
3761014.65	0.00432 (12122024)			
439562.61	3761014.65	0.00464	(12122024)	439612.61
3761014.65	0.00501 (12122024)			
439662.61	3761014.65	0.00545	(12122024)	439712.61

3761014.65 0.00599 (12122024)  
 439762.61 3761014.65 0.00671 (12122024) 439812.61  
 3761014.65 0.00787 (12122024)  
 ^ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*  
 \*\*\* 10:27:03

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

Y-COORD (M)	X-COORD (M)	Y-COORD (M)	X-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)
	439862.61	3761014.65		0.00854 (12122024)	439512.61
3761064.65		0.00434 (12122024)			
	439562.61	3761064.65		0.00464 (12122024)	439612.61
3761064.65		0.00500 (12122024)			
	439662.61	3761064.65		0.00541 (12122024)	439712.61
3761064.65		0.00593 (12122024)			
	439762.61	3761064.65		0.00664 (12122024)	439812.61
3761064.65		0.00778 (12122024)			
	439862.61	3761064.65		0.00816 (12122024)	439512.61
3761114.65		0.00432 (12122024)			
	439562.61	3761114.65		0.00461 (12122024)	439612.61
3761114.65		0.00494 (12122024)			
	439662.61	3761114.65		0.00534 (12122024)	439712.61
3761114.65		0.00585 (12122024)			
	439762.61	3761114.65		0.00654 (12122024)	439812.61
3761114.65		0.00767 (12122024)			
	439862.61	3761114.65		0.01013 (12122024)	439512.61

3761164.65	0.00428	(12122024)			
439562.61	3761164.65		0.00455	(12122024)	439612.61
3761164.65	0.00487	(12122024)			
439662.61	3761164.65		0.00526	(12122024)	439712.61
3761164.65	0.00575	(12122024)			
439762.61	3761164.65		0.00644	(12122024)	439812.61
3761164.65	0.00754	(12122024)			
439862.61	3761164.65		0.00797	(12122024)	439512.61
3761214.65	0.00425	(12122024)			
439562.61	3761214.65		0.00450	(12122024)	439612.61
3761214.65	0.00481	(12122024)			
439662.61	3761214.65		0.00519	(12122024)	439712.61
3761214.65	0.00568	(12122024)			
439762.61	3761214.65		0.00636	(12122024)	439812.61
3761214.65	0.00744	(12122024)			
439862.61	3761214.65		0.00786	(12122024)	439512.61
3761264.65	0.00420	(12122024)			
439562.61	3761264.65		0.00445	(12122024)	439612.61
3761264.65	0.00476	(12122024)			
439662.61	3761264.65		0.00513	(12122024)	439712.61
3761264.65	0.00561	(12122024)			
439762.61	3761264.65		0.00628	(12122024)	439812.61
3761264.65	0.00735	(12122024)			
439862.61	3761264.65		0.00801	(12122024)	439512.61
3761314.65	0.00412	(12122024)			
439562.61	3761314.65		0.00437	(12122024)	439612.61
3761314.65	0.00465	(12122024)			
439662.61	3761314.65		0.00502	(12122024)	439712.61
3761314.65	0.00549	(12122024)			
439762.61	3761314.65		0.00613	(12122024)	439812.61
3761314.65	0.00716	(12122024)			
439862.61	3761314.65		0.00746	(12020424)	439512.61
3761364.65	0.00399	(12122024)			
439562.61	3761364.65		0.00422	(12122024)	439612.61
3761364.65	0.00449	(12122024)			
439662.61	3761364.65		0.00483	(12122024)	439712.61
3761364.65	0.00527	(12122024)			
439762.61	3761364.65		0.00587	(12122024)	439812.61
3761364.65	0.00684	(12122024)			
439862.61	3761364.65		0.00909	(12122024)	439512.61
3761414.65	0.00381	(12122024)			
439562.61	3761414.65		0.00402	(12122024)	439612.61
3761414.65	0.00428	(12011324)			
439662.61	3761414.65		0.00461	(12011324)	439712.61
3761414.65	0.00505	(12020424)			
439762.61	3761414.65		0.00577	(12020424)	439812.61
3761414.65	0.00680	(12020424)			
439862.61	3761414.65		0.00767	(12020424)	439512.61
3761464.65	0.00377	(12011324)			

439562.61	3761464.65	0.00398	(12011324)	439612.61
3761464.65	0.00424	(12011324)		
439662.61	3761464.65	0.00460	(12020424)	439712.61
3761464.65	0.00514	(12020424)		
439762.61	3761464.65	0.00580	(12020424)	439812.61
3761464.65	0.00677	(12020424)		
439862.61	3761464.65	0.00742	(12020424)	439512.61
3761514.65	0.00372	(12011324)		
439562.61	3761514.65	0.00394	(12011324)	439612.61
3761514.65	0.00424	(12020424)		
439662.61	3761514.65	0.00468	(12020424)	439712.61
3761514.65	0.00517	(12020424)		
439762.61	3761514.65	0.00580	(12020424)	439812.61
3761514.65	0.00674	(12020424)		

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 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*  
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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL                    \*\*\*  
                                          INCLUDING SOURCE(S):    L0008412    , L0008413  
 , L0008414    , L0008415    , L0008416    ,  
                                          L0008417    , L0008418    , L0008419    , L0008420    , L0008421  
 , L0008422    , L0008423    , L0008424    ,  
                                          L0008425    , L0008426    , L0008427    , L0008428    , L0008429  
 , L0008430    , L0008431    , L0008432    ,  
                                          L0008433    , L0008434    , L0008435    , L0008436    , L0008437  
 , L0008438    , L0008439    , . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10    IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
439862.61	3761514.65	0.00774	(12020424)	439512.61
3761564.65	0.00367	(12011324)		
439562.61	3761564.65	0.00395	(12020424)	439612.61
3761564.65	0.00432	(12020424)		
439662.61	3761564.65	0.00471	(12020424)	439712.61
3761564.65	0.00517	(12020424)		

439762.61	3761564.65	0.00577	(12020424)	439812.61
3761564.65	0.00670	(12020424)		
439862.61	3761564.65	0.00734	(12020424)	439512.61
3761614.65	0.00370	(12020424)		
439562.61	3761614.65	0.00401	(12020424)	439862.61
3761614.65	0.00859	(12020424)		
439512.61	3761664.65	0.00380	(12020424)	439562.61
3761664.65	0.00407	(12020424)		
439862.61	3761664.65	0.00717	(12020424)	439512.61
3761714.65	0.00381	(12020424)		
439562.61	3761714.65	0.00407	(12020424)	439862.61
3761714.65	0.00670	(12020424)		
439512.61	3761764.65	0.00380	(12020424)	439562.61
3761764.65	0.00406	(12020424)		
439862.61	3761764.65	0.00778	(12020424)	439512.61
3761814.65	0.00379	(12020424)		
439562.61	3761814.65	0.00403	(12020424)	439862.61
3761814.65	0.00615m	(15011124)		
439512.61	3761864.65	0.00377	(12020424)	439562.61
3761864.65	0.00398	(12020424)		
439862.61	3761864.65	0.00751m	(15011124)	439947.85
3760913.55	0.00830c	(12122924)		
439947.57	3760863.55	0.00838c	(12122924)	439947.28
3760813.55	0.00845c	(12122924)		
439947.00	3760763.55	0.00853c	(12122924)	439946.72
3760713.55	0.00861c	(12122924)		
439946.44	3760663.55	0.00872c	(12122924)	439946.16
3760613.56	0.00887c	(12122924)		
439945.87	3760563.56	0.00918c	(12122924)	439945.59
3760513.56	0.01024c	(12122924)		
439840.54	3760412.27	0.01001	(16122724)	439840.25
3760362.27	0.00964	(16122724)		
439839.97	3760312.27	0.00914	(16122724)	439839.69
3760262.27	0.00866	(16122724)		
439839.41	3760212.27	0.00823	(16122724)	439839.13
3760162.27	0.00785	(16122724)		
439838.84	3760112.27	0.00749	(16122724)	439838.56
3760062.27	0.00714	(16122724)		
439838.28	3760012.27	0.00694	(16122924)	439838.00
3759962.28	0.00680	(16122924)		
439837.72	3759912.28	0.00665	(16122924)	439837.43
3759862.28	0.00648	(16122924)		
439837.15	3759812.28	0.00630	(16122924)	439827.57
3758112.30	0.00428m	(13010324)		
439927.52	3758104.25	0.00451c	(14012124)	439937.11
3759804.22	0.00650c	(14012124)		
439937.39	3759854.22	0.00658c	(14012124)	439937.67
3759904.22	0.00669c	(12112224)		
439937.95	3759954.22	0.00683c	(12112224)	439938.24

3760004.22	0.00697c (12112224)		
439938.52	3760054.22	0.00712c (12112224)	439938.80
3760104.22	0.00728c (12112224)		
439939.08	3760154.22	0.00746c (12112224)	439939.36
3760204.22	0.00766c (12112224)		
439939.65	3760254.22	0.00789c (12112224)	439939.93
3760304.22	0.00820c (12112224)		
439940.21	3760354.21	0.00868c (12112224)	439940.49
3760404.21	0.00987m (13010324)		
439857.97	3760492.88	0.01110 (12020624)	439858.26
3760542.88	0.01065 (12020624)		
439858.54	3760592.88	0.00848 (12020624)	439858.82
3760642.88	0.01035 (12020624)		
439859.10	3760692.88	0.00837 (12020624)	439859.38
3760742.88	0.00835 (12020624)		
439859.67	3760792.88	0.01022 (12020624)	439859.95
3760842.88	0.00835 (12122024)		
439908.55	3760435.04	0.01157c (14012124)	439949.66
3760417.49	0.01027m (13010324)		
439999.66	3760417.71	0.00994 (16122724)	440049.66
3760417.93	0.01020 (16122724)		
440099.66	3760418.15	0.01061 (14122624)	440149.66
3760418.37	0.01117 (14122624)		
440199.66	3760418.59	0.01180 (14122624)	440249.66
3760418.81	0.01246 (14122624)		

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
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 \*\*\* 10:27:03

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

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Y-COORD (M)	X-COORD (M)	Y-COORD (M) CONC	CONC	(YYMMDDHH)	X-COORD (M)
3760419.25	440299.66	3760419.03	0.01359	(15011524)	440349.66
3760421.22	440399.66	3760419.46	0.01654m	(13010324)	440799.65
3760421.66	440849.65	3760421.44	0.01500	(14110424)	440899.65
3760422.10	440949.65	3760421.88	0.01222	(14110424)	440999.65
3760422.54	441049.65	3760422.32	0.01019	(14110424)	441099.65
3760422.98	441149.65	3760422.76	0.00876	(14110424)	441199.65
3760423.42	441249.65	3760423.20	0.00809c	(13020924)	441299.65
3760423.86	441349.65	3760423.64	0.00768c	(13112024)	441399.65
3760424.29	441449.65	3760424.07	0.00738c	(13112024)	441499.65
3760424.73	441549.65	3760424.51	0.00713c	(13112024)	441599.64
3760425.17	441649.64	3760424.95	0.00694c	(13112024)	441699.64
3760425.61	441749.64	3760425.39	0.00678c	(13112024)	441799.64
3760426.05	441849.64	3760425.83	0.00666c	(13112024)	441899.64
3760426.49	441949.64	3760426.27	0.00654c	(13112024)	441999.64
3760426.93	442049.64	3760426.71	0.00642c	(13112024)	442099.64
3760427.37	442149.64	3760427.15	0.00632c	(13112024)	442199.64
3760427.81	442249.64	3760427.59	0.00624c	(13112024)	442299.64
3760428.25	442349.64	3760428.03	0.00616c	(13112024)	442399.64
3760428.69	442449.64	3760428.47	0.00617c	(13112024)	442499.64
3760429.12	442549.64	3760428.90	0.00610c	(13112024)	442599.64
3760429.56	442649.63	3760429.34	0.00599c	(13112024)	442699.63
3760430.00	442749.63	3760429.78	0.00597c	(13112024)	442799.63

442849.63	3760430.22	0.00594c (13112024)	442899.63
3760430.44	0.00590c (13112024)		
442949.63	3760430.66	0.00589c (13112024)	442999.63
3760430.88	0.00585c (13112024)		
443049.63	3760431.10	0.00583c (13112024)	443099.63
3760431.32	0.00580c (13112024)		
443149.63	3760431.54	0.00578c (13112024)	443199.63
3760431.76	0.00576c (13112024)		
443249.63	3760431.98	0.00572c (13112024)	443299.63
3760432.20	0.00569c (13112024)		
443349.63	3760432.42	0.00568c (13112024)	443399.63
3760432.64	0.00567c (13112024)		
443449.63	3760432.86	0.00565c (13112024)	443499.63
3760433.08	0.00564c (13112024)		
443549.63	3760433.30	0.00563c (13112024)	443599.63
3760433.51	0.00565c (13112024)		
443649.63	3760433.73	0.00565c (12122924)	443699.62
3760433.95	0.00564c (12122924)		
443749.62	3760434.17	0.00563c (12122924)	443799.62
3760434.39	0.00564c (12122924)		
443849.62	3760434.61	0.00569c (12122924)	443899.62
3760434.83	0.00581c (12122924)		
443957.56	3760448.00	0.00760c (12122924)	444003.78
3760428.92	0.00678c (12122924)		
444049.99	3760409.83	0.00642c (12122924)	444096.20
3760390.74	0.00606c (12122924)		
444142.42	3760371.65	0.00537c (12122924)	444191.79
3760367.99	0.00545c (12122924)		
444241.79	3760367.35	0.00549c (12122924)	444291.78
3760366.71	0.00549c (12122924)		
444341.78	3760366.07	0.00547c (12122924)	444391.77
3760365.44	0.00546c (12122924)		
444441.77	3760364.80	0.00545c (12122924)	444491.77
3760364.16	0.00544c (12122924)		
444541.76	3760363.52	0.00543c (12122924)	444591.76
3760362.88	0.00540c (12122924)		

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
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 \*\*\* 10:27:03

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421



, L0008422 , L0008423 , L0008424 ,  
 , L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 , L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
444641.75	3760362.25	0.00528c	(12122924)	444691.75
3760361.61	0.00543c	(12122924)		
444741.75	3760360.97	0.00545c	(12122924)	444791.74
3760360.33	0.00548c	(12122924)		
444841.74	3760359.69	0.00550c	(12122924)	444891.73
3760359.05	0.00560m	(13010324)		
444941.73	3760358.42	0.00568m	(13010324)	444991.73
3760357.78	0.00583m	(13010324)		
445041.72	3760357.14	0.00606m	(13010324)	445091.72
3760356.50	0.00646m	(13010324)		
445141.71	3760355.86	0.00757	(12121624)	445191.71
3760355.22	0.00620c	(14012124)		
445166.91	3760455.55	0.00939	(12120624)	445116.92
3760456.19	0.00725	(12120624)		
445066.92	3760456.83	0.00667	(12120624)	445016.93
3760457.46	0.00635	(12120624)		
444966.93	3760458.10	0.00613	(12120624)	444916.93
3760458.74	0.00598	(12120624)		
444866.94	3760459.38	0.00586	(12120624)	444816.94
3760460.02	0.00575	(12120624)		
444766.95	3760460.66	0.00566	(12120624)	444716.95
3760461.29	0.00560	(12120624)		
444666.95	3760461.93	0.00549	(12120624)	444616.96
3760462.57	0.00538	(12120624)		
444566.96	3760463.21	0.00544	(12120624)	444516.97
3760463.85	0.00539	(12120624)		
444466.97	3760464.48	0.00535c	(12011024)	444416.97
3760465.12	0.00531	(12120624)		
444366.98	3760465.76	0.00528	(12120624)	444316.98
3760466.40	0.00525	(12120624)		
444266.99	3760467.04	0.00524	(12120624)	444216.99
3760467.68	0.00528	(12120624)		
444167.26	3760469.59	0.00554c	(13112024)	444121.04

3760488.68	0.00524 (13111924)		
444074.83	3760507.76	0.00513 (13111924)	444028.62
3760526.85	0.00488 (13111924)		
443982.40	3760545.94	0.00438 (13111924)	443933.78
3760552.72	0.00427 (13111924)		
443874.89	3760534.72	0.00508c (12011024)	443824.89
3760534.50	0.00509c (12011024)		
443774.89	3760534.29	0.00510c (12011024)	443724.89
3760534.07	0.00510c (12011024)		
443674.89	3760533.85	0.00510c (12011024)	443624.89
3760533.63	0.00509c (12011024)		
443574.89	3760533.41	0.00509c (12011024)	443524.89
3760533.19	0.00510c (12011024)		
443474.89	3760532.97	0.00510c (12011024)	443424.90
3760532.75	0.00512 (13111924)		
443374.90	3760532.53	0.00511 (13111924)	443324.90
3760532.31	0.00513 (13111924)		
443274.90	3760532.09	0.00514 (13111924)	443224.90
3760531.87	0.00514 (13111924)		
443174.90	3760531.65	0.00513 (13111924)	443124.90
3760531.43	0.00513 (13111924)		
443074.90	3760531.21	0.00514 (13111924)	443024.90
3760530.99	0.00516 (13111924)		
442974.90	3760530.77	0.00514 (13111924)	442924.90
3760530.55	0.00517c (13112024)		
442874.90	3760530.33	0.00520c (13112024)	442824.90
3760530.11	0.00523c (13112024)		
442774.90	3760529.89	0.00526c (13112024)	442724.90
3760529.68	0.00519c (13112024)		
442674.90	3760529.46	0.00513c (13112024)	442624.90
3760529.24	0.00524c (13112024)		
442574.90	3760529.02	0.00541c (13112024)	442524.90
3760528.80	0.00545c (13112024)		
442474.90	3760528.58	0.00549c (13112024)	442424.91
3760528.36	0.00554c (13112024)		
442374.91	3760528.14	0.00558c (13112024)	442324.91
3760527.92	0.00563c (13112024)		
442274.91	3760527.70	0.00567c (13112024)	442224.91
3760527.48	0.00572c (13112024)		
442174.91	3760527.26	0.00577c (13112024)	442124.91
3760527.04	0.00583c (13112024)		
442074.91	3760526.82	0.00589c (13112024)	442024.91
3760526.60	0.00596c (13112024)		
441974.91	3760526.38	0.00603c (13112024)	441924.91
3760526.16	0.00610c (13112024)		
441874.91	3760525.94	0.00617c (13112024)	441824.91
3760525.72	0.00626c (13112024)		

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

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X-COORD (M) Y-COORD (M)	Y-COORD (M) CONC (YYMMDDHH)	CONC (YYMMDDHH)	X-COORD (M)
441774.91	3760525.50	0.00636c (13112024)	441724.91
3760525.28	0.00646c (13112024)		
441674.91	3760525.06	0.00657c (13112024)	441624.91
3760524.85	0.00669c (13112024)		
441574.91	3760524.63	0.00681c (13112024)	441524.91
3760524.41	0.00695c (13112024)		
441474.91	3760524.19	0.00714c (13112024)	441424.91
3760523.97	0.00733c (13112024)		
441374.92	3760523.75	0.00755c (13112024)	441324.92
3760523.53	0.00782c (13112024)		
441274.92	3760523.31	0.00813c (13112024)	441224.92
3760523.09	0.00851c (13112024)		
441174.92	3760522.87	0.00895c (13112024)	441124.92
3760522.65	0.00950c (13112024)		
441074.92	3760522.43	0.01017c (13112024)	441024.92
3760522.21	0.01100c (13112024)		
440974.92	3760521.99	0.01211c (13112024)	440924.92
3760521.77	0.01363c (13112024)		
440874.92	3760521.55	0.01605c (13112024)	440824.92
3760521.33	0.02120c (13112024)		
440374.92	3760519.36	0.02145 (14120224)	440324.93
3760519.14	0.01685 (12020624)		

440274.93	3760518.92	0.01391	(16122724)	440224.93
3760518.70	0.01226	(16122724)		
440174.93	3760518.48	0.01117	(16122724)	440124.93
3760518.26	0.01035	(16122724)		
440074.93	3760518.04	0.00971	(12020624)	440024.93
3760517.82	0.00933	(12020624)		
439974.93	3760517.60	0.00938c	(12122924)	439933.82
3760535.15	0.01025c	(12122924)		
445138.86	3760315.71	0.00638	(12121624)	445165.09
3759616.20	0.00612	(12122024)		
445166.97	3759566.24	0.00478m	(13010324)	445208.34
3759556.77	0.00690m	(13010324)		
445258.34	3759556.14	0.00794c	(14012124)	445308.34
3759555.51	0.00776c	(12122924)		
449408.01	3759503.78	0.00410c	(13112024)	449423.82
3759603.59	0.00368	(12120224)		
445238.82	3760499.17	0.00698c	(12121724)	445239.41
3760549.16	0.00667c	(12121724)		
449255.91	3762522.00	0.00409m	(12050224)	449232.19
3762619.67	0.00435	(12120224)		
445265.82	3762064.86	0.00431c	(12120424)	445215.82
3762064.86	0.00388c	(12120424)		
445165.82	3762064.86	0.00306	(13012524)	445156.70
3762023.50	0.00435	(12122024)		
445139.69	3760573.60	0.00558	(12121624)	445139.10
3760523.60	0.00591	(12121624)		
441152.00	3762046.59	0.00251m	(16031424)	441564.94
3762050.09	0.00316	(13102424)		
439944.18	3762179.79	0.00599	(12120624)	439944.37
3762229.79	0.00590	(12120624)		
439944.57	3762279.79	0.00581	(12120624)	439944.77
3762329.79	0.00573	(12120624)		
439944.96	3762379.79	0.00564	(12120724)	439945.16
3762429.79	0.00563	(12120724)		
439945.36	3762479.79	0.00562	(12120724)	439945.55
3762529.79	0.00560	(12120724)		
439945.75	3762579.79	0.00557	(12120724)	439945.94
3762629.79	0.00554	(12120724)		
439946.14	3762679.79	0.00551	(12120724)	439946.34
3762729.79	0.00547	(12120724)		
439958.30	3765779.77	0.00403m	(16031424)	439846.49
3762769.33	0.00493	(13112324)		
439846.29	3762719.33	0.00497	(13112324)	439846.10
3762669.33	0.00500	(13112324)		
439845.90	3762619.33	0.00505	(13112324)	439845.71
3762569.33	0.00510	(13112324)		
439845.51	3762519.33	0.00518m	(15011124)	439845.31
3762469.33	0.00530m	(15011124)		
439845.12	3762419.33	0.00542m	(15011124)	439844.92

3762369.33 0.00552m (15011124)  
 439844.73 3762319.33 0.00564m (15011124) 439844.53  
 3762269.33 0.00571m (15011124)  
 439844.33 3762219.33 0.00579m (15011124) 446702.53  
 3762334.08 0.00539c (12112224)  
 446751.23 3762345.44 0.00516c (12112224) 446708.40  
 3762438.13 0.00512c (12120124)  
 439319.73 3759944.08 0.00311 (16122724) 439369.73  
 3759944.08 0.00326 (16122724)

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

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X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC (YYMMDDHH)		
439419.73	3759944.08	0.00340 (16122724)	439469.73
3759944.08	0.00355 (16122724)		
439519.73	3759944.08	0.00371 (16122724)	439569.73
3759944.08	0.00387 (16122724)		
439619.73	3759944.08	0.00404 (16122724)	439669.73
3759944.08	0.00425 (16122724)		
439719.73	3759944.08	0.00452 (16122724)	439319.73
3759994.08	0.00316 (16122724)		
439369.73	3759994.08	0.00333 (16122724)	439419.73
3759994.08	0.00349 (16122724)		
439469.73	3759994.08	0.00366 (16122724)	439519.73

3759994.08	0.00384	(16122724)		
439569.73	3759994.08	0.00403	(16122724)	439619.73
3759994.08	0.00422	(16122724)		
439669.73	3759994.08	0.00446	(16122724)	439719.73
3759994.08	0.00477	(16122724)		
439319.73	3760044.08	0.00320	(16122724)	439369.73
3760044.08	0.00338	(16122724)		
439419.73	3760044.08	0.00357	(16122724)	439469.73
3760044.08	0.00376	(16122724)		
439519.73	3760044.08	0.00396	(16122724)	439569.73
3760044.08	0.00417	(16122724)		
439619.73	3760044.08	0.00440	(16122724)	439669.73
3760044.08	0.00467	(16122724)		
439719.73	3760044.08	0.00501	(16122724)	439319.73
3760094.08	0.00323	(16122724)		
439369.73	3760094.08	0.00342	(16122724)	439419.73
3760094.08	0.00363	(16122724)		
439469.73	3760094.08	0.00385	(16122724)	439519.73
3760094.08	0.00408	(16122724)		
439569.73	3760094.08	0.00432	(16122724)	439619.73
3760094.08	0.00458	(16122724)		
439669.73	3760094.08	0.00489	(16122724)	439719.73
3760094.08	0.00526	(16122724)		
439319.73	3760144.08	0.00323	(16122724)	439369.73
3760144.08	0.00345	(16122724)		
439419.73	3760144.08	0.00368	(16122724)	439469.73
3760144.08	0.00392	(16122724)		
439519.73	3760144.08	0.00418	(16122724)	439569.73
3760144.08	0.00445	(16122724)		
439619.73	3760144.08	0.00476	(16122724)	439669.73
3760144.08	0.00510	(16122724)		
439719.73	3760144.08	0.00551	(16122724)	439319.73
3760194.08	0.00324	(14122624)		
439369.73	3760194.08	0.00344	(16122724)	439419.73
3760194.08	0.00370	(16122724)		
439469.73	3760194.08	0.00396	(16122724)	439519.73
3760194.08	0.00425	(16122724)		
439569.73	3760194.08	0.00456	(16122724)	439619.73
3760194.08	0.00491	(16122724)		
439669.73	3760194.08	0.00530	(16122724)	439719.73
3760194.08	0.00577	(16122724)		
439319.73	3760244.08	0.00324	(14122624)	439369.73
3760244.08	0.00343	(14122624)		
439419.73	3760244.08	0.00369	(16122724)	439469.73
3760244.08	0.00397	(16122724)		
439519.73	3760244.08	0.00429	(16122724)	439569.73
3760244.08	0.00463	(16122724)		
439619.73	3760244.08	0.00502	(16122724)	439669.73
3760244.08	0.00547	(16122724)		

439719.73	3760244.08	0.00601	(16122724)	439319.73
3760294.08	0.00321	(14122624)		
439369.73	3760294.08	0.00342	(14122624)	439419.73
3760294.08	0.00365	(16122724)		
439469.73	3760294.08	0.00395	(16122724)	439519.73
3760294.08	0.00429	(16122724)		
439569.73	3760294.08	0.00466	(16122724)	439619.73
3760294.08	0.00509	(16122724)		
439669.73	3760294.08	0.00559	(16122724)	439719.73
3760294.08	0.00621	(16122724)		
439319.73	3760344.08	0.00314	(14122624)	439369.73
3760344.08	0.00336	(14122624)		
439419.73	3760344.08	0.00360	(16122724)	439469.73
3760344.08	0.00391	(16122724)		
439519.73	3760344.08	0.00425	(16122724)	439569.73
3760344.08	0.00465	(16122724)		
439619.73	3760344.08	0.00511	(16122724)	439669.73
3760344.08	0.00566	(16122724)		
439719.73	3760344.08	0.00634	(16122724)	439319.73
3760394.08	0.00305	(14122624)		

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 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
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 \*\*\* 10:27:03

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0008412 , L0008413  
 , L0008414 , L0008415 , L0008416 ,  
 L0008417 , L0008418 , L0008419 , L0008420 , L0008421  
 , L0008422 , L0008423 , L0008424 ,  
 L0008425 , L0008426 , L0008427 , L0008428 , L0008429  
 , L0008430 , L0008431 , L0008432 ,  
 L0008433 , L0008434 , L0008435 , L0008436 , L0008437  
 , L0008438 , L0008439 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		

-----

439369.73	3760394.08	0.00327	(14122624)	439419.73
3760394.08	0.00353	(16122724)		
439469.73	3760394.08	0.00383	(16122724)	439519.73
3760394.08	0.00418	(16122724)		
439569.73	3760394.08	0.00459	(16122724)	439619.73
3760394.08	0.00506	(16122724)		
439669.73	3760394.08	0.00564	(16122724)	439719.73
3760394.08	0.00636	(16122724)		
439874.21	3765787.45	0.00350	(12120624)	438730.25
3763176.04	0.00118	(12120624)		
439155.52	3762752.44	0.00167	(13112324)	438236.34
3763973.00	0.00095	(12120624)		

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 10:27:03

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE SUMMARY OF MAXIMUM PERIOD ( 43848  
 HRS) RESULTS \*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

GROUP ID	NETWORK	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV,
ZHILL, ZFLAG)	OF TYPE GRID-ID		
ALL	1ST HIGHEST VALUE IS	0.01374 AT ( 440824.92, 3760521.33, 196.81,	
196.81,	0.00) DC		
	2ND HIGHEST VALUE IS	0.01127 AT ( 440374.92, 3760519.36, 195.42,	
195.42,	0.00) DC		
	3RD HIGHEST VALUE IS	0.01010 AT ( 440874.92, 3760521.55, 197.55,	
197.55,	0.00) DC		
	4TH HIGHEST VALUE IS	0.00865 AT ( 440324.93, 3760519.14, 194.81,	
194.81,	0.00) DC		
	5TH HIGHEST VALUE IS	0.00851 AT ( 440924.92, 3760521.77, 198.06,	
198.06,	0.00) DC		
	6TH HIGHEST VALUE IS	0.00812 AT ( 440893.94, 3761226.53, 203.98,	
203.98,	0.00) DC		
	7TH HIGHEST VALUE IS	0.00809 AT ( 440753.96, 3761303.17, 204.07,	
204.07,	0.00) DC		
	8TH HIGHEST VALUE IS	0.00775 AT ( 440566.09, 3761307.70, 203.98,	



203.98, 0.00) DC  
 9TH HIGHEST VALUE IS 0.00774 AT ( 440799.65, 3760421.22, 196.26,  
 196.26, 0.00) DC  
 10TH HIGHEST VALUE IS 0.00763 AT ( 440399.66, 3760419.46, 194.31,  
 194.31, 0.00) DC

\*\*\* RECEPTOR TYPES: GC = GRIDCART  
 GP = GRIDPOLR  
 DC = DISCCART  
 DP = DISCPOLR

\*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*  
 \*\*\* 10:27:03

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE SUMMARY OF HIGHEST 1-HR

RESULTS \*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

GROUP ID (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK		DATE	RECEPTOR
	AVERAGE CONC OF TYPE	GRID-ID	(YYMMDDHH)	
-----				
-----				

ALL HIGH 1ST HIGH VALUE IS 0.04305 ON 16070506: AT ( 440753.96,  
 3761303.17, 204.07, 204.07, 0.00) DC

\*\*\* RECEPTOR TYPES: GC = GRIDCART  
 GP = GRIDPOLR  
 DC = DISCCART  
 DP = DISCPOLR

\*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*  
 \*\*\* 10:27:03

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

RESULTS \*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

GROUP ID (XR, YR, ZELEV, ZHILL, ZFLAG)	AVERAGE CONC OF TYPE	NETWORK GRID-ID	DATE (YYMMDDHH)	RECEPTOR
ALL HIGH 1ST HIGH VALUE IS	0.02145	ON 14120224	AT ( 440374.92,	
3760519.36, 195.42, 195.42,	0.00)	DC		

\*\*\* RECEPTOR TYPES: GC = GRIDCART  
 GP = GRIDPOLR  
 DC = DISCCART  
 DP = DISCPOLR

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 10:27:03

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* Message Summary : AERMOD Model Execution \*\*\*

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)  
 A Total of 2 Warning Message(s)  
 A Total of 1279 Informational Message(s)

A Total of 43848 Hours Were Processed

A Total of 917 Calm Hours Identified

A Total of 362 Missing Hours Identified ( 0.83 Percent)

\*\*\*\*\* FATAL ERROR MESSAGES \*\*\*\*\*  
 \*\*\* NONE \*\*\*

```
***** WARNING MESSAGES *****
ME W186    2416      MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
           0.50
ME W187    2416      MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
```

```
*****
*** AERMOD Finishes Successfully ***
*****
```

\*HARP - HRACalc v19044 8/25/2021 9:53:29 AM - Cancer Risk - Input File: C:\Lakes\AERMOD View\Ontario\_ORBP\ORBP\_Unmitigated\_Construction\RAST\ORBP\_Unmitigated\_Construction\_residenceHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	RISK_SUM	SCENARIO	DETAILS	INH_RISK
1			9901	DieselExhPM	0.18366		1.59E-04 30YrCancerDerived_*		1.59E-04
2			107028	Acrolein	0		0.00E+00 30YrCancerDerived_*		0.00E+00

\*HARP - HRACalc v19044 8/25/2021 9:53:29 AM - Chronic Risk - Input File: C:\Lakes\AERMOD View\Ontario\_ORBP\ORBP\_Unmitigated\_Construction\RAST\ORBP\_Unmitigated\_Construction\_residenceHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE RESP
1			9901	DieselExhPM	0.18366	NonCancerChronicDerived_Inh		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00 3.67E-02
2			107028	Acrolein	0	NonCancerChronicDerived_Inh		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00 0.00E+00

\*HARP - HRACalc v19044 8/25/2021 9:53:29 AM - Acute Risk - Input File: C:\Lakes\AERMOD View\Ontario\_ORBP\ORBP\_Unmitigated\_Construction\RAST\ORBP\_Unmitigated\_Construction\_residenceHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE RESP
1			9901	DieselExhPM	0	NonCancerAcute		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00 0.00E+00
2			107028	Acrolein	1.03802	NonCancerAcute		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00 4.15E-01

\*HARP - HRACalc v19044 8/25/2021 9:50:12 AM - Cancer Risk - Input File: C:\Lakes\AERMOD View\Ontario\_ORBP\ORBP\_Mitigated\_Construction\RAST\ORBP\_Mitigated\_Construction\_residenceHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	RISK_SUM	SCENARIO	DETAILS	INH_RISK
1			9901	DieselExhPM	0.00809		7.00E-06 30YrCancerDerived_*		7.00E-06
2			107028	Acrolein	0		0.00E+00 30YrCancerDerived_*		0.00E+00

\*HARP - HRACalc v19044 8/25/2021 9:50:12 AM - Chronic Risk - Input File: C:\Lakes\AERMOD View\Ontario\_ORBP\ORBP\_Mitigated\_Construction\RAST\ORBP\_Mitigated\_Construction\_residenceHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE RESP
1			9901	DieselExhPM	0.00809	NonCancerChronicDerived_Inh		0	0	0	0	0 0.001618
2			107028	Acrolein	0	NonCancerChronicDerived_Inh		0	0	0	0	0 0

\*HARP - HRACalc v19044 8/25/2021 9:50:12 AM - Acute Risk - Input File: C:\Lakes\AERMOD View\Ontario\_ORBP\ORBP\_Mitigated\_Construction\RAST\ORBP\_Mitigated\_Construction\_residenceHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE RESP
1			9901	DieselExhPM	0	NonCancerAcute		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00 0.00E+00
2			107028	Acrolein	0.04305	NonCancerAcute		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00 1.72E-02

```

**
*****
**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.0.0
** Lakes Environmental Software Inc.
** Date: 8/25/2021
** File: C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_Unmitigated_Operations.ADI
**
*****
**
**
*****
** AERMOD Control Pathway
*****
**
**
CO STARTING
  TITLEONE C:\Lakes\AERMOD View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U
  MODELOPT DFAULT CONC
  AVERTIME 1 24 PERIOD
  URBANOPT 2035210 San_Bernardino_County
  POLLUTID PM_10
  RUNORNOT RUN
  ERRORFIL ORBP_Unmitigated_Operations.err
CO FINISHED
**
*****
** AERMOD Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC Bldg 8 Idle
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 0.0000118
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440439.187, 3761172.343, 201.64, 3.15, 4.51
** 440486.700, 3761173.085, 201.84, 3.15, 4.51

```

```

** -----
LOCATION L0002165      VOLUME  440444.036 3761172.419 201.77
LOCATION L0002166      VOLUME  440453.735 3761172.570 201.82
LOCATION L0002167      VOLUME  440463.434 3761172.722 201.87
LOCATION L0002168      VOLUME  440473.133 3761172.873 201.91
LOCATION L0002169      VOLUME  440482.832 3761173.025 201.95
** End of LINE VOLUME Source ID = SLINE1
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE2
** DESCRSRC Bldg 9 Idle
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 7.77E-06
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440568.364, 3761173.085, 202.38, 3.15, 4.51
** 440599.545, 3761172.343, 202.59, 3.15, 4.51
** -----
LOCATION L0002170      VOLUME  440573.213 3761172.970 202.58
LOCATION L0002171      VOLUME  440582.910 3761172.739 202.67
LOCATION L0002172      VOLUME  440592.607 3761172.508 202.75
** End of LINE VOLUME Source ID = SLINE2
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE3
** DESCRSRC Bldg 10 Idle
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 0.0000117
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440693.529, 3761171.296, 202.22, 3.15, 4.51
** 440740.423, 3761171.296, 202.54, 3.15, 4.51
** -----
LOCATION L0002173      VOLUME  440698.379 3761171.296 202.63
LOCATION L0002174      VOLUME  440708.079 3761171.296 202.63
LOCATION L0002175      VOLUME  440717.779 3761171.296 202.62
LOCATION L0002176      VOLUME  440727.479 3761171.296 202.62
LOCATION L0002177      VOLUME  440737.179 3761171.296 202.64
** End of LINE VOLUME Source ID = SLINE3
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE4
** DESCRSRC Bldg 11 Idle

```

```

** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 0.0000644
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440465.649, 3761010.074, 200.18, 3.15, 4.51
** 440724.146, 3761006.974, 200.94, 3.15, 4.51
** -----
LOCATION L0002178    VOLUME  440470.498 3761010.016 200.24
LOCATION L0002179    VOLUME  440480.198 3761009.900 200.24
LOCATION L0002180    VOLUME  440489.897 3761009.784 200.25
LOCATION L0002181    VOLUME  440499.596 3761009.667 200.24
LOCATION L0002182    VOLUME  440509.296 3761009.551 200.23
LOCATION L0002183    VOLUME  440518.995 3761009.435 200.23
LOCATION L0002184    VOLUME  440528.694 3761009.318 200.25
LOCATION L0002185    VOLUME  440538.394 3761009.202 200.27
LOCATION L0002186    VOLUME  440548.093 3761009.086 200.39
LOCATION L0002187    VOLUME  440557.792 3761008.969 200.56
LOCATION L0002188    VOLUME  440567.491 3761008.853 200.73
LOCATION L0002189    VOLUME  440577.191 3761008.737 200.89
LOCATION L0002190    VOLUME  440586.890 3761008.620 201.05
LOCATION L0002191    VOLUME  440596.589 3761008.504 201.18
LOCATION L0002192    VOLUME  440606.289 3761008.388 201.24
LOCATION L0002193    VOLUME  440615.988 3761008.271 201.30
LOCATION L0002194    VOLUME  440625.687 3761008.155 201.22
LOCATION L0002195    VOLUME  440635.387 3761008.039 201.07
LOCATION L0002196    VOLUME  440645.086 3761007.922 200.91
LOCATION L0002197    VOLUME  440654.785 3761007.806 200.66
LOCATION L0002198    VOLUME  440664.484 3761007.690 200.42
LOCATION L0002199    VOLUME  440674.184 3761007.573 200.27
LOCATION L0002200    VOLUME  440683.883 3761007.457 200.29
LOCATION L0002201    VOLUME  440693.582 3761007.341 200.31
LOCATION L0002202    VOLUME  440703.282 3761007.224 200.50
LOCATION L0002203    VOLUME  440712.981 3761007.108 200.76
LOCATION L0002204    VOLUME  440722.680 3761006.992 201.00
** End of LINE VOLUME Source ID = SLINE4
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE5
** DESCRSRC N Bldg 12 Idle
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 0.0000644
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2

```

\*\* 440465.649, 3760892.646, 199.15, 3.15, 4.51  
\*\* 440724.146, 3760891.096, 199.90, 3.15, 4.51

\*\* -----

LOCATION	L0002205	VOLUME	440470.499	3760892.617	199.20
LOCATION	L0002206	VOLUME	440480.198	3760892.559	199.21
LOCATION	L0002207	VOLUME	440489.898	3760892.501	199.22
LOCATION	L0002208	VOLUME	440499.598	3760892.443	199.21
LOCATION	L0002209	VOLUME	440509.298	3760892.385	199.20
LOCATION	L0002210	VOLUME	440518.998	3760892.326	199.19
LOCATION	L0002211	VOLUME	440528.698	3760892.268	199.19
LOCATION	L0002212	VOLUME	440538.397	3760892.210	199.20
LOCATION	L0002213	VOLUME	440548.097	3760892.152	199.30
LOCATION	L0002214	VOLUME	440557.797	3760892.094	199.46
LOCATION	L0002215	VOLUME	440567.497	3760892.035	199.61
LOCATION	L0002216	VOLUME	440577.197	3760891.977	199.78
LOCATION	L0002217	VOLUME	440586.897	3760891.919	199.96
LOCATION	L0002218	VOLUME	440596.596	3760891.861	200.08
LOCATION	L0002219	VOLUME	440606.296	3760891.803	200.13
LOCATION	L0002220	VOLUME	440615.996	3760891.745	200.17
LOCATION	L0002221	VOLUME	440625.696	3760891.686	200.07
LOCATION	L0002222	VOLUME	440635.396	3760891.628	199.92
LOCATION	L0002223	VOLUME	440645.096	3760891.570	199.77
LOCATION	L0002224	VOLUME	440654.795	3760891.512	199.56
LOCATION	L0002225	VOLUME	440664.495	3760891.454	199.35
LOCATION	L0002226	VOLUME	440674.195	3760891.396	199.25
LOCATION	L0002227	VOLUME	440683.895	3760891.337	199.27
LOCATION	L0002228	VOLUME	440693.595	3760891.279	199.29
LOCATION	L0002229	VOLUME	440703.294	3760891.221	199.51
LOCATION	L0002230	VOLUME	440712.994	3760891.163	199.77
LOCATION	L0002231	VOLUME	440722.694	3760891.105	199.99

\*\* End of LINE VOLUME Source ID = SLINE5

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE6

\*\* DESCRSRC S Bldg 12 Idle

\*\* PREFIX

\*\* Length of Side = 9.70

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000646

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440465.649, 3760738.401, 197.59, 3.15, 4.51

\*\* 440724.921, 3760735.688, 197.93, 3.15, 4.51

\*\* -----

LOCATION	L0002232	VOLUME	440470.498	3760738.350	197.66
LOCATION	L0002233	VOLUME	440480.198	3760738.248	197.70
LOCATION	L0002234	VOLUME	440489.897	3760738.147	197.74
LOCATION	L0002235	VOLUME	440499.597	3760738.045	197.78



LOCATION	VOLUME				
L0002236	440509.296	3760737.944	197.82		
L0002237	440518.996	3760737.843	197.86		
L0002238	440528.695	3760737.741	197.91		
L0002239	440538.395	3760737.640	197.95		
L0002240	440548.094	3760737.538	198.02		
L0002241	440557.794	3760737.437	198.10		
L0002242	440567.493	3760737.335	198.17		
L0002243	440577.193	3760737.234	198.16		
L0002244	440586.892	3760737.132	198.15		
L0002245	440596.592	3760737.031	197.91		
L0002246	440606.291	3760736.929	197.41		
L0002247	440615.991	3760736.828	196.92		
L0002248	440625.690	3760736.726	196.72		
L0002249	440635.389	3760736.625	196.57		
L0002250	440645.089	3760736.523	196.46		
L0002251	440654.788	3760736.422	196.46		
L0002252	440664.488	3760736.320	196.46		
L0002253	440674.187	3760736.219	196.51		
L0002254	440683.887	3760736.117	196.60		
L0002255	440693.586	3760736.016	196.69		
L0002256	440703.286	3760735.914	197.12		
L0002257	440712.985	3760735.813	197.59		
L0002258	440722.685	3760735.711	197.99		

\*\* End of LINE VOLUME Source ID = SLINE6

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE7

\*\* DESCRSRC Bldg 13 Idle

\*\* PREFIX

\*\* Length of Side = 9.70

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000642

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440466.811, 3760620.585, 196.37, 3.15, 4.51

\*\* 440724.533, 3760619.422, 197.46, 3.15, 4.51

\*\* -----

L0002259	440471.661	3760620.563	196.40		
L0002260	440481.361	3760620.519	196.41		
L0002261	440491.061	3760620.476	196.43		
L0002262	440500.761	3760620.432	196.46		
L0002263	440510.461	3760620.388	196.49		
L0002264	440520.161	3760620.344	196.53		
L0002265	440529.861	3760620.301	196.60		
L0002266	440539.561	3760620.257	196.66		
L0002267	440549.261	3760620.213	196.73		
L0002268	440558.960	3760620.169	196.80		
L0002269	440568.660	3760620.126	196.87		

LOCATION	VOLUME				
L0002270	440578.360	3760620.082	196.95		
L0002271	440588.060	3760620.038	197.02		
L0002272	440597.760	3760619.994	197.06		
L0002273	440607.460	3760619.950	197.07		
L0002274	440617.160	3760619.907	197.09		
L0002275	440626.860	3760619.863	197.13		
L0002276	440636.560	3760619.819	197.18		
L0002277	440646.260	3760619.775	197.22		
L0002278	440655.959	3760619.732	197.25		
L0002279	440665.659	3760619.688	197.29		
L0002280	440675.359	3760619.644	197.31		
L0002281	440685.059	3760619.600	197.33		
L0002282	440694.759	3760619.557	197.36		
L0002283	440704.459	3760619.513	197.40		
L0002284	440714.159	3760619.469	197.45		
L0002285	440723.859	3760619.425	197.49		

\*\* End of LINE VOLUME Source ID = SLINE7

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE8

\*\* DESCRSRC Driveway 1 & 12

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0172

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440393.246, 3761134.275, 201.60, 3.15, 12.09

\*\* 440788.072, 3761130.781, 201.86, 3.15, 12.09

\*\* -----

LOCATION	VOLUME				
L0002361	440406.246	3761134.160	201.53		
L0002362	440432.245	3761133.930	201.47		
L0002363	440458.244	3761133.700	201.55		
L0002364	440484.243	3761133.470	201.64		
L0002365	440510.242	3761133.239	201.70		
L0002366	440536.241	3761133.009	201.74		
L0002367	440562.240	3761132.779	202.24		
L0002368	440588.239	3761132.549	202.45		
L0002369	440614.238	3761132.319	202.46		
L0002370	440640.237	3761132.089	202.16		
L0002371	440666.236	3761131.859	201.68		
L0002372	440692.235	3761131.629	201.60		
L0002373	440718.234	3761131.399	202.08		
L0002374	440744.233	3761131.169	202.28		
L0002375	440770.232	3761130.939	201.69		

\*\* End of LINE VOLUME Source ID = SLINE8

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

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** LINE VOLUME Source ID = SLINE9
** DESCRSRC Driveway 2 & 13
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0172
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440394.120, 3760984.031, 199.86, 3.15, 12.09
** 440785.452, 3760983.158, 200.49, 3.15, 12.09

```

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** -----
LOCATION L0002376      VOLUME  440407.120 3760984.002 199.82
LOCATION L0002377      VOLUME  440433.120 3760983.944 199.86
LOCATION L0002378      VOLUME  440459.120 3760983.886 199.96
LOCATION L0002379      VOLUME  440485.120 3760983.828 200.00
LOCATION L0002380      VOLUME  440511.120 3760983.770 200.00
LOCATION L0002381      VOLUME  440537.120 3760983.712 200.03
LOCATION L0002382      VOLUME  440563.119 3760983.654 200.41
LOCATION L0002383      VOLUME  440589.119 3760983.596 200.85
LOCATION L0002384      VOLUME  440615.119 3760983.538 201.06
LOCATION L0002385      VOLUME  440641.119 3760983.480 200.74
LOCATION L0002386      VOLUME  440667.119 3760983.422 200.10
LOCATION L0002387      VOLUME  440693.119 3760983.364 200.06
LOCATION L0002388      VOLUME  440719.119 3760983.306 200.68
LOCATION L0002389      VOLUME  440745.119 3760983.248 200.91
LOCATION L0002390      VOLUME  440771.119 3760983.190 200.46

```

```

** End of LINE VOLUME Source ID = SLINE9

```

```

** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE10
** DESCRSRC Driveway 3 & 14
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0172
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440393.246, 3760919.392, 199.10, 3.15, 12.09
** 440786.325, 3760918.518, 199.90, 3.15, 12.09

```

```

** -----
LOCATION L0002391      VOLUME  440406.246 3760919.363 199.24
LOCATION L0002392      VOLUME  440432.246 3760919.305 199.31
LOCATION L0002393      VOLUME  440458.246 3760919.247 199.39
LOCATION L0002394      VOLUME  440484.246 3760919.189 199.44
LOCATION L0002395      VOLUME  440510.246 3760919.132 199.43
LOCATION L0002396      VOLUME  440536.246 3760919.074 199.44
LOCATION L0002397      VOLUME  440562.246 3760919.016 199.80

```

LOCATION L0002398	VOLUME	440588.246	3760918.958	200.25
LOCATION L0002399	VOLUME	440614.246	3760918.901	200.42
LOCATION L0002400	VOLUME	440640.246	3760918.843	200.17
LOCATION L0002401	VOLUME	440666.246	3760918.785	199.61
LOCATION L0002402	VOLUME	440692.246	3760918.727	199.53
LOCATION L0002403	VOLUME	440718.246	3760918.669	200.15
LOCATION L0002404	VOLUME	440744.246	3760918.612	200.34
LOCATION L0002405	VOLUME	440770.245	3760918.554	199.98

\*\* End of LINE VOLUME Source ID = SLINE10

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE11

\*\* DESCRSRC Driveway 5 & 16

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0172

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440395.867, 3760713.244, 197.25, 3.15, 12.09

\*\* 440788.946, 3760709.750, 198.71, 3.15, 12.09

\*\* -----

LOCATION L0002406	VOLUME	440408.866	3760713.128	197.33
LOCATION L0002407	VOLUME	440434.865	3760712.897	197.28
LOCATION L0002408	VOLUME	440460.864	3760712.666	197.34
LOCATION L0002409	VOLUME	440486.863	3760712.435	197.41
LOCATION L0002410	VOLUME	440512.862	3760712.204	197.53
LOCATION L0002411	VOLUME	440538.861	3760711.973	197.70
LOCATION L0002412	VOLUME	440564.860	3760711.742	197.82
LOCATION L0002413	VOLUME	440590.859	3760711.510	197.87
LOCATION L0002414	VOLUME	440616.858	3760711.279	197.46
LOCATION L0002415	VOLUME	440642.857	3760711.048	197.40
LOCATION L0002416	VOLUME	440668.856	3760710.817	197.47
LOCATION L0002417	VOLUME	440694.855	3760710.586	197.60
LOCATION L0002418	VOLUME	440720.854	3760710.355	198.07
LOCATION L0002419	VOLUME	440746.853	3760710.124	198.34
LOCATION L0002420	VOLUME	440772.852	3760709.893	198.60

\*\* End of LINE VOLUME Source ID = SLINE11

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE12

\*\* DESCRSRC Driveway 6 & 17

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0172

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

```

** Nodes = 2
** 440394.120, 3760648.604, 196.51, 3.15, 12.09
** 440785.452, 3760646.857, 197.99, 3.15, 12.09
** -----
LOCATION L0002421      VOLUME  440407.120 3760648.546 196.72
LOCATION L0002422      VOLUME  440433.120 3760648.430 196.64
LOCATION L0002423      VOLUME  440459.119 3760648.314 196.66
LOCATION L0002424      VOLUME  440485.119 3760648.198 196.71
LOCATION L0002425      VOLUME  440511.119 3760648.082 196.79
LOCATION L0002426      VOLUME  440537.118 3760647.966 196.97
LOCATION L0002427      VOLUME  440563.118 3760647.850 197.14
LOCATION L0002428      VOLUME  440589.118 3760647.734 197.31
LOCATION L0002429      VOLUME  440615.118 3760647.617 197.35
LOCATION L0002430      VOLUME  440641.117 3760647.501 197.45
LOCATION L0002431      VOLUME  440667.117 3760647.385 197.55
LOCATION L0002432      VOLUME  440693.117 3760647.269 197.60
LOCATION L0002433      VOLUME  440719.117 3760647.153 197.69
LOCATION L0002434      VOLUME  440745.116 3760647.037 197.78
LOCATION L0002435      VOLUME  440771.116 3760646.921 198.03
** End of LINE VOLUME Source ID = SLINE12
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE13
** DESCRSRC West Access Road - Sultana 15 mph
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0000643
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440392.516, 3761134.605, 201.61, 3.15, 12.09
** 440390.843, 3760473.617, 195.36, 3.15, 12.09
** -----
LOCATION L0002436      VOLUME  440392.483 3761121.605 201.48
LOCATION L0002437      VOLUME  440392.418 3761095.606 201.17
LOCATION L0002438      VOLUME  440392.352 3761069.606 200.87
LOCATION L0002439      VOLUME  440392.286 3761043.606 200.56
LOCATION L0002440      VOLUME  440392.220 3761017.606 200.25
LOCATION L0002441      VOLUME  440392.154 3760991.606 199.95
LOCATION L0002442      VOLUME  440392.089 3760965.606 199.68
LOCATION L0002443      VOLUME  440392.023 3760939.606 199.43
LOCATION L0002444      VOLUME  440391.957 3760913.606 199.16
LOCATION L0002445      VOLUME  440391.891 3760887.606 198.93
LOCATION L0002446      VOLUME  440391.825 3760861.606 198.72
LOCATION L0002447      VOLUME  440391.759 3760835.606 198.48
LOCATION L0002448      VOLUME  440391.694 3760809.606 198.22
LOCATION L0002449      VOLUME  440391.628 3760783.607 197.97
LOCATION L0002450      VOLUME  440391.562 3760757.607 197.71

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LOCATION	VOLUME				
L0002451	440391.496	3760731.607	197.44		
L0002452	440391.430	3760705.607	197.19		
L0002453	440391.364	3760679.607	196.95		
L0002454	440391.299	3760653.607	196.72		
L0002455	440391.233	3760627.607	196.51		
L0002456	440391.167	3760601.607	196.30		
L0002457	440391.101	3760575.607	196.08		
L0002458	440391.035	3760549.607	195.89		
L0002459	440390.970	3760523.607	195.68		
L0002460	440390.904	3760497.607	195.53		

\*\* End of LINE VOLUME Source ID = SLINE13

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE14

\*\* DESCRSRC Merril W of Site 50 mph

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000385

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440391.194, 3760467.870, 195.22, 3.15, 12.09

\*\* 439902.492, 3760463.238, 193.60, 3.15, 12.09

\*\* -----

LOCATION	VOLUME				
L0002461	440378.195	3760467.747	195.12		
L0002462	440352.196	3760467.500	194.83		
L0002463	440326.197	3760467.254	194.71		
L0002464	440300.199	3760467.008	194.61		
L0002465	440274.200	3760466.761	194.52		
L0002466	440248.201	3760466.515	194.35		
L0002467	440222.202	3760466.268	194.19		
L0002468	440196.203	3760466.022	194.09		
L0002469	440170.204	3760465.775	193.96		
L0002470	440144.206	3760465.529	193.82		
L0002471	440118.207	3760465.282	193.71		
L0002472	440092.208	3760465.036	193.66		
L0002473	440066.209	3760464.790	193.63		
L0002474	440040.210	3760464.543	193.60		
L0002475	440014.211	3760464.297	193.59		
L0002476	439988.213	3760464.050	193.57		
L0002477	439962.214	3760463.804	193.57		
L0002478	439936.215	3760463.557	193.63		
L0002479	439910.216	3760463.311	193.67		

\*\* End of LINE VOLUME Source ID = SLINE14

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE15

\*\* DESCRSRC Euclide South of Merril 45 mph

```

** PREFIX
** Length of Side = 31.00
** Configuration = Adjacent
** Emission Rate = 0.000105
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 439894.728, 3760450.854, 193.57, 3.15, 14.42
** 439882.847, 3758051.793, 175.42, 3.15, 14.42

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LOCATION	VOLUME				
L0002480	VOLUME	439894.651	3760435.354	193.42	
L0002481	VOLUME	439894.497	3760404.354	193.22	
L0002482	VOLUME	439894.344	3760373.355	193.05	
L0002483	VOLUME	439894.190	3760342.355	192.86	
L0002484	VOLUME	439894.037	3760311.356	192.61	
L0002485	VOLUME	439893.883	3760280.356	192.34	
L0002486	VOLUME	439893.730	3760249.356	192.06	
L0002487	VOLUME	439893.576	3760218.357	191.79	
L0002488	VOLUME	439893.423	3760187.357	191.52	
L0002489	VOLUME	439893.269	3760156.357	191.32	
L0002490	VOLUME	439893.116	3760125.358	191.16	
L0002491	VOLUME	439892.962	3760094.358	191.03	
L0002492	VOLUME	439892.809	3760063.359	190.90	
L0002493	VOLUME	439892.655	3760032.359	190.76	
L0002494	VOLUME	439892.502	3760001.359	190.60	
L0002495	VOLUME	439892.348	3759970.360	190.44	
L0002496	VOLUME	439892.195	3759939.360	190.27	
L0002497	VOLUME	439892.041	3759908.360	190.10	
L0002498	VOLUME	439891.888	3759877.361	189.91	
L0002499	VOLUME	439891.734	3759846.361	189.67	
L0002500	VOLUME	439891.581	3759815.362	189.41	
L0002501	VOLUME	439891.427	3759784.362	189.14	
L0002502	VOLUME	439891.274	3759753.362	188.87	
L0002503	VOLUME	439891.120	3759722.363	188.57	
L0002504	VOLUME	439890.967	3759691.363	188.30	
L0002505	VOLUME	439890.813	3759660.364	188.05	
L0002506	VOLUME	439890.660	3759629.364	187.78	
L0002507	VOLUME	439890.506	3759598.364	187.52	
L0002508	VOLUME	439890.352	3759567.365	187.26	
L0002509	VOLUME	439890.199	3759536.365	187.01	
L0002510	VOLUME	439890.045	3759505.365	186.78	
L0002511	VOLUME	439889.892	3759474.366	186.59	
L0002512	VOLUME	439889.738	3759443.366	186.40	
L0002513	VOLUME	439889.585	3759412.367	186.20	
L0002514	VOLUME	439889.431	3759381.367	185.98	
L0002515	VOLUME	439889.278	3759350.367	185.79	
L0002516	VOLUME	439889.124	3759319.368	185.62	
L0002517	VOLUME	439888.971	3759288.368	185.43	
L0002518	VOLUME	439888.817	3759257.368	185.17	

LOCATION	L0002519	VOLUME	439888.664	3759226.369	184.88
LOCATION	L0002520	VOLUME	439888.510	3759195.369	184.57
LOCATION	L0002521	VOLUME	439888.357	3759164.370	184.29
LOCATION	L0002522	VOLUME	439888.203	3759133.370	183.99
LOCATION	L0002523	VOLUME	439888.050	3759102.370	183.75
LOCATION	L0002524	VOLUME	439887.896	3759071.371	183.55
LOCATION	L0002525	VOLUME	439887.743	3759040.371	183.39
LOCATION	L0002526	VOLUME	439887.589	3759009.372	183.24
LOCATION	L0002527	VOLUME	439887.436	3758978.372	183.05
LOCATION	L0002528	VOLUME	439887.282	3758947.372	182.83
LOCATION	L0002529	VOLUME	439887.129	3758916.373	182.56
LOCATION	L0002530	VOLUME	439886.975	3758885.373	182.21
LOCATION	L0002531	VOLUME	439886.822	3758854.373	181.90
LOCATION	L0002532	VOLUME	439886.668	3758823.374	181.56
LOCATION	L0002533	VOLUME	439886.515	3758792.374	181.26
LOCATION	L0002534	VOLUME	439886.361	3758761.375	181.04
LOCATION	L0002535	VOLUME	439886.208	3758730.375	180.85
LOCATION	L0002536	VOLUME	439886.054	3758699.375	180.68
LOCATION	L0002537	VOLUME	439885.901	3758668.376	180.48
LOCATION	L0002538	VOLUME	439885.747	3758637.376	180.25
LOCATION	L0002539	VOLUME	439885.594	3758606.376	180.00
LOCATION	L0002540	VOLUME	439885.440	3758575.377	179.78
LOCATION	L0002541	VOLUME	439885.287	3758544.377	179.58
LOCATION	L0002542	VOLUME	439885.133	3758513.378	179.37
LOCATION	L0002543	VOLUME	439884.980	3758482.378	179.09
LOCATION	L0002544	VOLUME	439884.826	3758451.378	178.77
LOCATION	L0002545	VOLUME	439884.673	3758420.379	178.42
LOCATION	L0002546	VOLUME	439884.519	3758389.379	178.08
LOCATION	L0002547	VOLUME	439884.366	3758358.379	177.78
LOCATION	L0002548	VOLUME	439884.212	3758327.380	177.48
LOCATION	L0002549	VOLUME	439884.059	3758296.380	177.24
LOCATION	L0002550	VOLUME	439883.905	3758265.381	177.02
LOCATION	L0002551	VOLUME	439883.752	3758234.381	176.77
LOCATION	L0002552	VOLUME	439883.598	3758203.381	176.52
LOCATION	L0002553	VOLUME	439883.444	3758172.382	176.26
LOCATION	L0002554	VOLUME	439883.291	3758141.382	176.00
LOCATION	L0002555	VOLUME	439883.137	3758110.383	175.77
LOCATION	L0002556	VOLUME	439882.984	3758079.383	175.59

\*\* End of LINE VOLUME Source ID = SLINE15

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\*\* -----  
 \*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE16

\*\* DESCRSRC Euclide N of Merril 45 MPH

\*\* PREFIX

\*\* Length of Side = 36.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000331

\*\* Vertical Dimension = 5.78

\*\* SZINIT = 2.69



\*\* Nodes = 4  
 \*\* 439893.985, 3760466.447, 193.63, 2.89, 16.74  
 \*\* 439902.153, 3763463.230, 227.18, 2.89, 16.74  
 \*\* 439912.548, 3763601.338, 228.39, 2.89, 16.74  
 \*\* 439915.518, 3765792.495, 254.78, 2.89, 16.74

\*\* -----

LOCATION	VOLUME				
L0002557	VOLUME	439894.034	3760484.447	193.85	
L0002558	VOLUME	439894.132	3760520.446	194.19	
L0002559	VOLUME	439894.230	3760556.446	194.55	
L0002560	VOLUME	439894.328	3760592.446	194.87	
L0002561	VOLUME	439894.427	3760628.446	195.19	
L0002562	VOLUME	439894.525	3760664.446	195.50	
L0002563	VOLUME	439894.623	3760700.446	195.83	
L0002564	VOLUME	439894.721	3760736.446	196.22	
L0002565	VOLUME	439894.819	3760772.445	196.64	
L0002566	VOLUME	439894.917	3760808.445	197.09	
L0002567	VOLUME	439895.015	3760844.445	197.60	
L0002568	VOLUME	439895.113	3760880.445	198.09	
L0002569	VOLUME	439895.211	3760916.445	198.56	
L0002570	VOLUME	439895.310	3760952.445	199.00	
L0002571	VOLUME	439895.408	3760988.445	199.46	
L0002572	VOLUME	439895.506	3761024.445	199.92	
L0002573	VOLUME	439895.604	3761060.444	200.35	
L0002574	VOLUME	439895.702	3761096.444	200.72	
L0002575	VOLUME	439895.800	3761132.444	201.08	
L0002576	VOLUME	439895.898	3761168.444	201.46	
L0002577	VOLUME	439895.996	3761204.444	201.79	
L0002578	VOLUME	439896.095	3761240.444	202.06	
L0002579	VOLUME	439896.193	3761276.444	202.40	
L0002580	VOLUME	439896.291	3761312.443	202.79	
L0002581	VOLUME	439896.389	3761348.443	203.17	
L0002582	VOLUME	439896.487	3761384.443	203.62	
L0002583	VOLUME	439896.585	3761420.443	204.07	
L0002584	VOLUME	439896.683	3761456.443	204.49	
L0002585	VOLUME	439896.781	3761492.443	204.90	
L0002586	VOLUME	439896.879	3761528.443	205.33	
L0002587	VOLUME	439896.978	3761564.443	205.74	
L0002588	VOLUME	439897.076	3761600.442	206.09	
L0002589	VOLUME	439897.174	3761636.442	206.37	
L0002590	VOLUME	439897.272	3761672.442	206.67	
L0002591	VOLUME	439897.370	3761708.442	206.97	
L0002592	VOLUME	439897.468	3761744.442	207.28	
L0002593	VOLUME	439897.566	3761780.442	207.61	
L0002594	VOLUME	439897.664	3761816.442	207.93	
L0002595	VOLUME	439897.763	3761852.441	208.24	
L0002596	VOLUME	439897.861	3761888.441	208.54	
L0002597	VOLUME	439897.959	3761924.441	208.86	
L0002598	VOLUME	439898.057	3761960.441	209.18	
L0002599	VOLUME	439898.155	3761996.441	209.49	

LOCATION L0002600	VOLUME	439898.253	3762032.441	209.76
LOCATION L0002601	VOLUME	439898.351	3762068.441	210.03
LOCATION L0002602	VOLUME	439898.449	3762104.441	210.31
LOCATION L0002603	VOLUME	439898.547	3762140.440	210.55
LOCATION L0002604	VOLUME	439898.646	3762176.440	210.85
LOCATION L0002605	VOLUME	439898.744	3762212.440	211.26
LOCATION L0002606	VOLUME	439898.842	3762248.440	211.77
LOCATION L0002607	VOLUME	439898.940	3762284.440	212.37
LOCATION L0002608	VOLUME	439899.038	3762320.440	212.95
LOCATION L0002609	VOLUME	439899.136	3762356.440	213.47
LOCATION L0002610	VOLUME	439899.234	3762392.439	213.94
LOCATION L0002611	VOLUME	439899.332	3762428.439	214.41
LOCATION L0002612	VOLUME	439899.431	3762464.439	214.87
LOCATION L0002613	VOLUME	439899.529	3762500.439	215.27
LOCATION L0002614	VOLUME	439899.627	3762536.439	215.67
LOCATION L0002615	VOLUME	439899.725	3762572.439	216.08
LOCATION L0002616	VOLUME	439899.823	3762608.439	216.52
LOCATION L0002617	VOLUME	439899.921	3762644.439	217.01
LOCATION L0002618	VOLUME	439900.019	3762680.438	217.48
LOCATION L0002619	VOLUME	439900.117	3762716.438	217.98
LOCATION L0002620	VOLUME	439900.215	3762752.438	218.46
LOCATION L0002621	VOLUME	439900.314	3762788.438	218.96
LOCATION L0002622	VOLUME	439900.412	3762824.438	219.46
LOCATION L0002623	VOLUME	439900.510	3762860.438	219.99
LOCATION L0002624	VOLUME	439900.608	3762896.438	220.50
LOCATION L0002625	VOLUME	439900.706	3762932.437	220.93
LOCATION L0002626	VOLUME	439900.804	3762968.437	221.31
LOCATION L0002627	VOLUME	439900.902	3763004.437	221.71
LOCATION L0002628	VOLUME	439901.000	3763040.437	222.07
LOCATION L0002629	VOLUME	439901.098	3763076.437	222.48
LOCATION L0002630	VOLUME	439901.197	3763112.437	222.92
LOCATION L0002631	VOLUME	439901.295	3763148.437	223.40
LOCATION L0002632	VOLUME	439901.393	3763184.437	223.91
LOCATION L0002633	VOLUME	439901.491	3763220.436	224.44
LOCATION L0002634	VOLUME	439901.589	3763256.436	224.97
LOCATION L0002635	VOLUME	439901.687	3763292.436	225.41
LOCATION L0002636	VOLUME	439901.785	3763328.436	225.83
LOCATION L0002637	VOLUME	439901.883	3763364.436	226.22
LOCATION L0002638	VOLUME	439901.982	3763400.436	226.57
LOCATION L0002639	VOLUME	439902.080	3763436.436	226.88
LOCATION L0002640	VOLUME	439902.844	3763472.410	227.21
LOCATION L0002641	VOLUME	439905.546	3763508.308	227.55
LOCATION L0002642	VOLUME	439908.248	3763544.206	227.87
LOCATION L0002643	VOLUME	439910.950	3763580.105	228.17
LOCATION L0002644	VOLUME	439912.568	3763616.045	228.46
LOCATION L0002645	VOLUME	439912.617	3763652.045	228.76
LOCATION L0002646	VOLUME	439912.665	3763688.045	229.12
LOCATION L0002647	VOLUME	439912.714	3763724.045	229.40
LOCATION L0002648	VOLUME	439912.763	3763760.045	229.65

LOCATION L0002649	VOLUME	439912.812	3763796.045	229.92
LOCATION L0002650	VOLUME	439912.861	3763832.045	230.22
LOCATION L0002651	VOLUME	439912.909	3763868.045	230.54
LOCATION L0002652	VOLUME	439912.958	3763904.045	230.93
LOCATION L0002653	VOLUME	439913.007	3763940.045	231.41
LOCATION L0002654	VOLUME	439913.056	3763976.044	231.93
LOCATION L0002655	VOLUME	439913.105	3764012.044	232.48
LOCATION L0002656	VOLUME	439913.153	3764048.044	233.06
LOCATION L0002657	VOLUME	439913.202	3764084.044	233.63
LOCATION L0002658	VOLUME	439913.251	3764120.044	234.17
LOCATION L0002659	VOLUME	439913.300	3764156.044	234.76
LOCATION L0002660	VOLUME	439913.349	3764192.044	235.34
LOCATION L0002661	VOLUME	439913.397	3764228.044	235.93
LOCATION L0002662	VOLUME	439913.446	3764264.044	236.50
LOCATION L0002663	VOLUME	439913.495	3764300.044	237.09
LOCATION L0002664	VOLUME	439913.544	3764336.044	237.65
LOCATION L0002665	VOLUME	439913.593	3764372.044	238.14
LOCATION L0002666	VOLUME	439913.641	3764408.044	238.51
LOCATION L0002667	VOLUME	439913.690	3764444.044	238.76
LOCATION L0002668	VOLUME	439913.739	3764480.044	238.94
LOCATION L0002669	VOLUME	439913.788	3764516.044	239.14
LOCATION L0002670	VOLUME	439913.837	3764552.044	239.32
LOCATION L0002671	VOLUME	439913.885	3764588.044	239.55
LOCATION L0002672	VOLUME	439913.934	3764624.044	239.91
LOCATION L0002673	VOLUME	439913.983	3764660.044	240.33
LOCATION L0002674	VOLUME	439914.032	3764696.044	240.78
LOCATION L0002675	VOLUME	439914.081	3764732.044	241.22
LOCATION L0002676	VOLUME	439914.129	3764768.044	241.87
LOCATION L0002677	VOLUME	439914.178	3764804.044	242.52
LOCATION L0002678	VOLUME	439914.227	3764840.044	243.09
LOCATION L0002679	VOLUME	439914.276	3764876.044	243.65
LOCATION L0002680	VOLUME	439914.324	3764912.044	244.15
LOCATION L0002681	VOLUME	439914.373	3764948.044	244.65
LOCATION L0002682	VOLUME	439914.422	3764984.044	245.21
LOCATION L0002683	VOLUME	439914.471	3765020.044	245.75
LOCATION L0002684	VOLUME	439914.520	3765056.043	246.10
LOCATION L0002685	VOLUME	439914.568	3765092.043	246.38
LOCATION L0002686	VOLUME	439914.617	3765128.043	246.65
LOCATION L0002687	VOLUME	439914.666	3765164.043	246.95
LOCATION L0002688	VOLUME	439914.715	3765200.043	247.30
LOCATION L0002689	VOLUME	439914.764	3765236.043	247.82
LOCATION L0002690	VOLUME	439914.812	3765272.043	248.35
LOCATION L0002691	VOLUME	439914.861	3765308.043	248.96
LOCATION L0002692	VOLUME	439914.910	3765344.043	249.57
LOCATION L0002693	VOLUME	439914.959	3765380.043	250.15
LOCATION L0002694	VOLUME	439915.008	3765416.043	250.77
LOCATION L0002695	VOLUME	439915.056	3765452.043	251.36
LOCATION L0002696	VOLUME	439915.105	3765488.043	251.81
LOCATION L0002697	VOLUME	439915.154	3765524.043	252.12

LOCATION L0002698	VOLUME	439915.203	3765560.043	252.55
LOCATION L0002699	VOLUME	439915.252	3765596.043	252.94
LOCATION L0002700	VOLUME	439915.300	3765632.043	253.19
LOCATION L0002701	VOLUME	439915.349	3765668.043	253.63
LOCATION L0002702	VOLUME	439915.398	3765704.043	254.14
LOCATION L0002703	VOLUME	439915.447	3765740.043	254.48
LOCATION L0002704	VOLUME	439915.496	3765776.043	254.77

\*\* End of LINE VOLUME Source ID = SLINE16

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE17

\*\* DESCRSRC East Access Road Campus 15 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000474

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440788.002, 3761131.581, 201.87, 3.15, 12.09

\*\* 440792.839, 3760493.155, 196.84, 3.15, 12.09

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LOCATION L0002705	VOLUME	440788.101	3761118.581	201.62
LOCATION L0002706	VOLUME	440788.297	3761092.582	201.37
LOCATION L0002707	VOLUME	440788.494	3761066.583	201.14
LOCATION L0002708	VOLUME	440788.691	3761040.584	200.92
LOCATION L0002709	VOLUME	440788.888	3761014.584	200.72
LOCATION L0002710	VOLUME	440789.085	3760988.585	200.51
LOCATION L0002711	VOLUME	440789.282	3760962.586	200.30
LOCATION L0002712	VOLUME	440789.479	3760936.587	200.11
LOCATION L0002713	VOLUME	440789.676	3760910.587	199.91
LOCATION L0002714	VOLUME	440789.873	3760884.588	199.74
LOCATION L0002715	VOLUME	440790.070	3760858.589	199.60
LOCATION L0002716	VOLUME	440790.267	3760832.590	199.52
LOCATION L0002717	VOLUME	440790.464	3760806.590	199.45
LOCATION L0002718	VOLUME	440790.661	3760780.591	199.30
LOCATION L0002719	VOLUME	440790.858	3760754.592	198.99
LOCATION L0002720	VOLUME	440791.055	3760728.593	198.81
LOCATION L0002721	VOLUME	440791.252	3760702.593	198.61
LOCATION L0002722	VOLUME	440791.449	3760676.594	198.40
LOCATION L0002723	VOLUME	440791.646	3760650.595	198.19
LOCATION L0002724	VOLUME	440791.843	3760624.595	197.97
LOCATION L0002725	VOLUME	440792.040	3760598.596	197.72
LOCATION L0002726	VOLUME	440792.237	3760572.597	197.45
LOCATION L0002727	VOLUME	440792.434	3760546.598	197.22
LOCATION L0002728	VOLUME	440792.631	3760520.598	197.02
LOCATION L0002729	VOLUME	440792.828	3760494.599	196.88

\*\* End of LINE VOLUME Source ID = SLINE17

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\*\* Line Source Represented by Adjacent Volume Sources  
 \*\* LINE VOLUME Source ID = SLINE18  
 \*\* DESCRSRC Merrill East of Site 50 MPH  
 \*\* PREFIX  
 \*\* Length of Side = 26.00  
 \*\* Configuration = Adjacent  
 \*\* Emission Rate = 0.000221  
 \*\* Vertical Dimension = 6.29  
 \*\* SZINIT = 2.93  
 \*\* Nodes = 4  
 \*\* 440792.839, 3760468.972, 196.77, 3.15, 12.09  
 \*\* 443966.833, 3760482.272, 204.47, 3.15, 12.09  
 \*\* 444151.831, 3760416.979, 202.33, 3.15, 12.09  
 \*\* 445194.110, 3760409.724, 201.48, 3.15, 12.09  
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LOCATION	VOLUME	VOLUME	VOLUME	VOLUME
L0002730	440805.838	3760469.026	196.69	
L0002731	440831.838	3760469.135	196.70	
L0002732	440857.838	3760469.244	196.88	
L0002733	440883.838	3760469.353	197.13	
L0002734	440909.838	3760469.462	197.39	
L0002735	440935.837	3760469.571	197.56	
L0002736	440961.837	3760469.680	197.64	
L0002737	440987.837	3760469.789	197.74	
L0002738	441013.837	3760469.898	197.89	
L0002739	441039.836	3760470.007	198.06	
L0002740	441065.836	3760470.116	198.25	
L0002741	441091.836	3760470.225	198.46	
L0002742	441117.836	3760470.334	198.59	
L0002743	441143.836	3760470.443	198.64	
L0002744	441169.835	3760470.552	198.63	
L0002745	441195.835	3760470.661	198.95	
L0002746	441221.835	3760470.770	198.86	
L0002747	441247.835	3760470.879	198.67	
L0002748	441273.834	3760470.988	198.71	
L0002749	441299.834	3760471.096	198.79	
L0002750	441325.834	3760471.205	198.90	
L0002751	441351.834	3760471.314	198.98	
L0002752	441377.833	3760471.423	199.10	
L0002753	441403.833	3760471.532	199.23	
L0002754	441429.833	3760471.641	199.30	
L0002755	441455.833	3760471.750	199.33	
L0002756	441481.833	3760471.859	199.62	
L0002757	441507.832	3760471.968	199.82	
L0002758	441533.832	3760472.077	199.93	
L0002759	441559.832	3760472.186	199.99	
L0002760	441585.832	3760472.295	200.00	
L0002761	441611.831	3760472.404	200.07	
L0002762	441637.831	3760472.513	200.18	
L0002763	441663.831	3760472.622	200.19	

LOCATION	L0002764	VOLUME	441689.831	3760472.731	200.18
LOCATION	L0002765	VOLUME	441715.830	3760472.840	200.15
LOCATION	L0002766	VOLUME	441741.830	3760472.949	200.10
LOCATION	L0002767	VOLUME	441767.830	3760473.058	200.08
LOCATION	L0002768	VOLUME	441793.830	3760473.167	200.09
LOCATION	L0002769	VOLUME	441819.830	3760473.275	200.09
LOCATION	L0002770	VOLUME	441845.829	3760473.384	200.08
LOCATION	L0002771	VOLUME	441871.829	3760473.493	200.12
LOCATION	L0002772	VOLUME	441897.829	3760473.602	200.15
LOCATION	L0002773	VOLUME	441923.829	3760473.711	200.22
LOCATION	L0002774	VOLUME	441949.828	3760473.820	200.29
LOCATION	L0002775	VOLUME	441975.828	3760473.929	200.11
LOCATION	L0002776	VOLUME	442001.828	3760474.038	199.94
LOCATION	L0002777	VOLUME	442027.828	3760474.147	200.38
LOCATION	L0002778	VOLUME	442053.828	3760474.256	200.42
LOCATION	L0002779	VOLUME	442079.827	3760474.365	200.43
LOCATION	L0002780	VOLUME	442105.827	3760474.474	200.40
LOCATION	L0002781	VOLUME	442131.827	3760474.583	200.37
LOCATION	L0002782	VOLUME	442157.827	3760474.692	200.38
LOCATION	L0002783	VOLUME	442183.826	3760474.801	200.40
LOCATION	L0002784	VOLUME	442209.826	3760474.910	200.40
LOCATION	L0002785	VOLUME	442235.826	3760475.019	200.44
LOCATION	L0002786	VOLUME	442261.826	3760475.128	200.55
LOCATION	L0002787	VOLUME	442287.825	3760475.237	200.67
LOCATION	L0002788	VOLUME	442313.825	3760475.346	200.80
LOCATION	L0002789	VOLUME	442339.825	3760475.455	200.98
LOCATION	L0002790	VOLUME	442365.825	3760475.563	201.07
LOCATION	L0002791	VOLUME	442391.825	3760475.672	201.05
LOCATION	L0002792	VOLUME	442417.824	3760475.781	201.12
LOCATION	L0002793	VOLUME	442443.824	3760475.890	201.14
LOCATION	L0002794	VOLUME	442469.824	3760475.999	201.12
LOCATION	L0002795	VOLUME	442495.824	3760476.108	201.09
LOCATION	L0002796	VOLUME	442521.823	3760476.217	201.06
LOCATION	L0002797	VOLUME	442547.823	3760476.326	201.01
LOCATION	L0002798	VOLUME	442573.823	3760476.435	200.96
LOCATION	L0002799	VOLUME	442599.823	3760476.544	200.85
LOCATION	L0002800	VOLUME	442625.823	3760476.653	200.70
LOCATION	L0002801	VOLUME	442651.822	3760476.762	200.64
LOCATION	L0002802	VOLUME	442677.822	3760476.871	200.61
LOCATION	L0002803	VOLUME	442703.822	3760476.980	200.62
LOCATION	L0002804	VOLUME	442729.822	3760477.089	200.73
LOCATION	L0002805	VOLUME	442755.821	3760477.198	200.85
LOCATION	L0002806	VOLUME	442781.821	3760477.307	200.82
LOCATION	L0002807	VOLUME	442807.821	3760477.416	200.80
LOCATION	L0002808	VOLUME	442833.821	3760477.525	200.83
LOCATION	L0002809	VOLUME	442859.820	3760477.634	200.98
LOCATION	L0002810	VOLUME	442885.820	3760477.742	201.07
LOCATION	L0002811	VOLUME	442911.820	3760477.851	201.13
LOCATION	L0002812	VOLUME	442937.820	3760477.960	201.24

LOCATION	L0002813	VOLUME	442963.820	3760478.069	201.34
LOCATION	L0002814	VOLUME	442989.819	3760478.178	201.66
LOCATION	L0002815	VOLUME	443015.819	3760478.287	201.87
LOCATION	L0002816	VOLUME	443041.819	3760478.396	201.68
LOCATION	L0002817	VOLUME	443067.819	3760478.505	201.58
LOCATION	L0002818	VOLUME	443093.818	3760478.614	201.61
LOCATION	L0002819	VOLUME	443119.818	3760478.723	201.69
LOCATION	L0002820	VOLUME	443145.818	3760478.832	201.82
LOCATION	L0002821	VOLUME	443171.818	3760478.941	202.12
LOCATION	L0002822	VOLUME	443197.817	3760479.050	202.75
LOCATION	L0002823	VOLUME	443223.817	3760479.159	203.08
LOCATION	L0002824	VOLUME	443249.817	3760479.268	203.11
LOCATION	L0002825	VOLUME	443275.817	3760479.377	203.19
LOCATION	L0002826	VOLUME	443301.817	3760479.486	203.21
LOCATION	L0002827	VOLUME	443327.816	3760479.595	203.34
LOCATION	L0002828	VOLUME	443353.816	3760479.704	203.23
LOCATION	L0002829	VOLUME	443379.816	3760479.813	203.32
LOCATION	L0002830	VOLUME	443405.816	3760479.922	203.44
LOCATION	L0002831	VOLUME	443431.815	3760480.030	203.41
LOCATION	L0002832	VOLUME	443457.815	3760480.139	203.39
LOCATION	L0002833	VOLUME	443483.815	3760480.248	203.40
LOCATION	L0002834	VOLUME	443509.815	3760480.357	203.34
LOCATION	L0002835	VOLUME	443535.815	3760480.466	203.32
LOCATION	L0002836	VOLUME	443561.814	3760480.575	203.18
LOCATION	L0002837	VOLUME	443587.814	3760480.684	203.18
LOCATION	L0002838	VOLUME	443613.814	3760480.793	203.46
LOCATION	L0002839	VOLUME	443639.814	3760480.902	203.54
LOCATION	L0002840	VOLUME	443665.813	3760481.011	203.63
LOCATION	L0002841	VOLUME	443691.813	3760481.120	203.67
LOCATION	L0002842	VOLUME	443717.813	3760481.229	203.73
LOCATION	L0002843	VOLUME	443743.813	3760481.338	203.77
LOCATION	L0002844	VOLUME	443769.812	3760481.447	203.85
LOCATION	L0002845	VOLUME	443795.812	3760481.556	204.00
LOCATION	L0002846	VOLUME	443821.812	3760481.665	204.17
LOCATION	L0002847	VOLUME	443847.812	3760481.774	204.20
LOCATION	L0002848	VOLUME	443873.812	3760481.883	204.53
LOCATION	L0002849	VOLUME	443899.811	3760481.992	203.97
LOCATION	L0002850	VOLUME	443925.811	3760482.101	204.05
LOCATION	L0002851	VOLUME	443951.811	3760482.210	204.58
LOCATION	L0002852	VOLUME	443977.185	3760478.619	204.36
LOCATION	L0002853	VOLUME	444001.703	3760469.965	203.93
LOCATION	L0002854	VOLUME	444026.220	3760461.312	203.42
LOCATION	L0002855	VOLUME	444050.738	3760452.659	203.27
LOCATION	L0002856	VOLUME	444075.256	3760444.005	203.00
LOCATION	L0002857	VOLUME	444099.774	3760435.352	202.74
LOCATION	L0002858	VOLUME	444124.291	3760426.699	202.61
LOCATION	L0002859	VOLUME	444148.809	3760418.045	202.42
LOCATION	L0002860	VOLUME	444174.626	3760416.820	202.24
LOCATION	L0002861	VOLUME	444200.625	3760416.639	202.16

LOCATION	L0002862	VOLUME	444226.625	3760416.458	202.11
LOCATION	L0002863	VOLUME	444252.624	3760416.277	202.08
LOCATION	L0002864	VOLUME	444278.623	3760416.096	202.08
LOCATION	L0002865	VOLUME	444304.623	3760415.915	202.08
LOCATION	L0002866	VOLUME	444330.622	3760415.734	202.05
LOCATION	L0002867	VOLUME	444356.621	3760415.553	202.09
LOCATION	L0002868	VOLUME	444382.621	3760415.372	202.09
LOCATION	L0002869	VOLUME	444408.620	3760415.191	201.88
LOCATION	L0002870	VOLUME	444434.620	3760415.010	201.81
LOCATION	L0002871	VOLUME	444460.619	3760414.830	201.86
LOCATION	L0002872	VOLUME	444486.618	3760414.649	201.93
LOCATION	L0002873	VOLUME	444512.618	3760414.468	201.96
LOCATION	L0002874	VOLUME	444538.617	3760414.287	202.07
LOCATION	L0002875	VOLUME	444564.616	3760414.106	202.19
LOCATION	L0002876	VOLUME	444590.616	3760413.925	202.08
LOCATION	L0002877	VOLUME	444616.615	3760413.744	198.42
LOCATION	L0002878	VOLUME	444642.615	3760413.563	197.62
LOCATION	L0002879	VOLUME	444668.614	3760413.382	201.81
LOCATION	L0002880	VOLUME	444694.613	3760413.201	202.20
LOCATION	L0002881	VOLUME	444720.613	3760413.020	201.98
LOCATION	L0002882	VOLUME	444746.612	3760412.839	201.80
LOCATION	L0002883	VOLUME	444772.611	3760412.658	201.20
LOCATION	L0002884	VOLUME	444798.611	3760412.477	200.69
LOCATION	L0002885	VOLUME	444824.610	3760412.296	201.48
LOCATION	L0002886	VOLUME	444850.609	3760412.115	201.42
LOCATION	L0002887	VOLUME	444876.609	3760411.934	201.16
LOCATION	L0002888	VOLUME	444902.608	3760411.753	201.20
LOCATION	L0002889	VOLUME	444928.608	3760411.572	201.45
LOCATION	L0002890	VOLUME	444954.607	3760411.391	201.75
LOCATION	L0002891	VOLUME	444980.606	3760411.210	201.86
LOCATION	L0002892	VOLUME	445006.606	3760411.029	201.80
LOCATION	L0002893	VOLUME	445032.605	3760410.848	201.77
LOCATION	L0002894	VOLUME	445058.604	3760410.667	201.77
LOCATION	L0002895	VOLUME	445084.604	3760410.486	201.74
LOCATION	L0002896	VOLUME	445110.603	3760410.305	201.77
LOCATION	L0002897	VOLUME	445136.603	3760410.124	201.91
LOCATION	L0002898	VOLUME	445162.602	3760409.943	201.80
LOCATION	L0002899	VOLUME	445188.601	3760409.762	201.42

\*\* End of LINE VOLUME Source ID = SLINE18

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 \*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE19

\*\* DESCRSRC Archibald North of Merrill 55 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000692

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93



\*\* Nodes = 2  
 \*\* 445197.002, 3760432.429, 201.58, 3.15, 12.09  
 \*\* 445203.414, 3762029.057, 216.23, 3.15, 12.09

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LOCATION L0002900	VOLUME	445197.054	3760445.429	201.61
LOCATION L0002901	VOLUME	445197.159	3760471.429	201.78
LOCATION L0002902	VOLUME	445197.263	3760497.429	201.94
LOCATION L0002903	VOLUME	445197.368	3760523.429	202.11
LOCATION L0002904	VOLUME	445197.472	3760549.428	202.26
LOCATION L0002905	VOLUME	445197.576	3760575.428	202.43
LOCATION L0002906	VOLUME	445197.681	3760601.428	202.62
LOCATION L0002907	VOLUME	445197.785	3760627.428	202.85
LOCATION L0002908	VOLUME	445197.890	3760653.428	203.09
LOCATION L0002909	VOLUME	445197.994	3760679.427	203.34
LOCATION L0002910	VOLUME	445198.098	3760705.427	203.60
LOCATION L0002911	VOLUME	445198.203	3760731.427	203.84
LOCATION L0002912	VOLUME	445198.307	3760757.427	204.09
LOCATION L0002913	VOLUME	445198.412	3760783.427	204.31
LOCATION L0002914	VOLUME	445198.516	3760809.426	204.58
LOCATION L0002915	VOLUME	445198.621	3760835.426	204.84
LOCATION L0002916	VOLUME	445198.725	3760861.426	205.09
LOCATION L0002917	VOLUME	445198.829	3760887.426	205.36
LOCATION L0002918	VOLUME	445198.934	3760913.426	205.59
LOCATION L0002919	VOLUME	445199.038	3760939.425	205.83
LOCATION L0002920	VOLUME	445199.143	3760965.425	206.10
LOCATION L0002921	VOLUME	445199.247	3760991.425	206.35
LOCATION L0002922	VOLUME	445199.351	3761017.425	206.59
LOCATION L0002923	VOLUME	445199.456	3761043.424	206.83
LOCATION L0002924	VOLUME	445199.560	3761069.424	207.07
LOCATION L0002925	VOLUME	445199.665	3761095.424	207.30
LOCATION L0002926	VOLUME	445199.769	3761121.424	207.55
LOCATION L0002927	VOLUME	445199.874	3761147.424	207.81
LOCATION L0002928	VOLUME	445199.978	3761173.423	208.02
LOCATION L0002929	VOLUME	445200.082	3761199.423	208.30
LOCATION L0002930	VOLUME	445200.187	3761225.423	208.72
LOCATION L0002931	VOLUME	445200.291	3761251.423	209.11
LOCATION L0002932	VOLUME	445200.396	3761277.423	209.39
LOCATION L0002933	VOLUME	445200.500	3761303.422	209.67
LOCATION L0002934	VOLUME	445200.604	3761329.422	209.96
LOCATION L0002935	VOLUME	445200.709	3761355.422	210.20
LOCATION L0002936	VOLUME	445200.813	3761381.422	210.41
LOCATION L0002937	VOLUME	445200.918	3761407.422	210.60
LOCATION L0002938	VOLUME	445201.022	3761433.421	210.77
LOCATION L0002939	VOLUME	445201.127	3761459.421	210.92
LOCATION L0002940	VOLUME	445201.231	3761485.421	211.13
LOCATION L0002941	VOLUME	445201.335	3761511.421	211.35
LOCATION L0002942	VOLUME	445201.440	3761537.420	211.52
LOCATION L0002943	VOLUME	445201.544	3761563.420	211.70
LOCATION L0002944	VOLUME	445201.649	3761589.420	211.90

LOCATION L0002945	VOLUME	445201.753	3761615.420	212.09
LOCATION L0002946	VOLUME	445201.857	3761641.420	212.27
LOCATION L0002947	VOLUME	445201.962	3761667.419	212.45
LOCATION L0002948	VOLUME	445202.066	3761693.419	212.61
LOCATION L0002949	VOLUME	445202.171	3761719.419	212.77
LOCATION L0002950	VOLUME	445202.275	3761745.419	213.00
LOCATION L0002951	VOLUME	445202.380	3761771.419	213.31
LOCATION L0002952	VOLUME	445202.484	3761797.418	213.59
LOCATION L0002953	VOLUME	445202.588	3761823.418	213.87
LOCATION L0002954	VOLUME	445202.693	3761849.418	214.14
LOCATION L0002955	VOLUME	445202.797	3761875.418	214.43
LOCATION L0002956	VOLUME	445202.902	3761901.418	214.72
LOCATION L0002957	VOLUME	445203.006	3761927.417	215.03
LOCATION L0002958	VOLUME	445203.110	3761953.417	215.33
LOCATION L0002959	VOLUME	445203.215	3761979.417	215.64
LOCATION L0002960	VOLUME	445203.319	3762005.417	215.92

\*\* End of LINE VOLUME Source ID = SLINE19

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE20

\*\* DESCRSRC Archibald South of Merrill 55 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000282

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445190.590, 3760393.956, 201.32, 3.15, 12.09

\*\* 445213.033, 3759579.612, 197.47, 3.15, 12.09

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LOCATION L0002961	VOLUME	445190.948	3760380.961	201.25
LOCATION L0002962	VOLUME	445191.664	3760354.971	201.07
LOCATION L0002963	VOLUME	445192.381	3760328.981	200.90
LOCATION L0002964	VOLUME	445193.097	3760302.991	200.72
LOCATION L0002965	VOLUME	445193.813	3760277.001	200.57
LOCATION L0002966	VOLUME	445194.529	3760251.011	200.42
LOCATION L0002967	VOLUME	445195.246	3760225.021	200.27
LOCATION L0002968	VOLUME	445195.962	3760199.030	200.12
LOCATION L0002969	VOLUME	445196.678	3760173.040	199.96
LOCATION L0002970	VOLUME	445197.394	3760147.050	199.80
LOCATION L0002971	VOLUME	445198.111	3760121.060	199.64
LOCATION L0002972	VOLUME	445198.827	3760095.070	199.49
LOCATION L0002973	VOLUME	445199.543	3760069.080	199.32
LOCATION L0002974	VOLUME	445200.259	3760043.090	199.14
LOCATION L0002975	VOLUME	445200.976	3760017.100	198.96
LOCATION L0002976	VOLUME	445201.692	3759991.109	198.82
LOCATION L0002977	VOLUME	445202.408	3759965.119	198.64
LOCATION L0002978	VOLUME	445203.125	3759939.129	198.60

LOCATION L0002979	VOLUME	445203.841	3759913.139	198.65
LOCATION L0002980	VOLUME	445204.557	3759887.149	198.74
LOCATION L0002981	VOLUME	445205.273	3759861.159	198.79
LOCATION L0002982	VOLUME	445205.990	3759835.169	198.62
LOCATION L0002983	VOLUME	445206.706	3759809.178	198.12
LOCATION L0002984	VOLUME	445207.422	3759783.188	198.27
LOCATION L0002985	VOLUME	445208.138	3759757.198	198.31
LOCATION L0002986	VOLUME	445208.855	3759731.208	198.20
LOCATION L0002987	VOLUME	445209.571	3759705.218	198.10
LOCATION L0002988	VOLUME	445210.287	3759679.228	197.99
LOCATION L0002989	VOLUME	445211.003	3759653.238	197.83
LOCATION L0002990	VOLUME	445211.720	3759627.248	197.71
LOCATION L0002991	VOLUME	445212.436	3759601.257	197.57

\*\* End of LINE VOLUME Source ID = SLINE20

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE21

\*\* DESCRSRC Limonite West of Hamner 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000115

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445208.816, 3759586.179, 197.53, 3.15, 12.09

\*\* 448421.656, 3759563.991, 203.23, 3.15, 12.09

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LOCATION L0002992	VOLUME	445221.815	3759586.089	197.44
LOCATION L0002993	VOLUME	445247.815	3759585.910	197.38
LOCATION L0002994	VOLUME	445273.814	3759585.730	197.39
LOCATION L0002995	VOLUME	445299.813	3759585.551	197.38
LOCATION L0002996	VOLUME	445325.813	3759585.371	197.43
LOCATION L0002997	VOLUME	445351.812	3759585.192	197.43
LOCATION L0002998	VOLUME	445377.812	3759585.012	197.46
LOCATION L0002999	VOLUME	445403.811	3759584.833	197.48
LOCATION L0003000	VOLUME	445429.810	3759584.653	197.56
LOCATION L0003001	VOLUME	445455.810	3759584.473	197.63
LOCATION L0003002	VOLUME	445481.809	3759584.294	197.63
LOCATION L0003003	VOLUME	445507.808	3759584.114	197.63
LOCATION L0003004	VOLUME	445533.808	3759583.935	197.73
LOCATION L0003005	VOLUME	445559.807	3759583.755	197.78
LOCATION L0003006	VOLUME	445585.807	3759583.576	197.85
LOCATION L0003007	VOLUME	445611.806	3759583.396	198.20
LOCATION L0003008	VOLUME	445637.805	3759583.217	198.31
LOCATION L0003009	VOLUME	445663.805	3759583.037	198.15
LOCATION L0003010	VOLUME	445689.804	3759582.857	198.11
LOCATION L0003011	VOLUME	445715.803	3759582.678	198.45
LOCATION L0003012	VOLUME	445741.803	3759582.498	198.66

LOCATION L0003013	VOLUME	445767.802	3759582.319	198.70
LOCATION L0003014	VOLUME	445793.802	3759582.139	198.86
LOCATION L0003015	VOLUME	445819.801	3759581.960	198.90
LOCATION L0003016	VOLUME	445845.800	3759581.780	198.97
LOCATION L0003017	VOLUME	445871.800	3759581.601	199.06
LOCATION L0003018	VOLUME	445897.799	3759581.421	199.08
LOCATION L0003019	VOLUME	445923.798	3759581.241	199.07
LOCATION L0003020	VOLUME	445949.798	3759581.062	199.03
LOCATION L0003021	VOLUME	445975.797	3759580.882	198.99
LOCATION L0003022	VOLUME	446001.797	3759580.703	198.83
LOCATION L0003023	VOLUME	446027.796	3759580.523	199.03
LOCATION L0003024	VOLUME	446053.795	3759580.344	199.25
LOCATION L0003025	VOLUME	446079.795	3759580.164	199.31
LOCATION L0003026	VOLUME	446105.794	3759579.985	199.37
LOCATION L0003027	VOLUME	446131.794	3759579.805	199.47
LOCATION L0003028	VOLUME	446157.793	3759579.625	199.58
LOCATION L0003029	VOLUME	446183.792	3759579.446	199.71
LOCATION L0003030	VOLUME	446209.792	3759579.266	199.83
LOCATION L0003031	VOLUME	446235.791	3759579.087	199.95
LOCATION L0003032	VOLUME	446261.790	3759578.907	200.08
LOCATION L0003033	VOLUME	446287.790	3759578.728	200.22
LOCATION L0003034	VOLUME	446313.789	3759578.548	200.33
LOCATION L0003035	VOLUME	446339.789	3759578.369	200.38
LOCATION L0003036	VOLUME	446365.788	3759578.189	200.38
LOCATION L0003037	VOLUME	446391.787	3759578.010	200.27
LOCATION L0003038	VOLUME	446417.787	3759577.830	200.16
LOCATION L0003039	VOLUME	446443.786	3759577.650	200.42
LOCATION L0003040	VOLUME	446469.785	3759577.471	200.88
LOCATION L0003041	VOLUME	446495.785	3759577.291	201.11
LOCATION L0003042	VOLUME	446521.784	3759577.112	201.23
LOCATION L0003043	VOLUME	446547.784	3759576.932	201.36
LOCATION L0003044	VOLUME	446573.783	3759576.753	201.49
LOCATION L0003045	VOLUME	446599.782	3759576.573	201.61
LOCATION L0003046	VOLUME	446625.782	3759576.394	201.74
LOCATION L0003047	VOLUME	446651.781	3759576.214	201.85
LOCATION L0003048	VOLUME	446677.781	3759576.034	201.97
LOCATION L0003049	VOLUME	446703.780	3759575.855	202.14
LOCATION L0003050	VOLUME	446729.779	3759575.675	202.28
LOCATION L0003051	VOLUME	446755.779	3759575.496	202.28
LOCATION L0003052	VOLUME	446781.778	3759575.316	202.08
LOCATION L0003053	VOLUME	446807.777	3759575.137	201.79
LOCATION L0003054	VOLUME	446833.777	3759574.957	201.68
LOCATION L0003055	VOLUME	446859.776	3759574.778	201.57
LOCATION L0003056	VOLUME	446885.776	3759574.598	201.31
LOCATION L0003057	VOLUME	446911.775	3759574.418	201.16
LOCATION L0003058	VOLUME	446937.774	3759574.239	201.14
LOCATION L0003059	VOLUME	446963.774	3759574.059	201.13
LOCATION L0003060	VOLUME	446989.773	3759573.880	201.19
LOCATION L0003061	VOLUME	447015.772	3759573.700	201.32

LOCATION L0003062	VOLUME	447041.772	3759573.521	201.43
LOCATION L0003063	VOLUME	447067.771	3759573.341	201.44
LOCATION L0003064	VOLUME	447093.771	3759573.162	201.34
LOCATION L0003065	VOLUME	447119.770	3759572.982	201.26
LOCATION L0003066	VOLUME	447145.769	3759572.802	201.16
LOCATION L0003067	VOLUME	447171.769	3759572.623	201.03
LOCATION L0003068	VOLUME	447197.768	3759572.443	200.91
LOCATION L0003069	VOLUME	447223.767	3759572.264	200.58
LOCATION L0003070	VOLUME	447249.767	3759572.084	200.58
LOCATION L0003071	VOLUME	447275.766	3759571.905	200.77
LOCATION L0003072	VOLUME	447301.766	3759571.725	200.92
LOCATION L0003073	VOLUME	447327.765	3759571.546	201.04
LOCATION L0003074	VOLUME	447353.764	3759571.366	201.18
LOCATION L0003075	VOLUME	447379.764	3759571.186	201.29
LOCATION L0003076	VOLUME	447405.763	3759571.007	201.34
LOCATION L0003077	VOLUME	447431.763	3759570.827	201.32
LOCATION L0003078	VOLUME	447457.762	3759570.648	201.23
LOCATION L0003079	VOLUME	447483.761	3759570.468	201.12
LOCATION L0003080	VOLUME	447509.761	3759570.289	201.01
LOCATION L0003081	VOLUME	447535.760	3759570.109	200.91
LOCATION L0003082	VOLUME	447561.759	3759569.930	200.62
LOCATION L0003083	VOLUME	447587.759	3759569.750	200.50
LOCATION L0003084	VOLUME	447613.758	3759569.570	200.62
LOCATION L0003085	VOLUME	447639.758	3759569.391	201.05
LOCATION L0003086	VOLUME	447665.757	3759569.211	201.09
LOCATION L0003087	VOLUME	447691.756	3759569.032	201.13
LOCATION L0003088	VOLUME	447717.756	3759568.852	201.12
LOCATION L0003089	VOLUME	447743.755	3759568.673	201.07
LOCATION L0003090	VOLUME	447769.754	3759568.493	201.07
LOCATION L0003091	VOLUME	447795.754	3759568.314	201.09
LOCATION L0003092	VOLUME	447821.753	3759568.134	201.07
LOCATION L0003093	VOLUME	447847.753	3759567.954	200.98
LOCATION L0003094	VOLUME	447873.752	3759567.775	200.98
LOCATION L0003095	VOLUME	447899.751	3759567.595	201.05
LOCATION L0003096	VOLUME	447925.751	3759567.416	201.13
LOCATION L0003097	VOLUME	447951.750	3759567.236	201.25
LOCATION L0003098	VOLUME	447977.750	3759567.057	201.37
LOCATION L0003099	VOLUME	448003.749	3759566.877	201.43
LOCATION L0003100	VOLUME	448029.748	3759566.698	201.49
LOCATION L0003101	VOLUME	448055.748	3759566.518	201.63
LOCATION L0003102	VOLUME	448081.747	3759566.339	201.71
LOCATION L0003103	VOLUME	448107.746	3759566.159	201.76
LOCATION L0003104	VOLUME	448133.746	3759565.979	201.75
LOCATION L0003105	VOLUME	448159.745	3759565.800	201.70
LOCATION L0003106	VOLUME	448185.745	3759565.620	201.68
LOCATION L0003107	VOLUME	448211.744	3759565.441	201.71
LOCATION L0003108	VOLUME	448237.743	3759565.261	201.78
LOCATION L0003109	VOLUME	448263.743	3759565.082	201.95
LOCATION L0003110	VOLUME	448289.742	3759564.902	202.15

LOCATION L0003111	VOLUME	448315.741	3759564.723	202.31
LOCATION L0003112	VOLUME	448341.741	3759564.543	202.55
LOCATION L0003113	VOLUME	448367.740	3759564.363	202.83
LOCATION L0003114	VOLUME	448393.740	3759564.184	203.08
LOCATION L0003115	VOLUME	448419.739	3759564.004	203.22

\*\* End of LINE VOLUME Source ID = SLINE21

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 \*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE22

\*\* DESCRSRC Limonite East of Hamner 45 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000186

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 448433.751, 3759567.438, 203.30, 3.15, 12.09

\*\* 449436.212, 3759550.509, 204.35, 3.15, 12.09

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LOCATION L0003116	VOLUME	448446.749	3759567.219	203.28
LOCATION L0003117	VOLUME	448472.745	3759566.780	203.20
LOCATION L0003118	VOLUME	448498.741	3759566.341	203.07
LOCATION L0003119	VOLUME	448524.738	3759565.902	203.02
LOCATION L0003120	VOLUME	448550.734	3759565.463	202.91
LOCATION L0003121	VOLUME	448576.730	3759565.024	202.89
LOCATION L0003122	VOLUME	448602.727	3759564.585	203.21
LOCATION L0003123	VOLUME	448628.723	3759564.146	203.51
LOCATION L0003124	VOLUME	448654.719	3759563.707	203.50
LOCATION L0003125	VOLUME	448680.715	3759563.268	203.48
LOCATION L0003126	VOLUME	448706.712	3759562.829	203.56
LOCATION L0003127	VOLUME	448732.708	3759562.389	203.67
LOCATION L0003128	VOLUME	448758.704	3759561.950	203.86
LOCATION L0003129	VOLUME	448784.701	3759561.511	203.99
LOCATION L0003130	VOLUME	448810.697	3759561.072	203.90
LOCATION L0003131	VOLUME	448836.693	3759560.633	203.95
LOCATION L0003132	VOLUME	448862.689	3759560.194	203.89
LOCATION L0003133	VOLUME	448888.686	3759559.755	203.57
LOCATION L0003134	VOLUME	448914.682	3759559.316	203.51
LOCATION L0003135	VOLUME	448940.678	3759558.877	203.83
LOCATION L0003136	VOLUME	448966.675	3759558.438	203.93
LOCATION L0003137	VOLUME	448992.671	3759557.999	204.17
LOCATION L0003138	VOLUME	449018.667	3759557.560	204.56
LOCATION L0003139	VOLUME	449044.663	3759557.121	204.89
LOCATION L0003140	VOLUME	449070.660	3759556.682	205.18
LOCATION L0003141	VOLUME	449096.656	3759556.243	205.41
LOCATION L0003142	VOLUME	449122.652	3759555.804	205.48
LOCATION L0003143	VOLUME	449148.649	3759555.365	205.25
LOCATION L0003144	VOLUME	449174.645	3759554.926	205.78

LOCATION L0003145	VOLUME	449200.641	3759554.487	206.53
LOCATION L0003146	VOLUME	449226.638	3759554.048	205.42
LOCATION L0003147	VOLUME	449252.634	3759553.609	204.31
LOCATION L0003148	VOLUME	449278.630	3759553.170	202.22
LOCATION L0003149	VOLUME	449304.626	3759552.731	201.60
LOCATION L0003150	VOLUME	449330.623	3759552.292	203.11
LOCATION L0003151	VOLUME	449356.619	3759551.853	204.32
LOCATION L0003152	VOLUME	449382.615	3759551.414	205.11
LOCATION L0003153	VOLUME	449408.612	3759550.975	205.53
LOCATION L0003154	VOLUME	449434.608	3759550.536	204.55

\*\* End of LINE VOLUME Source ID = SLINE22

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE23

\*\* DESCRSRC Edison 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000231

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445228.172, 3762001.993, 216.23, 3.15, 12.09

\*\* 446055.217, 3762005.931, 218.73, 3.15, 12.09

\*\* -----

LOCATION L0003155	VOLUME	445241.172	3762002.055	216.17
LOCATION L0003156	VOLUME	445267.171	3762002.179	216.48
LOCATION L0003157	VOLUME	445293.171	3762002.302	216.54
LOCATION L0003158	VOLUME	445319.171	3762002.426	217.04
LOCATION L0003159	VOLUME	445345.171	3762002.550	217.35
LOCATION L0003160	VOLUME	445371.170	3762002.674	217.64
LOCATION L0003161	VOLUME	445397.170	3762002.798	217.99
LOCATION L0003162	VOLUME	445423.170	3762002.922	218.27
LOCATION L0003163	VOLUME	445449.169	3762003.045	218.44
LOCATION L0003164	VOLUME	445475.169	3762003.169	218.50
LOCATION L0003165	VOLUME	445501.169	3762003.293	218.44
LOCATION L0003166	VOLUME	445527.169	3762003.417	218.23
LOCATION L0003167	VOLUME	445553.168	3762003.541	218.19
LOCATION L0003168	VOLUME	445579.168	3762003.664	218.14
LOCATION L0003169	VOLUME	445605.168	3762003.788	218.09
LOCATION L0003170	VOLUME	445631.167	3762003.912	218.10
LOCATION L0003171	VOLUME	445657.167	3762004.036	218.06
LOCATION L0003172	VOLUME	445683.167	3762004.160	217.91
LOCATION L0003173	VOLUME	445709.166	3762004.283	217.70
LOCATION L0003174	VOLUME	445735.166	3762004.407	217.28
LOCATION L0003175	VOLUME	445761.166	3762004.531	216.90
LOCATION L0003176	VOLUME	445787.166	3762004.655	216.96
LOCATION L0003177	VOLUME	445813.165	3762004.779	217.38
LOCATION L0003178	VOLUME	445839.165	3762004.902	217.69

LOCATION L0003179	VOLUME	445865.165	3762005.026	217.94
LOCATION L0003180	VOLUME	445891.164	3762005.150	218.24
LOCATION L0003181	VOLUME	445917.164	3762005.274	218.05
LOCATION L0003182	VOLUME	445943.164	3762005.398	218.24
LOCATION L0003183	VOLUME	445969.164	3762005.521	218.48
LOCATION L0003184	VOLUME	445995.163	3762005.645	218.61
LOCATION L0003185	VOLUME	446021.163	3762005.769	218.61
LOCATION L0003186	VOLUME	446047.163	3762005.893	218.63

\*\* End of LINE VOLUME Source ID = SLINE23

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE24

\*\* DESCRSRC Ontario Ranch Road 50 MPH

\*\* PREFIX

\*\* Length of Side = 31.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000965

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 8

\*\* 446065.063, 3762013.808, 218.80, 3.15, 14.42

\*\* 446293.485, 3762124.081, 220.01, 3.15, 14.42

\*\* 446500.247, 3762297.366, 221.42, 3.15, 14.42

\*\* 446722.761, 3762397.793, 222.35, 3.15, 14.42

\*\* 446819.250, 3762403.701, 222.18, 3.15, 14.42

\*\* 448441.834, 3762389.917, 225.33, 3.15, 14.42

\*\* 448792.344, 3762411.577, 226.13, 3.15, 14.42

\*\* 449294.479, 3762594.709, 233.70, 3.15, 14.42

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LOCATION L0003187	VOLUME	446079.022	3762020.547	218.95
LOCATION L0003188	VOLUME	446106.939	3762034.024	219.27
LOCATION L0003189	VOLUME	446134.856	3762047.501	219.30
LOCATION L0003190	VOLUME	446162.773	3762060.978	219.54
LOCATION L0003191	VOLUME	446190.690	3762074.455	219.63
LOCATION L0003192	VOLUME	446218.607	3762087.933	219.78
LOCATION L0003193	VOLUME	446246.524	3762101.410	219.88
LOCATION L0003194	VOLUME	446274.441	3762114.887	220.00
LOCATION L0003195	VOLUME	446301.037	3762130.410	220.13
LOCATION L0003196	VOLUME	446324.796	3762150.322	220.33
LOCATION L0003197	VOLUME	446348.555	3762170.234	220.43
LOCATION L0003198	VOLUME	446372.314	3762190.147	220.66
LOCATION L0003199	VOLUME	446396.073	3762210.059	220.91
LOCATION L0003200	VOLUME	446419.833	3762229.972	220.98
LOCATION L0003201	VOLUME	446443.592	3762249.884	221.28
LOCATION L0003202	VOLUME	446467.351	3762269.797	221.28
LOCATION L0003203	VOLUME	446491.110	3762289.709	221.36
LOCATION L0003204	VOLUME	446517.636	3762305.215	221.68
LOCATION L0003205	VOLUME	446545.892	3762317.967	221.71
LOCATION L0003206	VOLUME	446574.147	3762330.720	221.88



LOCATION L0003207	VOLUME	446602.403	3762343.472	221.99
LOCATION L0003208	VOLUME	446630.658	3762356.225	222.17
LOCATION L0003209	VOLUME	446658.914	3762368.977	222.43
LOCATION L0003210	VOLUME	446687.169	3762381.730	222.48
LOCATION L0003211	VOLUME	446715.425	3762394.482	222.88
LOCATION L0003212	VOLUME	446745.669	3762399.196	222.92
LOCATION L0003213	VOLUME	446776.612	3762401.090	222.76
LOCATION L0003214	VOLUME	446807.554	3762402.985	222.19
LOCATION L0003215	VOLUME	446838.531	3762403.537	221.88
LOCATION L0003216	VOLUME	446869.530	3762403.274	221.96
LOCATION L0003217	VOLUME	446900.529	3762403.010	221.98
LOCATION L0003218	VOLUME	446931.528	3762402.747	222.17
LOCATION L0003219	VOLUME	446962.527	3762402.484	222.50
LOCATION L0003220	VOLUME	446993.525	3762402.220	222.57
LOCATION L0003221	VOLUME	447024.524	3762401.957	222.59
LOCATION L0003222	VOLUME	447055.523	3762401.694	222.70
LOCATION L0003223	VOLUME	447086.522	3762401.430	222.95
LOCATION L0003224	VOLUME	447117.521	3762401.167	223.14
LOCATION L0003225	VOLUME	447148.520	3762400.904	223.29
LOCATION L0003226	VOLUME	447179.519	3762400.640	223.34
LOCATION L0003227	VOLUME	447210.518	3762400.377	223.38
LOCATION L0003228	VOLUME	447241.516	3762400.114	223.28
LOCATION L0003229	VOLUME	447272.515	3762399.850	223.39
LOCATION L0003230	VOLUME	447303.514	3762399.587	223.48
LOCATION L0003231	VOLUME	447334.513	3762399.324	223.41
LOCATION L0003232	VOLUME	447365.512	3762399.060	223.31
LOCATION L0003233	VOLUME	447396.511	3762398.797	223.21
LOCATION L0003234	VOLUME	447427.510	3762398.534	223.15
LOCATION L0003235	VOLUME	447458.509	3762398.270	223.11
LOCATION L0003236	VOLUME	447489.507	3762398.007	222.98
LOCATION L0003237	VOLUME	447520.506	3762397.743	222.80
LOCATION L0003238	VOLUME	447551.505	3762397.480	222.72
LOCATION L0003239	VOLUME	447582.504	3762397.217	222.66
LOCATION L0003240	VOLUME	447613.503	3762396.953	222.54
LOCATION L0003241	VOLUME	447644.502	3762396.690	222.38
LOCATION L0003242	VOLUME	447675.501	3762396.427	222.48
LOCATION L0003243	VOLUME	447706.500	3762396.163	222.63
LOCATION L0003244	VOLUME	447737.499	3762395.900	222.78
LOCATION L0003245	VOLUME	447768.497	3762395.637	222.92
LOCATION L0003246	VOLUME	447799.496	3762395.373	223.06
LOCATION L0003247	VOLUME	447830.495	3762395.110	223.18
LOCATION L0003248	VOLUME	447861.494	3762394.847	223.30
LOCATION L0003249	VOLUME	447892.493	3762394.583	223.39
LOCATION L0003250	VOLUME	447923.492	3762394.320	223.49
LOCATION L0003251	VOLUME	447954.491	3762394.057	223.66
LOCATION L0003252	VOLUME	447985.490	3762393.793	223.82
LOCATION L0003253	VOLUME	448016.488	3762393.530	223.93
LOCATION L0003254	VOLUME	448047.487	3762393.267	224.04
LOCATION L0003255	VOLUME	448078.486	3762393.003	224.13

LOCATION	L0003256	VOLUME	448109.485	3762392.740	224.28
LOCATION	L0003257	VOLUME	448140.484	3762392.477	224.42
LOCATION	L0003258	VOLUME	448171.483	3762392.213	224.59
LOCATION	L0003259	VOLUME	448202.482	3762391.950	224.77
LOCATION	L0003260	VOLUME	448233.481	3762391.687	224.90
LOCATION	L0003261	VOLUME	448264.480	3762391.423	225.07
LOCATION	L0003262	VOLUME	448295.478	3762391.160	225.24
LOCATION	L0003263	VOLUME	448326.477	3762390.897	225.33
LOCATION	L0003264	VOLUME	448357.476	3762390.633	225.38
LOCATION	L0003265	VOLUME	448388.475	3762390.370	225.39
LOCATION	L0003266	VOLUME	448419.474	3762390.107	225.36
LOCATION	L0003267	VOLUME	448450.457	3762390.450	225.32
LOCATION	L0003268	VOLUME	448481.398	3762392.362	225.21
LOCATION	L0003269	VOLUME	448512.339	3762394.274	225.02
LOCATION	L0003270	VOLUME	448543.280	3762396.186	224.88
LOCATION	L0003271	VOLUME	448574.221	3762398.098	224.77
LOCATION	L0003272	VOLUME	448605.162	3762400.010	224.69
LOCATION	L0003273	VOLUME	448636.103	3762401.922	224.54
LOCATION	L0003274	VOLUME	448667.044	3762403.834	224.41
LOCATION	L0003275	VOLUME	448697.984	3762405.746	224.44
LOCATION	L0003276	VOLUME	448728.925	3762407.658	224.73
LOCATION	L0003277	VOLUME	448759.866	3762409.570	225.55
LOCATION	L0003278	VOLUME	448790.807	3762411.482	225.87
LOCATION	L0003279	VOLUME	448820.021	3762421.671	225.69
LOCATION	L0003280	VOLUME	448849.145	3762432.293	226.70
LOCATION	L0003281	VOLUME	448878.268	3762442.914	227.66
LOCATION	L0003282	VOLUME	448907.392	3762453.536	228.07
LOCATION	L0003283	VOLUME	448936.516	3762464.158	229.27
LOCATION	L0003284	VOLUME	448965.639	3762474.779	229.74
LOCATION	L0003285	VOLUME	448994.763	3762485.401	230.27
LOCATION	L0003286	VOLUME	449023.886	3762496.022	233.06
LOCATION	L0003287	VOLUME	449053.010	3762506.644	234.84
LOCATION	L0003288	VOLUME	449082.133	3762517.265	235.04
LOCATION	L0003289	VOLUME	449111.257	3762527.887	232.42
LOCATION	L0003290	VOLUME	449140.381	3762538.508	227.42
LOCATION	L0003291	VOLUME	449169.504	3762549.130	226.85
LOCATION	L0003292	VOLUME	449198.628	3762559.751	227.04
LOCATION	L0003293	VOLUME	449227.751	3762570.373	227.98
LOCATION	L0003294	VOLUME	449256.875	3762580.995	232.17
LOCATION	L0003295	VOLUME	449285.999	3762591.616	233.05

\*\* End of LINE VOLUME Source ID = SLINE24

\*\* Source Parameters \*\*

\*\* LINE VOLUME Source ID = SLINE1

SRCPARAM	L0002165	0.00000236	3.15	4.51	2.93
SRCPARAM	L0002166	0.00000236	3.15	4.51	2.93
SRCPARAM	L0002167	0.00000236	3.15	4.51	2.93
SRCPARAM	L0002168	0.00000236	3.15	4.51	2.93
SRCPARAM	L0002169	0.00000236	3.15	4.51	2.93

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** LINE VOLUME Source ID = SLINE2
SRCPARAM L0002170    0.00000259    3.15    4.51    2.93
SRCPARAM L0002171    0.00000259    3.15    4.51    2.93
SRCPARAM L0002172    0.00000259    3.15    4.51    2.93
** -----
** LINE VOLUME Source ID = SLINE3
SRCPARAM L0002173    0.00000234    3.15    4.51    2.93
SRCPARAM L0002174    0.00000234    3.15    4.51    2.93
SRCPARAM L0002175    0.00000234    3.15    4.51    2.93
SRCPARAM L0002176    0.00000234    3.15    4.51    2.93
SRCPARAM L0002177    0.00000234    3.15    4.51    2.93
** -----
** LINE VOLUME Source ID = SLINE4
SRCPARAM L0002178    0.000002385    3.15    4.51    2.93
SRCPARAM L0002179    0.000002385    3.15    4.51    2.93
SRCPARAM L0002180    0.000002385    3.15    4.51    2.93
SRCPARAM L0002181    0.000002385    3.15    4.51    2.93
SRCPARAM L0002182    0.000002385    3.15    4.51    2.93
SRCPARAM L0002183    0.000002385    3.15    4.51    2.93
SRCPARAM L0002184    0.000002385    3.15    4.51    2.93
SRCPARAM L0002185    0.000002385    3.15    4.51    2.93
SRCPARAM L0002186    0.000002385    3.15    4.51    2.93
SRCPARAM L0002187    0.000002385    3.15    4.51    2.93
SRCPARAM L0002188    0.000002385    3.15    4.51    2.93
SRCPARAM L0002189    0.000002385    3.15    4.51    2.93
SRCPARAM L0002190    0.000002385    3.15    4.51    2.93
SRCPARAM L0002191    0.000002385    3.15    4.51    2.93
SRCPARAM L0002192    0.000002385    3.15    4.51    2.93
SRCPARAM L0002193    0.000002385    3.15    4.51    2.93
SRCPARAM L0002194    0.000002385    3.15    4.51    2.93
SRCPARAM L0002195    0.000002385    3.15    4.51    2.93
SRCPARAM L0002196    0.000002385    3.15    4.51    2.93
SRCPARAM L0002197    0.000002385    3.15    4.51    2.93
SRCPARAM L0002198    0.000002385    3.15    4.51    2.93
SRCPARAM L0002199    0.000002385    3.15    4.51    2.93
SRCPARAM L0002200    0.000002385    3.15    4.51    2.93
SRCPARAM L0002201    0.000002385    3.15    4.51    2.93
SRCPARAM L0002202    0.000002385    3.15    4.51    2.93
SRCPARAM L0002203    0.000002385    3.15    4.51    2.93
SRCPARAM L0002204    0.000002385    3.15    4.51    2.93
** -----
** LINE VOLUME Source ID = SLINE5
SRCPARAM L0002205    0.000002385    3.15    4.51    2.93
SRCPARAM L0002206    0.000002385    3.15    4.51    2.93
SRCPARAM L0002207    0.000002385    3.15    4.51    2.93
SRCPARAM L0002208    0.000002385    3.15    4.51    2.93
SRCPARAM L0002209    0.000002385    3.15    4.51    2.93
SRCPARAM L0002210    0.000002385    3.15    4.51    2.93
SRCPARAM L0002211    0.000002385    3.15    4.51    2.93

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SRCPARAM	L0002212	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002213	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002214	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002215	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002216	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002217	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002218	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002219	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002220	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002221	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002222	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002223	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002224	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002225	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002226	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002227	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002228	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002229	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002230	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002231	0.000002385	3.15	4.51	2.93

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\*\* LINE VOLUME Source ID = SLINE6

SRCPARAM	L0002232	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002233	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002234	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002235	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002236	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002237	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002238	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002239	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002240	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002241	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002242	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002243	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002244	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002245	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002246	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002247	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002248	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002249	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002250	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002251	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002252	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002253	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002254	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002255	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002256	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002257	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002258	0.000002393	3.15	4.51	2.93

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\*\* LINE VOLUME Source ID = SLINE7

SRCPARAM	L0002259	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002260	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002261	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002262	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002263	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002264	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002265	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002266	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002267	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002268	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002269	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002270	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002271	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002272	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002273	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002274	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002275	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002276	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002277	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002278	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002279	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002280	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002281	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002282	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002283	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002284	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002285	0.000002378	3.15	4.51	2.93

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\*\* LINE VOLUME Source ID = SLINE8

SRCPARAM	L0002361	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002362	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002363	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002364	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002365	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002366	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002367	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002368	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002369	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002370	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002371	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002372	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002373	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002374	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002375	0.0011466667	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE9

SRCPARAM	L0002376	0.0011466667	3.15	12.09	2.93
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SRCPARAM	L0002377	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002378	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002379	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002380	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002381	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002382	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002383	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002384	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002385	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002386	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002387	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002388	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002389	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002390	0.0011466667	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE10

SRCPARAM	L0002391	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002392	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002393	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002394	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002395	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002396	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002397	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002398	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002399	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002400	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002401	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002402	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002403	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002404	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002405	0.0011466667	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE11

SRCPARAM	L0002406	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002407	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002408	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002409	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002410	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002411	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002412	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002413	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002414	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002415	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002416	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002417	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002418	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002419	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002420	0.0011466667	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE12

SRCPARAM L0002421	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002422	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002423	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002424	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002425	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002426	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002427	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002428	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002429	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002430	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002431	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002432	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002433	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002434	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002435	0.0011466667	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE13

SRCPARAM L0002436	0.000002572	3.15	12.09	2.93
SRCPARAM L0002437	0.000002572	3.15	12.09	2.93
SRCPARAM L0002438	0.000002572	3.15	12.09	2.93
SRCPARAM L0002439	0.000002572	3.15	12.09	2.93
SRCPARAM L0002440	0.000002572	3.15	12.09	2.93
SRCPARAM L0002441	0.000002572	3.15	12.09	2.93
SRCPARAM L0002442	0.000002572	3.15	12.09	2.93
SRCPARAM L0002443	0.000002572	3.15	12.09	2.93
SRCPARAM L0002444	0.000002572	3.15	12.09	2.93
SRCPARAM L0002445	0.000002572	3.15	12.09	2.93
SRCPARAM L0002446	0.000002572	3.15	12.09	2.93
SRCPARAM L0002447	0.000002572	3.15	12.09	2.93
SRCPARAM L0002448	0.000002572	3.15	12.09	2.93
SRCPARAM L0002449	0.000002572	3.15	12.09	2.93
SRCPARAM L0002450	0.000002572	3.15	12.09	2.93
SRCPARAM L0002451	0.000002572	3.15	12.09	2.93
SRCPARAM L0002452	0.000002572	3.15	12.09	2.93
SRCPARAM L0002453	0.000002572	3.15	12.09	2.93
SRCPARAM L0002454	0.000002572	3.15	12.09	2.93
SRCPARAM L0002455	0.000002572	3.15	12.09	2.93
SRCPARAM L0002456	0.000002572	3.15	12.09	2.93
SRCPARAM L0002457	0.000002572	3.15	12.09	2.93
SRCPARAM L0002458	0.000002572	3.15	12.09	2.93
SRCPARAM L0002459	0.000002572	3.15	12.09	2.93
SRCPARAM L0002460	0.000002572	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE14

SRCPARAM L0002461	0.000002026	3.15	12.09	2.93
SRCPARAM L0002462	0.000002026	3.15	12.09	2.93
SRCPARAM L0002463	0.000002026	3.15	12.09	2.93
SRCPARAM L0002464	0.000002026	3.15	12.09	2.93

SRCPARAM	L0002465	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002466	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002467	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002468	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002469	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002470	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002471	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002472	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002473	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002474	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002475	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002476	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002477	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002478	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002479	0.000002026	3.15	12.09	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE15

SRCPARAM	L0002480	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002481	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002482	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002483	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002484	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002485	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002486	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002487	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002488	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002489	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002490	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002491	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002492	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002493	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002494	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002495	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002496	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002497	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002498	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002499	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002500	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002501	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002502	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002503	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002504	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002505	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002506	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002507	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002508	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002509	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002510	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002511	0.000001364	3.15	14.42	2.93



SRCPARAM	L0002512	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002513	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002514	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002515	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002516	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002517	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002518	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002519	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002520	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002521	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002522	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002523	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002524	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002525	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002526	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002527	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002528	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002529	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002530	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002531	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002532	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002533	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002534	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002535	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002536	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002537	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002538	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002539	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002540	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002541	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002542	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002543	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002544	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002545	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002546	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002547	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002548	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002549	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002550	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002551	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002552	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002553	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002554	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002555	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002556	0.000001364	3.15	14.42	2.93

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\*\* LINE VOLUME Source ID = SLINE16

SRCPARAM	L0002557	0.000002236	2.89	16.74	2.69
SRCPARAM	L0002558	0.000002236	2.89	16.74	2.69







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** LINE VOLUME Source ID = SLINE17
SRCPARAM L0002705 0.000001896 3.15 12.09 2.93
SRCPARAM L0002706 0.000001896 3.15 12.09 2.93
SRCPARAM L0002707 0.000001896 3.15 12.09 2.93
SRCPARAM L0002708 0.000001896 3.15 12.09 2.93
SRCPARAM L0002709 0.000001896 3.15 12.09 2.93
SRCPARAM L0002710 0.000001896 3.15 12.09 2.93
SRCPARAM L0002711 0.000001896 3.15 12.09 2.93
SRCPARAM L0002712 0.000001896 3.15 12.09 2.93
SRCPARAM L0002713 0.000001896 3.15 12.09 2.93
SRCPARAM L0002714 0.000001896 3.15 12.09 2.93
SRCPARAM L0002715 0.000001896 3.15 12.09 2.93
SRCPARAM L0002716 0.000001896 3.15 12.09 2.93
SRCPARAM L0002717 0.000001896 3.15 12.09 2.93
SRCPARAM L0002718 0.000001896 3.15 12.09 2.93
SRCPARAM L0002719 0.000001896 3.15 12.09 2.93
SRCPARAM L0002720 0.000001896 3.15 12.09 2.93
SRCPARAM L0002721 0.000001896 3.15 12.09 2.93
SRCPARAM L0002722 0.000001896 3.15 12.09 2.93
SRCPARAM L0002723 0.000001896 3.15 12.09 2.93
SRCPARAM L0002724 0.000001896 3.15 12.09 2.93
SRCPARAM L0002725 0.000001896 3.15 12.09 2.93
SRCPARAM L0002726 0.000001896 3.15 12.09 2.93
SRCPARAM L0002727 0.000001896 3.15 12.09 2.93
SRCPARAM L0002728 0.000001896 3.15 12.09 2.93
SRCPARAM L0002729 0.000001896 3.15 12.09 2.93

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** LINE VOLUME Source ID = SLINE18
SRCPARAM L0002730 0.0000013 3.15 12.09 2.93
SRCPARAM L0002731 0.0000013 3.15 12.09 2.93
SRCPARAM L0002732 0.0000013 3.15 12.09 2.93
SRCPARAM L0002733 0.0000013 3.15 12.09 2.93
SRCPARAM L0002734 0.0000013 3.15 12.09 2.93
SRCPARAM L0002735 0.0000013 3.15 12.09 2.93
SRCPARAM L0002736 0.0000013 3.15 12.09 2.93
SRCPARAM L0002737 0.0000013 3.15 12.09 2.93
SRCPARAM L0002738 0.0000013 3.15 12.09 2.93
SRCPARAM L0002739 0.0000013 3.15 12.09 2.93
SRCPARAM L0002740 0.0000013 3.15 12.09 2.93
SRCPARAM L0002741 0.0000013 3.15 12.09 2.93
SRCPARAM L0002742 0.0000013 3.15 12.09 2.93
SRCPARAM L0002743 0.0000013 3.15 12.09 2.93
SRCPARAM L0002744 0.0000013 3.15 12.09 2.93
SRCPARAM L0002745 0.0000013 3.15 12.09 2.93
SRCPARAM L0002746 0.0000013 3.15 12.09 2.93
SRCPARAM L0002747 0.0000013 3.15 12.09 2.93
SRCPARAM L0002748 0.0000013 3.15 12.09 2.93
SRCPARAM L0002749 0.0000013 3.15 12.09 2.93
SRCPARAM L0002750 0.0000013 3.15 12.09 2.93

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SRCPARAM	L0002898	0.0000013	3.15	12.09	2.93
SRCPARAM	L0002899	0.0000013	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE19

SRCPARAM	L0002900	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002901	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002902	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002903	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002904	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002905	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002906	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002907	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002908	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002909	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002910	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002911	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002912	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002913	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002914	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002915	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002916	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002917	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002918	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002919	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002920	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002921	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002922	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002923	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002924	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002925	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002926	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002927	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002928	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002929	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002930	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002931	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002932	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002933	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002934	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002935	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002936	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002937	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002938	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002939	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002940	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002941	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002942	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002943	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002944	0.000001134	3.15	12.09	2.93

SRCPARAM	L0002945	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002946	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002947	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002948	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002949	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002950	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002951	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002952	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002953	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002954	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002955	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002956	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002957	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002958	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002959	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002960	0.000001134	3.15	12.09	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE20

SRCPARAM	L0002961	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002962	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002963	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002964	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002965	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002966	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002967	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002968	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002969	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002970	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002971	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002972	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002973	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002974	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002975	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002976	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002977	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002978	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002979	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002980	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002981	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002982	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002983	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002984	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002985	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002986	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002987	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002988	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002989	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002990	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002991	0.0000009097	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE21

SRCPARAM	L0002992	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002993	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002994	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002995	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002996	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002997	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002998	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002999	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003000	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003001	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003002	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003003	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003004	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003005	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003006	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003007	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003008	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003009	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003010	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003011	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003012	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003013	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003014	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003015	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003016	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003017	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003018	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003019	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003020	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003021	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003022	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003023	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003024	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003025	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003026	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003027	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003028	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003029	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003030	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003031	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003032	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003033	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003034	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003035	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003036	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003037	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003038	0.0000009274	3.15	12.09	2.93



SRCPARAM	L0003088	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003089	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003090	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003091	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003092	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003093	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003094	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003095	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003096	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003097	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003098	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003099	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003100	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003101	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003102	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003103	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003104	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003105	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003106	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003107	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003108	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003109	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003110	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003111	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003112	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003113	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003114	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003115	0.0000009274	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE22

SRCPARAM	L0003116	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003117	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003118	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003119	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003120	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003121	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003122	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003123	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003124	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003125	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003126	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003127	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003128	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003129	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003130	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003131	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003132	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003133	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003134	0.0000004769	3.15	12.09	2.93

SRCPARAM	L0003135	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003136	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003137	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003138	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003139	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003140	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003141	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003142	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003143	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003144	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003145	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003146	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003147	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003148	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003149	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003150	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003151	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003152	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003153	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003154	0.0000004769	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE23

SRCPARAM	L0003155	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003156	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003157	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003158	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003159	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003160	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003161	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003162	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003163	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003164	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003165	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003166	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003167	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003168	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003169	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003170	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003171	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003172	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003173	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003174	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003175	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003176	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003177	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003178	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003179	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003180	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003181	0.0000007219	3.15	12.09	2.93

SRCPARAM	L0003182	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003183	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003184	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003185	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003186	0.0000007219	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE24

SRCPARAM	L0003187	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003188	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003189	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003190	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003191	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003192	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003193	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003194	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003195	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003196	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003197	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003198	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003199	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003200	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003201	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003202	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003203	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003204	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003205	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003206	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003207	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003208	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003209	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003210	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003211	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003212	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003213	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003214	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003215	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003216	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003217	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003218	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003219	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003220	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003221	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003222	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003223	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003224	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003225	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003226	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003227	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003228	0.0000008853	3.15	14.42	2.93





SRCPARAM L0003278	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003279	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003280	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003281	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003282	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003283	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003284	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003285	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003286	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003287	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003288	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003289	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003290	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003291	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003292	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003293	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003294	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003295	0.0000008853	3.15	14.42	2.93

\*\* -----

URBANSRC ALL  
SRCGROUP ALL

SO FINISHED

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\*\* AERMOD Receptor Pathway

\*\*\*\*\*

\*\*

\*\*

RE STARTING  
INCLUDED ORBP\_Unmitigated\_Operations.rou

RE FINISHED

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\*\*\*\*\*

\*\* AERMOD Meteorology Pathway

\*\*\*\*\*

\*\*

\*\*

ME STARTING  
SURFFILE ..\KCNO\_V9\_ADJU\KCNO\_v9.SFC  
PROFFILE ..\KCNO\_V9\_ADJU\KCNO\_v9.PFL  
SURFDATA 3179 2012  
UAIRDATA 3190 2012  
PROFBASE 198.0 METERS

ME FINISHED

\*\*

\*\*\*\*\*

\*\* AERMOD Output Pathway

\*\*\*\*\*

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**
OU STARTING
  RECTABLE ALLAVE 1ST
  RECTABLE 1 1ST
  RECTABLE 24 1ST
** Auto-Generated Plotfiles
  PLOTFILE 1 ALL 1ST ORBP_UNMITIGATED_OPERATIONS.AD\01H1GALL.PLT 31
  PLOTFILE 24 ALL 1ST ORBP_UNMITIGATED_OPERATIONS.AD\24H1GALL.PLT 32
  PLOTFILE PERIOD ALL ORBP_UNMITIGATED_OPERATIONS.AD\PE00GALL.PLT 33
  SUMMFILE ORBP_Unmitigated_Operations.sum
OU FINISHED
**
*****
** Project Parameters
*****
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
**
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**
*****
**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.0.0
** Lakes Environmental Software Inc.
** Date: 8/25/2021
** File: C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_Unmitigated_Operations.ADI
**
*****
**
**
*****
** AERMOD Control Pathway
*****
**
**
CO STARTING
  TITLEONE C:\Lakes\AERMOD View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U
  MODELOPT DFAULT CONC
  AVERTIME 1 24 PERIOD
  URBANOPT 2035210 San_Bernardino_County
  POLLUTID PM_10
  RUNORNOT RUN
  ERRORFIL ORBP_Unmitigated_Operations.err
CO FINISHED
**
*****
** AERMOD Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC Bldg 8 Idle
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 0.0000118
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440439.187, 3761172.343, 201.64, 3.15, 4.51
** 440486.700, 3761173.085, 201.84, 3.15, 4.51

```

```

** -----
LOCATION L0002165      VOLUME  440444.036 3761172.419 201.77
LOCATION L0002166      VOLUME  440453.735 3761172.570 201.82
LOCATION L0002167      VOLUME  440463.434 3761172.722 201.87
LOCATION L0002168      VOLUME  440473.133 3761172.873 201.91
LOCATION L0002169      VOLUME  440482.832 3761173.025 201.95
** End of LINE VOLUME Source ID = SLINE1
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE2
** DESCRSRC Bldg 9 Idle
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 7.77E-06
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440568.364, 3761173.085, 202.38, 3.15, 4.51
** 440599.545, 3761172.343, 202.59, 3.15, 4.51
** -----
LOCATION L0002170      VOLUME  440573.213 3761172.970 202.58
LOCATION L0002171      VOLUME  440582.910 3761172.739 202.67
LOCATION L0002172      VOLUME  440592.607 3761172.508 202.75
** End of LINE VOLUME Source ID = SLINE2
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE3
** DESCRSRC Bldg 10 Idle
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 0.0000117
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440693.529, 3761171.296, 202.22, 3.15, 4.51
** 440740.423, 3761171.296, 202.54, 3.15, 4.51
** -----
LOCATION L0002173      VOLUME  440698.379 3761171.296 202.63
LOCATION L0002174      VOLUME  440708.079 3761171.296 202.63
LOCATION L0002175      VOLUME  440717.779 3761171.296 202.62
LOCATION L0002176      VOLUME  440727.479 3761171.296 202.62
LOCATION L0002177      VOLUME  440737.179 3761171.296 202.64
** End of LINE VOLUME Source ID = SLINE3
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE4
** DESCRSRC Bldg 11 Idle

```

```

** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 0.0000644
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440465.649, 3761010.074, 200.18, 3.15, 4.51
** 440724.146, 3761006.974, 200.94, 3.15, 4.51
** -----
LOCATION L0002178    VOLUME  440470.498 3761010.016 200.24
LOCATION L0002179    VOLUME  440480.198 3761009.900 200.24
LOCATION L0002180    VOLUME  440489.897 3761009.784 200.25
LOCATION L0002181    VOLUME  440499.596 3761009.667 200.24
LOCATION L0002182    VOLUME  440509.296 3761009.551 200.23
LOCATION L0002183    VOLUME  440518.995 3761009.435 200.23
LOCATION L0002184    VOLUME  440528.694 3761009.318 200.25
LOCATION L0002185    VOLUME  440538.394 3761009.202 200.27
LOCATION L0002186    VOLUME  440548.093 3761009.086 200.39
LOCATION L0002187    VOLUME  440557.792 3761008.969 200.56
LOCATION L0002188    VOLUME  440567.491 3761008.853 200.73
LOCATION L0002189    VOLUME  440577.191 3761008.737 200.89
LOCATION L0002190    VOLUME  440586.890 3761008.620 201.05
LOCATION L0002191    VOLUME  440596.589 3761008.504 201.18
LOCATION L0002192    VOLUME  440606.289 3761008.388 201.24
LOCATION L0002193    VOLUME  440615.988 3761008.271 201.30
LOCATION L0002194    VOLUME  440625.687 3761008.155 201.22
LOCATION L0002195    VOLUME  440635.387 3761008.039 201.07
LOCATION L0002196    VOLUME  440645.086 3761007.922 200.91
LOCATION L0002197    VOLUME  440654.785 3761007.806 200.66
LOCATION L0002198    VOLUME  440664.484 3761007.690 200.42
LOCATION L0002199    VOLUME  440674.184 3761007.573 200.27
LOCATION L0002200    VOLUME  440683.883 3761007.457 200.29
LOCATION L0002201    VOLUME  440693.582 3761007.341 200.31
LOCATION L0002202    VOLUME  440703.282 3761007.224 200.50
LOCATION L0002203    VOLUME  440712.981 3761007.108 200.76
LOCATION L0002204    VOLUME  440722.680 3761006.992 201.00
** End of LINE VOLUME Source ID = SLINE4
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE5
** DESCRSRC N Bldg 12 Idle
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 0.0000644
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2

```

\*\* 440465.649, 3760892.646, 199.15, 3.15, 4.51  
\*\* 440724.146, 3760891.096, 199.90, 3.15, 4.51

\*\* -----

LOCATION	VOLUME	VOLUME	VOLUME	VOLUME
L0002205	440470.499	3760892.617	199.20	
L0002206	440480.198	3760892.559	199.21	
L0002207	440489.898	3760892.501	199.22	
L0002208	440499.598	3760892.443	199.21	
L0002209	440509.298	3760892.385	199.20	
L0002210	440518.998	3760892.326	199.19	
L0002211	440528.698	3760892.268	199.19	
L0002212	440538.397	3760892.210	199.20	
L0002213	440548.097	3760892.152	199.30	
L0002214	440557.797	3760892.094	199.46	
L0002215	440567.497	3760892.035	199.61	
L0002216	440577.197	3760891.977	199.78	
L0002217	440586.897	3760891.919	199.96	
L0002218	440596.596	3760891.861	200.08	
L0002219	440606.296	3760891.803	200.13	
L0002220	440615.996	3760891.745	200.17	
L0002221	440625.696	3760891.686	200.07	
L0002222	440635.396	3760891.628	199.92	
L0002223	440645.096	3760891.570	199.77	
L0002224	440654.795	3760891.512	199.56	
L0002225	440664.495	3760891.454	199.35	
L0002226	440674.195	3760891.396	199.25	
L0002227	440683.895	3760891.337	199.27	
L0002228	440693.595	3760891.279	199.29	
L0002229	440703.294	3760891.221	199.51	
L0002230	440712.994	3760891.163	199.77	
L0002231	440722.694	3760891.105	199.99	

\*\* End of LINE VOLUME Source ID = SLINE5

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE6

\*\* DESCRSRC S Bldg 12 Idle

\*\* PREFIX

\*\* Length of Side = 9.70

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000646

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440465.649, 3760738.401, 197.59, 3.15, 4.51

\*\* 440724.921, 3760735.688, 197.93, 3.15, 4.51

\*\* -----

LOCATION	L0002232	VOLUME	440470.498	3760738.350	197.66
LOCATION	L0002233	VOLUME	440480.198	3760738.248	197.70
LOCATION	L0002234	VOLUME	440489.897	3760738.147	197.74
LOCATION	L0002235	VOLUME	440499.597	3760738.045	197.78

LOCATION	VOLUME				
L0002236	440509.296	3760737.944	197.82		
L0002237	440518.996	3760737.843	197.86		
L0002238	440528.695	3760737.741	197.91		
L0002239	440538.395	3760737.640	197.95		
L0002240	440548.094	3760737.538	198.02		
L0002241	440557.794	3760737.437	198.10		
L0002242	440567.493	3760737.335	198.17		
L0002243	440577.193	3760737.234	198.16		
L0002244	440586.892	3760737.132	198.15		
L0002245	440596.592	3760737.031	197.91		
L0002246	440606.291	3760736.929	197.41		
L0002247	440615.991	3760736.828	196.92		
L0002248	440625.690	3760736.726	196.72		
L0002249	440635.389	3760736.625	196.57		
L0002250	440645.089	3760736.523	196.46		
L0002251	440654.788	3760736.422	196.46		
L0002252	440664.488	3760736.320	196.46		
L0002253	440674.187	3760736.219	196.51		
L0002254	440683.887	3760736.117	196.60		
L0002255	440693.586	3760736.016	196.69		
L0002256	440703.286	3760735.914	197.12		
L0002257	440712.985	3760735.813	197.59		
L0002258	440722.685	3760735.711	197.99		

\*\* End of LINE VOLUME Source ID = SLINE6

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE7

\*\* DESCRSRC Bldg 13 Idle

\*\* PREFIX

\*\* Length of Side = 9.70

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000642

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440466.811, 3760620.585, 196.37, 3.15, 4.51

\*\* 440724.533, 3760619.422, 197.46, 3.15, 4.51

\*\* -----

L0002259	440471.661	3760620.563	196.40		
L0002260	440481.361	3760620.519	196.41		
L0002261	440491.061	3760620.476	196.43		
L0002262	440500.761	3760620.432	196.46		
L0002263	440510.461	3760620.388	196.49		
L0002264	440520.161	3760620.344	196.53		
L0002265	440529.861	3760620.301	196.60		
L0002266	440539.561	3760620.257	196.66		
L0002267	440549.261	3760620.213	196.73		
L0002268	440558.960	3760620.169	196.80		
L0002269	440568.660	3760620.126	196.87		

LOCATION	VOLUME	VOLUME	VOLUME	VOLUME
L0002270	440578.360	3760620.082	196.95	
L0002271	440588.060	3760620.038	197.02	
L0002272	440597.760	3760619.994	197.06	
L0002273	440607.460	3760619.950	197.07	
L0002274	440617.160	3760619.907	197.09	
L0002275	440626.860	3760619.863	197.13	
L0002276	440636.560	3760619.819	197.18	
L0002277	440646.260	3760619.775	197.22	
L0002278	440655.959	3760619.732	197.25	
L0002279	440665.659	3760619.688	197.29	
L0002280	440675.359	3760619.644	197.31	
L0002281	440685.059	3760619.600	197.33	
L0002282	440694.759	3760619.557	197.36	
L0002283	440704.459	3760619.513	197.40	
L0002284	440714.159	3760619.469	197.45	
L0002285	440723.859	3760619.425	197.49	

\*\* End of LINE VOLUME Source ID = SLINE7

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE8

\*\* DESCRSRC Driveway 1 & 12

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0172

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440393.246, 3761134.275, 201.60, 3.15, 12.09

\*\* 440788.072, 3761130.781, 201.86, 3.15, 12.09

\*\* -----

LOCATION	VOLUME	VOLUME	VOLUME	VOLUME
L0002361	440406.246	3761134.160	201.53	
L0002362	440432.245	3761133.930	201.47	
L0002363	440458.244	3761133.700	201.55	
L0002364	440484.243	3761133.470	201.64	
L0002365	440510.242	3761133.239	201.70	
L0002366	440536.241	3761133.009	201.74	
L0002367	440562.240	3761132.779	202.24	
L0002368	440588.239	3761132.549	202.45	
L0002369	440614.238	3761132.319	202.46	
L0002370	440640.237	3761132.089	202.16	
L0002371	440666.236	3761131.859	201.68	
L0002372	440692.235	3761131.629	201.60	
L0002373	440718.234	3761131.399	202.08	
L0002374	440744.233	3761131.169	202.28	
L0002375	440770.232	3761130.939	201.69	

\*\* End of LINE VOLUME Source ID = SLINE8

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources



```

** LINE VOLUME Source ID = SLINE9
** DESCRSRC Driveway 2 & 13
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0172
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440394.120, 3760984.031, 199.86, 3.15, 12.09
** 440785.452, 3760983.158, 200.49, 3.15, 12.09

```

```

** -----
LOCATION L0002376      VOLUME  440407.120 3760984.002 199.82
LOCATION L0002377      VOLUME  440433.120 3760983.944 199.86
LOCATION L0002378      VOLUME  440459.120 3760983.886 199.96
LOCATION L0002379      VOLUME  440485.120 3760983.828 200.00
LOCATION L0002380      VOLUME  440511.120 3760983.770 200.00
LOCATION L0002381      VOLUME  440537.120 3760983.712 200.03
LOCATION L0002382      VOLUME  440563.119 3760983.654 200.41
LOCATION L0002383      VOLUME  440589.119 3760983.596 200.85
LOCATION L0002384      VOLUME  440615.119 3760983.538 201.06
LOCATION L0002385      VOLUME  440641.119 3760983.480 200.74
LOCATION L0002386      VOLUME  440667.119 3760983.422 200.10
LOCATION L0002387      VOLUME  440693.119 3760983.364 200.06
LOCATION L0002388      VOLUME  440719.119 3760983.306 200.68
LOCATION L0002389      VOLUME  440745.119 3760983.248 200.91
LOCATION L0002390      VOLUME  440771.119 3760983.190 200.46

```

```

** End of LINE VOLUME Source ID = SLINE9

```

```

** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE10
** DESCRSRC Driveway 3 & 14
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0172
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440393.246, 3760919.392, 199.10, 3.15, 12.09
** 440786.325, 3760918.518, 199.90, 3.15, 12.09

```

```

** -----
LOCATION L0002391      VOLUME  440406.246 3760919.363 199.24
LOCATION L0002392      VOLUME  440432.246 3760919.305 199.31
LOCATION L0002393      VOLUME  440458.246 3760919.247 199.39
LOCATION L0002394      VOLUME  440484.246 3760919.189 199.44
LOCATION L0002395      VOLUME  440510.246 3760919.132 199.43
LOCATION L0002396      VOLUME  440536.246 3760919.074 199.44
LOCATION L0002397      VOLUME  440562.246 3760919.016 199.80

```

LOCATION L0002398	VOLUME	440588.246	3760918.958	200.25
LOCATION L0002399	VOLUME	440614.246	3760918.901	200.42
LOCATION L0002400	VOLUME	440640.246	3760918.843	200.17
LOCATION L0002401	VOLUME	440666.246	3760918.785	199.61
LOCATION L0002402	VOLUME	440692.246	3760918.727	199.53
LOCATION L0002403	VOLUME	440718.246	3760918.669	200.15
LOCATION L0002404	VOLUME	440744.246	3760918.612	200.34
LOCATION L0002405	VOLUME	440770.245	3760918.554	199.98

\*\* End of LINE VOLUME Source ID = SLINE10

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE11

\*\* DESCRSRC Driveway 5 & 16

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0172

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440395.867, 3760713.244, 197.25, 3.15, 12.09

\*\* 440788.946, 3760709.750, 198.71, 3.15, 12.09

\*\* -----

LOCATION L0002406	VOLUME	440408.866	3760713.128	197.33
LOCATION L0002407	VOLUME	440434.865	3760712.897	197.28
LOCATION L0002408	VOLUME	440460.864	3760712.666	197.34
LOCATION L0002409	VOLUME	440486.863	3760712.435	197.41
LOCATION L0002410	VOLUME	440512.862	3760712.204	197.53
LOCATION L0002411	VOLUME	440538.861	3760711.973	197.70
LOCATION L0002412	VOLUME	440564.860	3760711.742	197.82
LOCATION L0002413	VOLUME	440590.859	3760711.510	197.87
LOCATION L0002414	VOLUME	440616.858	3760711.279	197.46
LOCATION L0002415	VOLUME	440642.857	3760711.048	197.40
LOCATION L0002416	VOLUME	440668.856	3760710.817	197.47
LOCATION L0002417	VOLUME	440694.855	3760710.586	197.60
LOCATION L0002418	VOLUME	440720.854	3760710.355	198.07
LOCATION L0002419	VOLUME	440746.853	3760710.124	198.34
LOCATION L0002420	VOLUME	440772.852	3760709.893	198.60

\*\* End of LINE VOLUME Source ID = SLINE11

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE12

\*\* DESCRSRC Driveway 6 & 17

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0172

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

```

** Nodes = 2
** 440394.120, 3760648.604, 196.51, 3.15, 12.09
** 440785.452, 3760646.857, 197.99, 3.15, 12.09
** -----
LOCATION L0002421      VOLUME  440407.120 3760648.546 196.72
LOCATION L0002422      VOLUME  440433.120 3760648.430 196.64
LOCATION L0002423      VOLUME  440459.119 3760648.314 196.66
LOCATION L0002424      VOLUME  440485.119 3760648.198 196.71
LOCATION L0002425      VOLUME  440511.119 3760648.082 196.79
LOCATION L0002426      VOLUME  440537.118 3760647.966 196.97
LOCATION L0002427      VOLUME  440563.118 3760647.850 197.14
LOCATION L0002428      VOLUME  440589.118 3760647.734 197.31
LOCATION L0002429      VOLUME  440615.118 3760647.617 197.35
LOCATION L0002430      VOLUME  440641.117 3760647.501 197.45
LOCATION L0002431      VOLUME  440667.117 3760647.385 197.55
LOCATION L0002432      VOLUME  440693.117 3760647.269 197.60
LOCATION L0002433      VOLUME  440719.117 3760647.153 197.69
LOCATION L0002434      VOLUME  440745.116 3760647.037 197.78
LOCATION L0002435      VOLUME  440771.116 3760646.921 198.03
** End of LINE VOLUME Source ID = SLINE12
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE13
** DESCRSRC West Access Road - Sultana 15 mph
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0000643
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440392.516, 3761134.605, 201.61, 3.15, 12.09
** 440390.843, 3760473.617, 195.36, 3.15, 12.09
** -----
LOCATION L0002436      VOLUME  440392.483 3761121.605 201.48
LOCATION L0002437      VOLUME  440392.418 3761095.606 201.17
LOCATION L0002438      VOLUME  440392.352 3761069.606 200.87
LOCATION L0002439      VOLUME  440392.286 3761043.606 200.56
LOCATION L0002440      VOLUME  440392.220 3761017.606 200.25
LOCATION L0002441      VOLUME  440392.154 3760991.606 199.95
LOCATION L0002442      VOLUME  440392.089 3760965.606 199.68
LOCATION L0002443      VOLUME  440392.023 3760939.606 199.43
LOCATION L0002444      VOLUME  440391.957 3760913.606 199.16
LOCATION L0002445      VOLUME  440391.891 3760887.606 198.93
LOCATION L0002446      VOLUME  440391.825 3760861.606 198.72
LOCATION L0002447      VOLUME  440391.759 3760835.606 198.48
LOCATION L0002448      VOLUME  440391.694 3760809.606 198.22
LOCATION L0002449      VOLUME  440391.628 3760783.607 197.97
LOCATION L0002450      VOLUME  440391.562 3760757.607 197.71

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LOCATION L0002451	VOLUME	440391.496	3760731.607	197.44
LOCATION L0002452	VOLUME	440391.430	3760705.607	197.19
LOCATION L0002453	VOLUME	440391.364	3760679.607	196.95
LOCATION L0002454	VOLUME	440391.299	3760653.607	196.72
LOCATION L0002455	VOLUME	440391.233	3760627.607	196.51
LOCATION L0002456	VOLUME	440391.167	3760601.607	196.30
LOCATION L0002457	VOLUME	440391.101	3760575.607	196.08
LOCATION L0002458	VOLUME	440391.035	3760549.607	195.89
LOCATION L0002459	VOLUME	440390.970	3760523.607	195.68
LOCATION L0002460	VOLUME	440390.904	3760497.607	195.53

\*\* End of LINE VOLUME Source ID = SLINE13

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE14

\*\* DESCRSRC Merril W of Site 50 mph

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000385

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440391.194, 3760467.870, 195.22, 3.15, 12.09

\*\* 439902.492, 3760463.238, 193.60, 3.15, 12.09

\*\* -----

LOCATION L0002461	VOLUME	440378.195	3760467.747	195.12
LOCATION L0002462	VOLUME	440352.196	3760467.500	194.83
LOCATION L0002463	VOLUME	440326.197	3760467.254	194.71
LOCATION L0002464	VOLUME	440300.199	3760467.008	194.61
LOCATION L0002465	VOLUME	440274.200	3760466.761	194.52
LOCATION L0002466	VOLUME	440248.201	3760466.515	194.35
LOCATION L0002467	VOLUME	440222.202	3760466.268	194.19
LOCATION L0002468	VOLUME	440196.203	3760466.022	194.09
LOCATION L0002469	VOLUME	440170.204	3760465.775	193.96
LOCATION L0002470	VOLUME	440144.206	3760465.529	193.82
LOCATION L0002471	VOLUME	440118.207	3760465.282	193.71
LOCATION L0002472	VOLUME	440092.208	3760465.036	193.66
LOCATION L0002473	VOLUME	440066.209	3760464.790	193.63
LOCATION L0002474	VOLUME	440040.210	3760464.543	193.60
LOCATION L0002475	VOLUME	440014.211	3760464.297	193.59
LOCATION L0002476	VOLUME	439988.213	3760464.050	193.57
LOCATION L0002477	VOLUME	439962.214	3760463.804	193.57
LOCATION L0002478	VOLUME	439936.215	3760463.557	193.63
LOCATION L0002479	VOLUME	439910.216	3760463.311	193.67

\*\* End of LINE VOLUME Source ID = SLINE14

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE15

\*\* DESCRSRC Euclide South of Merril 45 mph

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** PREFIX
** Length of Side = 31.00
** Configuration = Adjacent
** Emission Rate = 0.000105
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 439894.728, 3760450.854, 193.57, 3.15, 14.42
** 439882.847, 3758051.793, 175.42, 3.15, 14.42

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LOCATION	VOLUME				
L0002480	VOLUME	439894.651	3760435.354	193.42	
L0002481	VOLUME	439894.497	3760404.354	193.22	
L0002482	VOLUME	439894.344	3760373.355	193.05	
L0002483	VOLUME	439894.190	3760342.355	192.86	
L0002484	VOLUME	439894.037	3760311.356	192.61	
L0002485	VOLUME	439893.883	3760280.356	192.34	
L0002486	VOLUME	439893.730	3760249.356	192.06	
L0002487	VOLUME	439893.576	3760218.357	191.79	
L0002488	VOLUME	439893.423	3760187.357	191.52	
L0002489	VOLUME	439893.269	3760156.357	191.32	
L0002490	VOLUME	439893.116	3760125.358	191.16	
L0002491	VOLUME	439892.962	3760094.358	191.03	
L0002492	VOLUME	439892.809	3760063.359	190.90	
L0002493	VOLUME	439892.655	3760032.359	190.76	
L0002494	VOLUME	439892.502	3760001.359	190.60	
L0002495	VOLUME	439892.348	3759970.360	190.44	
L0002496	VOLUME	439892.195	3759939.360	190.27	
L0002497	VOLUME	439892.041	3759908.360	190.10	
L0002498	VOLUME	439891.888	3759877.361	189.91	
L0002499	VOLUME	439891.734	3759846.361	189.67	
L0002500	VOLUME	439891.581	3759815.362	189.41	
L0002501	VOLUME	439891.427	3759784.362	189.14	
L0002502	VOLUME	439891.274	3759753.362	188.87	
L0002503	VOLUME	439891.120	3759722.363	188.57	
L0002504	VOLUME	439890.967	3759691.363	188.30	
L0002505	VOLUME	439890.813	3759660.364	188.05	
L0002506	VOLUME	439890.660	3759629.364	187.78	
L0002507	VOLUME	439890.506	3759598.364	187.52	
L0002508	VOLUME	439890.352	3759567.365	187.26	
L0002509	VOLUME	439890.199	3759536.365	187.01	
L0002510	VOLUME	439890.045	3759505.365	186.78	
L0002511	VOLUME	439889.892	3759474.366	186.59	
L0002512	VOLUME	439889.738	3759443.366	186.40	
L0002513	VOLUME	439889.585	3759412.367	186.20	
L0002514	VOLUME	439889.431	3759381.367	185.98	
L0002515	VOLUME	439889.278	3759350.367	185.79	
L0002516	VOLUME	439889.124	3759319.368	185.62	
L0002517	VOLUME	439888.971	3759288.368	185.43	
L0002518	VOLUME	439888.817	3759257.368	185.17	

LOCATION	L0002519	VOLUME	439888.664	3759226.369	184.88
LOCATION	L0002520	VOLUME	439888.510	3759195.369	184.57
LOCATION	L0002521	VOLUME	439888.357	3759164.370	184.29
LOCATION	L0002522	VOLUME	439888.203	3759133.370	183.99
LOCATION	L0002523	VOLUME	439888.050	3759102.370	183.75
LOCATION	L0002524	VOLUME	439887.896	3759071.371	183.55
LOCATION	L0002525	VOLUME	439887.743	3759040.371	183.39
LOCATION	L0002526	VOLUME	439887.589	3759009.372	183.24
LOCATION	L0002527	VOLUME	439887.436	3758978.372	183.05
LOCATION	L0002528	VOLUME	439887.282	3758947.372	182.83
LOCATION	L0002529	VOLUME	439887.129	3758916.373	182.56
LOCATION	L0002530	VOLUME	439886.975	3758885.373	182.21
LOCATION	L0002531	VOLUME	439886.822	3758854.373	181.90
LOCATION	L0002532	VOLUME	439886.668	3758823.374	181.56
LOCATION	L0002533	VOLUME	439886.515	3758792.374	181.26
LOCATION	L0002534	VOLUME	439886.361	3758761.375	181.04
LOCATION	L0002535	VOLUME	439886.208	3758730.375	180.85
LOCATION	L0002536	VOLUME	439886.054	3758699.375	180.68
LOCATION	L0002537	VOLUME	439885.901	3758668.376	180.48
LOCATION	L0002538	VOLUME	439885.747	3758637.376	180.25
LOCATION	L0002539	VOLUME	439885.594	3758606.376	180.00
LOCATION	L0002540	VOLUME	439885.440	3758575.377	179.78
LOCATION	L0002541	VOLUME	439885.287	3758544.377	179.58
LOCATION	L0002542	VOLUME	439885.133	3758513.378	179.37
LOCATION	L0002543	VOLUME	439884.980	3758482.378	179.09
LOCATION	L0002544	VOLUME	439884.826	3758451.378	178.77
LOCATION	L0002545	VOLUME	439884.673	3758420.379	178.42
LOCATION	L0002546	VOLUME	439884.519	3758389.379	178.08
LOCATION	L0002547	VOLUME	439884.366	3758358.379	177.78
LOCATION	L0002548	VOLUME	439884.212	3758327.380	177.48
LOCATION	L0002549	VOLUME	439884.059	3758296.380	177.24
LOCATION	L0002550	VOLUME	439883.905	3758265.381	177.02
LOCATION	L0002551	VOLUME	439883.752	3758234.381	176.77
LOCATION	L0002552	VOLUME	439883.598	3758203.381	176.52
LOCATION	L0002553	VOLUME	439883.444	3758172.382	176.26
LOCATION	L0002554	VOLUME	439883.291	3758141.382	176.00
LOCATION	L0002555	VOLUME	439883.137	3758110.383	175.77
LOCATION	L0002556	VOLUME	439882.984	3758079.383	175.59

\*\* End of LINE VOLUME Source ID = SLINE15

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE16

\*\* DESCRSRC Euclide N of Merril 45 MPH

\*\* PREFIX

\*\* Length of Side = 36.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000331

\*\* Vertical Dimension = 5.78

\*\* SZINIT = 2.69

\*\* Nodes = 4  
 \*\* 439893.985, 3760466.447, 193.63, 2.89, 16.74  
 \*\* 439902.153, 3763463.230, 227.18, 2.89, 16.74  
 \*\* 439912.548, 3763601.338, 228.39, 2.89, 16.74  
 \*\* 439915.518, 3765792.495, 254.78, 2.89, 16.74

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LOCATION	VOLUME				
L0002557	VOLUME	439894.034	3760484.447	193.85	
L0002558	VOLUME	439894.132	3760520.446	194.19	
L0002559	VOLUME	439894.230	3760556.446	194.55	
L0002560	VOLUME	439894.328	3760592.446	194.87	
L0002561	VOLUME	439894.427	3760628.446	195.19	
L0002562	VOLUME	439894.525	3760664.446	195.50	
L0002563	VOLUME	439894.623	3760700.446	195.83	
L0002564	VOLUME	439894.721	3760736.446	196.22	
L0002565	VOLUME	439894.819	3760772.445	196.64	
L0002566	VOLUME	439894.917	3760808.445	197.09	
L0002567	VOLUME	439895.015	3760844.445	197.60	
L0002568	VOLUME	439895.113	3760880.445	198.09	
L0002569	VOLUME	439895.211	3760916.445	198.56	
L0002570	VOLUME	439895.310	3760952.445	199.00	
L0002571	VOLUME	439895.408	3760988.445	199.46	
L0002572	VOLUME	439895.506	3761024.445	199.92	
L0002573	VOLUME	439895.604	3761060.444	200.35	
L0002574	VOLUME	439895.702	3761096.444	200.72	
L0002575	VOLUME	439895.800	3761132.444	201.08	
L0002576	VOLUME	439895.898	3761168.444	201.46	
L0002577	VOLUME	439895.996	3761204.444	201.79	
L0002578	VOLUME	439896.095	3761240.444	202.06	
L0002579	VOLUME	439896.193	3761276.444	202.40	
L0002580	VOLUME	439896.291	3761312.443	202.79	
L0002581	VOLUME	439896.389	3761348.443	203.17	
L0002582	VOLUME	439896.487	3761384.443	203.62	
L0002583	VOLUME	439896.585	3761420.443	204.07	
L0002584	VOLUME	439896.683	3761456.443	204.49	
L0002585	VOLUME	439896.781	3761492.443	204.90	
L0002586	VOLUME	439896.879	3761528.443	205.33	
L0002587	VOLUME	439896.978	3761564.443	205.74	
L0002588	VOLUME	439897.076	3761600.442	206.09	
L0002589	VOLUME	439897.174	3761636.442	206.37	
L0002590	VOLUME	439897.272	3761672.442	206.67	
L0002591	VOLUME	439897.370	3761708.442	206.97	
L0002592	VOLUME	439897.468	3761744.442	207.28	
L0002593	VOLUME	439897.566	3761780.442	207.61	
L0002594	VOLUME	439897.664	3761816.442	207.93	
L0002595	VOLUME	439897.763	3761852.441	208.24	
L0002596	VOLUME	439897.861	3761888.441	208.54	
L0002597	VOLUME	439897.959	3761924.441	208.86	
L0002598	VOLUME	439898.057	3761960.441	209.18	
L0002599	VOLUME	439898.155	3761996.441	209.49	

LOCATION L0002600	VOLUME	439898.253	3762032.441	209.76
LOCATION L0002601	VOLUME	439898.351	3762068.441	210.03
LOCATION L0002602	VOLUME	439898.449	3762104.441	210.31
LOCATION L0002603	VOLUME	439898.547	3762140.440	210.55
LOCATION L0002604	VOLUME	439898.646	3762176.440	210.85
LOCATION L0002605	VOLUME	439898.744	3762212.440	211.26
LOCATION L0002606	VOLUME	439898.842	3762248.440	211.77
LOCATION L0002607	VOLUME	439898.940	3762284.440	212.37
LOCATION L0002608	VOLUME	439899.038	3762320.440	212.95
LOCATION L0002609	VOLUME	439899.136	3762356.440	213.47
LOCATION L0002610	VOLUME	439899.234	3762392.439	213.94
LOCATION L0002611	VOLUME	439899.332	3762428.439	214.41
LOCATION L0002612	VOLUME	439899.431	3762464.439	214.87
LOCATION L0002613	VOLUME	439899.529	3762500.439	215.27
LOCATION L0002614	VOLUME	439899.627	3762536.439	215.67
LOCATION L0002615	VOLUME	439899.725	3762572.439	216.08
LOCATION L0002616	VOLUME	439899.823	3762608.439	216.52
LOCATION L0002617	VOLUME	439899.921	3762644.439	217.01
LOCATION L0002618	VOLUME	439900.019	3762680.438	217.48
LOCATION L0002619	VOLUME	439900.117	3762716.438	217.98
LOCATION L0002620	VOLUME	439900.215	3762752.438	218.46
LOCATION L0002621	VOLUME	439900.314	3762788.438	218.96
LOCATION L0002622	VOLUME	439900.412	3762824.438	219.46
LOCATION L0002623	VOLUME	439900.510	3762860.438	219.99
LOCATION L0002624	VOLUME	439900.608	3762896.438	220.50
LOCATION L0002625	VOLUME	439900.706	3762932.437	220.93
LOCATION L0002626	VOLUME	439900.804	3762968.437	221.31
LOCATION L0002627	VOLUME	439900.902	3763004.437	221.71
LOCATION L0002628	VOLUME	439901.000	3763040.437	222.07
LOCATION L0002629	VOLUME	439901.098	3763076.437	222.48
LOCATION L0002630	VOLUME	439901.197	3763112.437	222.92
LOCATION L0002631	VOLUME	439901.295	3763148.437	223.40
LOCATION L0002632	VOLUME	439901.393	3763184.437	223.91
LOCATION L0002633	VOLUME	439901.491	3763220.436	224.44
LOCATION L0002634	VOLUME	439901.589	3763256.436	224.97
LOCATION L0002635	VOLUME	439901.687	3763292.436	225.41
LOCATION L0002636	VOLUME	439901.785	3763328.436	225.83
LOCATION L0002637	VOLUME	439901.883	3763364.436	226.22
LOCATION L0002638	VOLUME	439901.982	3763400.436	226.57
LOCATION L0002639	VOLUME	439902.080	3763436.436	226.88
LOCATION L0002640	VOLUME	439902.844	3763472.410	227.21
LOCATION L0002641	VOLUME	439905.546	3763508.308	227.55
LOCATION L0002642	VOLUME	439908.248	3763544.206	227.87
LOCATION L0002643	VOLUME	439910.950	3763580.105	228.17
LOCATION L0002644	VOLUME	439912.568	3763616.045	228.46
LOCATION L0002645	VOLUME	439912.617	3763652.045	228.76
LOCATION L0002646	VOLUME	439912.665	3763688.045	229.12
LOCATION L0002647	VOLUME	439912.714	3763724.045	229.40
LOCATION L0002648	VOLUME	439912.763	3763760.045	229.65



LOCATION L0002649	VOLUME	439912.812	3763796.045	229.92
LOCATION L0002650	VOLUME	439912.861	3763832.045	230.22
LOCATION L0002651	VOLUME	439912.909	3763868.045	230.54
LOCATION L0002652	VOLUME	439912.958	3763904.045	230.93
LOCATION L0002653	VOLUME	439913.007	3763940.045	231.41
LOCATION L0002654	VOLUME	439913.056	3763976.044	231.93
LOCATION L0002655	VOLUME	439913.105	3764012.044	232.48
LOCATION L0002656	VOLUME	439913.153	3764048.044	233.06
LOCATION L0002657	VOLUME	439913.202	3764084.044	233.63
LOCATION L0002658	VOLUME	439913.251	3764120.044	234.17
LOCATION L0002659	VOLUME	439913.300	3764156.044	234.76
LOCATION L0002660	VOLUME	439913.349	3764192.044	235.34
LOCATION L0002661	VOLUME	439913.397	3764228.044	235.93
LOCATION L0002662	VOLUME	439913.446	3764264.044	236.50
LOCATION L0002663	VOLUME	439913.495	3764300.044	237.09
LOCATION L0002664	VOLUME	439913.544	3764336.044	237.65
LOCATION L0002665	VOLUME	439913.593	3764372.044	238.14
LOCATION L0002666	VOLUME	439913.641	3764408.044	238.51
LOCATION L0002667	VOLUME	439913.690	3764444.044	238.76
LOCATION L0002668	VOLUME	439913.739	3764480.044	238.94
LOCATION L0002669	VOLUME	439913.788	3764516.044	239.14
LOCATION L0002670	VOLUME	439913.837	3764552.044	239.32
LOCATION L0002671	VOLUME	439913.885	3764588.044	239.55
LOCATION L0002672	VOLUME	439913.934	3764624.044	239.91
LOCATION L0002673	VOLUME	439913.983	3764660.044	240.33
LOCATION L0002674	VOLUME	439914.032	3764696.044	240.78
LOCATION L0002675	VOLUME	439914.081	3764732.044	241.22
LOCATION L0002676	VOLUME	439914.129	3764768.044	241.87
LOCATION L0002677	VOLUME	439914.178	3764804.044	242.52
LOCATION L0002678	VOLUME	439914.227	3764840.044	243.09
LOCATION L0002679	VOLUME	439914.276	3764876.044	243.65
LOCATION L0002680	VOLUME	439914.324	3764912.044	244.15
LOCATION L0002681	VOLUME	439914.373	3764948.044	244.65
LOCATION L0002682	VOLUME	439914.422	3764984.044	245.21
LOCATION L0002683	VOLUME	439914.471	3765020.044	245.75
LOCATION L0002684	VOLUME	439914.520	3765056.043	246.10
LOCATION L0002685	VOLUME	439914.568	3765092.043	246.38
LOCATION L0002686	VOLUME	439914.617	3765128.043	246.65
LOCATION L0002687	VOLUME	439914.666	3765164.043	246.95
LOCATION L0002688	VOLUME	439914.715	3765200.043	247.30
LOCATION L0002689	VOLUME	439914.764	3765236.043	247.82
LOCATION L0002690	VOLUME	439914.812	3765272.043	248.35
LOCATION L0002691	VOLUME	439914.861	3765308.043	248.96
LOCATION L0002692	VOLUME	439914.910	3765344.043	249.57
LOCATION L0002693	VOLUME	439914.959	3765380.043	250.15
LOCATION L0002694	VOLUME	439915.008	3765416.043	250.77
LOCATION L0002695	VOLUME	439915.056	3765452.043	251.36
LOCATION L0002696	VOLUME	439915.105	3765488.043	251.81
LOCATION L0002697	VOLUME	439915.154	3765524.043	252.12

LOCATION L0002698	VOLUME	439915.203	3765560.043	252.55
LOCATION L0002699	VOLUME	439915.252	3765596.043	252.94
LOCATION L0002700	VOLUME	439915.300	3765632.043	253.19
LOCATION L0002701	VOLUME	439915.349	3765668.043	253.63
LOCATION L0002702	VOLUME	439915.398	3765704.043	254.14
LOCATION L0002703	VOLUME	439915.447	3765740.043	254.48
LOCATION L0002704	VOLUME	439915.496	3765776.043	254.77

\*\* End of LINE VOLUME Source ID = SLINE16

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE17

\*\* DESCRSRC East Access Road Campus 15 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000474

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440788.002, 3761131.581, 201.87, 3.15, 12.09

\*\* 440792.839, 3760493.155, 196.84, 3.15, 12.09

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LOCATION L0002705	VOLUME	440788.101	3761118.581	201.62
LOCATION L0002706	VOLUME	440788.297	3761092.582	201.37
LOCATION L0002707	VOLUME	440788.494	3761066.583	201.14
LOCATION L0002708	VOLUME	440788.691	3761040.584	200.92
LOCATION L0002709	VOLUME	440788.888	3761014.584	200.72
LOCATION L0002710	VOLUME	440789.085	3760988.585	200.51
LOCATION L0002711	VOLUME	440789.282	3760962.586	200.30
LOCATION L0002712	VOLUME	440789.479	3760936.587	200.11
LOCATION L0002713	VOLUME	440789.676	3760910.587	199.91
LOCATION L0002714	VOLUME	440789.873	3760884.588	199.74
LOCATION L0002715	VOLUME	440790.070	3760858.589	199.60
LOCATION L0002716	VOLUME	440790.267	3760832.590	199.52
LOCATION L0002717	VOLUME	440790.464	3760806.590	199.45
LOCATION L0002718	VOLUME	440790.661	3760780.591	199.30
LOCATION L0002719	VOLUME	440790.858	3760754.592	198.99
LOCATION L0002720	VOLUME	440791.055	3760728.593	198.81
LOCATION L0002721	VOLUME	440791.252	3760702.593	198.61
LOCATION L0002722	VOLUME	440791.449	3760676.594	198.40
LOCATION L0002723	VOLUME	440791.646	3760650.595	198.19
LOCATION L0002724	VOLUME	440791.843	3760624.595	197.97
LOCATION L0002725	VOLUME	440792.040	3760598.596	197.72
LOCATION L0002726	VOLUME	440792.237	3760572.597	197.45
LOCATION L0002727	VOLUME	440792.434	3760546.598	197.22
LOCATION L0002728	VOLUME	440792.631	3760520.598	197.02
LOCATION L0002729	VOLUME	440792.828	3760494.599	196.88

\*\* End of LINE VOLUME Source ID = SLINE17

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\*\* Line Source Represented by Adjacent Volume Sources  
 \*\* LINE VOLUME Source ID = SLINE18  
 \*\* DESCRSRC Merrill East of Site 50 MPH  
 \*\* PREFIX  
 \*\* Length of Side = 26.00  
 \*\* Configuration = Adjacent  
 \*\* Emission Rate = 0.000221  
 \*\* Vertical Dimension = 6.29  
 \*\* SZINIT = 2.93  
 \*\* Nodes = 4  
 \*\* 440792.839, 3760468.972, 196.77, 3.15, 12.09  
 \*\* 443966.833, 3760482.272, 204.47, 3.15, 12.09  
 \*\* 444151.831, 3760416.979, 202.33, 3.15, 12.09  
 \*\* 445194.110, 3760409.724, 201.48, 3.15, 12.09  
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LOCATION	VOLUME	VOLUME	VOLUME	VOLUME
L0002730	440805.838	3760469.026	196.69	
L0002731	440831.838	3760469.135	196.70	
L0002732	440857.838	3760469.244	196.88	
L0002733	440883.838	3760469.353	197.13	
L0002734	440909.838	3760469.462	197.39	
L0002735	440935.837	3760469.571	197.56	
L0002736	440961.837	3760469.680	197.64	
L0002737	440987.837	3760469.789	197.74	
L0002738	441013.837	3760469.898	197.89	
L0002739	441039.836	3760470.007	198.06	
L0002740	441065.836	3760470.116	198.25	
L0002741	441091.836	3760470.225	198.46	
L0002742	441117.836	3760470.334	198.59	
L0002743	441143.836	3760470.443	198.64	
L0002744	441169.835	3760470.552	198.63	
L0002745	441195.835	3760470.661	198.95	
L0002746	441221.835	3760470.770	198.86	
L0002747	441247.835	3760470.879	198.67	
L0002748	441273.834	3760470.988	198.71	
L0002749	441299.834	3760471.096	198.79	
L0002750	441325.834	3760471.205	198.90	
L0002751	441351.834	3760471.314	198.98	
L0002752	441377.833	3760471.423	199.10	
L0002753	441403.833	3760471.532	199.23	
L0002754	441429.833	3760471.641	199.30	
L0002755	441455.833	3760471.750	199.33	
L0002756	441481.833	3760471.859	199.62	
L0002757	441507.832	3760471.968	199.82	
L0002758	441533.832	3760472.077	199.93	
L0002759	441559.832	3760472.186	199.99	
L0002760	441585.832	3760472.295	200.00	
L0002761	441611.831	3760472.404	200.07	
L0002762	441637.831	3760472.513	200.18	
L0002763	441663.831	3760472.622	200.19	

LOCATION	L0002764	VOLUME	441689.831	3760472.731	200.18
LOCATION	L0002765	VOLUME	441715.830	3760472.840	200.15
LOCATION	L0002766	VOLUME	441741.830	3760472.949	200.10
LOCATION	L0002767	VOLUME	441767.830	3760473.058	200.08
LOCATION	L0002768	VOLUME	441793.830	3760473.167	200.09
LOCATION	L0002769	VOLUME	441819.830	3760473.275	200.09
LOCATION	L0002770	VOLUME	441845.829	3760473.384	200.08
LOCATION	L0002771	VOLUME	441871.829	3760473.493	200.12
LOCATION	L0002772	VOLUME	441897.829	3760473.602	200.15
LOCATION	L0002773	VOLUME	441923.829	3760473.711	200.22
LOCATION	L0002774	VOLUME	441949.828	3760473.820	200.29
LOCATION	L0002775	VOLUME	441975.828	3760473.929	200.11
LOCATION	L0002776	VOLUME	442001.828	3760474.038	199.94
LOCATION	L0002777	VOLUME	442027.828	3760474.147	200.38
LOCATION	L0002778	VOLUME	442053.828	3760474.256	200.42
LOCATION	L0002779	VOLUME	442079.827	3760474.365	200.43
LOCATION	L0002780	VOLUME	442105.827	3760474.474	200.40
LOCATION	L0002781	VOLUME	442131.827	3760474.583	200.37
LOCATION	L0002782	VOLUME	442157.827	3760474.692	200.38
LOCATION	L0002783	VOLUME	442183.826	3760474.801	200.40
LOCATION	L0002784	VOLUME	442209.826	3760474.910	200.40
LOCATION	L0002785	VOLUME	442235.826	3760475.019	200.44
LOCATION	L0002786	VOLUME	442261.826	3760475.128	200.55
LOCATION	L0002787	VOLUME	442287.825	3760475.237	200.67
LOCATION	L0002788	VOLUME	442313.825	3760475.346	200.80
LOCATION	L0002789	VOLUME	442339.825	3760475.455	200.98
LOCATION	L0002790	VOLUME	442365.825	3760475.563	201.07
LOCATION	L0002791	VOLUME	442391.825	3760475.672	201.05
LOCATION	L0002792	VOLUME	442417.824	3760475.781	201.12
LOCATION	L0002793	VOLUME	442443.824	3760475.890	201.14
LOCATION	L0002794	VOLUME	442469.824	3760475.999	201.12
LOCATION	L0002795	VOLUME	442495.824	3760476.108	201.09
LOCATION	L0002796	VOLUME	442521.823	3760476.217	201.06
LOCATION	L0002797	VOLUME	442547.823	3760476.326	201.01
LOCATION	L0002798	VOLUME	442573.823	3760476.435	200.96
LOCATION	L0002799	VOLUME	442599.823	3760476.544	200.85
LOCATION	L0002800	VOLUME	442625.823	3760476.653	200.70
LOCATION	L0002801	VOLUME	442651.822	3760476.762	200.64
LOCATION	L0002802	VOLUME	442677.822	3760476.871	200.61
LOCATION	L0002803	VOLUME	442703.822	3760476.980	200.62
LOCATION	L0002804	VOLUME	442729.822	3760477.089	200.73
LOCATION	L0002805	VOLUME	442755.821	3760477.198	200.85
LOCATION	L0002806	VOLUME	442781.821	3760477.307	200.82
LOCATION	L0002807	VOLUME	442807.821	3760477.416	200.80
LOCATION	L0002808	VOLUME	442833.821	3760477.525	200.83
LOCATION	L0002809	VOLUME	442859.820	3760477.634	200.98
LOCATION	L0002810	VOLUME	442885.820	3760477.742	201.07
LOCATION	L0002811	VOLUME	442911.820	3760477.851	201.13
LOCATION	L0002812	VOLUME	442937.820	3760477.960	201.24

LOCATION	L0002813	VOLUME	442963.820	3760478.069	201.34
LOCATION	L0002814	VOLUME	442989.819	3760478.178	201.66
LOCATION	L0002815	VOLUME	443015.819	3760478.287	201.87
LOCATION	L0002816	VOLUME	443041.819	3760478.396	201.68
LOCATION	L0002817	VOLUME	443067.819	3760478.505	201.58
LOCATION	L0002818	VOLUME	443093.818	3760478.614	201.61
LOCATION	L0002819	VOLUME	443119.818	3760478.723	201.69
LOCATION	L0002820	VOLUME	443145.818	3760478.832	201.82
LOCATION	L0002821	VOLUME	443171.818	3760478.941	202.12
LOCATION	L0002822	VOLUME	443197.817	3760479.050	202.75
LOCATION	L0002823	VOLUME	443223.817	3760479.159	203.08
LOCATION	L0002824	VOLUME	443249.817	3760479.268	203.11
LOCATION	L0002825	VOLUME	443275.817	3760479.377	203.19
LOCATION	L0002826	VOLUME	443301.817	3760479.486	203.21
LOCATION	L0002827	VOLUME	443327.816	3760479.595	203.34
LOCATION	L0002828	VOLUME	443353.816	3760479.704	203.23
LOCATION	L0002829	VOLUME	443379.816	3760479.813	203.32
LOCATION	L0002830	VOLUME	443405.816	3760479.922	203.44
LOCATION	L0002831	VOLUME	443431.815	3760480.030	203.41
LOCATION	L0002832	VOLUME	443457.815	3760480.139	203.39
LOCATION	L0002833	VOLUME	443483.815	3760480.248	203.40
LOCATION	L0002834	VOLUME	443509.815	3760480.357	203.34
LOCATION	L0002835	VOLUME	443535.815	3760480.466	203.32
LOCATION	L0002836	VOLUME	443561.814	3760480.575	203.18
LOCATION	L0002837	VOLUME	443587.814	3760480.684	203.18
LOCATION	L0002838	VOLUME	443613.814	3760480.793	203.46
LOCATION	L0002839	VOLUME	443639.814	3760480.902	203.54
LOCATION	L0002840	VOLUME	443665.813	3760481.011	203.63
LOCATION	L0002841	VOLUME	443691.813	3760481.120	203.67
LOCATION	L0002842	VOLUME	443717.813	3760481.229	203.73
LOCATION	L0002843	VOLUME	443743.813	3760481.338	203.77
LOCATION	L0002844	VOLUME	443769.812	3760481.447	203.85
LOCATION	L0002845	VOLUME	443795.812	3760481.556	204.00
LOCATION	L0002846	VOLUME	443821.812	3760481.665	204.17
LOCATION	L0002847	VOLUME	443847.812	3760481.774	204.20
LOCATION	L0002848	VOLUME	443873.812	3760481.883	204.53
LOCATION	L0002849	VOLUME	443899.811	3760481.992	203.97
LOCATION	L0002850	VOLUME	443925.811	3760482.101	204.05
LOCATION	L0002851	VOLUME	443951.811	3760482.210	204.58
LOCATION	L0002852	VOLUME	443977.185	3760478.619	204.36
LOCATION	L0002853	VOLUME	444001.703	3760469.965	203.93
LOCATION	L0002854	VOLUME	444026.220	3760461.312	203.42
LOCATION	L0002855	VOLUME	444050.738	3760452.659	203.27
LOCATION	L0002856	VOLUME	444075.256	3760444.005	203.00
LOCATION	L0002857	VOLUME	444099.774	3760435.352	202.74
LOCATION	L0002858	VOLUME	444124.291	3760426.699	202.61
LOCATION	L0002859	VOLUME	444148.809	3760418.045	202.42
LOCATION	L0002860	VOLUME	444174.626	3760416.820	202.24
LOCATION	L0002861	VOLUME	444200.625	3760416.639	202.16

LOCATION	L0002862	VOLUME	444226.625	3760416.458	202.11
LOCATION	L0002863	VOLUME	444252.624	3760416.277	202.08
LOCATION	L0002864	VOLUME	444278.623	3760416.096	202.08
LOCATION	L0002865	VOLUME	444304.623	3760415.915	202.08
LOCATION	L0002866	VOLUME	444330.622	3760415.734	202.05
LOCATION	L0002867	VOLUME	444356.621	3760415.553	202.09
LOCATION	L0002868	VOLUME	444382.621	3760415.372	202.09
LOCATION	L0002869	VOLUME	444408.620	3760415.191	201.88
LOCATION	L0002870	VOLUME	444434.620	3760415.010	201.81
LOCATION	L0002871	VOLUME	444460.619	3760414.830	201.86
LOCATION	L0002872	VOLUME	444486.618	3760414.649	201.93
LOCATION	L0002873	VOLUME	444512.618	3760414.468	201.96
LOCATION	L0002874	VOLUME	444538.617	3760414.287	202.07
LOCATION	L0002875	VOLUME	444564.616	3760414.106	202.19
LOCATION	L0002876	VOLUME	444590.616	3760413.925	202.08
LOCATION	L0002877	VOLUME	444616.615	3760413.744	198.42
LOCATION	L0002878	VOLUME	444642.615	3760413.563	197.62
LOCATION	L0002879	VOLUME	444668.614	3760413.382	201.81
LOCATION	L0002880	VOLUME	444694.613	3760413.201	202.20
LOCATION	L0002881	VOLUME	444720.613	3760413.020	201.98
LOCATION	L0002882	VOLUME	444746.612	3760412.839	201.80
LOCATION	L0002883	VOLUME	444772.611	3760412.658	201.20
LOCATION	L0002884	VOLUME	444798.611	3760412.477	200.69
LOCATION	L0002885	VOLUME	444824.610	3760412.296	201.48
LOCATION	L0002886	VOLUME	444850.609	3760412.115	201.42
LOCATION	L0002887	VOLUME	444876.609	3760411.934	201.16
LOCATION	L0002888	VOLUME	444902.608	3760411.753	201.20
LOCATION	L0002889	VOLUME	444928.608	3760411.572	201.45
LOCATION	L0002890	VOLUME	444954.607	3760411.391	201.75
LOCATION	L0002891	VOLUME	444980.606	3760411.210	201.86
LOCATION	L0002892	VOLUME	445006.606	3760411.029	201.80
LOCATION	L0002893	VOLUME	445032.605	3760410.848	201.77
LOCATION	L0002894	VOLUME	445058.604	3760410.667	201.77
LOCATION	L0002895	VOLUME	445084.604	3760410.486	201.74
LOCATION	L0002896	VOLUME	445110.603	3760410.305	201.77
LOCATION	L0002897	VOLUME	445136.603	3760410.124	201.91
LOCATION	L0002898	VOLUME	445162.602	3760409.943	201.80
LOCATION	L0002899	VOLUME	445188.601	3760409.762	201.42

\*\* End of LINE VOLUME Source ID = SLINE18

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE19

\*\* DESCRSRC Archibald North of Merrill 55 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000692

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2  
\*\* 445197.002, 3760432.429, 201.58, 3.15, 12.09  
\*\* 445203.414, 3762029.057, 216.23, 3.15, 12.09

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LOCATION	L0002900	VOLUME	445197.054	3760445.429	201.61
LOCATION	L0002901	VOLUME	445197.159	3760471.429	201.78
LOCATION	L0002902	VOLUME	445197.263	3760497.429	201.94
LOCATION	L0002903	VOLUME	445197.368	3760523.429	202.11
LOCATION	L0002904	VOLUME	445197.472	3760549.428	202.26
LOCATION	L0002905	VOLUME	445197.576	3760575.428	202.43
LOCATION	L0002906	VOLUME	445197.681	3760601.428	202.62
LOCATION	L0002907	VOLUME	445197.785	3760627.428	202.85
LOCATION	L0002908	VOLUME	445197.890	3760653.428	203.09
LOCATION	L0002909	VOLUME	445197.994	3760679.427	203.34
LOCATION	L0002910	VOLUME	445198.098	3760705.427	203.60
LOCATION	L0002911	VOLUME	445198.203	3760731.427	203.84
LOCATION	L0002912	VOLUME	445198.307	3760757.427	204.09
LOCATION	L0002913	VOLUME	445198.412	3760783.427	204.31
LOCATION	L0002914	VOLUME	445198.516	3760809.426	204.58
LOCATION	L0002915	VOLUME	445198.621	3760835.426	204.84
LOCATION	L0002916	VOLUME	445198.725	3760861.426	205.09
LOCATION	L0002917	VOLUME	445198.829	3760887.426	205.36
LOCATION	L0002918	VOLUME	445198.934	3760913.426	205.59
LOCATION	L0002919	VOLUME	445199.038	3760939.425	205.83
LOCATION	L0002920	VOLUME	445199.143	3760965.425	206.10
LOCATION	L0002921	VOLUME	445199.247	3760991.425	206.35
LOCATION	L0002922	VOLUME	445199.351	3761017.425	206.59
LOCATION	L0002923	VOLUME	445199.456	3761043.424	206.83
LOCATION	L0002924	VOLUME	445199.560	3761069.424	207.07
LOCATION	L0002925	VOLUME	445199.665	3761095.424	207.30
LOCATION	L0002926	VOLUME	445199.769	3761121.424	207.55
LOCATION	L0002927	VOLUME	445199.874	3761147.424	207.81
LOCATION	L0002928	VOLUME	445199.978	3761173.423	208.02
LOCATION	L0002929	VOLUME	445200.082	3761199.423	208.30
LOCATION	L0002930	VOLUME	445200.187	3761225.423	208.72
LOCATION	L0002931	VOLUME	445200.291	3761251.423	209.11
LOCATION	L0002932	VOLUME	445200.396	3761277.423	209.39
LOCATION	L0002933	VOLUME	445200.500	3761303.422	209.67
LOCATION	L0002934	VOLUME	445200.604	3761329.422	209.96
LOCATION	L0002935	VOLUME	445200.709	3761355.422	210.20
LOCATION	L0002936	VOLUME	445200.813	3761381.422	210.41
LOCATION	L0002937	VOLUME	445200.918	3761407.422	210.60
LOCATION	L0002938	VOLUME	445201.022	3761433.421	210.77
LOCATION	L0002939	VOLUME	445201.127	3761459.421	210.92
LOCATION	L0002940	VOLUME	445201.231	3761485.421	211.13
LOCATION	L0002941	VOLUME	445201.335	3761511.421	211.35
LOCATION	L0002942	VOLUME	445201.440	3761537.420	211.52
LOCATION	L0002943	VOLUME	445201.544	3761563.420	211.70
LOCATION	L0002944	VOLUME	445201.649	3761589.420	211.90

LOCATION	L0002945	VOLUME	445201.753	3761615.420	212.09
LOCATION	L0002946	VOLUME	445201.857	3761641.420	212.27
LOCATION	L0002947	VOLUME	445201.962	3761667.419	212.45
LOCATION	L0002948	VOLUME	445202.066	3761693.419	212.61
LOCATION	L0002949	VOLUME	445202.171	3761719.419	212.77
LOCATION	L0002950	VOLUME	445202.275	3761745.419	213.00
LOCATION	L0002951	VOLUME	445202.380	3761771.419	213.31
LOCATION	L0002952	VOLUME	445202.484	3761797.418	213.59
LOCATION	L0002953	VOLUME	445202.588	3761823.418	213.87
LOCATION	L0002954	VOLUME	445202.693	3761849.418	214.14
LOCATION	L0002955	VOLUME	445202.797	3761875.418	214.43
LOCATION	L0002956	VOLUME	445202.902	3761901.418	214.72
LOCATION	L0002957	VOLUME	445203.006	3761927.417	215.03
LOCATION	L0002958	VOLUME	445203.110	3761953.417	215.33
LOCATION	L0002959	VOLUME	445203.215	3761979.417	215.64
LOCATION	L0002960	VOLUME	445203.319	3762005.417	215.92

\*\* End of LINE VOLUME Source ID = SLINE19

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE20

\*\* DESCRSRC Archibald South of Merrill 55 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000282

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445190.590, 3760393.956, 201.32, 3.15, 12.09

\*\* 445213.033, 3759579.612, 197.47, 3.15, 12.09

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LOCATION	L0002961	VOLUME	445190.948	3760380.961	201.25
LOCATION	L0002962	VOLUME	445191.664	3760354.971	201.07
LOCATION	L0002963	VOLUME	445192.381	3760328.981	200.90
LOCATION	L0002964	VOLUME	445193.097	3760302.991	200.72
LOCATION	L0002965	VOLUME	445193.813	3760277.001	200.57
LOCATION	L0002966	VOLUME	445194.529	3760251.011	200.42
LOCATION	L0002967	VOLUME	445195.246	3760225.021	200.27
LOCATION	L0002968	VOLUME	445195.962	3760199.030	200.12
LOCATION	L0002969	VOLUME	445196.678	3760173.040	199.96
LOCATION	L0002970	VOLUME	445197.394	3760147.050	199.80
LOCATION	L0002971	VOLUME	445198.111	3760121.060	199.64
LOCATION	L0002972	VOLUME	445198.827	3760095.070	199.49
LOCATION	L0002973	VOLUME	445199.543	3760069.080	199.32
LOCATION	L0002974	VOLUME	445200.259	3760043.090	199.14
LOCATION	L0002975	VOLUME	445200.976	3760017.100	198.96
LOCATION	L0002976	VOLUME	445201.692	3759991.109	198.82
LOCATION	L0002977	VOLUME	445202.408	3759965.119	198.64
LOCATION	L0002978	VOLUME	445203.125	3759939.129	198.60



LOCATION L0002979	VOLUME	445203.841	3759913.139	198.65
LOCATION L0002980	VOLUME	445204.557	3759887.149	198.74
LOCATION L0002981	VOLUME	445205.273	3759861.159	198.79
LOCATION L0002982	VOLUME	445205.990	3759835.169	198.62
LOCATION L0002983	VOLUME	445206.706	3759809.178	198.12
LOCATION L0002984	VOLUME	445207.422	3759783.188	198.27
LOCATION L0002985	VOLUME	445208.138	3759757.198	198.31
LOCATION L0002986	VOLUME	445208.855	3759731.208	198.20
LOCATION L0002987	VOLUME	445209.571	3759705.218	198.10
LOCATION L0002988	VOLUME	445210.287	3759679.228	197.99
LOCATION L0002989	VOLUME	445211.003	3759653.238	197.83
LOCATION L0002990	VOLUME	445211.720	3759627.248	197.71
LOCATION L0002991	VOLUME	445212.436	3759601.257	197.57

\*\* End of LINE VOLUME Source ID = SLINE20

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE21

\*\* DESCRSRC Limonite West of Hamner 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000115

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445208.816, 3759586.179, 197.53, 3.15, 12.09

\*\* 448421.656, 3759563.991, 203.23, 3.15, 12.09

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LOCATION L0002992	VOLUME	445221.815	3759586.089	197.44
LOCATION L0002993	VOLUME	445247.815	3759585.910	197.38
LOCATION L0002994	VOLUME	445273.814	3759585.730	197.39
LOCATION L0002995	VOLUME	445299.813	3759585.551	197.38
LOCATION L0002996	VOLUME	445325.813	3759585.371	197.43
LOCATION L0002997	VOLUME	445351.812	3759585.192	197.43
LOCATION L0002998	VOLUME	445377.812	3759585.012	197.46
LOCATION L0002999	VOLUME	445403.811	3759584.833	197.48
LOCATION L0003000	VOLUME	445429.810	3759584.653	197.56
LOCATION L0003001	VOLUME	445455.810	3759584.473	197.63
LOCATION L0003002	VOLUME	445481.809	3759584.294	197.63
LOCATION L0003003	VOLUME	445507.808	3759584.114	197.63
LOCATION L0003004	VOLUME	445533.808	3759583.935	197.73
LOCATION L0003005	VOLUME	445559.807	3759583.755	197.78
LOCATION L0003006	VOLUME	445585.807	3759583.576	197.85
LOCATION L0003007	VOLUME	445611.806	3759583.396	198.20
LOCATION L0003008	VOLUME	445637.805	3759583.217	198.31
LOCATION L0003009	VOLUME	445663.805	3759583.037	198.15
LOCATION L0003010	VOLUME	445689.804	3759582.857	198.11
LOCATION L0003011	VOLUME	445715.803	3759582.678	198.45
LOCATION L0003012	VOLUME	445741.803	3759582.498	198.66

LOCATION L0003013	VOLUME	445767.802	3759582.319	198.70
LOCATION L0003014	VOLUME	445793.802	3759582.139	198.86
LOCATION L0003015	VOLUME	445819.801	3759581.960	198.90
LOCATION L0003016	VOLUME	445845.800	3759581.780	198.97
LOCATION L0003017	VOLUME	445871.800	3759581.601	199.06
LOCATION L0003018	VOLUME	445897.799	3759581.421	199.08
LOCATION L0003019	VOLUME	445923.798	3759581.241	199.07
LOCATION L0003020	VOLUME	445949.798	3759581.062	199.03
LOCATION L0003021	VOLUME	445975.797	3759580.882	198.99
LOCATION L0003022	VOLUME	446001.797	3759580.703	198.83
LOCATION L0003023	VOLUME	446027.796	3759580.523	199.03
LOCATION L0003024	VOLUME	446053.795	3759580.344	199.25
LOCATION L0003025	VOLUME	446079.795	3759580.164	199.31
LOCATION L0003026	VOLUME	446105.794	3759579.985	199.37
LOCATION L0003027	VOLUME	446131.794	3759579.805	199.47
LOCATION L0003028	VOLUME	446157.793	3759579.625	199.58
LOCATION L0003029	VOLUME	446183.792	3759579.446	199.71
LOCATION L0003030	VOLUME	446209.792	3759579.266	199.83
LOCATION L0003031	VOLUME	446235.791	3759579.087	199.95
LOCATION L0003032	VOLUME	446261.790	3759578.907	200.08
LOCATION L0003033	VOLUME	446287.790	3759578.728	200.22
LOCATION L0003034	VOLUME	446313.789	3759578.548	200.33
LOCATION L0003035	VOLUME	446339.789	3759578.369	200.38
LOCATION L0003036	VOLUME	446365.788	3759578.189	200.38
LOCATION L0003037	VOLUME	446391.787	3759578.010	200.27
LOCATION L0003038	VOLUME	446417.787	3759577.830	200.16
LOCATION L0003039	VOLUME	446443.786	3759577.650	200.42
LOCATION L0003040	VOLUME	446469.785	3759577.471	200.88
LOCATION L0003041	VOLUME	446495.785	3759577.291	201.11
LOCATION L0003042	VOLUME	446521.784	3759577.112	201.23
LOCATION L0003043	VOLUME	446547.784	3759576.932	201.36
LOCATION L0003044	VOLUME	446573.783	3759576.753	201.49
LOCATION L0003045	VOLUME	446599.782	3759576.573	201.61
LOCATION L0003046	VOLUME	446625.782	3759576.394	201.74
LOCATION L0003047	VOLUME	446651.781	3759576.214	201.85
LOCATION L0003048	VOLUME	446677.781	3759576.034	201.97
LOCATION L0003049	VOLUME	446703.780	3759575.855	202.14
LOCATION L0003050	VOLUME	446729.779	3759575.675	202.28
LOCATION L0003051	VOLUME	446755.779	3759575.496	202.28
LOCATION L0003052	VOLUME	446781.778	3759575.316	202.08
LOCATION L0003053	VOLUME	446807.777	3759575.137	201.79
LOCATION L0003054	VOLUME	446833.777	3759574.957	201.68
LOCATION L0003055	VOLUME	446859.776	3759574.778	201.57
LOCATION L0003056	VOLUME	446885.776	3759574.598	201.31
LOCATION L0003057	VOLUME	446911.775	3759574.418	201.16
LOCATION L0003058	VOLUME	446937.774	3759574.239	201.14
LOCATION L0003059	VOLUME	446963.774	3759574.059	201.13
LOCATION L0003060	VOLUME	446989.773	3759573.880	201.19
LOCATION L0003061	VOLUME	447015.772	3759573.700	201.32

LOCATION	L0003062	VOLUME	447041.772	3759573.521	201.43
LOCATION	L0003063	VOLUME	447067.771	3759573.341	201.44
LOCATION	L0003064	VOLUME	447093.771	3759573.162	201.34
LOCATION	L0003065	VOLUME	447119.770	3759572.982	201.26
LOCATION	L0003066	VOLUME	447145.769	3759572.802	201.16
LOCATION	L0003067	VOLUME	447171.769	3759572.623	201.03
LOCATION	L0003068	VOLUME	447197.768	3759572.443	200.91
LOCATION	L0003069	VOLUME	447223.767	3759572.264	200.58
LOCATION	L0003070	VOLUME	447249.767	3759572.084	200.58
LOCATION	L0003071	VOLUME	447275.766	3759571.905	200.77
LOCATION	L0003072	VOLUME	447301.766	3759571.725	200.92
LOCATION	L0003073	VOLUME	447327.765	3759571.546	201.04
LOCATION	L0003074	VOLUME	447353.764	3759571.366	201.18
LOCATION	L0003075	VOLUME	447379.764	3759571.186	201.29
LOCATION	L0003076	VOLUME	447405.763	3759571.007	201.34
LOCATION	L0003077	VOLUME	447431.763	3759570.827	201.32
LOCATION	L0003078	VOLUME	447457.762	3759570.648	201.23
LOCATION	L0003079	VOLUME	447483.761	3759570.468	201.12
LOCATION	L0003080	VOLUME	447509.761	3759570.289	201.01
LOCATION	L0003081	VOLUME	447535.760	3759570.109	200.91
LOCATION	L0003082	VOLUME	447561.759	3759569.930	200.62
LOCATION	L0003083	VOLUME	447587.759	3759569.750	200.50
LOCATION	L0003084	VOLUME	447613.758	3759569.570	200.62
LOCATION	L0003085	VOLUME	447639.758	3759569.391	201.05
LOCATION	L0003086	VOLUME	447665.757	3759569.211	201.09
LOCATION	L0003087	VOLUME	447691.756	3759569.032	201.13
LOCATION	L0003088	VOLUME	447717.756	3759568.852	201.12
LOCATION	L0003089	VOLUME	447743.755	3759568.673	201.07
LOCATION	L0003090	VOLUME	447769.754	3759568.493	201.07
LOCATION	L0003091	VOLUME	447795.754	3759568.314	201.09
LOCATION	L0003092	VOLUME	447821.753	3759568.134	201.07
LOCATION	L0003093	VOLUME	447847.753	3759567.954	200.98
LOCATION	L0003094	VOLUME	447873.752	3759567.775	200.98
LOCATION	L0003095	VOLUME	447899.751	3759567.595	201.05
LOCATION	L0003096	VOLUME	447925.751	3759567.416	201.13
LOCATION	L0003097	VOLUME	447951.750	3759567.236	201.25
LOCATION	L0003098	VOLUME	447977.750	3759567.057	201.37
LOCATION	L0003099	VOLUME	448003.749	3759566.877	201.43
LOCATION	L0003100	VOLUME	448029.748	3759566.698	201.49
LOCATION	L0003101	VOLUME	448055.748	3759566.518	201.63
LOCATION	L0003102	VOLUME	448081.747	3759566.339	201.71
LOCATION	L0003103	VOLUME	448107.746	3759566.159	201.76
LOCATION	L0003104	VOLUME	448133.746	3759565.979	201.75
LOCATION	L0003105	VOLUME	448159.745	3759565.800	201.70
LOCATION	L0003106	VOLUME	448185.745	3759565.620	201.68
LOCATION	L0003107	VOLUME	448211.744	3759565.441	201.71
LOCATION	L0003108	VOLUME	448237.743	3759565.261	201.78
LOCATION	L0003109	VOLUME	448263.743	3759565.082	201.95
LOCATION	L0003110	VOLUME	448289.742	3759564.902	202.15

LOCATION L0003111	VOLUME	448315.741	3759564.723	202.31
LOCATION L0003112	VOLUME	448341.741	3759564.543	202.55
LOCATION L0003113	VOLUME	448367.740	3759564.363	202.83
LOCATION L0003114	VOLUME	448393.740	3759564.184	203.08
LOCATION L0003115	VOLUME	448419.739	3759564.004	203.22

\*\* End of LINE VOLUME Source ID = SLINE21

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 \*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE22

\*\* DESCRSRC Limonite East of Hamner 45 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000186

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 448433.751, 3759567.438, 203.30, 3.15, 12.09

\*\* 449436.212, 3759550.509, 204.35, 3.15, 12.09

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LOCATION L0003116	VOLUME	448446.749	3759567.219	203.28
LOCATION L0003117	VOLUME	448472.745	3759566.780	203.20
LOCATION L0003118	VOLUME	448498.741	3759566.341	203.07
LOCATION L0003119	VOLUME	448524.738	3759565.902	203.02
LOCATION L0003120	VOLUME	448550.734	3759565.463	202.91
LOCATION L0003121	VOLUME	448576.730	3759565.024	202.89
LOCATION L0003122	VOLUME	448602.727	3759564.585	203.21
LOCATION L0003123	VOLUME	448628.723	3759564.146	203.51
LOCATION L0003124	VOLUME	448654.719	3759563.707	203.50
LOCATION L0003125	VOLUME	448680.715	3759563.268	203.48
LOCATION L0003126	VOLUME	448706.712	3759562.829	203.56
LOCATION L0003127	VOLUME	448732.708	3759562.389	203.67
LOCATION L0003128	VOLUME	448758.704	3759561.950	203.86
LOCATION L0003129	VOLUME	448784.701	3759561.511	203.99
LOCATION L0003130	VOLUME	448810.697	3759561.072	203.90
LOCATION L0003131	VOLUME	448836.693	3759560.633	203.95
LOCATION L0003132	VOLUME	448862.689	3759560.194	203.89
LOCATION L0003133	VOLUME	448888.686	3759559.755	203.57
LOCATION L0003134	VOLUME	448914.682	3759559.316	203.51
LOCATION L0003135	VOLUME	448940.678	3759558.877	203.83
LOCATION L0003136	VOLUME	448966.675	3759558.438	203.93
LOCATION L0003137	VOLUME	448992.671	3759557.999	204.17
LOCATION L0003138	VOLUME	449018.667	3759557.560	204.56
LOCATION L0003139	VOLUME	449044.663	3759557.121	204.89
LOCATION L0003140	VOLUME	449070.660	3759556.682	205.18
LOCATION L0003141	VOLUME	449096.656	3759556.243	205.41
LOCATION L0003142	VOLUME	449122.652	3759555.804	205.48
LOCATION L0003143	VOLUME	449148.649	3759555.365	205.25
LOCATION L0003144	VOLUME	449174.645	3759554.926	205.78

LOCATION L0003145	VOLUME	449200.641	3759554.487	206.53
LOCATION L0003146	VOLUME	449226.638	3759554.048	205.42
LOCATION L0003147	VOLUME	449252.634	3759553.609	204.31
LOCATION L0003148	VOLUME	449278.630	3759553.170	202.22
LOCATION L0003149	VOLUME	449304.626	3759552.731	201.60
LOCATION L0003150	VOLUME	449330.623	3759552.292	203.11
LOCATION L0003151	VOLUME	449356.619	3759551.853	204.32
LOCATION L0003152	VOLUME	449382.615	3759551.414	205.11
LOCATION L0003153	VOLUME	449408.612	3759550.975	205.53
LOCATION L0003154	VOLUME	449434.608	3759550.536	204.55

\*\* End of LINE VOLUME Source ID = SLINE22

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE23

\*\* DESCRSRC Edison 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000231

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445228.172, 3762001.993, 216.23, 3.15, 12.09

\*\* 446055.217, 3762005.931, 218.73, 3.15, 12.09

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LOCATION L0003155	VOLUME	445241.172	3762002.055	216.17
LOCATION L0003156	VOLUME	445267.171	3762002.179	216.48
LOCATION L0003157	VOLUME	445293.171	3762002.302	216.54
LOCATION L0003158	VOLUME	445319.171	3762002.426	217.04
LOCATION L0003159	VOLUME	445345.171	3762002.550	217.35
LOCATION L0003160	VOLUME	445371.170	3762002.674	217.64
LOCATION L0003161	VOLUME	445397.170	3762002.798	217.99
LOCATION L0003162	VOLUME	445423.170	3762002.922	218.27
LOCATION L0003163	VOLUME	445449.169	3762003.045	218.44
LOCATION L0003164	VOLUME	445475.169	3762003.169	218.50
LOCATION L0003165	VOLUME	445501.169	3762003.293	218.44
LOCATION L0003166	VOLUME	445527.169	3762003.417	218.23
LOCATION L0003167	VOLUME	445553.168	3762003.541	218.19
LOCATION L0003168	VOLUME	445579.168	3762003.664	218.14
LOCATION L0003169	VOLUME	445605.168	3762003.788	218.09
LOCATION L0003170	VOLUME	445631.167	3762003.912	218.10
LOCATION L0003171	VOLUME	445657.167	3762004.036	218.06
LOCATION L0003172	VOLUME	445683.167	3762004.160	217.91
LOCATION L0003173	VOLUME	445709.166	3762004.283	217.70
LOCATION L0003174	VOLUME	445735.166	3762004.407	217.28
LOCATION L0003175	VOLUME	445761.166	3762004.531	216.90
LOCATION L0003176	VOLUME	445787.166	3762004.655	216.96
LOCATION L0003177	VOLUME	445813.165	3762004.779	217.38
LOCATION L0003178	VOLUME	445839.165	3762004.902	217.69

LOCATION L0003179	VOLUME	445865.165	3762005.026	217.94
LOCATION L0003180	VOLUME	445891.164	3762005.150	218.24
LOCATION L0003181	VOLUME	445917.164	3762005.274	218.05
LOCATION L0003182	VOLUME	445943.164	3762005.398	218.24
LOCATION L0003183	VOLUME	445969.164	3762005.521	218.48
LOCATION L0003184	VOLUME	445995.163	3762005.645	218.61
LOCATION L0003185	VOLUME	446021.163	3762005.769	218.61
LOCATION L0003186	VOLUME	446047.163	3762005.893	218.63

\*\* End of LINE VOLUME Source ID = SLINE23

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE24

\*\* DESCRSRC Ontario Ranch Road 50 MPH

\*\* PREFIX

\*\* Length of Side = 31.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000965

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 8

\*\* 446065.063, 3762013.808, 218.80, 3.15, 14.42

\*\* 446293.485, 3762124.081, 220.01, 3.15, 14.42

\*\* 446500.247, 3762297.366, 221.42, 3.15, 14.42

\*\* 446722.761, 3762397.793, 222.35, 3.15, 14.42

\*\* 446819.250, 3762403.701, 222.18, 3.15, 14.42

\*\* 448441.834, 3762389.917, 225.33, 3.15, 14.42

\*\* 448792.344, 3762411.577, 226.13, 3.15, 14.42

\*\* 449294.479, 3762594.709, 233.70, 3.15, 14.42

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LOCATION L0003187	VOLUME	446079.022	3762020.547	218.95
LOCATION L0003188	VOLUME	446106.939	3762034.024	219.27
LOCATION L0003189	VOLUME	446134.856	3762047.501	219.30
LOCATION L0003190	VOLUME	446162.773	3762060.978	219.54
LOCATION L0003191	VOLUME	446190.690	3762074.455	219.63
LOCATION L0003192	VOLUME	446218.607	3762087.933	219.78
LOCATION L0003193	VOLUME	446246.524	3762101.410	219.88
LOCATION L0003194	VOLUME	446274.441	3762114.887	220.00
LOCATION L0003195	VOLUME	446301.037	3762130.410	220.13
LOCATION L0003196	VOLUME	446324.796	3762150.322	220.33
LOCATION L0003197	VOLUME	446348.555	3762170.234	220.43
LOCATION L0003198	VOLUME	446372.314	3762190.147	220.66
LOCATION L0003199	VOLUME	446396.073	3762210.059	220.91
LOCATION L0003200	VOLUME	446419.833	3762229.972	220.98
LOCATION L0003201	VOLUME	446443.592	3762249.884	221.28
LOCATION L0003202	VOLUME	446467.351	3762269.797	221.28
LOCATION L0003203	VOLUME	446491.110	3762289.709	221.36
LOCATION L0003204	VOLUME	446517.636	3762305.215	221.68
LOCATION L0003205	VOLUME	446545.892	3762317.967	221.71
LOCATION L0003206	VOLUME	446574.147	3762330.720	221.88

LOCATION L0003207	VOLUME	446602.403	3762343.472	221.99
LOCATION L0003208	VOLUME	446630.658	3762356.225	222.17
LOCATION L0003209	VOLUME	446658.914	3762368.977	222.43
LOCATION L0003210	VOLUME	446687.169	3762381.730	222.48
LOCATION L0003211	VOLUME	446715.425	3762394.482	222.88
LOCATION L0003212	VOLUME	446745.669	3762399.196	222.92
LOCATION L0003213	VOLUME	446776.612	3762401.090	222.76
LOCATION L0003214	VOLUME	446807.554	3762402.985	222.19
LOCATION L0003215	VOLUME	446838.531	3762403.537	221.88
LOCATION L0003216	VOLUME	446869.530	3762403.274	221.96
LOCATION L0003217	VOLUME	446900.529	3762403.010	221.98
LOCATION L0003218	VOLUME	446931.528	3762402.747	222.17
LOCATION L0003219	VOLUME	446962.527	3762402.484	222.50
LOCATION L0003220	VOLUME	446993.525	3762402.220	222.57
LOCATION L0003221	VOLUME	447024.524	3762401.957	222.59
LOCATION L0003222	VOLUME	447055.523	3762401.694	222.70
LOCATION L0003223	VOLUME	447086.522	3762401.430	222.95
LOCATION L0003224	VOLUME	447117.521	3762401.167	223.14
LOCATION L0003225	VOLUME	447148.520	3762400.904	223.29
LOCATION L0003226	VOLUME	447179.519	3762400.640	223.34
LOCATION L0003227	VOLUME	447210.518	3762400.377	223.38
LOCATION L0003228	VOLUME	447241.516	3762400.114	223.28
LOCATION L0003229	VOLUME	447272.515	3762399.850	223.39
LOCATION L0003230	VOLUME	447303.514	3762399.587	223.48
LOCATION L0003231	VOLUME	447334.513	3762399.324	223.41
LOCATION L0003232	VOLUME	447365.512	3762399.060	223.31
LOCATION L0003233	VOLUME	447396.511	3762398.797	223.21
LOCATION L0003234	VOLUME	447427.510	3762398.534	223.15
LOCATION L0003235	VOLUME	447458.509	3762398.270	223.11
LOCATION L0003236	VOLUME	447489.507	3762398.007	222.98
LOCATION L0003237	VOLUME	447520.506	3762397.743	222.80
LOCATION L0003238	VOLUME	447551.505	3762397.480	222.72
LOCATION L0003239	VOLUME	447582.504	3762397.217	222.66
LOCATION L0003240	VOLUME	447613.503	3762396.953	222.54
LOCATION L0003241	VOLUME	447644.502	3762396.690	222.38
LOCATION L0003242	VOLUME	447675.501	3762396.427	222.48
LOCATION L0003243	VOLUME	447706.500	3762396.163	222.63
LOCATION L0003244	VOLUME	447737.499	3762395.900	222.78
LOCATION L0003245	VOLUME	447768.497	3762395.637	222.92
LOCATION L0003246	VOLUME	447799.496	3762395.373	223.06
LOCATION L0003247	VOLUME	447830.495	3762395.110	223.18
LOCATION L0003248	VOLUME	447861.494	3762394.847	223.30
LOCATION L0003249	VOLUME	447892.493	3762394.583	223.39
LOCATION L0003250	VOLUME	447923.492	3762394.320	223.49
LOCATION L0003251	VOLUME	447954.491	3762394.057	223.66
LOCATION L0003252	VOLUME	447985.490	3762393.793	223.82
LOCATION L0003253	VOLUME	448016.488	3762393.530	223.93
LOCATION L0003254	VOLUME	448047.487	3762393.267	224.04
LOCATION L0003255	VOLUME	448078.486	3762393.003	224.13

LOCATION	L0003256	VOLUME	448109.485	3762392.740	224.28
LOCATION	L0003257	VOLUME	448140.484	3762392.477	224.42
LOCATION	L0003258	VOLUME	448171.483	3762392.213	224.59
LOCATION	L0003259	VOLUME	448202.482	3762391.950	224.77
LOCATION	L0003260	VOLUME	448233.481	3762391.687	224.90
LOCATION	L0003261	VOLUME	448264.480	3762391.423	225.07
LOCATION	L0003262	VOLUME	448295.478	3762391.160	225.24
LOCATION	L0003263	VOLUME	448326.477	3762390.897	225.33
LOCATION	L0003264	VOLUME	448357.476	3762390.633	225.38
LOCATION	L0003265	VOLUME	448388.475	3762390.370	225.39
LOCATION	L0003266	VOLUME	448419.474	3762390.107	225.36
LOCATION	L0003267	VOLUME	448450.457	3762390.450	225.32
LOCATION	L0003268	VOLUME	448481.398	3762392.362	225.21
LOCATION	L0003269	VOLUME	448512.339	3762394.274	225.02
LOCATION	L0003270	VOLUME	448543.280	3762396.186	224.88
LOCATION	L0003271	VOLUME	448574.221	3762398.098	224.77
LOCATION	L0003272	VOLUME	448605.162	3762400.010	224.69
LOCATION	L0003273	VOLUME	448636.103	3762401.922	224.54
LOCATION	L0003274	VOLUME	448667.044	3762403.834	224.41
LOCATION	L0003275	VOLUME	448697.984	3762405.746	224.44
LOCATION	L0003276	VOLUME	448728.925	3762407.658	224.73
LOCATION	L0003277	VOLUME	448759.866	3762409.570	225.55
LOCATION	L0003278	VOLUME	448790.807	3762411.482	225.87
LOCATION	L0003279	VOLUME	448820.021	3762421.671	225.69
LOCATION	L0003280	VOLUME	448849.145	3762432.293	226.70
LOCATION	L0003281	VOLUME	448878.268	3762442.914	227.66
LOCATION	L0003282	VOLUME	448907.392	3762453.536	228.07
LOCATION	L0003283	VOLUME	448936.516	3762464.158	229.27
LOCATION	L0003284	VOLUME	448965.639	3762474.779	229.74
LOCATION	L0003285	VOLUME	448994.763	3762485.401	230.27
LOCATION	L0003286	VOLUME	449023.886	3762496.022	233.06
LOCATION	L0003287	VOLUME	449053.010	3762506.644	234.84
LOCATION	L0003288	VOLUME	449082.133	3762517.265	235.04
LOCATION	L0003289	VOLUME	449111.257	3762527.887	232.42
LOCATION	L0003290	VOLUME	449140.381	3762538.508	227.42
LOCATION	L0003291	VOLUME	449169.504	3762549.130	226.85
LOCATION	L0003292	VOLUME	449198.628	3762559.751	227.04
LOCATION	L0003293	VOLUME	449227.751	3762570.373	227.98
LOCATION	L0003294	VOLUME	449256.875	3762580.995	232.17
LOCATION	L0003295	VOLUME	449285.999	3762591.616	233.05

\*\* End of LINE VOLUME Source ID = SLINE24

\*\* Source Parameters \*\*

\*\* LINE VOLUME Source ID = SLINE1

SRCPARAM	L0002165	0.00000236	3.15	4.51	2.93
SRCPARAM	L0002166	0.00000236	3.15	4.51	2.93
SRCPARAM	L0002167	0.00000236	3.15	4.51	2.93
SRCPARAM	L0002168	0.00000236	3.15	4.51	2.93
SRCPARAM	L0002169	0.00000236	3.15	4.51	2.93

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** LINE VOLUME Source ID = SLINE2
SRCPARAM L0002170    0.00000259    3.15    4.51    2.93
SRCPARAM L0002171    0.00000259    3.15    4.51    2.93
SRCPARAM L0002172    0.00000259    3.15    4.51    2.93
** -----
** LINE VOLUME Source ID = SLINE3
SRCPARAM L0002173    0.00000234    3.15    4.51    2.93
SRCPARAM L0002174    0.00000234    3.15    4.51    2.93
SRCPARAM L0002175    0.00000234    3.15    4.51    2.93
SRCPARAM L0002176    0.00000234    3.15    4.51    2.93
SRCPARAM L0002177    0.00000234    3.15    4.51    2.93
** -----
** LINE VOLUME Source ID = SLINE4
SRCPARAM L0002178    0.000002385    3.15    4.51    2.93
SRCPARAM L0002179    0.000002385    3.15    4.51    2.93
SRCPARAM L0002180    0.000002385    3.15    4.51    2.93
SRCPARAM L0002181    0.000002385    3.15    4.51    2.93
SRCPARAM L0002182    0.000002385    3.15    4.51    2.93
SRCPARAM L0002183    0.000002385    3.15    4.51    2.93
SRCPARAM L0002184    0.000002385    3.15    4.51    2.93
SRCPARAM L0002185    0.000002385    3.15    4.51    2.93
SRCPARAM L0002186    0.000002385    3.15    4.51    2.93
SRCPARAM L0002187    0.000002385    3.15    4.51    2.93
SRCPARAM L0002188    0.000002385    3.15    4.51    2.93
SRCPARAM L0002189    0.000002385    3.15    4.51    2.93
SRCPARAM L0002190    0.000002385    3.15    4.51    2.93
SRCPARAM L0002191    0.000002385    3.15    4.51    2.93
SRCPARAM L0002192    0.000002385    3.15    4.51    2.93
SRCPARAM L0002193    0.000002385    3.15    4.51    2.93
SRCPARAM L0002194    0.000002385    3.15    4.51    2.93
SRCPARAM L0002195    0.000002385    3.15    4.51    2.93
SRCPARAM L0002196    0.000002385    3.15    4.51    2.93
SRCPARAM L0002197    0.000002385    3.15    4.51    2.93
SRCPARAM L0002198    0.000002385    3.15    4.51    2.93
SRCPARAM L0002199    0.000002385    3.15    4.51    2.93
SRCPARAM L0002200    0.000002385    3.15    4.51    2.93
SRCPARAM L0002201    0.000002385    3.15    4.51    2.93
SRCPARAM L0002202    0.000002385    3.15    4.51    2.93
SRCPARAM L0002203    0.000002385    3.15    4.51    2.93
SRCPARAM L0002204    0.000002385    3.15    4.51    2.93
** -----
** LINE VOLUME Source ID = SLINE5
SRCPARAM L0002205    0.000002385    3.15    4.51    2.93
SRCPARAM L0002206    0.000002385    3.15    4.51    2.93
SRCPARAM L0002207    0.000002385    3.15    4.51    2.93
SRCPARAM L0002208    0.000002385    3.15    4.51    2.93
SRCPARAM L0002209    0.000002385    3.15    4.51    2.93
SRCPARAM L0002210    0.000002385    3.15    4.51    2.93
SRCPARAM L0002211    0.000002385    3.15    4.51    2.93

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SRCPARAM	L0002212	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002213	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002214	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002215	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002216	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002217	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002218	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002219	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002220	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002221	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002222	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002223	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002224	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002225	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002226	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002227	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002228	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002229	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002230	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002231	0.000002385	3.15	4.51	2.93

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\*\* LINE VOLUME Source ID = SLINE6

SRCPARAM	L0002232	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002233	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002234	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002235	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002236	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002237	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002238	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002239	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002240	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002241	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002242	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002243	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002244	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002245	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002246	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002247	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002248	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002249	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002250	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002251	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002252	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002253	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002254	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002255	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002256	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002257	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002258	0.000002393	3.15	4.51	2.93

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\*\* LINE VOLUME Source ID = SLINE7

SRCPARAM	L0002259	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002260	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002261	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002262	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002263	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002264	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002265	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002266	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002267	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002268	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002269	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002270	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002271	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002272	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002273	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002274	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002275	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002276	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002277	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002278	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002279	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002280	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002281	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002282	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002283	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002284	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002285	0.000002378	3.15	4.51	2.93

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\*\* LINE VOLUME Source ID = SLINE8

SRCPARAM	L0002361	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002362	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002363	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002364	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002365	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002366	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002367	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002368	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002369	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002370	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002371	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002372	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002373	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002374	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002375	0.0011466667	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE9

SRCPARAM	L0002376	0.0011466667	3.15	12.09	2.93
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SRCPARAM	L0002377	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002378	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002379	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002380	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002381	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002382	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002383	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002384	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002385	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002386	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002387	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002388	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002389	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002390	0.0011466667	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE10

SRCPARAM	L0002391	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002392	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002393	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002394	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002395	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002396	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002397	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002398	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002399	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002400	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002401	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002402	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002403	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002404	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002405	0.0011466667	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE11

SRCPARAM	L0002406	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002407	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002408	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002409	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002410	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002411	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002412	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002413	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002414	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002415	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002416	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002417	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002418	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002419	0.0011466667	3.15	12.09	2.93
SRCPARAM	L0002420	0.0011466667	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE12

SRCPARAM L0002421	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002422	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002423	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002424	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002425	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002426	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002427	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002428	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002429	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002430	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002431	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002432	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002433	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002434	0.0011466667	3.15	12.09	2.93
SRCPARAM L0002435	0.0011466667	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE13

SRCPARAM L0002436	0.000002572	3.15	12.09	2.93
SRCPARAM L0002437	0.000002572	3.15	12.09	2.93
SRCPARAM L0002438	0.000002572	3.15	12.09	2.93
SRCPARAM L0002439	0.000002572	3.15	12.09	2.93
SRCPARAM L0002440	0.000002572	3.15	12.09	2.93
SRCPARAM L0002441	0.000002572	3.15	12.09	2.93
SRCPARAM L0002442	0.000002572	3.15	12.09	2.93
SRCPARAM L0002443	0.000002572	3.15	12.09	2.93
SRCPARAM L0002444	0.000002572	3.15	12.09	2.93
SRCPARAM L0002445	0.000002572	3.15	12.09	2.93
SRCPARAM L0002446	0.000002572	3.15	12.09	2.93
SRCPARAM L0002447	0.000002572	3.15	12.09	2.93
SRCPARAM L0002448	0.000002572	3.15	12.09	2.93
SRCPARAM L0002449	0.000002572	3.15	12.09	2.93
SRCPARAM L0002450	0.000002572	3.15	12.09	2.93
SRCPARAM L0002451	0.000002572	3.15	12.09	2.93
SRCPARAM L0002452	0.000002572	3.15	12.09	2.93
SRCPARAM L0002453	0.000002572	3.15	12.09	2.93
SRCPARAM L0002454	0.000002572	3.15	12.09	2.93
SRCPARAM L0002455	0.000002572	3.15	12.09	2.93
SRCPARAM L0002456	0.000002572	3.15	12.09	2.93
SRCPARAM L0002457	0.000002572	3.15	12.09	2.93
SRCPARAM L0002458	0.000002572	3.15	12.09	2.93
SRCPARAM L0002459	0.000002572	3.15	12.09	2.93
SRCPARAM L0002460	0.000002572	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE14

SRCPARAM L0002461	0.000002026	3.15	12.09	2.93
SRCPARAM L0002462	0.000002026	3.15	12.09	2.93
SRCPARAM L0002463	0.000002026	3.15	12.09	2.93
SRCPARAM L0002464	0.000002026	3.15	12.09	2.93

SRCPARAM	L0002465	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002466	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002467	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002468	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002469	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002470	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002471	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002472	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002473	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002474	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002475	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002476	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002477	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002478	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002479	0.000002026	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE15

SRCPARAM	L0002480	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002481	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002482	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002483	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002484	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002485	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002486	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002487	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002488	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002489	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002490	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002491	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002492	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002493	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002494	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002495	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002496	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002497	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002498	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002499	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002500	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002501	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002502	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002503	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002504	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002505	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002506	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002507	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002508	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002509	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002510	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002511	0.000001364	3.15	14.42	2.93

SRCPARAM	L0002512	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002513	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002514	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002515	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002516	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002517	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002518	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002519	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002520	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002521	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002522	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002523	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002524	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002525	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002526	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002527	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002528	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002529	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002530	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002531	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002532	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002533	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002534	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002535	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002536	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002537	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002538	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002539	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002540	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002541	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002542	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002543	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002544	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002545	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002546	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002547	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002548	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002549	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002550	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002551	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002552	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002553	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002554	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002555	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002556	0.000001364	3.15	14.42	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE16

SRCPARAM	L0002557	0.000002236	2.89	16.74	2.69
SRCPARAM	L0002558	0.000002236	2.89	16.74	2.69









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** LINE VOLUME Source ID = SLINE17
SRCPARAM L0002705 0.000001896 3.15 12.09 2.93
SRCPARAM L0002706 0.000001896 3.15 12.09 2.93
SRCPARAM L0002707 0.000001896 3.15 12.09 2.93
SRCPARAM L0002708 0.000001896 3.15 12.09 2.93
SRCPARAM L0002709 0.000001896 3.15 12.09 2.93
SRCPARAM L0002710 0.000001896 3.15 12.09 2.93
SRCPARAM L0002711 0.000001896 3.15 12.09 2.93
SRCPARAM L0002712 0.000001896 3.15 12.09 2.93
SRCPARAM L0002713 0.000001896 3.15 12.09 2.93
SRCPARAM L0002714 0.000001896 3.15 12.09 2.93
SRCPARAM L0002715 0.000001896 3.15 12.09 2.93
SRCPARAM L0002716 0.000001896 3.15 12.09 2.93
SRCPARAM L0002717 0.000001896 3.15 12.09 2.93
SRCPARAM L0002718 0.000001896 3.15 12.09 2.93
SRCPARAM L0002719 0.000001896 3.15 12.09 2.93
SRCPARAM L0002720 0.000001896 3.15 12.09 2.93
SRCPARAM L0002721 0.000001896 3.15 12.09 2.93
SRCPARAM L0002722 0.000001896 3.15 12.09 2.93
SRCPARAM L0002723 0.000001896 3.15 12.09 2.93
SRCPARAM L0002724 0.000001896 3.15 12.09 2.93
SRCPARAM L0002725 0.000001896 3.15 12.09 2.93
SRCPARAM L0002726 0.000001896 3.15 12.09 2.93
SRCPARAM L0002727 0.000001896 3.15 12.09 2.93
SRCPARAM L0002728 0.000001896 3.15 12.09 2.93
SRCPARAM L0002729 0.000001896 3.15 12.09 2.93

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** LINE VOLUME Source ID = SLINE18
SRCPARAM L0002730 0.0000013 3.15 12.09 2.93
SRCPARAM L0002731 0.0000013 3.15 12.09 2.93
SRCPARAM L0002732 0.0000013 3.15 12.09 2.93
SRCPARAM L0002733 0.0000013 3.15 12.09 2.93
SRCPARAM L0002734 0.0000013 3.15 12.09 2.93
SRCPARAM L0002735 0.0000013 3.15 12.09 2.93
SRCPARAM L0002736 0.0000013 3.15 12.09 2.93
SRCPARAM L0002737 0.0000013 3.15 12.09 2.93
SRCPARAM L0002738 0.0000013 3.15 12.09 2.93
SRCPARAM L0002739 0.0000013 3.15 12.09 2.93
SRCPARAM L0002740 0.0000013 3.15 12.09 2.93
SRCPARAM L0002741 0.0000013 3.15 12.09 2.93
SRCPARAM L0002742 0.0000013 3.15 12.09 2.93
SRCPARAM L0002743 0.0000013 3.15 12.09 2.93
SRCPARAM L0002744 0.0000013 3.15 12.09 2.93
SRCPARAM L0002745 0.0000013 3.15 12.09 2.93
SRCPARAM L0002746 0.0000013 3.15 12.09 2.93
SRCPARAM L0002747 0.0000013 3.15 12.09 2.93
SRCPARAM L0002748 0.0000013 3.15 12.09 2.93
SRCPARAM L0002749 0.0000013 3.15 12.09 2.93
SRCPARAM L0002750 0.0000013 3.15 12.09 2.93

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SRCPARAM	L0002898	0.0000013	3.15	12.09	2.93
SRCPARAM	L0002899	0.0000013	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE19

SRCPARAM	L0002900	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002901	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002902	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002903	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002904	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002905	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002906	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002907	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002908	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002909	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002910	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002911	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002912	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002913	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002914	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002915	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002916	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002917	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002918	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002919	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002920	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002921	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002922	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002923	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002924	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002925	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002926	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002927	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002928	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002929	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002930	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002931	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002932	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002933	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002934	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002935	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002936	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002937	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002938	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002939	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002940	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002941	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002942	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002943	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002944	0.000001134	3.15	12.09	2.93

SRCPARAM	L0002945	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002946	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002947	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002948	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002949	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002950	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002951	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002952	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002953	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002954	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002955	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002956	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002957	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002958	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002959	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002960	0.000001134	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE20

SRCPARAM	L0002961	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002962	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002963	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002964	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002965	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002966	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002967	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002968	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002969	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002970	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002971	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002972	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002973	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002974	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002975	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002976	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002977	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002978	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002979	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002980	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002981	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002982	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002983	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002984	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002985	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002986	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002987	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002988	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002989	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002990	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002991	0.0000009097	3.15	12.09	2.93



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\*\* LINE VOLUME Source ID = SLINE21

SRCPARAM	L0002992	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002993	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002994	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002995	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002996	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002997	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002998	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002999	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003000	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003001	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003002	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003003	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003004	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003005	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003006	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003007	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003008	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003009	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003010	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003011	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003012	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003013	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003014	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003015	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003016	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003017	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003018	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003019	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003020	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003021	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003022	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003023	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003024	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003025	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003026	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003027	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003028	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003029	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003030	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003031	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003032	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003033	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003034	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003035	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003036	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003037	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003038	0.0000009274	3.15	12.09	2.93



SRCPARAM	L0003088	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003089	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003090	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003091	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003092	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003093	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003094	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003095	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003096	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003097	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003098	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003099	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003100	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003101	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003102	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003103	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003104	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003105	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003106	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003107	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003108	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003109	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003110	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003111	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003112	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003113	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003114	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003115	0.0000009274	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE22

SRCPARAM	L0003116	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003117	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003118	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003119	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003120	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003121	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003122	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003123	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003124	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003125	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003126	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003127	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003128	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003129	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003130	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003131	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003132	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003133	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003134	0.0000004769	3.15	12.09	2.93

SRCPARAM	L0003135	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003136	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003137	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003138	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003139	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003140	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003141	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003142	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003143	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003144	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003145	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003146	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003147	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003148	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003149	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003150	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003151	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003152	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003153	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003154	0.0000004769	3.15	12.09	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE23

SRCPARAM	L0003155	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003156	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003157	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003158	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003159	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003160	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003161	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003162	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003163	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003164	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003165	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003166	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003167	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003168	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003169	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003170	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003171	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003172	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003173	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003174	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003175	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003176	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003177	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003178	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003179	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003180	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003181	0.0000007219	3.15	12.09	2.93

SRCPARAM	L0003182	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003183	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003184	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003185	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003186	0.0000007219	3.15	12.09	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE24

SRCPARAM	L0003187	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003188	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003189	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003190	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003191	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003192	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003193	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003194	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003195	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003196	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003197	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003198	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003199	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003200	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003201	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003202	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003203	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003204	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003205	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003206	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003207	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003208	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003209	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003210	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003211	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003212	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003213	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003214	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003215	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003216	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003217	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003218	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003219	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003220	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003221	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003222	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003223	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003224	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003225	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003226	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003227	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003228	0.0000008853	3.15	14.42	2.93



SRCPARAM L0003278	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003279	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003280	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003281	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003282	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003283	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003284	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003285	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003286	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003287	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003288	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003289	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003290	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003291	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003292	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003293	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003294	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003295	0.0000008853	3.15	14.42	2.93

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URBANSRC ALL  
SRCGROUP ALL

SO FINISHED

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\*\* AERMOD Receptor Pathway

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RE STARTING  
INCLUDED ORBP\_Unmitigated\_Operations.rou

RE FINISHED

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\*\* AERMOD Meteorology Pathway

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ME STARTING  
SURFFILE ..\KCNO\_V9\_ADJU\KCNO\_v9.SFC  
PROFFILE ..\KCNO\_V9\_ADJU\KCNO\_v9.PFL  
SURFDATA 3179 2012  
UAIRDATA 3190 2012  
PROFBASE 198.0 METERS

ME FINISHED

\*\*

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\*\* AERMOD Output Pathway

\*\*\*\*\*

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OU STARTING  
RECTABLE ALLAVE 1ST  
RECTABLE 1 1ST  
RECTABLE 24 1ST

\*\* Auto-Generated Plotfiles  
PLOTFILE 1 ALL 1ST ORBP\_UNMITIGATED\_OPERATIONS.AD\01H1GALL.PLT 31  
PLOTFILE 24 ALL 1ST ORBP\_UNMITIGATED\_OPERATIONS.AD\24H1GALL.PLT 32  
PLOTFILE PERIOD ALL ORBP\_UNMITIGATED\_OPERATIONS.AD\PE00GALL.PLT 33  
SUMMFILE ORBP\_Unmitigated\_Operations.sum

OU FINISHED

\*\*\* Message Summary For AERMOD Model Setup \*\*\*

----- Summary of Total Messages -----

A Total of                    0 Fatal Error Message(s)  
A Total of                    2 Warning Message(s)  
A Total of                    0 Informational Message(s)

\*\*\*\*\* FATAL ERROR MESSAGES \*\*\*\*\*  
          \*\*\* NONE \*\*\*

\*\*\*\*\* WARNING MESSAGES \*\*\*\*\*  
ME W186     2591            MEOPEN: THRESH\_1MIN 1-min ASOS wind speed threshold used  
          0.50  
ME W187     2591            MEOPEN: ADJ\_U\* Option for Stable Low Winds used in AERMET

\*\*\*\*\*  
\*\*\* SETUP Finishes Successfully \*\*\*  
\*\*\*\*\*

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*     \*\*\* C:\Lakes\AERMOD  
View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*            08/25/21  
\*\*\* AERMET - VERSION 16216 \*\*\*     \*\*\*  
                                          \*\*\*            10:02:08

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\*\*\* MODELOPTs:     RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\*            MODEL SETUP OPTIONS SUMMARY

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\*\*Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --

\*\*NO GAS DEPOSITION Data Provided.

\*\*NO PARTICLE DEPOSITION Data Provided.

\*\*Model Uses NO DRY DEPLETION. DRYDPLT = F

\*\*Model Uses NO WET DEPLETION. WETDPLT = F

\*\*Model Uses URBAN Dispersion Algorithm for the SBL for 1056 Source(s),  
for Total of 1 Urban Area(s):

Urban Population = 2035210.0 ; Urban Roughness Length = 1.000 m

\*\*Model Uses Regulatory DEFAULT Options:

1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay.
6. Urban Roughness Length of 1.0 Meter Assumed.

\*\*Other Options Specified:

ADJ\_U\* - Use ADJ\_U\* option for SBL in AERMET

CCVR\_Sub - Meteorological data includes CCVR substitutions

TEMP\_Sub - Meteorological data includes TEMP substitutions

\*\*Model Assumes No FLAGPOLE Receptor Heights.

\*\*The User Specified a Pollutant Type of: PM\_10

\*\*Model Calculates 2 Short Term Average(s) of: 1-HR 24-HR  
and Calculates PERIOD Averages

\*\*This Run Includes: 1056 Source(s); 1 Source Group(s); and 572  
Receptor(s)

with: 0 POINT(s), including  
0 POINTCAP(s) and 0 POINTHOR(s)  
and: 1056 VOLUME source(s)  
and: 0 AREA type source(s)  
and: 0 LINE source(s)  
and: 0 RLINE/RLINEXT source(s)  
and: 0 OPENPIT source(s)  
and: 0 BUOYANT LINE source(s) with a total of 0 line(s)

\*\*Model Set To Continue RUNning After the Setup Testing.

\*\*The AERMET Input Meteorological Data Version Date: 16216

\*\*Output Options Selected:  
 Model Outputs Tables of PERIOD Averages by Receptor  
 Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE  
 Keyword)  
 Model Outputs External File(s) of High Values for Plotting (PLOTFILE  
 Keyword)  
 Model Outputs Separate Summary File of High Ranked Values (SUMMFILE  
 Keyword)

\*\*NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours  
 m for Missing Hours  
 b for Both Calm and

Missing Hours

\*\*Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 198.00 ; Decay  
 Coef. = 0.000 ; Rot. Angle = 0.0  
 Emission Units = GRAMS/SEC ;  
 Emission Rate Unit Factor = 0.10000E+07  
 Output Units = MICROGRAMS/M\*\*3

\*\*Approximate Storage Requirements of Model = 4.0 MB of RAM.

\*\*Input Runstream File: aermod.inp

\*\*Output Print File: aermod.out

\*\*Detailed Error/Message File: ORBP\_Unmitigated\_Operations.err

\*\*File for Summary of Results: ORBP\_Unmitigated\_Operations.sum

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/25/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 10:02:08

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.	
SZ	SOURCE	EMISSION	RATE		X	Y	ELEV.	HEIGHT	SY
(METERS)	ID	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
		CATS.	BY						

L0002165	0	0.23600E-05	440444.0	3761172.4	201.8	3.15	4.51
2.93 YES							
L0002166	0	0.23600E-05	440453.7	3761172.6	201.8	3.15	4.51
2.93 YES							
L0002167	0	0.23600E-05	440463.4	3761172.7	201.9	3.15	4.51
2.93 YES							
L0002168	0	0.23600E-05	440473.1	3761172.9	201.9	3.15	4.51
2.93 YES							
L0002169	0	0.23600E-05	440482.8	3761173.0	202.0	3.15	4.51
2.93 YES							
L0002170	0	0.25900E-05	440573.2	3761173.0	202.6	3.15	4.51
2.93 YES							
L0002171	0	0.25900E-05	440582.9	3761172.7	202.7	3.15	4.51
2.93 YES							
L0002172	0	0.25900E-05	440592.6	3761172.5	202.8	3.15	4.51
2.93 YES							
L0002173	0	0.23400E-05	440698.4	3761171.3	202.6	3.15	4.51
2.93 YES							
L0002174	0	0.23400E-05	440708.1	3761171.3	202.6	3.15	4.51
2.93 YES							
L0002175	0	0.23400E-05	440717.8	3761171.3	202.6	3.15	4.51
2.93 YES							
L0002176	0	0.23400E-05	440727.5	3761171.3	202.6	3.15	4.51
2.93 YES							
L0002177	0	0.23400E-05	440737.2	3761171.3	202.6	3.15	4.51
2.93 YES							
L0002178	0	0.23850E-05	440470.5	3761010.0	200.2	3.15	4.51
2.93 YES							
L0002179	0	0.23850E-05	440480.2	3761009.9	200.2	3.15	4.51
2.93 YES							
L0002180	0	0.23850E-05	440489.9	3761009.8	200.2	3.15	4.51
2.93 YES							
L0002181	0	0.23850E-05	440499.6	3761009.7	200.2	3.15	4.51
2.93 YES							
L0002182	0	0.23850E-05	440509.3	3761009.6	200.2	3.15	4.51
2.93 YES							
L0002183	0	0.23850E-05	440519.0	3761009.4	200.2	3.15	4.51
2.93 YES							
L0002184	0	0.23850E-05	440528.7	3761009.3	200.2	3.15	4.51
2.93 YES							
L0002185	0	0.23850E-05	440538.4	3761009.2	200.3	3.15	4.51
2.93 YES							
L0002186	0	0.23850E-05	440548.1	3761009.1	200.4	3.15	4.51
2.93 YES							
L0002187	0	0.23850E-05	440557.8	3761009.0	200.6	3.15	4.51
2.93 YES							
L0002188	0	0.23850E-05	440567.5	3761008.9	200.7	3.15	4.51

2.93	YES							
L0002189		0	0.23850E-05	440577.2	3761008.7	200.9	3.15	4.51
2.93	YES							
L0002190		0	0.23850E-05	440586.9	3761008.6	201.1	3.15	4.51
2.93	YES							
L0002191		0	0.23850E-05	440596.6	3761008.5	201.2	3.15	4.51
2.93	YES							
L0002192		0	0.23850E-05	440606.3	3761008.4	201.2	3.15	4.51
2.93	YES							
L0002193		0	0.23850E-05	440616.0	3761008.3	201.3	3.15	4.51
2.93	YES							
L0002194		0	0.23850E-05	440625.7	3761008.2	201.2	3.15	4.51
2.93	YES							
L0002195		0	0.23850E-05	440635.4	3761008.0	201.1	3.15	4.51
2.93	YES							
L0002196		0	0.23850E-05	440645.1	3761007.9	200.9	3.15	4.51
2.93	YES							
L0002197		0	0.23850E-05	440654.8	3761007.8	200.7	3.15	4.51
2.93	YES							
L0002198		0	0.23850E-05	440664.5	3761007.7	200.4	3.15	4.51
2.93	YES							
L0002199		0	0.23850E-05	440674.2	3761007.6	200.3	3.15	4.51
2.93	YES							
L0002200		0	0.23850E-05	440683.9	3761007.5	200.3	3.15	4.51
2.93	YES							
L0002201		0	0.23850E-05	440693.6	3761007.3	200.3	3.15	4.51
2.93	YES							
L0002202		0	0.23850E-05	440703.3	3761007.2	200.5	3.15	4.51
2.93	YES							
L0002203		0	0.23850E-05	440713.0	3761007.1	200.8	3.15	4.51
2.93	YES							
L0002204		0	0.23850E-05	440722.7	3761007.0	201.0	3.15	4.51
2.93	YES							

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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	VARY		X	Y	(METERS)	(METERS)
		CATS.			(METERS)	(METERS)	(METERS)	(METERS)

(METERS)

BY

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L0002205	0	0.23850E-05	440470.5	3760892.6	199.2	3.15	4.51
2.93 YES							
L0002206	0	0.23850E-05	440480.2	3760892.6	199.2	3.15	4.51
2.93 YES							
L0002207	0	0.23850E-05	440489.9	3760892.5	199.2	3.15	4.51
2.93 YES							
L0002208	0	0.23850E-05	440499.6	3760892.4	199.2	3.15	4.51
2.93 YES							
L0002209	0	0.23850E-05	440509.3	3760892.4	199.2	3.15	4.51
2.93 YES							
L0002210	0	0.23850E-05	440519.0	3760892.3	199.2	3.15	4.51
2.93 YES							
L0002211	0	0.23850E-05	440528.7	3760892.3	199.2	3.15	4.51
2.93 YES							
L0002212	0	0.23850E-05	440538.4	3760892.2	199.2	3.15	4.51
2.93 YES							
L0002213	0	0.23850E-05	440548.1	3760892.2	199.3	3.15	4.51
2.93 YES							
L0002214	0	0.23850E-05	440557.8	3760892.1	199.5	3.15	4.51
2.93 YES							
L0002215	0	0.23850E-05	440567.5	3760892.0	199.6	3.15	4.51
2.93 YES							
L0002216	0	0.23850E-05	440577.2	3760892.0	199.8	3.15	4.51
2.93 YES							
L0002217	0	0.23850E-05	440586.9	3760891.9	200.0	3.15	4.51
2.93 YES							
L0002218	0	0.23850E-05	440596.6	3760891.9	200.1	3.15	4.51
2.93 YES							
L0002219	0	0.23850E-05	440606.3	3760891.8	200.1	3.15	4.51
2.93 YES							
L0002220	0	0.23850E-05	440616.0	3760891.7	200.2	3.15	4.51
2.93 YES							
L0002221	0	0.23850E-05	440625.7	3760891.7	200.1	3.15	4.51
2.93 YES							
L0002222	0	0.23850E-05	440635.4	3760891.6	199.9	3.15	4.51
2.93 YES							
L0002223	0	0.23850E-05	440645.1	3760891.6	199.8	3.15	4.51
2.93 YES							
L0002224	0	0.23850E-05	440654.8	3760891.5	199.6	3.15	4.51
2.93 YES							
L0002225	0	0.23850E-05	440664.5	3760891.5	199.4	3.15	4.51
2.93 YES							
L0002226	0	0.23850E-05	440674.2	3760891.4	199.2	3.15	4.51
2.93 YES							
L0002227	0	0.23850E-05	440683.9	3760891.3	199.3	3.15	4.51

2.93	YES							
L0002228		0	0.23850E-05	440693.6	3760891.3	199.3	3.15	4.51
2.93	YES							
L0002229		0	0.23850E-05	440703.3	3760891.2	199.5	3.15	4.51
2.93	YES							
L0002230		0	0.23850E-05	440713.0	3760891.2	199.8	3.15	4.51
2.93	YES							
L0002231		0	0.23850E-05	440722.7	3760891.1	200.0	3.15	4.51
2.93	YES							
L0002232		0	0.23930E-05	440470.5	3760738.3	197.7	3.15	4.51
2.93	YES							
L0002233		0	0.23930E-05	440480.2	3760738.2	197.7	3.15	4.51
2.93	YES							
L0002234		0	0.23930E-05	440489.9	3760738.1	197.7	3.15	4.51
2.93	YES							
L0002235		0	0.23930E-05	440499.6	3760738.0	197.8	3.15	4.51
2.93	YES							
L0002236		0	0.23930E-05	440509.3	3760737.9	197.8	3.15	4.51
2.93	YES							
L0002237		0	0.23930E-05	440519.0	3760737.8	197.9	3.15	4.51
2.93	YES							
L0002238		0	0.23930E-05	440528.7	3760737.7	197.9	3.15	4.51
2.93	YES							
L0002239		0	0.23930E-05	440538.4	3760737.6	198.0	3.15	4.51
2.93	YES							
L0002240		0	0.23930E-05	440548.1	3760737.5	198.0	3.15	4.51
2.93	YES							
L0002241		0	0.23930E-05	440557.8	3760737.4	198.1	3.15	4.51
2.93	YES							
L0002242		0	0.23930E-05	440567.5	3760737.3	198.2	3.15	4.51
2.93	YES							
L0002243		0	0.23930E-05	440577.2	3760737.2	198.2	3.15	4.51
2.93	YES							
L0002244		0	0.23930E-05	440586.9	3760737.1	198.2	3.15	4.51
2.93	YES							

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\*\*\* MODELOPTs:      RegDEFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE			ELEV.	HEIGHT	SY
		PART.	(GRAMS/SEC)	X	Y			

SZ	SOURCE	SCALAR	VARY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
ID		CATS.	BY					
(METERS)								
L0002245		0	0.23930E-05	440596.6	3760737.0	197.9	3.15	4.51
2.93	YES							
L0002246		0	0.23930E-05	440606.3	3760736.9	197.4	3.15	4.51
2.93	YES							
L0002247		0	0.23930E-05	440616.0	3760736.8	196.9	3.15	4.51
2.93	YES							
L0002248		0	0.23930E-05	440625.7	3760736.7	196.7	3.15	4.51
2.93	YES							
L0002249		0	0.23930E-05	440635.4	3760736.6	196.6	3.15	4.51
2.93	YES							
L0002250		0	0.23930E-05	440645.1	3760736.5	196.5	3.15	4.51
2.93	YES							
L0002251		0	0.23930E-05	440654.8	3760736.4	196.5	3.15	4.51
2.93	YES							
L0002252		0	0.23930E-05	440664.5	3760736.3	196.5	3.15	4.51
2.93	YES							
L0002253		0	0.23930E-05	440674.2	3760736.2	196.5	3.15	4.51
2.93	YES							
L0002254		0	0.23930E-05	440683.9	3760736.1	196.6	3.15	4.51
2.93	YES							
L0002255		0	0.23930E-05	440693.6	3760736.0	196.7	3.15	4.51
2.93	YES							
L0002256		0	0.23930E-05	440703.3	3760735.9	197.1	3.15	4.51
2.93	YES							
L0002257		0	0.23930E-05	440713.0	3760735.8	197.6	3.15	4.51
2.93	YES							
L0002258		0	0.23930E-05	440722.7	3760735.7	198.0	3.15	4.51
2.93	YES							
L0002259		0	0.23780E-05	440471.7	3760620.6	196.4	3.15	4.51
2.93	YES							
L0002260		0	0.23780E-05	440481.4	3760620.5	196.4	3.15	4.51
2.93	YES							
L0002261		0	0.23780E-05	440491.1	3760620.5	196.4	3.15	4.51
2.93	YES							
L0002262		0	0.23780E-05	440500.8	3760620.4	196.5	3.15	4.51
2.93	YES							
L0002263		0	0.23780E-05	440510.5	3760620.4	196.5	3.15	4.51
2.93	YES							
L0002264		0	0.23780E-05	440520.2	3760620.3	196.5	3.15	4.51
2.93	YES							
L0002265		0	0.23780E-05	440529.9	3760620.3	196.6	3.15	4.51
2.93	YES							
L0002266		0	0.23780E-05	440539.6	3760620.3	196.7	3.15	4.51

2.93	YES							
L0002267		0	0.23780E-05	440549.3	3760620.2	196.7	3.15	4.51
2.93	YES							
L0002268		0	0.23780E-05	440559.0	3760620.2	196.8	3.15	4.51
2.93	YES							
L0002269		0	0.23780E-05	440568.7	3760620.1	196.9	3.15	4.51
2.93	YES							
L0002270		0	0.23780E-05	440578.4	3760620.1	197.0	3.15	4.51
2.93	YES							
L0002271		0	0.23780E-05	440588.1	3760620.0	197.0	3.15	4.51
2.93	YES							
L0002272		0	0.23780E-05	440597.8	3760620.0	197.1	3.15	4.51
2.93	YES							
L0002273		0	0.23780E-05	440607.5	3760619.9	197.1	3.15	4.51
2.93	YES							
L0002274		0	0.23780E-05	440617.2	3760619.9	197.1	3.15	4.51
2.93	YES							
L0002275		0	0.23780E-05	440626.9	3760619.9	197.1	3.15	4.51
2.93	YES							
L0002276		0	0.23780E-05	440636.6	3760619.8	197.2	3.15	4.51
2.93	YES							
L0002277		0	0.23780E-05	440646.3	3760619.8	197.2	3.15	4.51
2.93	YES							
L0002278		0	0.23780E-05	440656.0	3760619.7	197.2	3.15	4.51
2.93	YES							
L0002279		0	0.23780E-05	440665.7	3760619.7	197.3	3.15	4.51
2.93	YES							
L0002280		0	0.23780E-05	440675.4	3760619.6	197.3	3.15	4.51
2.93	YES							
L0002281		0	0.23780E-05	440685.1	3760619.6	197.3	3.15	4.51
2.93	YES							
L0002282		0	0.23780E-05	440694.8	3760619.6	197.4	3.15	4.51
2.93	YES							
L0002283		0	0.23780E-05	440704.5	3760619.5	197.4	3.15	4.51
2.93	YES							
L0002284		0	0.23780E-05	440714.2	3760619.5	197.5	3.15	4.51
2.93	YES							

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

NUMBER EMISSION RATE BASE RELEASE INIT.



INIT. SOURCE SZ	URBAN SOURCE ID	EMISSION RATE PART. (GRAMS/SEC) SCALAR VARY CATS. BY	X (METERS)	Y (METERS)	ELEV. (METERS)	HEIGHT (METERS)	SY (METERS)
L0002285		0 0.23780E-05	440723.9	3760619.4	197.5	3.15	4.51
2.93	YES						
L0002361		0 0.11467E-02	440406.2	3761134.2	201.5	3.15	12.09
2.93	YES						
L0002362		0 0.11467E-02	440432.2	3761133.9	201.5	3.15	12.09
2.93	YES						
L0002363		0 0.11467E-02	440458.2	3761133.7	201.6	3.15	12.09
2.93	YES						
L0002364		0 0.11467E-02	440484.2	3761133.5	201.6	3.15	12.09
2.93	YES						
L0002365		0 0.11467E-02	440510.2	3761133.2	201.7	3.15	12.09
2.93	YES						
L0002366		0 0.11467E-02	440536.2	3761133.0	201.7	3.15	12.09
2.93	YES						
L0002367		0 0.11467E-02	440562.2	3761132.8	202.2	3.15	12.09
2.93	YES						
L0002368		0 0.11467E-02	440588.2	3761132.5	202.5	3.15	12.09
2.93	YES						
L0002369		0 0.11467E-02	440614.2	3761132.3	202.5	3.15	12.09
2.93	YES						
L0002370		0 0.11467E-02	440640.2	3761132.1	202.2	3.15	12.09
2.93	YES						
L0002371		0 0.11467E-02	440666.2	3761131.9	201.7	3.15	12.09
2.93	YES						
L0002372		0 0.11467E-02	440692.2	3761131.6	201.6	3.15	12.09
2.93	YES						
L0002373		0 0.11467E-02	440718.2	3761131.4	202.1	3.15	12.09
2.93	YES						
L0002374		0 0.11467E-02	440744.2	3761131.2	202.3	3.15	12.09
2.93	YES						
L0002375		0 0.11467E-02	440770.2	3761130.9	201.7	3.15	12.09
2.93	YES						
L0002376		0 0.11467E-02	440407.1	3760984.0	199.8	3.15	12.09
2.93	YES						
L0002377		0 0.11467E-02	440433.1	3760983.9	199.9	3.15	12.09
2.93	YES						
L0002378		0 0.11467E-02	440459.1	3760983.9	200.0	3.15	12.09
2.93	YES						
L0002379		0 0.11467E-02	440485.1	3760983.8	200.0	3.15	12.09
2.93	YES						
L0002380		0 0.11467E-02	440511.1	3760983.8	200.0	3.15	12.09

2.93	YES							
L0002381		0	0.11467E-02	440537.1	3760983.7	200.0	3.15	12.09
2.93	YES							
L0002382		0	0.11467E-02	440563.1	3760983.7	200.4	3.15	12.09
2.93	YES							
L0002383		0	0.11467E-02	440589.1	3760983.6	200.9	3.15	12.09
2.93	YES							
L0002384		0	0.11467E-02	440615.1	3760983.5	201.1	3.15	12.09
2.93	YES							
L0002385		0	0.11467E-02	440641.1	3760983.5	200.7	3.15	12.09
2.93	YES							
L0002386		0	0.11467E-02	440667.1	3760983.4	200.1	3.15	12.09
2.93	YES							
L0002387		0	0.11467E-02	440693.1	3760983.4	200.1	3.15	12.09
2.93	YES							
L0002388		0	0.11467E-02	440719.1	3760983.3	200.7	3.15	12.09
2.93	YES							
L0002389		0	0.11467E-02	440745.1	3760983.2	200.9	3.15	12.09
2.93	YES							
L0002390		0	0.11467E-02	440771.1	3760983.2	200.5	3.15	12.09
2.93	YES							
L0002391		0	0.11467E-02	440406.2	3760919.4	199.2	3.15	12.09
2.93	YES							
L0002392		0	0.11467E-02	440432.2	3760919.3	199.3	3.15	12.09
2.93	YES							
L0002393		0	0.11467E-02	440458.2	3760919.2	199.4	3.15	12.09
2.93	YES							
L0002394		0	0.11467E-02	440484.2	3760919.2	199.4	3.15	12.09
2.93	YES							
L0002395		0	0.11467E-02	440510.2	3760919.1	199.4	3.15	12.09
2.93	YES							
L0002396		0	0.11467E-02	440536.2	3760919.1	199.4	3.15	12.09
2.93	YES							
L0002397		0	0.11467E-02	440562.2	3760919.0	199.8	3.15	12.09
2.93	YES							
L0002398		0	0.11467E-02	440588.2	3760919.0	200.2	3.15	12.09
2.93	YES							
L0002399		0	0.11467E-02	440614.2	3760918.9	200.4	3.15	12.09

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE	(GRAMS/SEC)	X	ELEV.	HEIGHT	SY
(METERS)	ID	SCALAR	VARY	BY	(METERS)	(METERS)	(METERS)	(METERS)
		CATS.						
L0002400		0	0.11467E-02	440640.2	3760918.8	200.2	3.15	12.09
2.93	YES							
L0002401		0	0.11467E-02	440666.2	3760918.8	199.6	3.15	12.09
2.93	YES							
L0002402		0	0.11467E-02	440692.2	3760918.7	199.5	3.15	12.09
2.93	YES							
L0002403		0	0.11467E-02	440718.2	3760918.7	200.2	3.15	12.09
2.93	YES							
L0002404		0	0.11467E-02	440744.2	3760918.6	200.3	3.15	12.09
2.93	YES							
L0002405		0	0.11467E-02	440770.2	3760918.6	200.0	3.15	12.09
2.93	YES							
L0002406		0	0.11467E-02	440408.9	3760713.1	197.3	3.15	12.09
2.93	YES							
L0002407		0	0.11467E-02	440434.9	3760712.9	197.3	3.15	12.09
2.93	YES							
L0002408		0	0.11467E-02	440460.9	3760712.7	197.3	3.15	12.09
2.93	YES							
L0002409		0	0.11467E-02	440486.9	3760712.4	197.4	3.15	12.09
2.93	YES							
L0002410		0	0.11467E-02	440512.9	3760712.2	197.5	3.15	12.09
2.93	YES							
L0002411		0	0.11467E-02	440538.9	3760712.0	197.7	3.15	12.09
2.93	YES							
L0002412		0	0.11467E-02	440564.9	3760711.7	197.8	3.15	12.09
2.93	YES							
L0002413		0	0.11467E-02	440590.9	3760711.5	197.9	3.15	12.09
2.93	YES							
L0002414		0	0.11467E-02	440616.9	3760711.3	197.5	3.15	12.09
2.93	YES							
L0002415		0	0.11467E-02	440642.9	3760711.0	197.4	3.15	12.09
2.93	YES							
L0002416		0	0.11467E-02	440668.9	3760710.8	197.5	3.15	12.09
2.93	YES							
L0002417		0	0.11467E-02	440694.9	3760710.6	197.6	3.15	12.09
2.93	YES							
L0002418		0	0.11467E-02	440720.9	3760710.4	198.1	3.15	12.09
2.93	YES							
L0002419		0	0.11467E-02	440746.9	3760710.1	198.3	3.15	12.09

2.93	YES							
L0002420		0	0.11467E-02	440772.9	3760709.9	198.6	3.15	12.09
2.93	YES							
L0002421		0	0.11467E-02	440407.1	3760648.5	196.7	3.15	12.09
2.93	YES							
L0002422		0	0.11467E-02	440433.1	3760648.4	196.6	3.15	12.09
2.93	YES							
L0002423		0	0.11467E-02	440459.1	3760648.3	196.7	3.15	12.09
2.93	YES							
L0002424		0	0.11467E-02	440485.1	3760648.2	196.7	3.15	12.09
2.93	YES							
L0002425		0	0.11467E-02	440511.1	3760648.1	196.8	3.15	12.09
2.93	YES							
L0002426		0	0.11467E-02	440537.1	3760648.0	197.0	3.15	12.09
2.93	YES							
L0002427		0	0.11467E-02	440563.1	3760647.8	197.1	3.15	12.09
2.93	YES							
L0002428		0	0.11467E-02	440589.1	3760647.7	197.3	3.15	12.09
2.93	YES							
L0002429		0	0.11467E-02	440615.1	3760647.6	197.4	3.15	12.09
2.93	YES							
L0002430		0	0.11467E-02	440641.1	3760647.5	197.5	3.15	12.09
2.93	YES							
L0002431		0	0.11467E-02	440667.1	3760647.4	197.6	3.15	12.09
2.93	YES							
L0002432		0	0.11467E-02	440693.1	3760647.3	197.6	3.15	12.09
2.93	YES							
L0002433		0	0.11467E-02	440719.1	3760647.2	197.7	3.15	12.09
2.93	YES							
L0002434		0	0.11467E-02	440745.1	3760647.0	197.8	3.15	12.09
2.93	YES							
L0002435		0	0.11467E-02	440771.1	3760646.9	198.0	3.15	12.09
2.93	YES							
L0002436		0	0.25720E-05	440392.5	3761121.6	201.5	3.15	12.09
2.93	YES							
L0002437		0	0.25720E-05	440392.4	3761095.6	201.2	3.15	12.09
2.93	YES							
L0002438		0	0.25720E-05	440392.4	3761069.6	200.9	3.15	12.09
2.93	YES							
L0002439		0	0.25720E-05	440392.3	3761043.6	200.6	3.15	12.09

2.93 YES  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE	(GRAMS/SEC)	X	ELEV.	HEIGHT	SY
SZ	SOURCE	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)
ID		CATS.	BY					
(METERS)								
L0002440		0	0.25720E-05	440392.2	3761017.6	200.2	3.15	12.09
2.93	YES							
L0002441		0	0.25720E-05	440392.2	3760991.6	200.0	3.15	12.09
2.93	YES							
L0002442		0	0.25720E-05	440392.1	3760965.6	199.7	3.15	12.09
2.93	YES							
L0002443		0	0.25720E-05	440392.0	3760939.6	199.4	3.15	12.09
2.93	YES							
L0002444		0	0.25720E-05	440392.0	3760913.6	199.2	3.15	12.09
2.93	YES							
L0002445		0	0.25720E-05	440391.9	3760887.6	198.9	3.15	12.09
2.93	YES							
L0002446		0	0.25720E-05	440391.8	3760861.6	198.7	3.15	12.09
2.93	YES							
L0002447		0	0.25720E-05	440391.8	3760835.6	198.5	3.15	12.09
2.93	YES							
L0002448		0	0.25720E-05	440391.7	3760809.6	198.2	3.15	12.09
2.93	YES							
L0002449		0	0.25720E-05	440391.6	3760783.6	198.0	3.15	12.09
2.93	YES							
L0002450		0	0.25720E-05	440391.6	3760757.6	197.7	3.15	12.09
2.93	YES							
L0002451		0	0.25720E-05	440391.5	3760731.6	197.4	3.15	12.09
2.93	YES							
L0002452		0	0.25720E-05	440391.4	3760705.6	197.2	3.15	12.09
2.93	YES							
L0002453		0	0.25720E-05	440391.4	3760679.6	197.0	3.15	12.09
2.93	YES							
L0002454		0	0.25720E-05	440391.3	3760653.6	196.7	3.15	12.09
2.93	YES							
L0002455		0	0.25720E-05	440391.2	3760627.6	196.5	3.15	12.09
2.93	YES							
L0002456		0	0.25720E-05	440391.2	3760601.6	196.3	3.15	12.09
2.93	YES							
L0002457		0	0.25720E-05	440391.1	3760575.6	196.1	3.15	12.09
2.93	YES							
L0002458		0	0.25720E-05	440391.0	3760549.6	195.9	3.15	12.09

2.93	YES							
L0002459		0	0.25720E-05	440391.0	3760523.6	195.7	3.15	12.09
2.93	YES							
L0002460		0	0.25720E-05	440390.9	3760497.6	195.5	3.15	12.09
2.93	YES							
L0002461		0	0.20260E-05	440378.2	3760467.7	195.1	3.15	12.09
2.93	YES							
L0002462		0	0.20260E-05	440352.2	3760467.5	194.8	3.15	12.09
2.93	YES							
L0002463		0	0.20260E-05	440326.2	3760467.3	194.7	3.15	12.09
2.93	YES							
L0002464		0	0.20260E-05	440300.2	3760467.0	194.6	3.15	12.09
2.93	YES							
L0002465		0	0.20260E-05	440274.2	3760466.8	194.5	3.15	12.09
2.93	YES							
L0002466		0	0.20260E-05	440248.2	3760466.5	194.4	3.15	12.09
2.93	YES							
L0002467		0	0.20260E-05	440222.2	3760466.3	194.2	3.15	12.09
2.93	YES							
L0002468		0	0.20260E-05	440196.2	3760466.0	194.1	3.15	12.09
2.93	YES							
L0002469		0	0.20260E-05	440170.2	3760465.8	194.0	3.15	12.09
2.93	YES							
L0002470		0	0.20260E-05	440144.2	3760465.5	193.8	3.15	12.09
2.93	YES							
L0002471		0	0.20260E-05	440118.2	3760465.3	193.7	3.15	12.09
2.93	YES							
L0002472		0	0.20260E-05	440092.2	3760465.0	193.7	3.15	12.09
2.93	YES							
L0002473		0	0.20260E-05	440066.2	3760464.8	193.6	3.15	12.09
2.93	YES							
L0002474		0	0.20260E-05	440040.2	3760464.5	193.6	3.15	12.09
2.93	YES							
L0002475		0	0.20260E-05	440014.2	3760464.3	193.6	3.15	12.09
2.93	YES							
L0002476		0	0.20260E-05	439988.2	3760464.0	193.6	3.15	12.09
2.93	YES							
L0002477		0	0.20260E-05	439962.2	3760463.8	193.6	3.15	12.09
2.93	YES							
L0002478		0	0.20260E-05	439936.2	3760463.6	193.6	3.15	12.09
2.93	YES							
L0002479		0	0.20260E-05	439910.2	3760463.3	193.7	3.15	12.09

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 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
                                  \*\*\*      10:02:08

\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE		X	ELEV.	HEIGHT	SY
SZ	SCALAR	PART.	(GRAMS/SEC)	VARY	(METERS)	(METERS)	(METERS)	(METERS)
ID	CATS.	BY						
(METERS)								
L0002480	0	0.13640E-05	439894.7	3760435.4	193.4	3.15	14.42	
2.93	YES							
L0002481	0	0.13640E-05	439894.5	3760404.4	193.2	3.15	14.42	
2.93	YES							
L0002482	0	0.13640E-05	439894.3	3760373.4	193.1	3.15	14.42	
2.93	YES							
L0002483	0	0.13640E-05	439894.2	3760342.4	192.9	3.15	14.42	
2.93	YES							
L0002484	0	0.13640E-05	439894.0	3760311.4	192.6	3.15	14.42	
2.93	YES							
L0002485	0	0.13640E-05	439893.9	3760280.4	192.3	3.15	14.42	
2.93	YES							
L0002486	0	0.13640E-05	439893.7	3760249.4	192.1	3.15	14.42	
2.93	YES							
L0002487	0	0.13640E-05	439893.6	3760218.4	191.8	3.15	14.42	
2.93	YES							
L0002488	0	0.13640E-05	439893.4	3760187.4	191.5	3.15	14.42	
2.93	YES							
L0002489	0	0.13640E-05	439893.3	3760156.4	191.3	3.15	14.42	
2.93	YES							
L0002490	0	0.13640E-05	439893.1	3760125.4	191.2	3.15	14.42	
2.93	YES							
L0002491	0	0.13640E-05	439893.0	3760094.4	191.0	3.15	14.42	
2.93	YES							
L0002492	0	0.13640E-05	439892.8	3760063.4	190.9	3.15	14.42	
2.93	YES							
L0002493	0	0.13640E-05	439892.7	3760032.4	190.8	3.15	14.42	
2.93	YES							
L0002494	0	0.13640E-05	439892.5	3760001.4	190.6	3.15	14.42	
2.93	YES							
L0002495	0	0.13640E-05	439892.3	3759970.4	190.4	3.15	14.42	
2.93	YES							
L0002496	0	0.13640E-05	439892.2	3759939.4	190.3	3.15	14.42	
2.93	YES							
L0002497	0	0.13640E-05	439892.0	3759908.4	190.1	3.15	14.42	

2.93	YES							
L0002498		0	0.13640E-05	439891.9	3759877.4	189.9	3.15	14.42
2.93	YES							
L0002499		0	0.13640E-05	439891.7	3759846.4	189.7	3.15	14.42
2.93	YES							
L0002500		0	0.13640E-05	439891.6	3759815.4	189.4	3.15	14.42
2.93	YES							
L0002501		0	0.13640E-05	439891.4	3759784.4	189.1	3.15	14.42
2.93	YES							
L0002502		0	0.13640E-05	439891.3	3759753.4	188.9	3.15	14.42
2.93	YES							
L0002503		0	0.13640E-05	439891.1	3759722.4	188.6	3.15	14.42
2.93	YES							
L0002504		0	0.13640E-05	439891.0	3759691.4	188.3	3.15	14.42
2.93	YES							
L0002505		0	0.13640E-05	439890.8	3759660.4	188.1	3.15	14.42
2.93	YES							
L0002506		0	0.13640E-05	439890.7	3759629.4	187.8	3.15	14.42
2.93	YES							
L0002507		0	0.13640E-05	439890.5	3759598.4	187.5	3.15	14.42
2.93	YES							
L0002508		0	0.13640E-05	439890.4	3759567.4	187.3	3.15	14.42
2.93	YES							
L0002509		0	0.13640E-05	439890.2	3759536.4	187.0	3.15	14.42
2.93	YES							
L0002510		0	0.13640E-05	439890.0	3759505.4	186.8	3.15	14.42
2.93	YES							
L0002511		0	0.13640E-05	439889.9	3759474.4	186.6	3.15	14.42
2.93	YES							
L0002512		0	0.13640E-05	439889.7	3759443.4	186.4	3.15	14.42
2.93	YES							
L0002513		0	0.13640E-05	439889.6	3759412.4	186.2	3.15	14.42
2.93	YES							
L0002514		0	0.13640E-05	439889.4	3759381.4	186.0	3.15	14.42
2.93	YES							
L0002515		0	0.13640E-05	439889.3	3759350.4	185.8	3.15	14.42
2.93	YES							
L0002516		0	0.13640E-05	439889.1	3759319.4	185.6	3.15	14.42
2.93	YES							
L0002517		0	0.13640E-05	439889.0	3759288.4	185.4	3.15	14.42
2.93	YES							
L0002518		0	0.13640E-05	439888.8	3759257.4	185.2	3.15	14.42
2.93	YES							
L0002519		0	0.13640E-05	439888.7	3759226.4	184.9	3.15	14.42

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 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	SOURCE	PART.	(GRAMS/SEC)	X	Y	(METERS)	(METERS)	(METERS)
ID		SCALAR	VARY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY					
L0002520		0	0.13640E-05	439888.5	3759195.4	184.6	3.15	14.42
2.93	YES							
L0002521		0	0.13640E-05	439888.4	3759164.4	184.3	3.15	14.42
2.93	YES							
L0002522		0	0.13640E-05	439888.2	3759133.4	184.0	3.15	14.42
2.93	YES							
L0002523		0	0.13640E-05	439888.0	3759102.4	183.8	3.15	14.42
2.93	YES							
L0002524		0	0.13640E-05	439887.9	3759071.4	183.6	3.15	14.42
2.93	YES							
L0002525		0	0.13640E-05	439887.7	3759040.4	183.4	3.15	14.42
2.93	YES							
L0002526		0	0.13640E-05	439887.6	3759009.4	183.2	3.15	14.42
2.93	YES							
L0002527		0	0.13640E-05	439887.4	3758978.4	183.1	3.15	14.42
2.93	YES							
L0002528		0	0.13640E-05	439887.3	3758947.4	182.8	3.15	14.42
2.93	YES							
L0002529		0	0.13640E-05	439887.1	3758916.4	182.6	3.15	14.42
2.93	YES							
L0002530		0	0.13640E-05	439887.0	3758885.4	182.2	3.15	14.42
2.93	YES							
L0002531		0	0.13640E-05	439886.8	3758854.4	181.9	3.15	14.42
2.93	YES							
L0002532		0	0.13640E-05	439886.7	3758823.4	181.6	3.15	14.42
2.93	YES							
L0002533		0	0.13640E-05	439886.5	3758792.4	181.3	3.15	14.42
2.93	YES							
L0002534		0	0.13640E-05	439886.4	3758761.4	181.0	3.15	14.42
2.93	YES							
L0002535		0	0.13640E-05	439886.2	3758730.4	180.9	3.15	14.42
2.93	YES							
L0002536		0	0.13640E-05	439886.1	3758699.4	180.7	3.15	14.42

2.93	YES							
L0002537		0	0.13640E-05	439885.9	3758668.4	180.5	3.15	14.42
2.93	YES							
L0002538		0	0.13640E-05	439885.7	3758637.4	180.2	3.15	14.42
2.93	YES							
L0002539		0	0.13640E-05	439885.6	3758606.4	180.0	3.15	14.42
2.93	YES							
L0002540		0	0.13640E-05	439885.4	3758575.4	179.8	3.15	14.42
2.93	YES							
L0002541		0	0.13640E-05	439885.3	3758544.4	179.6	3.15	14.42
2.93	YES							
L0002542		0	0.13640E-05	439885.1	3758513.4	179.4	3.15	14.42
2.93	YES							
L0002543		0	0.13640E-05	439885.0	3758482.4	179.1	3.15	14.42
2.93	YES							
L0002544		0	0.13640E-05	439884.8	3758451.4	178.8	3.15	14.42
2.93	YES							
L0002545		0	0.13640E-05	439884.7	3758420.4	178.4	3.15	14.42
2.93	YES							
L0002546		0	0.13640E-05	439884.5	3758389.4	178.1	3.15	14.42
2.93	YES							
L0002547		0	0.13640E-05	439884.4	3758358.4	177.8	3.15	14.42
2.93	YES							
L0002548		0	0.13640E-05	439884.2	3758327.4	177.5	3.15	14.42
2.93	YES							
L0002549		0	0.13640E-05	439884.1	3758296.4	177.2	3.15	14.42
2.93	YES							
L0002550		0	0.13640E-05	439883.9	3758265.4	177.0	3.15	14.42
2.93	YES							
L0002551		0	0.13640E-05	439883.8	3758234.4	176.8	3.15	14.42
2.93	YES							
L0002552		0	0.13640E-05	439883.6	3758203.4	176.5	3.15	14.42
2.93	YES							
L0002553		0	0.13640E-05	439883.4	3758172.4	176.3	3.15	14.42
2.93	YES							
L0002554		0	0.13640E-05	439883.3	3758141.4	176.0	3.15	14.42
2.93	YES							
L0002555		0	0.13640E-05	439883.1	3758110.4	175.8	3.15	14.42
2.93	YES							
L0002556		0	0.13640E-05	439883.0	3758079.4	175.6	3.15	14.42
2.93	YES							
L0002557		0	0.22360E-05	439894.0	3760484.4	193.9	2.89	16.74
2.69	YES							
L0002558		0	0.22360E-05	439894.1	3760520.4	194.2	2.89	16.74
2.69	YES							
L0002559		0	0.22360E-05	439894.2	3760556.4	194.6	2.89	16.74

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE		X	ELEV.	HEIGHT	SY
SZ	SOURCE	PART.	(GRAMS/SEC)		Y	(METERS)	(METERS)	(METERS)
ID		SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY					
L0002560		0	0.22360E-05		439894.3	3760592.4	194.9	16.74
2.69	YES							
L0002561		0	0.22360E-05		439894.4	3760628.4	195.2	16.74
2.69	YES							
L0002562		0	0.22360E-05		439894.5	3760664.4	195.5	16.74
2.69	YES							
L0002563		0	0.22360E-05		439894.6	3760700.4	195.8	16.74
2.69	YES							
L0002564		0	0.22360E-05		439894.7	3760736.4	196.2	16.74
2.69	YES							
L0002565		0	0.22360E-05		439894.8	3760772.4	196.6	16.74
2.69	YES							
L0002566		0	0.22360E-05		439894.9	3760808.4	197.1	16.74
2.69	YES							
L0002567		0	0.22360E-05		439895.0	3760844.4	197.6	16.74
2.69	YES							
L0002568		0	0.22360E-05		439895.1	3760880.4	198.1	16.74
2.69	YES							
L0002569		0	0.22360E-05		439895.2	3760916.4	198.6	16.74
2.69	YES							
L0002570		0	0.22360E-05		439895.3	3760952.4	199.0	16.74
2.69	YES							
L0002571		0	0.22360E-05		439895.4	3760988.4	199.5	16.74
2.69	YES							
L0002572		0	0.22360E-05		439895.5	3761024.4	199.9	16.74
2.69	YES							
L0002573		0	0.22360E-05		439895.6	3761060.4	200.4	16.74
2.69	YES							
L0002574		0	0.22360E-05		439895.7	3761096.4	200.7	16.74
2.69	YES							
L0002575		0	0.22360E-05		439895.8	3761132.4	201.1	16.74

2.69	YES							
L0002576		0	0.22360E-05	439895.9	3761168.4	201.5	2.89	16.74
2.69	YES							
L0002577		0	0.22360E-05	439896.0	3761204.4	201.8	2.89	16.74
2.69	YES							
L0002578		0	0.22360E-05	439896.1	3761240.4	202.1	2.89	16.74
2.69	YES							
L0002579		0	0.22360E-05	439896.2	3761276.4	202.4	2.89	16.74
2.69	YES							
L0002580		0	0.22360E-05	439896.3	3761312.4	202.8	2.89	16.74
2.69	YES							
L0002581		0	0.22360E-05	439896.4	3761348.4	203.2	2.89	16.74
2.69	YES							
L0002582		0	0.22360E-05	439896.5	3761384.4	203.6	2.89	16.74
2.69	YES							
L0002583		0	0.22360E-05	439896.6	3761420.4	204.1	2.89	16.74
2.69	YES							
L0002584		0	0.22360E-05	439896.7	3761456.4	204.5	2.89	16.74
2.69	YES							
L0002585		0	0.22360E-05	439896.8	3761492.4	204.9	2.89	16.74
2.69	YES							
L0002586		0	0.22360E-05	439896.9	3761528.4	205.3	2.89	16.74
2.69	YES							
L0002587		0	0.22360E-05	439897.0	3761564.4	205.7	2.89	16.74
2.69	YES							
L0002588		0	0.22360E-05	439897.1	3761600.4	206.1	2.89	16.74
2.69	YES							
L0002589		0	0.22360E-05	439897.2	3761636.4	206.4	2.89	16.74
2.69	YES							
L0002590		0	0.22360E-05	439897.3	3761672.4	206.7	2.89	16.74
2.69	YES							
L0002591		0	0.22360E-05	439897.4	3761708.4	207.0	2.89	16.74
2.69	YES							
L0002592		0	0.22360E-05	439897.5	3761744.4	207.3	2.89	16.74
2.69	YES							
L0002593		0	0.22360E-05	439897.6	3761780.4	207.6	2.89	16.74
2.69	YES							
L0002594		0	0.22360E-05	439897.7	3761816.4	207.9	2.89	16.74
2.69	YES							
L0002595		0	0.22360E-05	439897.8	3761852.4	208.2	2.89	16.74
2.69	YES							
L0002596		0	0.22360E-05	439897.9	3761888.4	208.5	2.89	16.74
2.69	YES							
L0002597		0	0.22360E-05	439898.0	3761924.4	208.9	2.89	16.74
2.69	YES							
L0002598		0	0.22360E-05	439898.1	3761960.4	209.2	2.89	16.74
2.69	YES							
L0002599		0	0.22360E-05	439898.2	3761996.4	209.5	2.89	16.74
2.69	YES							

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*  
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\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	SOURCE	PART.	(GRAMS/SEC)	X	Y	(METERS)	(METERS)	(METERS)
ID		SCALAR	VARY					
(METERS)		CATS.	BY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
L0002600		0	0.22360E-05	439898.3	3762032.4	209.8	2.89	16.74
2.69	YES							
L0002601		0	0.22360E-05	439898.4	3762068.4	210.0	2.89	16.74
2.69	YES							
L0002602		0	0.22360E-05	439898.4	3762104.4	210.3	2.89	16.74
2.69	YES							
L0002603		0	0.22360E-05	439898.5	3762140.4	210.6	2.89	16.74
2.69	YES							
L0002604		0	0.22360E-05	439898.6	3762176.4	210.9	2.89	16.74
2.69	YES							
L0002605		0	0.22360E-05	439898.7	3762212.4	211.3	2.89	16.74
2.69	YES							
L0002606		0	0.22360E-05	439898.8	3762248.4	211.8	2.89	16.74
2.69	YES							
L0002607		0	0.22360E-05	439898.9	3762284.4	212.4	2.89	16.74
2.69	YES							
L0002608		0	0.22360E-05	439899.0	3762320.4	213.0	2.89	16.74
2.69	YES							
L0002609		0	0.22360E-05	439899.1	3762356.4	213.5	2.89	16.74
2.69	YES							
L0002610		0	0.22360E-05	439899.2	3762392.4	213.9	2.89	16.74
2.69	YES							
L0002611		0	0.22360E-05	439899.3	3762428.4	214.4	2.89	16.74
2.69	YES							
L0002612		0	0.22360E-05	439899.4	3762464.4	214.9	2.89	16.74
2.69	YES							
L0002613		0	0.22360E-05	439899.5	3762500.4	215.3	2.89	16.74
2.69	YES							
L0002614		0	0.22360E-05	439899.6	3762536.4	215.7	2.89	16.74

2.69	YES							
L0002615		0	0.22360E-05	439899.7	3762572.4	216.1	2.89	16.74
2.69	YES							
L0002616		0	0.22360E-05	439899.8	3762608.4	216.5	2.89	16.74
2.69	YES							
L0002617		0	0.22360E-05	439899.9	3762644.4	217.0	2.89	16.74
2.69	YES							
L0002618		0	0.22360E-05	439900.0	3762680.4	217.5	2.89	16.74
2.69	YES							
L0002619		0	0.22360E-05	439900.1	3762716.4	218.0	2.89	16.74
2.69	YES							
L0002620		0	0.22360E-05	439900.2	3762752.4	218.5	2.89	16.74
2.69	YES							
L0002621		0	0.22360E-05	439900.3	3762788.4	219.0	2.89	16.74
2.69	YES							
L0002622		0	0.22360E-05	439900.4	3762824.4	219.5	2.89	16.74
2.69	YES							
L0002623		0	0.22360E-05	439900.5	3762860.4	220.0	2.89	16.74
2.69	YES							
L0002624		0	0.22360E-05	439900.6	3762896.4	220.5	2.89	16.74
2.69	YES							
L0002625		0	0.22360E-05	439900.7	3762932.4	220.9	2.89	16.74
2.69	YES							
L0002626		0	0.22360E-05	439900.8	3762968.4	221.3	2.89	16.74
2.69	YES							
L0002627		0	0.22360E-05	439900.9	3763004.4	221.7	2.89	16.74
2.69	YES							
L0002628		0	0.22360E-05	439901.0	3763040.4	222.1	2.89	16.74
2.69	YES							
L0002629		0	0.22360E-05	439901.1	3763076.4	222.5	2.89	16.74
2.69	YES							
L0002630		0	0.22360E-05	439901.2	3763112.4	222.9	2.89	16.74
2.69	YES							
L0002631		0	0.22360E-05	439901.3	3763148.4	223.4	2.89	16.74
2.69	YES							
L0002632		0	0.22360E-05	439901.4	3763184.4	223.9	2.89	16.74
2.69	YES							
L0002633		0	0.22360E-05	439901.5	3763220.4	224.4	2.89	16.74
2.69	YES							
L0002634		0	0.22360E-05	439901.6	3763256.4	225.0	2.89	16.74
2.69	YES							
L0002635		0	0.22360E-05	439901.7	3763292.4	225.4	2.89	16.74
2.69	YES							
L0002636		0	0.22360E-05	439901.8	3763328.4	225.8	2.89	16.74
2.69	YES							
L0002637		0	0.22360E-05	439901.9	3763364.4	226.2	2.89	16.74
2.69	YES							
L0002638		0	0.22360E-05	439902.0	3763400.4	226.6	2.89	16.74
2.69	YES							

L0002639            0    0.22360E-05   439902.1 3763436.4   226.9        2.89        16.74  
 2.69        YES  
 \*\*\* AERMOD - VERSION 21112 \*\*\*        \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*        08/25/21  
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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.	
SZ	SOURCE	EMISSION	RATE		X	Y	ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY						
L0002640		0	0.22360E-05	439902.8	3763472.4	227.2	2.89	16.74	
2.69	YES								
L0002641		0	0.22360E-05	439905.5	3763508.3	227.6	2.89	16.74	
2.69	YES								
L0002642		0	0.22360E-05	439908.2	3763544.2	227.9	2.89	16.74	
2.69	YES								
L0002643		0	0.22360E-05	439911.0	3763580.1	228.2	2.89	16.74	
2.69	YES								
L0002644		0	0.22360E-05	439912.6	3763616.0	228.5	2.89	16.74	
2.69	YES								
L0002645		0	0.22360E-05	439912.6	3763652.0	228.8	2.89	16.74	
2.69	YES								
L0002646		0	0.22360E-05	439912.7	3763688.0	229.1	2.89	16.74	
2.69	YES								
L0002647		0	0.22360E-05	439912.7	3763724.0	229.4	2.89	16.74	
2.69	YES								
L0002648		0	0.22360E-05	439912.8	3763760.0	229.7	2.89	16.74	
2.69	YES								
L0002649		0	0.22360E-05	439912.8	3763796.0	229.9	2.89	16.74	
2.69	YES								
L0002650		0	0.22360E-05	439912.9	3763832.0	230.2	2.89	16.74	
2.69	YES								
L0002651		0	0.22360E-05	439912.9	3763868.0	230.5	2.89	16.74	
2.69	YES								
L0002652		0	0.22360E-05	439913.0	3763904.0	230.9	2.89	16.74	
2.69	YES								
L0002653		0	0.22360E-05	439913.0	3763940.0	231.4	2.89	16.74	

2.69	YES							
L0002654		0	0.22360E-05	439913.1	3763976.0	231.9	2.89	16.74
2.69	YES							
L0002655		0	0.22360E-05	439913.1	3764012.0	232.5	2.89	16.74
2.69	YES							
L0002656		0	0.22360E-05	439913.2	3764048.0	233.1	2.89	16.74
2.69	YES							
L0002657		0	0.22360E-05	439913.2	3764084.0	233.6	2.89	16.74
2.69	YES							
L0002658		0	0.22360E-05	439913.3	3764120.0	234.2	2.89	16.74
2.69	YES							
L0002659		0	0.22360E-05	439913.3	3764156.0	234.8	2.89	16.74
2.69	YES							
L0002660		0	0.22360E-05	439913.3	3764192.0	235.3	2.89	16.74
2.69	YES							
L0002661		0	0.22360E-05	439913.4	3764228.0	235.9	2.89	16.74
2.69	YES							
L0002662		0	0.22360E-05	439913.4	3764264.0	236.5	2.89	16.74
2.69	YES							
L0002663		0	0.22360E-05	439913.5	3764300.0	237.1	2.89	16.74
2.69	YES							
L0002664		0	0.22360E-05	439913.5	3764336.0	237.7	2.89	16.74
2.69	YES							
L0002665		0	0.22360E-05	439913.6	3764372.0	238.1	2.89	16.74
2.69	YES							
L0002666		0	0.22360E-05	439913.6	3764408.0	238.5	2.89	16.74
2.69	YES							
L0002667		0	0.22360E-05	439913.7	3764444.0	238.8	2.89	16.74
2.69	YES							
L0002668		0	0.22360E-05	439913.7	3764480.0	238.9	2.89	16.74
2.69	YES							
L0002669		0	0.22360E-05	439913.8	3764516.0	239.1	2.89	16.74
2.69	YES							
L0002670		0	0.22360E-05	439913.8	3764552.0	239.3	2.89	16.74
2.69	YES							
L0002671		0	0.22360E-05	439913.9	3764588.0	239.6	2.89	16.74
2.69	YES							
L0002672		0	0.22360E-05	439913.9	3764624.0	239.9	2.89	16.74
2.69	YES							
L0002673		0	0.22360E-05	439914.0	3764660.0	240.3	2.89	16.74
2.69	YES							
L0002674		0	0.22360E-05	439914.0	3764696.0	240.8	2.89	16.74
2.69	YES							
L0002675		0	0.22360E-05	439914.1	3764732.0	241.2	2.89	16.74
2.69	YES							
L0002676		0	0.22360E-05	439914.1	3764768.0	241.9	2.89	16.74
2.69	YES							
L0002677		0	0.22360E-05	439914.2	3764804.0	242.5	2.89	16.74
2.69	YES							



L0002678 0 0.22360E-05 439914.2 3764840.0 243.1 2.89 16.74  
 2.69 YES  
 L0002679 0 0.22360E-05 439914.3 3764876.0 243.7 2.89 16.74  
 2.69 YES

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE	BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	(GRAMS/SEC)	X	Y	(METERS)	(METERS)
(METERS)		CATS.	VARY	(METERS)	(METERS)	(METERS)	(METERS)
		BY					

L0002680	0	0.22360E-05	439914.3	3764912.0	244.2	2.89	16.74
2.69	YES						
L0002681	0	0.22360E-05	439914.4	3764948.0	244.7	2.89	16.74
2.69	YES						
L0002682	0	0.22360E-05	439914.4	3764984.0	245.2	2.89	16.74
2.69	YES						
L0002683	0	0.22360E-05	439914.5	3765020.0	245.8	2.89	16.74
2.69	YES						
L0002684	0	0.22360E-05	439914.5	3765056.0	246.1	2.89	16.74
2.69	YES						
L0002685	0	0.22360E-05	439914.6	3765092.0	246.4	2.89	16.74
2.69	YES						
L0002686	0	0.22360E-05	439914.6	3765128.0	246.7	2.89	16.74
2.69	YES						
L0002687	0	0.22360E-05	439914.7	3765164.0	247.0	2.89	16.74
2.69	YES						
L0002688	0	0.22360E-05	439914.7	3765200.0	247.3	2.89	16.74
2.69	YES						
L0002689	0	0.22360E-05	439914.8	3765236.0	247.8	2.89	16.74
2.69	YES						
L0002690	0	0.22360E-05	439914.8	3765272.0	248.4	2.89	16.74
2.69	YES						
L0002691	0	0.22360E-05	439914.9	3765308.0	249.0	2.89	16.74
2.69	YES						
L0002692	0	0.22360E-05	439914.9	3765344.0	249.6	2.89	16.74

2.69	YES							
L0002693		0	0.22360E-05	439915.0	3765380.0	250.2	2.89	16.74
2.69	YES							
L0002694		0	0.22360E-05	439915.0	3765416.0	250.8	2.89	16.74
2.69	YES							
L0002695		0	0.22360E-05	439915.1	3765452.0	251.4	2.89	16.74
2.69	YES							
L0002696		0	0.22360E-05	439915.1	3765488.0	251.8	2.89	16.74
2.69	YES							
L0002697		0	0.22360E-05	439915.2	3765524.0	252.1	2.89	16.74
2.69	YES							
L0002698		0	0.22360E-05	439915.2	3765560.0	252.6	2.89	16.74
2.69	YES							
L0002699		0	0.22360E-05	439915.3	3765596.0	252.9	2.89	16.74
2.69	YES							
L0002700		0	0.22360E-05	439915.3	3765632.0	253.2	2.89	16.74
2.69	YES							
L0002701		0	0.22360E-05	439915.3	3765668.0	253.6	2.89	16.74
2.69	YES							
L0002702		0	0.22360E-05	439915.4	3765704.0	254.1	2.89	16.74
2.69	YES							
L0002703		0	0.22360E-05	439915.4	3765740.0	254.5	2.89	16.74
2.69	YES							
L0002704		0	0.22360E-05	439915.5	3765776.0	254.8	2.89	16.74
2.69	YES							
L0002705		0	0.18960E-05	440788.1	3761118.6	201.6	3.15	12.09
2.93	YES							
L0002706		0	0.18960E-05	440788.3	3761092.6	201.4	3.15	12.09
2.93	YES							
L0002707		0	0.18960E-05	440788.5	3761066.6	201.1	3.15	12.09
2.93	YES							
L0002708		0	0.18960E-05	440788.7	3761040.6	200.9	3.15	12.09
2.93	YES							
L0002709		0	0.18960E-05	440788.9	3761014.6	200.7	3.15	12.09
2.93	YES							
L0002710		0	0.18960E-05	440789.1	3760988.6	200.5	3.15	12.09
2.93	YES							
L0002711		0	0.18960E-05	440789.3	3760962.6	200.3	3.15	12.09
2.93	YES							
L0002712		0	0.18960E-05	440789.5	3760936.6	200.1	3.15	12.09
2.93	YES							
L0002713		0	0.18960E-05	440789.7	3760910.6	199.9	3.15	12.09
2.93	YES							
L0002714		0	0.18960E-05	440789.9	3760884.6	199.7	3.15	12.09
2.93	YES							
L0002715		0	0.18960E-05	440790.1	3760858.6	199.6	3.15	12.09
2.93	YES							
L0002716		0	0.18960E-05	440790.3	3760832.6	199.5	3.15	12.09
2.93	YES							

L0002717	0	0.18960E-05	440790.5	3760806.6	199.5	3.15	12.09
2.93	YES						
L0002718	0	0.18960E-05	440790.7	3760780.6	199.3	3.15	12.09
2.93	YES						
L0002719	0	0.18960E-05	440790.9	3760754.6	199.0	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs:      RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		X	ELEV.	HEIGHT	SY
(METERS)	ID	SCALAR	(GRAMS/SEC)	VARY	(METERS)	(METERS)	(METERS)	(METERS)
		CATS.	BY					

L0002720	0	0.18960E-05	440791.1	3760728.6	198.8	3.15	12.09
2.93	YES						
L0002721	0	0.18960E-05	440791.3	3760702.6	198.6	3.15	12.09
2.93	YES						
L0002722	0	0.18960E-05	440791.4	3760676.6	198.4	3.15	12.09
2.93	YES						
L0002723	0	0.18960E-05	440791.6	3760650.6	198.2	3.15	12.09
2.93	YES						
L0002724	0	0.18960E-05	440791.8	3760624.6	198.0	3.15	12.09
2.93	YES						
L0002725	0	0.18960E-05	440792.0	3760598.6	197.7	3.15	12.09
2.93	YES						
L0002726	0	0.18960E-05	440792.2	3760572.6	197.5	3.15	12.09
2.93	YES						
L0002727	0	0.18960E-05	440792.4	3760546.6	197.2	3.15	12.09
2.93	YES						
L0002728	0	0.18960E-05	440792.6	3760520.6	197.0	3.15	12.09
2.93	YES						
L0002729	0	0.18960E-05	440792.8	3760494.6	196.9	3.15	12.09
2.93	YES						
L0002730	0	0.13000E-05	440805.8	3760469.0	196.7	3.15	12.09
2.93	YES						
L0002731	0	0.13000E-05	440831.8	3760469.1	196.7	3.15	12.09

2.93	YES							
L0002732		0	0.13000E-05	440857.8	3760469.2	196.9	3.15	12.09
2.93	YES							
L0002733		0	0.13000E-05	440883.8	3760469.4	197.1	3.15	12.09
2.93	YES							
L0002734		0	0.13000E-05	440909.8	3760469.5	197.4	3.15	12.09
2.93	YES							
L0002735		0	0.13000E-05	440935.8	3760469.6	197.6	3.15	12.09
2.93	YES							
L0002736		0	0.13000E-05	440961.8	3760469.7	197.6	3.15	12.09
2.93	YES							
L0002737		0	0.13000E-05	440987.8	3760469.8	197.7	3.15	12.09
2.93	YES							
L0002738		0	0.13000E-05	441013.8	3760469.9	197.9	3.15	12.09
2.93	YES							
L0002739		0	0.13000E-05	441039.8	3760470.0	198.1	3.15	12.09
2.93	YES							
L0002740		0	0.13000E-05	441065.8	3760470.1	198.2	3.15	12.09
2.93	YES							
L0002741		0	0.13000E-05	441091.8	3760470.2	198.5	3.15	12.09
2.93	YES							
L0002742		0	0.13000E-05	441117.8	3760470.3	198.6	3.15	12.09
2.93	YES							
L0002743		0	0.13000E-05	441143.8	3760470.4	198.6	3.15	12.09
2.93	YES							
L0002744		0	0.13000E-05	441169.8	3760470.6	198.6	3.15	12.09
2.93	YES							
L0002745		0	0.13000E-05	441195.8	3760470.7	199.0	3.15	12.09
2.93	YES							
L0002746		0	0.13000E-05	441221.8	3760470.8	198.9	3.15	12.09
2.93	YES							
L0002747		0	0.13000E-05	441247.8	3760470.9	198.7	3.15	12.09
2.93	YES							
L0002748		0	0.13000E-05	441273.8	3760471.0	198.7	3.15	12.09
2.93	YES							
L0002749		0	0.13000E-05	441299.8	3760471.1	198.8	3.15	12.09
2.93	YES							
L0002750		0	0.13000E-05	441325.8	3760471.2	198.9	3.15	12.09
2.93	YES							
L0002751		0	0.13000E-05	441351.8	3760471.3	199.0	3.15	12.09
2.93	YES							
L0002752		0	0.13000E-05	441377.8	3760471.4	199.1	3.15	12.09
2.93	YES							
L0002753		0	0.13000E-05	441403.8	3760471.5	199.2	3.15	12.09
2.93	YES							
L0002754		0	0.13000E-05	441429.8	3760471.6	199.3	3.15	12.09
2.93	YES							
L0002755		0	0.13000E-05	441455.8	3760471.8	199.3	3.15	12.09
2.93	YES							

L0002756	0	0.13000E-05	441481.8	3760471.9	199.6	3.15	12.09
2.93	YES						
L0002757	0	0.13000E-05	441507.8	3760472.0	199.8	3.15	12.09
2.93	YES						
L0002758	0	0.13000E-05	441533.8	3760472.1	199.9	3.15	12.09
2.93	YES						
L0002759	0	0.13000E-05	441559.8	3760472.2	200.0	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE		ELEV.	HEIGHT	SY
SZ	SCALAR	PART.	(GRAMS/SEC)	X	Y		
ID	CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)
(METERS)							

L0002760	0	0.13000E-05	441585.8	3760472.3	200.0	3.15	12.09
2.93	YES						
L0002761	0	0.13000E-05	441611.8	3760472.4	200.1	3.15	12.09
2.93	YES						
L0002762	0	0.13000E-05	441637.8	3760472.5	200.2	3.15	12.09
2.93	YES						
L0002763	0	0.13000E-05	441663.8	3760472.6	200.2	3.15	12.09
2.93	YES						
L0002764	0	0.13000E-05	441689.8	3760472.7	200.2	3.15	12.09
2.93	YES						
L0002765	0	0.13000E-05	441715.8	3760472.8	200.2	3.15	12.09
2.93	YES						
L0002766	0	0.13000E-05	441741.8	3760472.9	200.1	3.15	12.09
2.93	YES						
L0002767	0	0.13000E-05	441767.8	3760473.1	200.1	3.15	12.09
2.93	YES						
L0002768	0	0.13000E-05	441793.8	3760473.2	200.1	3.15	12.09
2.93	YES						
L0002769	0	0.13000E-05	441819.8	3760473.3	200.1	3.15	12.09
2.93	YES						
L0002770	0	0.13000E-05	441845.8	3760473.4	200.1	3.15	12.09

2.93	YES							
L0002771		0	0.13000E-05	441871.8	3760473.5	200.1	3.15	12.09
2.93	YES							
L0002772		0	0.13000E-05	441897.8	3760473.6	200.2	3.15	12.09
2.93	YES							
L0002773		0	0.13000E-05	441923.8	3760473.7	200.2	3.15	12.09
2.93	YES							
L0002774		0	0.13000E-05	441949.8	3760473.8	200.3	3.15	12.09
2.93	YES							
L0002775		0	0.13000E-05	441975.8	3760473.9	200.1	3.15	12.09
2.93	YES							
L0002776		0	0.13000E-05	442001.8	3760474.0	199.9	3.15	12.09
2.93	YES							
L0002777		0	0.13000E-05	442027.8	3760474.1	200.4	3.15	12.09
2.93	YES							
L0002778		0	0.13000E-05	442053.8	3760474.3	200.4	3.15	12.09
2.93	YES							
L0002779		0	0.13000E-05	442079.8	3760474.4	200.4	3.15	12.09
2.93	YES							
L0002780		0	0.13000E-05	442105.8	3760474.5	200.4	3.15	12.09
2.93	YES							
L0002781		0	0.13000E-05	442131.8	3760474.6	200.4	3.15	12.09
2.93	YES							
L0002782		0	0.13000E-05	442157.8	3760474.7	200.4	3.15	12.09
2.93	YES							
L0002783		0	0.13000E-05	442183.8	3760474.8	200.4	3.15	12.09
2.93	YES							
L0002784		0	0.13000E-05	442209.8	3760474.9	200.4	3.15	12.09
2.93	YES							
L0002785		0	0.13000E-05	442235.8	3760475.0	200.4	3.15	12.09
2.93	YES							
L0002786		0	0.13000E-05	442261.8	3760475.1	200.6	3.15	12.09
2.93	YES							
L0002787		0	0.13000E-05	442287.8	3760475.2	200.7	3.15	12.09
2.93	YES							
L0002788		0	0.13000E-05	442313.8	3760475.3	200.8	3.15	12.09
2.93	YES							
L0002789		0	0.13000E-05	442339.8	3760475.5	201.0	3.15	12.09
2.93	YES							
L0002790		0	0.13000E-05	442365.8	3760475.6	201.1	3.15	12.09
2.93	YES							
L0002791		0	0.13000E-05	442391.8	3760475.7	201.1	3.15	12.09
2.93	YES							
L0002792		0	0.13000E-05	442417.8	3760475.8	201.1	3.15	12.09
2.93	YES							
L0002793		0	0.13000E-05	442443.8	3760475.9	201.1	3.15	12.09
2.93	YES							
L0002794		0	0.13000E-05	442469.8	3760476.0	201.1	3.15	12.09
2.93	YES							

L0002795	0	0.13000E-05	442495.8	3760476.1	201.1	3.15	12.09
2.93	YES						
L0002796	0	0.13000E-05	442521.8	3760476.2	201.1	3.15	12.09
2.93	YES						
L0002797	0	0.13000E-05	442547.8	3760476.3	201.0	3.15	12.09
2.93	YES						
L0002798	0	0.13000E-05	442573.8	3760476.4	201.0	3.15	12.09
2.93	YES						
L0002799	0	0.13000E-05	442599.8	3760476.5	200.9	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		X	ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	(GRAMS/SEC)	VARY	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY					
L0002800	0	0.13000E-05	442625.8	3760476.7	200.7	3.15	12.09	
2.93	YES							
L0002801	0	0.13000E-05	442651.8	3760476.8	200.6	3.15	12.09	
2.93	YES							
L0002802	0	0.13000E-05	442677.8	3760476.9	200.6	3.15	12.09	
2.93	YES							
L0002803	0	0.13000E-05	442703.8	3760477.0	200.6	3.15	12.09	
2.93	YES							
L0002804	0	0.13000E-05	442729.8	3760477.1	200.7	3.15	12.09	
2.93	YES							
L0002805	0	0.13000E-05	442755.8	3760477.2	200.9	3.15	12.09	
2.93	YES							
L0002806	0	0.13000E-05	442781.8	3760477.3	200.8	3.15	12.09	
2.93	YES							
L0002807	0	0.13000E-05	442807.8	3760477.4	200.8	3.15	12.09	
2.93	YES							
L0002808	0	0.13000E-05	442833.8	3760477.5	200.8	3.15	12.09	
2.93	YES							
L0002809	0	0.13000E-05	442859.8	3760477.6	201.0	3.15	12.09	

2.93	YES							
L0002810		0	0.13000E-05	442885.8	3760477.7	201.1	3.15	12.09
2.93	YES							
L0002811		0	0.13000E-05	442911.8	3760477.9	201.1	3.15	12.09
2.93	YES							
L0002812		0	0.13000E-05	442937.8	3760478.0	201.2	3.15	12.09
2.93	YES							
L0002813		0	0.13000E-05	442963.8	3760478.1	201.3	3.15	12.09
2.93	YES							
L0002814		0	0.13000E-05	442989.8	3760478.2	201.7	3.15	12.09
2.93	YES							
L0002815		0	0.13000E-05	443015.8	3760478.3	201.9	3.15	12.09
2.93	YES							
L0002816		0	0.13000E-05	443041.8	3760478.4	201.7	3.15	12.09
2.93	YES							
L0002817		0	0.13000E-05	443067.8	3760478.5	201.6	3.15	12.09
2.93	YES							
L0002818		0	0.13000E-05	443093.8	3760478.6	201.6	3.15	12.09
2.93	YES							
L0002819		0	0.13000E-05	443119.8	3760478.7	201.7	3.15	12.09
2.93	YES							
L0002820		0	0.13000E-05	443145.8	3760478.8	201.8	3.15	12.09
2.93	YES							
L0002821		0	0.13000E-05	443171.8	3760478.9	202.1	3.15	12.09
2.93	YES							
L0002822		0	0.13000E-05	443197.8	3760479.0	202.8	3.15	12.09
2.93	YES							
L0002823		0	0.13000E-05	443223.8	3760479.2	203.1	3.15	12.09
2.93	YES							
L0002824		0	0.13000E-05	443249.8	3760479.3	203.1	3.15	12.09
2.93	YES							
L0002825		0	0.13000E-05	443275.8	3760479.4	203.2	3.15	12.09
2.93	YES							
L0002826		0	0.13000E-05	443301.8	3760479.5	203.2	3.15	12.09
2.93	YES							
L0002827		0	0.13000E-05	443327.8	3760479.6	203.3	3.15	12.09
2.93	YES							
L0002828		0	0.13000E-05	443353.8	3760479.7	203.2	3.15	12.09
2.93	YES							
L0002829		0	0.13000E-05	443379.8	3760479.8	203.3	3.15	12.09
2.93	YES							
L0002830		0	0.13000E-05	443405.8	3760479.9	203.4	3.15	12.09
2.93	YES							
L0002831		0	0.13000E-05	443431.8	3760480.0	203.4	3.15	12.09
2.93	YES							
L0002832		0	0.13000E-05	443457.8	3760480.1	203.4	3.15	12.09
2.93	YES							
L0002833		0	0.13000E-05	443483.8	3760480.2	203.4	3.15	12.09
2.93	YES							



L0002834	0	0.13000E-05	443509.8	3760480.4	203.3	3.15	12.09
2.93	YES						
L0002835	0	0.13000E-05	443535.8	3760480.5	203.3	3.15	12.09
2.93	YES						
L0002836	0	0.13000E-05	443561.8	3760480.6	203.2	3.15	12.09
2.93	YES						
L0002837	0	0.13000E-05	443587.8	3760480.7	203.2	3.15	12.09
2.93	YES						
L0002838	0	0.13000E-05	443613.8	3760480.8	203.5	3.15	12.09
2.93	YES						
L0002839	0	0.13000E-05	443639.8	3760480.9	203.5	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	ID	SCALAR	VARY		X	Y		
(METERS)		CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)
L0002840	0	0.13000E-05	443665.8	3760481.0	203.6	3.15	12.09	
2.93	YES							
L0002841	0	0.13000E-05	443691.8	3760481.1	203.7	3.15	12.09	
2.93	YES							
L0002842	0	0.13000E-05	443717.8	3760481.2	203.7	3.15	12.09	
2.93	YES							
L0002843	0	0.13000E-05	443743.8	3760481.3	203.8	3.15	12.09	
2.93	YES							
L0002844	0	0.13000E-05	443769.8	3760481.4	203.9	3.15	12.09	
2.93	YES							
L0002845	0	0.13000E-05	443795.8	3760481.6	204.0	3.15	12.09	
2.93	YES							
L0002846	0	0.13000E-05	443821.8	3760481.7	204.2	3.15	12.09	
2.93	YES							
L0002847	0	0.13000E-05	443847.8	3760481.8	204.2	3.15	12.09	
2.93	YES							
L0002848	0	0.13000E-05	443873.8	3760481.9	204.5	3.15	12.09	

2.93	YES							
L0002849		0	0.13000E-05	443899.8	3760482.0	204.0	3.15	12.09
2.93	YES							
L0002850		0	0.13000E-05	443925.8	3760482.1	204.1	3.15	12.09
2.93	YES							
L0002851		0	0.13000E-05	443951.8	3760482.2	204.6	3.15	12.09
2.93	YES							
L0002852		0	0.13000E-05	443977.2	3760478.6	204.4	3.15	12.09
2.93	YES							
L0002853		0	0.13000E-05	444001.7	3760470.0	203.9	3.15	12.09
2.93	YES							
L0002854		0	0.13000E-05	444026.2	3760461.3	203.4	3.15	12.09
2.93	YES							
L0002855		0	0.13000E-05	444050.7	3760452.7	203.3	3.15	12.09
2.93	YES							
L0002856		0	0.13000E-05	444075.3	3760444.0	203.0	3.15	12.09
2.93	YES							
L0002857		0	0.13000E-05	444099.8	3760435.4	202.7	3.15	12.09
2.93	YES							
L0002858		0	0.13000E-05	444124.3	3760426.7	202.6	3.15	12.09
2.93	YES							
L0002859		0	0.13000E-05	444148.8	3760418.0	202.4	3.15	12.09
2.93	YES							
L0002860		0	0.13000E-05	444174.6	3760416.8	202.2	3.15	12.09
2.93	YES							
L0002861		0	0.13000E-05	444200.6	3760416.6	202.2	3.15	12.09
2.93	YES							
L0002862		0	0.13000E-05	444226.6	3760416.5	202.1	3.15	12.09
2.93	YES							
L0002863		0	0.13000E-05	444252.6	3760416.3	202.1	3.15	12.09
2.93	YES							
L0002864		0	0.13000E-05	444278.6	3760416.1	202.1	3.15	12.09
2.93	YES							
L0002865		0	0.13000E-05	444304.6	3760415.9	202.1	3.15	12.09
2.93	YES							
L0002866		0	0.13000E-05	444330.6	3760415.7	202.1	3.15	12.09
2.93	YES							
L0002867		0	0.13000E-05	444356.6	3760415.6	202.1	3.15	12.09
2.93	YES							
L0002868		0	0.13000E-05	444382.6	3760415.4	202.1	3.15	12.09
2.93	YES							
L0002869		0	0.13000E-05	444408.6	3760415.2	201.9	3.15	12.09
2.93	YES							
L0002870		0	0.13000E-05	444434.6	3760415.0	201.8	3.15	12.09
2.93	YES							
L0002871		0	0.13000E-05	444460.6	3760414.8	201.9	3.15	12.09
2.93	YES							
L0002872		0	0.13000E-05	444486.6	3760414.6	201.9	3.15	12.09
2.93	YES							

L0002873	0	0.13000E-05	444512.6	3760414.5	202.0	3.15	12.09
2.93	YES						
L0002874	0	0.13000E-05	444538.6	3760414.3	202.1	3.15	12.09
2.93	YES						
L0002875	0	0.13000E-05	444564.6	3760414.1	202.2	3.15	12.09
2.93	YES						
L0002876	0	0.13000E-05	444590.6	3760413.9	202.1	3.15	12.09
2.93	YES						
L0002877	0	0.13000E-05	444616.6	3760413.7	198.4	3.15	12.09
2.93	YES						
L0002878	0	0.13000E-05	444642.6	3760413.6	197.6	3.15	12.09
2.93	YES						
L0002879	0	0.13000E-05	444668.6	3760413.4	201.8	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	ID	SCALAR	VARY		X	Y	(METERS)	(METERS)
(METERS)		CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)
L0002880	0	0.13000E-05	444694.6	3760413.2	202.2	3.15	12.09	
2.93	YES							
L0002881	0	0.13000E-05	444720.6	3760413.0	202.0	3.15	12.09	
2.93	YES							
L0002882	0	0.13000E-05	444746.6	3760412.8	201.8	3.15	12.09	
2.93	YES							
L0002883	0	0.13000E-05	444772.6	3760412.7	201.2	3.15	12.09	
2.93	YES							
L0002884	0	0.13000E-05	444798.6	3760412.5	200.7	3.15	12.09	
2.93	YES							
L0002885	0	0.13000E-05	444824.6	3760412.3	201.5	3.15	12.09	
2.93	YES							
L0002886	0	0.13000E-05	444850.6	3760412.1	201.4	3.15	12.09	
2.93	YES							
L0002887	0	0.13000E-05	444876.6	3760411.9	201.2	3.15	12.09	

2.93	YES							
L0002888		0	0.13000E-05	444902.6	3760411.8	201.2	3.15	12.09
2.93	YES							
L0002889		0	0.13000E-05	444928.6	3760411.6	201.5	3.15	12.09
2.93	YES							
L0002890		0	0.13000E-05	444954.6	3760411.4	201.8	3.15	12.09
2.93	YES							
L0002891		0	0.13000E-05	444980.6	3760411.2	201.9	3.15	12.09
2.93	YES							
L0002892		0	0.13000E-05	445006.6	3760411.0	201.8	3.15	12.09
2.93	YES							
L0002893		0	0.13000E-05	445032.6	3760410.8	201.8	3.15	12.09
2.93	YES							
L0002894		0	0.13000E-05	445058.6	3760410.7	201.8	3.15	12.09
2.93	YES							
L0002895		0	0.13000E-05	445084.6	3760410.5	201.7	3.15	12.09
2.93	YES							
L0002896		0	0.13000E-05	445110.6	3760410.3	201.8	3.15	12.09
2.93	YES							
L0002897		0	0.13000E-05	445136.6	3760410.1	201.9	3.15	12.09
2.93	YES							
L0002898		0	0.13000E-05	445162.6	3760409.9	201.8	3.15	12.09
2.93	YES							
L0002899		0	0.13000E-05	445188.6	3760409.8	201.4	3.15	12.09
2.93	YES							
L0002900		0	0.11340E-05	445197.1	3760445.4	201.6	3.15	12.09
2.93	YES							
L0002901		0	0.11340E-05	445197.2	3760471.4	201.8	3.15	12.09
2.93	YES							
L0002902		0	0.11340E-05	445197.3	3760497.4	201.9	3.15	12.09
2.93	YES							
L0002903		0	0.11340E-05	445197.4	3760523.4	202.1	3.15	12.09
2.93	YES							
L0002904		0	0.11340E-05	445197.5	3760549.4	202.3	3.15	12.09
2.93	YES							
L0002905		0	0.11340E-05	445197.6	3760575.4	202.4	3.15	12.09
2.93	YES							
L0002906		0	0.11340E-05	445197.7	3760601.4	202.6	3.15	12.09
2.93	YES							
L0002907		0	0.11340E-05	445197.8	3760627.4	202.9	3.15	12.09
2.93	YES							
L0002908		0	0.11340E-05	445197.9	3760653.4	203.1	3.15	12.09
2.93	YES							
L0002909		0	0.11340E-05	445198.0	3760679.4	203.3	3.15	12.09
2.93	YES							
L0002910		0	0.11340E-05	445198.1	3760705.4	203.6	3.15	12.09
2.93	YES							
L0002911		0	0.11340E-05	445198.2	3760731.4	203.8	3.15	12.09
2.93	YES							

L0002912	0	0.11340E-05	445198.3	3760757.4	204.1	3.15	12.09
2.93	YES						
L0002913	0	0.11340E-05	445198.4	3760783.4	204.3	3.15	12.09
2.93	YES						
L0002914	0	0.11340E-05	445198.5	3760809.4	204.6	3.15	12.09
2.93	YES						
L0002915	0	0.11340E-05	445198.6	3760835.4	204.8	3.15	12.09
2.93	YES						
L0002916	0	0.11340E-05	445198.7	3760861.4	205.1	3.15	12.09
2.93	YES						
L0002917	0	0.11340E-05	445198.8	3760887.4	205.4	3.15	12.09
2.93	YES						
L0002918	0	0.11340E-05	445198.9	3760913.4	205.6	3.15	12.09
2.93	YES						
L0002919	0	0.11340E-05	445199.0	3760939.4	205.8	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs:      RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE	BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	PART.	(GRAMS/SEC)	ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	VARY		(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY	(METERS)	(METERS)	(METERS)	(METERS)

L0002920	0	0.11340E-05	445199.1	3760965.4	206.1	3.15	12.09
2.93	YES						
L0002921	0	0.11340E-05	445199.2	3760991.4	206.4	3.15	12.09
2.93	YES						
L0002922	0	0.11340E-05	445199.4	3761017.4	206.6	3.15	12.09
2.93	YES						
L0002923	0	0.11340E-05	445199.5	3761043.4	206.8	3.15	12.09
2.93	YES						
L0002924	0	0.11340E-05	445199.6	3761069.4	207.1	3.15	12.09
2.93	YES						
L0002925	0	0.11340E-05	445199.7	3761095.4	207.3	3.15	12.09
2.93	YES						
L0002926	0	0.11340E-05	445199.8	3761121.4	207.6	3.15	12.09

2.93	YES							
L0002927		0	0.11340E-05	445199.9	3761147.4	207.8	3.15	12.09
2.93	YES							
L0002928		0	0.11340E-05	445200.0	3761173.4	208.0	3.15	12.09
2.93	YES							
L0002929		0	0.11340E-05	445200.1	3761199.4	208.3	3.15	12.09
2.93	YES							
L0002930		0	0.11340E-05	445200.2	3761225.4	208.7	3.15	12.09
2.93	YES							
L0002931		0	0.11340E-05	445200.3	3761251.4	209.1	3.15	12.09
2.93	YES							
L0002932		0	0.11340E-05	445200.4	3761277.4	209.4	3.15	12.09
2.93	YES							
L0002933		0	0.11340E-05	445200.5	3761303.4	209.7	3.15	12.09
2.93	YES							
L0002934		0	0.11340E-05	445200.6	3761329.4	210.0	3.15	12.09
2.93	YES							
L0002935		0	0.11340E-05	445200.7	3761355.4	210.2	3.15	12.09
2.93	YES							
L0002936		0	0.11340E-05	445200.8	3761381.4	210.4	3.15	12.09
2.93	YES							
L0002937		0	0.11340E-05	445200.9	3761407.4	210.6	3.15	12.09
2.93	YES							
L0002938		0	0.11340E-05	445201.0	3761433.4	210.8	3.15	12.09
2.93	YES							
L0002939		0	0.11340E-05	445201.1	3761459.4	210.9	3.15	12.09
2.93	YES							
L0002940		0	0.11340E-05	445201.2	3761485.4	211.1	3.15	12.09
2.93	YES							
L0002941		0	0.11340E-05	445201.3	3761511.4	211.4	3.15	12.09
2.93	YES							
L0002942		0	0.11340E-05	445201.4	3761537.4	211.5	3.15	12.09
2.93	YES							
L0002943		0	0.11340E-05	445201.5	3761563.4	211.7	3.15	12.09
2.93	YES							
L0002944		0	0.11340E-05	445201.6	3761589.4	211.9	3.15	12.09
2.93	YES							
L0002945		0	0.11340E-05	445201.8	3761615.4	212.1	3.15	12.09
2.93	YES							
L0002946		0	0.11340E-05	445201.9	3761641.4	212.3	3.15	12.09
2.93	YES							
L0002947		0	0.11340E-05	445202.0	3761667.4	212.5	3.15	12.09
2.93	YES							
L0002948		0	0.11340E-05	445202.1	3761693.4	212.6	3.15	12.09
2.93	YES							
L0002949		0	0.11340E-05	445202.2	3761719.4	212.8	3.15	12.09
2.93	YES							
L0002950		0	0.11340E-05	445202.3	3761745.4	213.0	3.15	12.09
2.93	YES							

L0002951	0	0.11340E-05	445202.4	3761771.4	213.3	3.15	12.09
2.93	YES						
L0002952	0	0.11340E-05	445202.5	3761797.4	213.6	3.15	12.09
2.93	YES						
L0002953	0	0.11340E-05	445202.6	3761823.4	213.9	3.15	12.09
2.93	YES						
L0002954	0	0.11340E-05	445202.7	3761849.4	214.1	3.15	12.09
2.93	YES						
L0002955	0	0.11340E-05	445202.8	3761875.4	214.4	3.15	12.09
2.93	YES						
L0002956	0	0.11340E-05	445202.9	3761901.4	214.7	3.15	12.09
2.93	YES						
L0002957	0	0.11340E-05	445203.0	3761927.4	215.0	3.15	12.09
2.93	YES						
L0002958	0	0.11340E-05	445203.1	3761953.4	215.3	3.15	12.09
2.93	YES						
L0002959	0	0.11340E-05	445203.2	3761979.4	215.6	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.	
SZ	SOURCE	EMISSION	RATE		X	Y	ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY						

L0002960	0	0.11340E-05	445203.3	3762005.4	215.9	3.15	12.09
2.93	YES						
L0002961	0	0.90970E-06	445190.9	3760381.0	201.2	3.15	12.09
2.93	YES						
L0002962	0	0.90970E-06	445191.7	3760355.0	201.1	3.15	12.09
2.93	YES						
L0002963	0	0.90970E-06	445192.4	3760329.0	200.9	3.15	12.09
2.93	YES						
L0002964	0	0.90970E-06	445193.1	3760303.0	200.7	3.15	12.09
2.93	YES						
L0002965	0	0.90970E-06	445193.8	3760277.0	200.6	3.15	12.09

2.93	YES							
L0002966		0	0.90970E-06	445194.5	3760251.0	200.4	3.15	12.09
2.93	YES							
L0002967		0	0.90970E-06	445195.2	3760225.0	200.3	3.15	12.09
2.93	YES							
L0002968		0	0.90970E-06	445196.0	3760199.0	200.1	3.15	12.09
2.93	YES							
L0002969		0	0.90970E-06	445196.7	3760173.0	200.0	3.15	12.09
2.93	YES							
L0002970		0	0.90970E-06	445197.4	3760147.0	199.8	3.15	12.09
2.93	YES							
L0002971		0	0.90970E-06	445198.1	3760121.1	199.6	3.15	12.09
2.93	YES							
L0002972		0	0.90970E-06	445198.8	3760095.1	199.5	3.15	12.09
2.93	YES							
L0002973		0	0.90970E-06	445199.5	3760069.1	199.3	3.15	12.09
2.93	YES							
L0002974		0	0.90970E-06	445200.3	3760043.1	199.1	3.15	12.09
2.93	YES							
L0002975		0	0.90970E-06	445201.0	3760017.1	199.0	3.15	12.09
2.93	YES							
L0002976		0	0.90970E-06	445201.7	3759991.1	198.8	3.15	12.09
2.93	YES							
L0002977		0	0.90970E-06	445202.4	3759965.1	198.6	3.15	12.09
2.93	YES							
L0002978		0	0.90970E-06	445203.1	3759939.1	198.6	3.15	12.09
2.93	YES							
L0002979		0	0.90970E-06	445203.8	3759913.1	198.7	3.15	12.09
2.93	YES							
L0002980		0	0.90970E-06	445204.6	3759887.1	198.7	3.15	12.09
2.93	YES							
L0002981		0	0.90970E-06	445205.3	3759861.2	198.8	3.15	12.09
2.93	YES							
L0002982		0	0.90970E-06	445206.0	3759835.2	198.6	3.15	12.09
2.93	YES							
L0002983		0	0.90970E-06	445206.7	3759809.2	198.1	3.15	12.09
2.93	YES							
L0002984		0	0.90970E-06	445207.4	3759783.2	198.3	3.15	12.09
2.93	YES							
L0002985		0	0.90970E-06	445208.1	3759757.2	198.3	3.15	12.09
2.93	YES							
L0002986		0	0.90970E-06	445208.9	3759731.2	198.2	3.15	12.09
2.93	YES							
L0002987		0	0.90970E-06	445209.6	3759705.2	198.1	3.15	12.09
2.93	YES							
L0002988		0	0.90970E-06	445210.3	3759679.2	198.0	3.15	12.09
2.93	YES							
L0002989		0	0.90970E-06	445211.0	3759653.2	197.8	3.15	12.09
2.93	YES							



L0002990	0	0.90970E-06	445211.7	3759627.2	197.7	3.15	12.09
2.93	YES						
L0002991	0	0.90970E-06	445212.4	3759601.3	197.6	3.15	12.09
2.93	YES						
L0002992	0	0.92740E-06	445221.8	3759586.1	197.4	3.15	12.09
2.93	YES						
L0002993	0	0.92740E-06	445247.8	3759585.9	197.4	3.15	12.09
2.93	YES						
L0002994	0	0.92740E-06	445273.8	3759585.7	197.4	3.15	12.09
2.93	YES						
L0002995	0	0.92740E-06	445299.8	3759585.6	197.4	3.15	12.09
2.93	YES						
L0002996	0	0.92740E-06	445325.8	3759585.4	197.4	3.15	12.09
2.93	YES						
L0002997	0	0.92740E-06	445351.8	3759585.2	197.4	3.15	12.09
2.93	YES						
L0002998	0	0.92740E-06	445377.8	3759585.0	197.5	3.15	12.09
2.93	YES						
L0002999	0	0.92740E-06	445403.8	3759584.8	197.5	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		X	ELEV.	HEIGHT	SY
	SCALAR	PART.	(GRAMS/SEC)			(METERS)	(METERS)	(METERS)
ID	SOURCE	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY					

L0003000	0	0.92740E-06	445429.8	3759584.7	197.6	3.15	12.09
2.93	YES						
L0003001	0	0.92740E-06	445455.8	3759584.5	197.6	3.15	12.09
2.93	YES						
L0003002	0	0.92740E-06	445481.8	3759584.3	197.6	3.15	12.09
2.93	YES						
L0003003	0	0.92740E-06	445507.8	3759584.1	197.6	3.15	12.09
2.93	YES						
L0003004	0	0.92740E-06	445533.8	3759583.9	197.7	3.15	12.09

2.93	YES							
L0003005		0	0.92740E-06	445559.8	3759583.8	197.8	3.15	12.09
2.93	YES							
L0003006		0	0.92740E-06	445585.8	3759583.6	197.9	3.15	12.09
2.93	YES							
L0003007		0	0.92740E-06	445611.8	3759583.4	198.2	3.15	12.09
2.93	YES							
L0003008		0	0.92740E-06	445637.8	3759583.2	198.3	3.15	12.09
2.93	YES							
L0003009		0	0.92740E-06	445663.8	3759583.0	198.2	3.15	12.09
2.93	YES							
L0003010		0	0.92740E-06	445689.8	3759582.9	198.1	3.15	12.09
2.93	YES							
L0003011		0	0.92740E-06	445715.8	3759582.7	198.5	3.15	12.09
2.93	YES							
L0003012		0	0.92740E-06	445741.8	3759582.5	198.7	3.15	12.09
2.93	YES							
L0003013		0	0.92740E-06	445767.8	3759582.3	198.7	3.15	12.09
2.93	YES							
L0003014		0	0.92740E-06	445793.8	3759582.1	198.9	3.15	12.09
2.93	YES							
L0003015		0	0.92740E-06	445819.8	3759582.0	198.9	3.15	12.09
2.93	YES							
L0003016		0	0.92740E-06	445845.8	3759581.8	199.0	3.15	12.09
2.93	YES							
L0003017		0	0.92740E-06	445871.8	3759581.6	199.1	3.15	12.09
2.93	YES							
L0003018		0	0.92740E-06	445897.8	3759581.4	199.1	3.15	12.09
2.93	YES							
L0003019		0	0.92740E-06	445923.8	3759581.2	199.1	3.15	12.09
2.93	YES							
L0003020		0	0.92740E-06	445949.8	3759581.1	199.0	3.15	12.09
2.93	YES							
L0003021		0	0.92740E-06	445975.8	3759580.9	199.0	3.15	12.09
2.93	YES							
L0003022		0	0.92740E-06	446001.8	3759580.7	198.8	3.15	12.09
2.93	YES							
L0003023		0	0.92740E-06	446027.8	3759580.5	199.0	3.15	12.09
2.93	YES							
L0003024		0	0.92740E-06	446053.8	3759580.3	199.2	3.15	12.09
2.93	YES							
L0003025		0	0.92740E-06	446079.8	3759580.2	199.3	3.15	12.09
2.93	YES							
L0003026		0	0.92740E-06	446105.8	3759580.0	199.4	3.15	12.09
2.93	YES							
L0003027		0	0.92740E-06	446131.8	3759579.8	199.5	3.15	12.09
2.93	YES							
L0003028		0	0.92740E-06	446157.8	3759579.6	199.6	3.15	12.09
2.93	YES							

L0003029	0	0.92740E-06	446183.8	3759579.4	199.7	3.15	12.09
2.93	YES						
L0003030	0	0.92740E-06	446209.8	3759579.3	199.8	3.15	12.09
2.93	YES						
L0003031	0	0.92740E-06	446235.8	3759579.1	200.0	3.15	12.09
2.93	YES						
L0003032	0	0.92740E-06	446261.8	3759578.9	200.1	3.15	12.09
2.93	YES						
L0003033	0	0.92740E-06	446287.8	3759578.7	200.2	3.15	12.09
2.93	YES						
L0003034	0	0.92740E-06	446313.8	3759578.5	200.3	3.15	12.09
2.93	YES						
L0003035	0	0.92740E-06	446339.8	3759578.4	200.4	3.15	12.09
2.93	YES						
L0003036	0	0.92740E-06	446365.8	3759578.2	200.4	3.15	12.09
2.93	YES						
L0003037	0	0.92740E-06	446391.8	3759578.0	200.3	3.15	12.09
2.93	YES						
L0003038	0	0.92740E-06	446417.8	3759577.8	200.2	3.15	12.09
2.93	YES						
L0003039	0	0.92740E-06	446443.8	3759577.6	200.4	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE	BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		ELEV.	HEIGHT	SY
ID	SOURCE	PART.	(GRAMS/SEC)	X	Y	(METERS)	(METERS)
(METERS)		SCALAR	VARY	(METERS)	(METERS)	(METERS)	(METERS)
		CATS.	BY				

L0003040	0	0.92740E-06	446469.8	3759577.5	200.9	3.15	12.09
2.93	YES						
L0003041	0	0.92740E-06	446495.8	3759577.3	201.1	3.15	12.09
2.93	YES						
L0003042	0	0.92740E-06	446521.8	3759577.1	201.2	3.15	12.09
2.93	YES						
L0003043	0	0.92740E-06	446547.8	3759576.9	201.4	3.15	12.09

2.93	YES							
L0003044		0	0.92740E-06	446573.8	3759576.8	201.5	3.15	12.09
2.93	YES							
L0003045		0	0.92740E-06	446599.8	3759576.6	201.6	3.15	12.09
2.93	YES							
L0003046		0	0.92740E-06	446625.8	3759576.4	201.7	3.15	12.09
2.93	YES							
L0003047		0	0.92740E-06	446651.8	3759576.2	201.9	3.15	12.09
2.93	YES							
L0003048		0	0.92740E-06	446677.8	3759576.0	202.0	3.15	12.09
2.93	YES							
L0003049		0	0.92740E-06	446703.8	3759575.9	202.1	3.15	12.09
2.93	YES							
L0003050		0	0.92740E-06	446729.8	3759575.7	202.3	3.15	12.09
2.93	YES							
L0003051		0	0.92740E-06	446755.8	3759575.5	202.3	3.15	12.09
2.93	YES							
L0003052		0	0.92740E-06	446781.8	3759575.3	202.1	3.15	12.09
2.93	YES							
L0003053		0	0.92740E-06	446807.8	3759575.1	201.8	3.15	12.09
2.93	YES							
L0003054		0	0.92740E-06	446833.8	3759575.0	201.7	3.15	12.09
2.93	YES							
L0003055		0	0.92740E-06	446859.8	3759574.8	201.6	3.15	12.09
2.93	YES							
L0003056		0	0.92740E-06	446885.8	3759574.6	201.3	3.15	12.09
2.93	YES							
L0003057		0	0.92740E-06	446911.8	3759574.4	201.2	3.15	12.09
2.93	YES							
L0003058		0	0.92740E-06	446937.8	3759574.2	201.1	3.15	12.09
2.93	YES							
L0003059		0	0.92740E-06	446963.8	3759574.1	201.1	3.15	12.09
2.93	YES							
L0003060		0	0.92740E-06	446989.8	3759573.9	201.2	3.15	12.09
2.93	YES							
L0003061		0	0.92740E-06	447015.8	3759573.7	201.3	3.15	12.09
2.93	YES							
L0003062		0	0.92740E-06	447041.8	3759573.5	201.4	3.15	12.09
2.93	YES							
L0003063		0	0.92740E-06	447067.8	3759573.3	201.4	3.15	12.09
2.93	YES							
L0003064		0	0.92740E-06	447093.8	3759573.2	201.3	3.15	12.09
2.93	YES							
L0003065		0	0.92740E-06	447119.8	3759573.0	201.3	3.15	12.09
2.93	YES							
L0003066		0	0.92740E-06	447145.8	3759572.8	201.2	3.15	12.09
2.93	YES							
L0003067		0	0.92740E-06	447171.8	3759572.6	201.0	3.15	12.09
2.93	YES							

L0003068	0	0.92740E-06	447197.8	3759572.4	200.9	3.15	12.09
2.93	YES						
L0003069	0	0.92740E-06	447223.8	3759572.3	200.6	3.15	12.09
2.93	YES						
L0003070	0	0.92740E-06	447249.8	3759572.1	200.6	3.15	12.09
2.93	YES						
L0003071	0	0.92740E-06	447275.8	3759571.9	200.8	3.15	12.09
2.93	YES						
L0003072	0	0.92740E-06	447301.8	3759571.7	200.9	3.15	12.09
2.93	YES						
L0003073	0	0.92740E-06	447327.8	3759571.5	201.0	3.15	12.09
2.93	YES						
L0003074	0	0.92740E-06	447353.8	3759571.4	201.2	3.15	12.09
2.93	YES						
L0003075	0	0.92740E-06	447379.8	3759571.2	201.3	3.15	12.09
2.93	YES						
L0003076	0	0.92740E-06	447405.8	3759571.0	201.3	3.15	12.09
2.93	YES						
L0003077	0	0.92740E-06	447431.8	3759570.8	201.3	3.15	12.09
2.93	YES						
L0003078	0	0.92740E-06	447457.8	3759570.6	201.2	3.15	12.09
2.93	YES						
L0003079	0	0.92740E-06	447483.8	3759570.5	201.1	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	ID	SCALAR	VARY		X	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)

L0003080	0	0.92740E-06	447509.8	3759570.3	201.0	3.15	12.09
2.93	YES						
L0003081	0	0.92740E-06	447535.8	3759570.1	200.9	3.15	12.09
2.93	YES						
L0003082	0	0.92740E-06	447561.8	3759569.9	200.6	3.15	12.09

2.93	YES							
L0003083		0	0.92740E-06	447587.8	3759569.8	200.5	3.15	12.09
2.93	YES							
L0003084		0	0.92740E-06	447613.8	3759569.6	200.6	3.15	12.09
2.93	YES							
L0003085		0	0.92740E-06	447639.8	3759569.4	201.1	3.15	12.09
2.93	YES							
L0003086		0	0.92740E-06	447665.8	3759569.2	201.1	3.15	12.09
2.93	YES							
L0003087		0	0.92740E-06	447691.8	3759569.0	201.1	3.15	12.09
2.93	YES							
L0003088		0	0.92740E-06	447717.8	3759568.9	201.1	3.15	12.09
2.93	YES							
L0003089		0	0.92740E-06	447743.8	3759568.7	201.1	3.15	12.09
2.93	YES							
L0003090		0	0.92740E-06	447769.8	3759568.5	201.1	3.15	12.09
2.93	YES							
L0003091		0	0.92740E-06	447795.8	3759568.3	201.1	3.15	12.09
2.93	YES							
L0003092		0	0.92740E-06	447821.8	3759568.1	201.1	3.15	12.09
2.93	YES							
L0003093		0	0.92740E-06	447847.8	3759568.0	201.0	3.15	12.09
2.93	YES							
L0003094		0	0.92740E-06	447873.8	3759567.8	201.0	3.15	12.09
2.93	YES							
L0003095		0	0.92740E-06	447899.8	3759567.6	201.1	3.15	12.09
2.93	YES							
L0003096		0	0.92740E-06	447925.8	3759567.4	201.1	3.15	12.09
2.93	YES							
L0003097		0	0.92740E-06	447951.8	3759567.2	201.2	3.15	12.09
2.93	YES							
L0003098		0	0.92740E-06	447977.8	3759567.1	201.4	3.15	12.09
2.93	YES							
L0003099		0	0.92740E-06	448003.7	3759566.9	201.4	3.15	12.09
2.93	YES							
L0003100		0	0.92740E-06	448029.7	3759566.7	201.5	3.15	12.09
2.93	YES							
L0003101		0	0.92740E-06	448055.7	3759566.5	201.6	3.15	12.09
2.93	YES							
L0003102		0	0.92740E-06	448081.7	3759566.3	201.7	3.15	12.09
2.93	YES							
L0003103		0	0.92740E-06	448107.7	3759566.2	201.8	3.15	12.09
2.93	YES							
L0003104		0	0.92740E-06	448133.7	3759566.0	201.8	3.15	12.09
2.93	YES							
L0003105		0	0.92740E-06	448159.7	3759565.8	201.7	3.15	12.09
2.93	YES							
L0003106		0	0.92740E-06	448185.7	3759565.6	201.7	3.15	12.09
2.93	YES							

L0003107	0	0.92740E-06	448211.7	3759565.4	201.7	3.15	12.09
2.93	YES						
L0003108	0	0.92740E-06	448237.7	3759565.3	201.8	3.15	12.09
2.93	YES						
L0003109	0	0.92740E-06	448263.7	3759565.1	202.0	3.15	12.09
2.93	YES						
L0003110	0	0.92740E-06	448289.7	3759564.9	202.2	3.15	12.09
2.93	YES						
L0003111	0	0.92740E-06	448315.7	3759564.7	202.3	3.15	12.09
2.93	YES						
L0003112	0	0.92740E-06	448341.7	3759564.5	202.6	3.15	12.09
2.93	YES						
L0003113	0	0.92740E-06	448367.7	3759564.4	202.8	3.15	12.09
2.93	YES						
L0003114	0	0.92740E-06	448393.7	3759564.2	203.1	3.15	12.09
2.93	YES						
L0003115	0	0.92740E-06	448419.7	3759564.0	203.2	3.15	12.09
2.93	YES						
L0003116	0	0.47690E-06	448446.7	3759567.2	203.3	3.15	12.09
2.93	YES						
L0003117	0	0.47690E-06	448472.7	3759566.8	203.2	3.15	12.09
2.93	YES						
L0003118	0	0.47690E-06	448498.7	3759566.3	203.1	3.15	12.09
2.93	YES						
L0003119	0	0.47690E-06	448524.7	3759565.9	203.0	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs:      RegDEFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	PART.	(GRAMS/SEC)	X	ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)

L0003120	0	0.47690E-06	448550.7	3759565.5	202.9	3.15	12.09
2.93	YES						
L0003121	0	0.47690E-06	448576.7	3759565.0	202.9	3.15	12.09

2.93	YES							
L0003122		0	0.47690E-06	448602.7	3759564.6	203.2	3.15	12.09
2.93	YES							
L0003123		0	0.47690E-06	448628.7	3759564.1	203.5	3.15	12.09
2.93	YES							
L0003124		0	0.47690E-06	448654.7	3759563.7	203.5	3.15	12.09
2.93	YES							
L0003125		0	0.47690E-06	448680.7	3759563.3	203.5	3.15	12.09
2.93	YES							
L0003126		0	0.47690E-06	448706.7	3759562.8	203.6	3.15	12.09
2.93	YES							
L0003127		0	0.47690E-06	448732.7	3759562.4	203.7	3.15	12.09
2.93	YES							
L0003128		0	0.47690E-06	448758.7	3759561.9	203.9	3.15	12.09
2.93	YES							
L0003129		0	0.47690E-06	448784.7	3759561.5	204.0	3.15	12.09
2.93	YES							
L0003130		0	0.47690E-06	448810.7	3759561.1	203.9	3.15	12.09
2.93	YES							
L0003131		0	0.47690E-06	448836.7	3759560.6	204.0	3.15	12.09
2.93	YES							
L0003132		0	0.47690E-06	448862.7	3759560.2	203.9	3.15	12.09
2.93	YES							
L0003133		0	0.47690E-06	448888.7	3759559.8	203.6	3.15	12.09
2.93	YES							
L0003134		0	0.47690E-06	448914.7	3759559.3	203.5	3.15	12.09
2.93	YES							
L0003135		0	0.47690E-06	448940.7	3759558.9	203.8	3.15	12.09
2.93	YES							
L0003136		0	0.47690E-06	448966.7	3759558.4	203.9	3.15	12.09
2.93	YES							
L0003137		0	0.47690E-06	448992.7	3759558.0	204.2	3.15	12.09
2.93	YES							
L0003138		0	0.47690E-06	449018.7	3759557.6	204.6	3.15	12.09
2.93	YES							
L0003139		0	0.47690E-06	449044.7	3759557.1	204.9	3.15	12.09
2.93	YES							
L0003140		0	0.47690E-06	449070.7	3759556.7	205.2	3.15	12.09
2.93	YES							
L0003141		0	0.47690E-06	449096.7	3759556.2	205.4	3.15	12.09
2.93	YES							
L0003142		0	0.47690E-06	449122.7	3759555.8	205.5	3.15	12.09
2.93	YES							
L0003143		0	0.47690E-06	449148.6	3759555.4	205.2	3.15	12.09
2.93	YES							
L0003144		0	0.47690E-06	449174.6	3759554.9	205.8	3.15	12.09
2.93	YES							
L0003145		0	0.47690E-06	449200.6	3759554.5	206.5	3.15	12.09
2.93	YES							



L0003146	0	0.47690E-06	449226.6	3759554.0	205.4	3.15	12.09
2.93	YES						
L0003147	0	0.47690E-06	449252.6	3759553.6	204.3	3.15	12.09
2.93	YES						
L0003148	0	0.47690E-06	449278.6	3759553.2	202.2	3.15	12.09
2.93	YES						
L0003149	0	0.47690E-06	449304.6	3759552.7	201.6	3.15	12.09
2.93	YES						
L0003150	0	0.47690E-06	449330.6	3759552.3	203.1	3.15	12.09
2.93	YES						
L0003151	0	0.47690E-06	449356.6	3759551.9	204.3	3.15	12.09
2.93	YES						
L0003152	0	0.47690E-06	449382.6	3759551.4	205.1	3.15	12.09
2.93	YES						
L0003153	0	0.47690E-06	449408.6	3759551.0	205.5	3.15	12.09
2.93	YES						
L0003154	0	0.47690E-06	449434.6	3759550.5	204.6	3.15	12.09
2.93	YES						
L0003155	0	0.72190E-06	445241.2	3762002.1	216.2	3.15	12.09
2.93	YES						
L0003156	0	0.72190E-06	445267.2	3762002.2	216.5	3.15	12.09
2.93	YES						
L0003157	0	0.72190E-06	445293.2	3762002.3	216.5	3.15	12.09
2.93	YES						
L0003158	0	0.72190E-06	445319.2	3762002.4	217.0	3.15	12.09
2.93	YES						
L0003159	0	0.72190E-06	445345.2	3762002.5	217.4	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs:      RegDEFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	PART.	(GRAMS/SEC)	X	ELEV.	HEIGHT	SY
SZ	ID	SCALAR	VARY			(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)

L0003160	0	0.72190E-06	445371.2	3762002.7	217.6	3.15	12.09
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2.93	YES							
L0003161		0	0.72190E-06	445397.2	3762002.8	218.0	3.15	12.09
2.93	YES							
L0003162		0	0.72190E-06	445423.2	3762002.9	218.3	3.15	12.09
2.93	YES							
L0003163		0	0.72190E-06	445449.2	3762003.0	218.4	3.15	12.09
2.93	YES							
L0003164		0	0.72190E-06	445475.2	3762003.2	218.5	3.15	12.09
2.93	YES							
L0003165		0	0.72190E-06	445501.2	3762003.3	218.4	3.15	12.09
2.93	YES							
L0003166		0	0.72190E-06	445527.2	3762003.4	218.2	3.15	12.09
2.93	YES							
L0003167		0	0.72190E-06	445553.2	3762003.5	218.2	3.15	12.09
2.93	YES							
L0003168		0	0.72190E-06	445579.2	3762003.7	218.1	3.15	12.09
2.93	YES							
L0003169		0	0.72190E-06	445605.2	3762003.8	218.1	3.15	12.09
2.93	YES							
L0003170		0	0.72190E-06	445631.2	3762003.9	218.1	3.15	12.09
2.93	YES							
L0003171		0	0.72190E-06	445657.2	3762004.0	218.1	3.15	12.09
2.93	YES							
L0003172		0	0.72190E-06	445683.2	3762004.2	217.9	3.15	12.09
2.93	YES							
L0003173		0	0.72190E-06	445709.2	3762004.3	217.7	3.15	12.09
2.93	YES							
L0003174		0	0.72190E-06	445735.2	3762004.4	217.3	3.15	12.09
2.93	YES							
L0003175		0	0.72190E-06	445761.2	3762004.5	216.9	3.15	12.09
2.93	YES							
L0003176		0	0.72190E-06	445787.2	3762004.7	217.0	3.15	12.09
2.93	YES							
L0003177		0	0.72190E-06	445813.2	3762004.8	217.4	3.15	12.09
2.93	YES							
L0003178		0	0.72190E-06	445839.2	3762004.9	217.7	3.15	12.09
2.93	YES							
L0003179		0	0.72190E-06	445865.2	3762005.0	217.9	3.15	12.09
2.93	YES							
L0003180		0	0.72190E-06	445891.2	3762005.1	218.2	3.15	12.09
2.93	YES							
L0003181		0	0.72190E-06	445917.2	3762005.3	218.1	3.15	12.09
2.93	YES							
L0003182		0	0.72190E-06	445943.2	3762005.4	218.2	3.15	12.09
2.93	YES							
L0003183		0	0.72190E-06	445969.2	3762005.5	218.5	3.15	12.09
2.93	YES							
L0003184		0	0.72190E-06	445995.2	3762005.6	218.6	3.15	12.09
2.93	YES							

L0003185	0	0.72190E-06	446021.2	3762005.8	218.6	3.15	12.09
2.93	YES						
L0003186	0	0.72190E-06	446047.2	3762005.9	218.6	3.15	12.09
2.93	YES						
L0003187	0	0.88530E-06	446079.0	3762020.5	219.0	3.15	14.42
2.93	YES						
L0003188	0	0.88530E-06	446106.9	3762034.0	219.3	3.15	14.42
2.93	YES						
L0003189	0	0.88530E-06	446134.9	3762047.5	219.3	3.15	14.42
2.93	YES						
L0003190	0	0.88530E-06	446162.8	3762061.0	219.5	3.15	14.42
2.93	YES						
L0003191	0	0.88530E-06	446190.7	3762074.5	219.6	3.15	14.42
2.93	YES						
L0003192	0	0.88530E-06	446218.6	3762087.9	219.8	3.15	14.42
2.93	YES						
L0003193	0	0.88530E-06	446246.5	3762101.4	219.9	3.15	14.42
2.93	YES						
L0003194	0	0.88530E-06	446274.4	3762114.9	220.0	3.15	14.42
2.93	YES						
L0003195	0	0.88530E-06	446301.0	3762130.4	220.1	3.15	14.42
2.93	YES						
L0003196	0	0.88530E-06	446324.8	3762150.3	220.3	3.15	14.42
2.93	YES						
L0003197	0	0.88530E-06	446348.6	3762170.2	220.4	3.15	14.42
2.93	YES						
L0003198	0	0.88530E-06	446372.3	3762190.1	220.7	3.15	14.42
2.93	YES						
L0003199	0	0.88530E-06	446396.1	3762210.1	220.9	3.15	14.42
2.93	YES						

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\*\*\* MODELOPTs:      RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.	
SOURCE	SOURCE	EMISSION	PART.	(GRAMS/SEC)	X	Y	ELEV.	HEIGHT	SY
SZ	ID	SCALAR	VARY				(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)

L0003200	0	0.88530E-06	446419.8	3762230.0	221.0	3.15	14.42
2.93	YES						
L0003201	0	0.88530E-06	446443.6	3762249.9	221.3	3.15	14.42
2.93	YES						
L0003202	0	0.88530E-06	446467.4	3762269.8	221.3	3.15	14.42
2.93	YES						
L0003203	0	0.88530E-06	446491.1	3762289.7	221.4	3.15	14.42
2.93	YES						
L0003204	0	0.88530E-06	446517.6	3762305.2	221.7	3.15	14.42
2.93	YES						
L0003205	0	0.88530E-06	446545.9	3762318.0	221.7	3.15	14.42
2.93	YES						
L0003206	0	0.88530E-06	446574.1	3762330.7	221.9	3.15	14.42
2.93	YES						
L0003207	0	0.88530E-06	446602.4	3762343.5	222.0	3.15	14.42
2.93	YES						
L0003208	0	0.88530E-06	446630.7	3762356.2	222.2	3.15	14.42
2.93	YES						
L0003209	0	0.88530E-06	446658.9	3762369.0	222.4	3.15	14.42
2.93	YES						
L0003210	0	0.88530E-06	446687.2	3762381.7	222.5	3.15	14.42
2.93	YES						
L0003211	0	0.88530E-06	446715.4	3762394.5	222.9	3.15	14.42
2.93	YES						
L0003212	0	0.88530E-06	446745.7	3762399.2	222.9	3.15	14.42
2.93	YES						
L0003213	0	0.88530E-06	446776.6	3762401.1	222.8	3.15	14.42
2.93	YES						
L0003214	0	0.88530E-06	446807.6	3762403.0	222.2	3.15	14.42
2.93	YES						
L0003215	0	0.88530E-06	446838.5	3762403.5	221.9	3.15	14.42
2.93	YES						
L0003216	0	0.88530E-06	446869.5	3762403.3	222.0	3.15	14.42
2.93	YES						
L0003217	0	0.88530E-06	446900.5	3762403.0	222.0	3.15	14.42
2.93	YES						
L0003218	0	0.88530E-06	446931.5	3762402.7	222.2	3.15	14.42
2.93	YES						
L0003219	0	0.88530E-06	446962.5	3762402.5	222.5	3.15	14.42
2.93	YES						
L0003220	0	0.88530E-06	446993.5	3762402.2	222.6	3.15	14.42
2.93	YES						
L0003221	0	0.88530E-06	447024.5	3762402.0	222.6	3.15	14.42
2.93	YES						
L0003222	0	0.88530E-06	447055.5	3762401.7	222.7	3.15	14.42
2.93	YES						
L0003223	0	0.88530E-06	447086.5	3762401.4	223.0	3.15	14.42
2.93	YES						

L0003224	0	0.88530E-06	447117.5	3762401.2	223.1	3.15	14.42
2.93	YES						
L0003225	0	0.88530E-06	447148.5	3762400.9	223.3	3.15	14.42
2.93	YES						
L0003226	0	0.88530E-06	447179.5	3762400.6	223.3	3.15	14.42
2.93	YES						
L0003227	0	0.88530E-06	447210.5	3762400.4	223.4	3.15	14.42
2.93	YES						
L0003228	0	0.88530E-06	447241.5	3762400.1	223.3	3.15	14.42
2.93	YES						
L0003229	0	0.88530E-06	447272.5	3762399.8	223.4	3.15	14.42
2.93	YES						
L0003230	0	0.88530E-06	447303.5	3762399.6	223.5	3.15	14.42
2.93	YES						
L0003231	0	0.88530E-06	447334.5	3762399.3	223.4	3.15	14.42
2.93	YES						
L0003232	0	0.88530E-06	447365.5	3762399.1	223.3	3.15	14.42
2.93	YES						
L0003233	0	0.88530E-06	447396.5	3762398.8	223.2	3.15	14.42
2.93	YES						
L0003234	0	0.88530E-06	447427.5	3762398.5	223.2	3.15	14.42
2.93	YES						
L0003235	0	0.88530E-06	447458.5	3762398.3	223.1	3.15	14.42
2.93	YES						
L0003236	0	0.88530E-06	447489.5	3762398.0	223.0	3.15	14.42
2.93	YES						
L0003237	0	0.88530E-06	447520.5	3762397.7	222.8	3.15	14.42
2.93	YES						
L0003238	0	0.88530E-06	447551.5	3762397.5	222.7	3.15	14.42
2.93	YES						
L0003239	0	0.88530E-06	447582.5	3762397.2	222.7	3.15	14.42
2.93	YES						

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\*\*\* MODELOPTs:      RegDEFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	PART.	(GRAMS/SEC)	X	Y	(METERS)	(METERS)
(METERS)		CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)

L0003240	0	0.88530E-06	447613.5	3762397.0	222.5	3.15	14.42
2.93	YES						
L0003241	0	0.88530E-06	447644.5	3762396.7	222.4	3.15	14.42
2.93	YES						
L0003242	0	0.88530E-06	447675.5	3762396.4	222.5	3.15	14.42
2.93	YES						
L0003243	0	0.88530E-06	447706.5	3762396.2	222.6	3.15	14.42
2.93	YES						
L0003244	0	0.88530E-06	447737.5	3762395.9	222.8	3.15	14.42
2.93	YES						
L0003245	0	0.88530E-06	447768.5	3762395.6	222.9	3.15	14.42
2.93	YES						
L0003246	0	0.88530E-06	447799.5	3762395.4	223.1	3.15	14.42
2.93	YES						
L0003247	0	0.88530E-06	447830.5	3762395.1	223.2	3.15	14.42
2.93	YES						
L0003248	0	0.88530E-06	447861.5	3762394.8	223.3	3.15	14.42
2.93	YES						
L0003249	0	0.88530E-06	447892.5	3762394.6	223.4	3.15	14.42
2.93	YES						
L0003250	0	0.88530E-06	447923.5	3762394.3	223.5	3.15	14.42
2.93	YES						
L0003251	0	0.88530E-06	447954.5	3762394.1	223.7	3.15	14.42
2.93	YES						
L0003252	0	0.88530E-06	447985.5	3762393.8	223.8	3.15	14.42
2.93	YES						
L0003253	0	0.88530E-06	448016.5	3762393.5	223.9	3.15	14.42
2.93	YES						
L0003254	0	0.88530E-06	448047.5	3762393.3	224.0	3.15	14.42
2.93	YES						
L0003255	0	0.88530E-06	448078.5	3762393.0	224.1	3.15	14.42
2.93	YES						
L0003256	0	0.88530E-06	448109.5	3762392.7	224.3	3.15	14.42
2.93	YES						
L0003257	0	0.88530E-06	448140.5	3762392.5	224.4	3.15	14.42
2.93	YES						
L0003258	0	0.88530E-06	448171.5	3762392.2	224.6	3.15	14.42
2.93	YES						
L0003259	0	0.88530E-06	448202.5	3762391.9	224.8	3.15	14.42
2.93	YES						
L0003260	0	0.88530E-06	448233.5	3762391.7	224.9	3.15	14.42
2.93	YES						
L0003261	0	0.88530E-06	448264.5	3762391.4	225.1	3.15	14.42
2.93	YES						
L0003262	0	0.88530E-06	448295.5	3762391.2	225.2	3.15	14.42
2.93	YES						

L0003263	0	0.88530E-06	448326.5	3762390.9	225.3	3.15	14.42
2.93 YES							
L0003264	0	0.88530E-06	448357.5	3762390.6	225.4	3.15	14.42
2.93 YES							
L0003265	0	0.88530E-06	448388.5	3762390.4	225.4	3.15	14.42
2.93 YES							
L0003266	0	0.88530E-06	448419.5	3762390.1	225.4	3.15	14.42
2.93 YES							
L0003267	0	0.88530E-06	448450.5	3762390.4	225.3	3.15	14.42
2.93 YES							
L0003268	0	0.88530E-06	448481.4	3762392.4	225.2	3.15	14.42
2.93 YES							
L0003269	0	0.88530E-06	448512.3	3762394.3	225.0	3.15	14.42
2.93 YES							
L0003270	0	0.88530E-06	448543.3	3762396.2	224.9	3.15	14.42
2.93 YES							
L0003271	0	0.88530E-06	448574.2	3762398.1	224.8	3.15	14.42
2.93 YES							
L0003272	0	0.88530E-06	448605.2	3762400.0	224.7	3.15	14.42
2.93 YES							
L0003273	0	0.88530E-06	448636.1	3762401.9	224.5	3.15	14.42
2.93 YES							
L0003274	0	0.88530E-06	448667.0	3762403.8	224.4	3.15	14.42
2.93 YES							
L0003275	0	0.88530E-06	448698.0	3762405.7	224.4	3.15	14.42
2.93 YES							
L0003276	0	0.88530E-06	448728.9	3762407.7	224.7	3.15	14.42
2.93 YES							
L0003277	0	0.88530E-06	448759.9	3762409.6	225.6	3.15	14.42
2.93 YES							
L0003278	0	0.88530E-06	448790.8	3762411.5	225.9	3.15	14.42
2.93 YES							
L0003279	0	0.88530E-06	448820.0	3762421.7	225.7	3.15	14.42
2.93 YES							

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
		PART.	(GRAMS/SEC)	X	Y			
		SCALAR	VARY					

ID (METERS)	CATS. BY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
L0003280	0	0.88530E-06	448849.1	3762432.3	226.7	3.15 14.42
2.93 YES						
L0003281	0	0.88530E-06	448878.3	3762442.9	227.7	3.15 14.42
2.93 YES						
L0003282	0	0.88530E-06	448907.4	3762453.5	228.1	3.15 14.42
2.93 YES						
L0003283	0	0.88530E-06	448936.5	3762464.2	229.3	3.15 14.42
2.93 YES						
L0003284	0	0.88530E-06	448965.6	3762474.8	229.7	3.15 14.42
2.93 YES						
L0003285	0	0.88530E-06	448994.8	3762485.4	230.3	3.15 14.42
2.93 YES						
L0003286	0	0.88530E-06	449023.9	3762496.0	233.1	3.15 14.42
2.93 YES						
L0003287	0	0.88530E-06	449053.0	3762506.6	234.8	3.15 14.42
2.93 YES						
L0003288	0	0.88530E-06	449082.1	3762517.3	235.0	3.15 14.42
2.93 YES						
L0003289	0	0.88530E-06	449111.3	3762527.9	232.4	3.15 14.42
2.93 YES						
L0003290	0	0.88530E-06	449140.4	3762538.5	227.4	3.15 14.42
2.93 YES						
L0003291	0	0.88530E-06	449169.5	3762549.1	226.9	3.15 14.42
2.93 YES						
L0003292	0	0.88530E-06	449198.6	3762559.8	227.0	3.15 14.42
2.93 YES						
L0003293	0	0.88530E-06	449227.8	3762570.4	228.0	3.15 14.42
2.93 YES						
L0003294	0	0.88530E-06	449256.9	3762581.0	232.2	3.15 14.42
2.93 YES						
L0003295	0	0.88530E-06	449286.0	3762591.6	233.1	3.15 14.42
2.93 YES						

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID SOURCE IDs



-----

ALL	L0002165	,	L0002166	,	L0002167	,	L0002168	,	L0002169	,
L0002170	, L0002171	,	, L0002172	,						
	L0002173	,	L0002174	,	L0002175	,	L0002176	,	L0002177	,
L0002178	, L0002179	,	, L0002180	,						
	L0002181	,	L0002182	,	L0002183	,	L0002184	,	L0002185	,
L0002186	, L0002187	,	, L0002188	,						
	L0002189	,	L0002190	,	L0002191	,	L0002192	,	L0002193	,
L0002194	, L0002195	,	, L0002196	,						
	L0002197	,	L0002198	,	L0002199	,	L0002200	,	L0002201	,
L0002202	, L0002203	,	, L0002204	,						
	L0002205	,	L0002206	,	L0002207	,	L0002208	,	L0002209	,
L0002210	, L0002211	,	, L0002212	,						
	L0002213	,	L0002214	,	L0002215	,	L0002216	,	L0002217	,
L0002218	, L0002219	,	, L0002220	,						
	L0002221	,	L0002222	,	L0002223	,	L0002224	,	L0002225	,
L0002226	, L0002227	,	, L0002228	,						
	L0002229	,	L0002230	,	L0002231	,	L0002232	,	L0002233	,
L0002234	, L0002235	,	, L0002236	,						
	L0002237	,	L0002238	,	L0002239	,	L0002240	,	L0002241	,
L0002242	, L0002243	,	, L0002244	,						
	L0002245	,	L0002246	,	L0002247	,	L0002248	,	L0002249	,
L0002250	, L0002251	,	, L0002252	,						
	L0002253	,	L0002254	,	L0002255	,	L0002256	,	L0002257	,
L0002258	, L0002259	,	, L0002260	,						
	L0002261	,	L0002262	,	L0002263	,	L0002264	,	L0002265	,
L0002266	, L0002267	,	, L0002268	,						
	L0002269	,	L0002270	,	L0002271	,	L0002272	,	L0002273	,
L0002274	, L0002275	,	, L0002276	,						
	L0002277	,	L0002278	,	L0002279	,	L0002280	,	L0002281	,
L0002282	, L0002283	,	, L0002284	,						
	L0002285	,	L0002361	,	L0002362	,	L0002363	,	L0002364	,

L0002365 , L0002366 , L0002367 ,  
 L0002373 , L0002374 , L0002375 ,  
 L0002381 , L0002382 , L0002383 ,  
 L0002389 , L0002390 , L0002391 ,  
 L0002397 , L0002398 , L0002399 ,

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID -----	SOURCE IDs -----
L0002405	L0002400 , L0002401 , L0002402 , L0002403 , L0002404 , , L0002406 , L0002407 ,
L0002413	L0002408 , L0002409 , L0002410 , L0002411 , L0002412 , , L0002414 , L0002415 ,
L0002421	L0002416 , L0002417 , L0002418 , L0002419 , L0002420 , , L0002422 , L0002423 ,
L0002429	L0002424 , L0002425 , L0002426 , L0002427 , L0002428 , , L0002430 , L0002431 ,
L0002437	L0002432 , L0002433 , L0002434 , L0002435 , L0002436 , , L0002438 , L0002439 ,
L0002445	L0002440 , L0002441 , L0002442 , L0002443 , L0002444 , , L0002446 , L0002447 ,
L0002453	L0002448 , L0002449 , L0002450 , L0002451 , L0002452 , , L0002454 , L0002455 ,

L0002461      L0002456      , L0002457      , L0002458      , L0002459      , L0002460      ,  
                  , L0002462      , L0002463      ,  
  
 L0002469      L0002464      , L0002465      , L0002466      , L0002467      , L0002468      ,  
                  , L0002470      , L0002471      ,  
  
 L0002477      L0002472      , L0002473      , L0002474      , L0002475      , L0002476      ,  
                  , L0002478      , L0002479      ,  
  
 L0002485      L0002480      , L0002481      , L0002482      , L0002483      , L0002484      ,  
                  , L0002486      , L0002487      ,  
  
 L0002493      L0002488      , L0002489      , L0002490      , L0002491      , L0002492      ,  
                  , L0002494      , L0002495      ,  
  
 L0002501      L0002496      , L0002497      , L0002498      , L0002499      , L0002500      ,  
                  , L0002502      , L0002503      ,  
  
 L0002509      L0002504      , L0002505      , L0002506      , L0002507      , L0002508      ,  
                  , L0002510      , L0002511      ,  
  
 L0002517      L0002512      , L0002513      , L0002514      , L0002515      , L0002516      ,  
                  , L0002518      , L0002519      ,  
  
 L0002525      L0002520      , L0002521      , L0002522      , L0002523      , L0002524      ,  
                  , L0002526      , L0002527      ,  
  
 L0002533      L0002528      , L0002529      , L0002530      , L0002531      , L0002532      ,  
                  , L0002534      , L0002535      ,  
  
 L0002541      L0002536      , L0002537      , L0002538      , L0002539      , L0002540      ,  
                  , L0002542      , L0002543      ,  
  
 L0002549      L0002544      , L0002545      , L0002546      , L0002547      , L0002548      ,  
                  , L0002550      , L0002551      ,  
  
 L0002557      L0002552      , L0002553      , L0002554      , L0002555      , L0002556      ,  
                  , L0002558      , L0002559      ,

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 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID

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SOURCE IDs

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L0002565	L0002560 , L0002566	, L0002561 , L0002567	, L0002562 ,	, L0002563	, L0002564	,
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L0002581	L0002576 , L0002582	, L0002577 , L0002583	, L0002578 ,	, L0002579	, L0002580	,
L0002589	L0002584 , L0002590	, L0002585 , L0002591	, L0002586 ,	, L0002587	, L0002588	,
L0002597	L0002592 , L0002598	, L0002593 , L0002599	, L0002594 ,	, L0002595	, L0002596	,
L0002605	L0002600 , L0002606	, L0002601 , L0002607	, L0002602 ,	, L0002603	, L0002604	,
L0002613	L0002608 , L0002614	, L0002609 , L0002615	, L0002610 ,	, L0002611	, L0002612	,
L0002621	L0002616 , L0002622	, L0002617 , L0002623	, L0002618 ,	, L0002619	, L0002620	,
L0002629	L0002624 , L0002630	, L0002625 , L0002631	, L0002626 ,	, L0002627	, L0002628	,
L0002637	L0002632 , L0002638	, L0002633 , L0002639	, L0002634 ,	, L0002635	, L0002636	,
L0002645	L0002640 , L0002646	, L0002641 , L0002647	, L0002642 ,	, L0002643	, L0002644	,
L0002653	L0002648 , L0002654	, L0002649 , L0002655	, L0002650 ,	, L0002651	, L0002652	,
L0002661	L0002656 , L0002662	, L0002657 , L0002663	, L0002658 ,	, L0002659	, L0002660	,
L0002669	L0002664 , L0002670	, L0002665 , L0002671	, L0002666 ,	, L0002667	, L0002668	,
L0002677	L0002672 , L0002678	, L0002673 , L0002679	, L0002674 ,	, L0002675	, L0002676	,

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L0002685      L0002680      , L0002681      , L0002682      , L0002683      , L0002684      ,
, L0002686      , L0002687      ,

L0002693      L0002688      , L0002689      , L0002690      , L0002691      , L0002692      ,
, L0002694      , L0002695      ,

L0002701      L0002696      , L0002697      , L0002698      , L0002699      , L0002700      ,
, L0002702      , L0002703      ,

L0002709      L0002704      , L0002705      , L0002706      , L0002707      , L0002708      ,
, L0002710      , L0002711      ,

L0002717      L0002712      , L0002713      , L0002714      , L0002715      , L0002716      ,
, L0002718      , L0002719      ,
^ *** AERMOD - VERSION 21112 *** *** C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U ***      08/25/21
*** AERMET - VERSION 16216 *** ***
***      10:02:08

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID	SOURCE IDs
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L0002725	L0002720 , L0002721 , L0002722 , L0002723 , L0002724 , , L0002726 , L0002727 ,
L0002733	L0002728 , L0002729 , L0002730 , L0002731 , L0002732 , , L0002734 , L0002735 ,
L0002741	L0002736 , L0002737 , L0002738 , L0002739 , L0002740 , , L0002742 , L0002743 ,
L0002749	L0002744 , L0002745 , L0002746 , L0002747 , L0002748 , , L0002750 , L0002751 ,
L0002757	L0002752 , L0002753 , L0002754 , L0002755 , L0002756 , , L0002758 , L0002759 ,
L0002765	L0002760 , L0002761 , L0002762 , L0002763 , L0002764 , , L0002766 , L0002767 ,
L0002773	L0002768 , L0002769 , L0002770 , L0002771 , L0002772 , , L0002774 , L0002775 ,

L0002781      L0002776      , L0002777      , L0002778      , L0002779      , L0002780      ,  
                  , L0002782      , L0002783      ,  
  
 L0002789      L0002784      , L0002785      , L0002786      , L0002787      , L0002788      ,  
                  , L0002790      , L0002791      ,  
  
 L0002797      L0002792      , L0002793      , L0002794      , L0002795      , L0002796      ,  
                  , L0002798      , L0002799      ,  
  
 L0002805      L0002800      , L0002801      , L0002802      , L0002803      , L0002804      ,  
                  , L0002806      , L0002807      ,  
  
 L0002813      L0002808      , L0002809      , L0002810      , L0002811      , L0002812      ,  
                  , L0002814      , L0002815      ,  
  
 L0002821      L0002816      , L0002817      , L0002818      , L0002819      , L0002820      ,  
                  , L0002822      , L0002823      ,  
  
 L0002829      L0002824      , L0002825      , L0002826      , L0002827      , L0002828      ,  
                  , L0002830      , L0002831      ,  
  
 L0002837      L0002832      , L0002833      , L0002834      , L0002835      , L0002836      ,  
                  , L0002838      , L0002839      ,  
  
 L0002845      L0002840      , L0002841      , L0002842      , L0002843      , L0002844      ,  
                  , L0002846      , L0002847      ,  
  
 L0002853      L0002848      , L0002849      , L0002850      , L0002851      , L0002852      ,  
                  , L0002854      , L0002855      ,  
  
 L0002861      L0002856      , L0002857      , L0002858      , L0002859      , L0002860      ,  
                  , L0002862      , L0002863      ,  
  
 L0002869      L0002864      , L0002865      , L0002866      , L0002867      , L0002868      ,  
                  , L0002870      , L0002871      ,  
  
 L0002877      L0002872      , L0002873      , L0002874      , L0002875      , L0002876      ,  
                  , L0002878      , L0002879      ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*      08/25/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID

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SOURCE IDs

-----

L0002885	L0002880 , L0002886	, L0002881 , L0002887	, L0002882 ,	, L0002883	, L0002884	,
L0002893	L0002888 , L0002894	, L0002889 , L0002895	, L0002890 ,	, L0002891	, L0002892	,
L0002901	L0002896 , L0002902	, L0002897 , L0002903	, L0002898 ,	, L0002899	, L0002900	,
L0002909	L0002904 , L0002910	, L0002905 , L0002911	, L0002906 ,	, L0002907	, L0002908	,
L0002917	L0002912 , L0002918	, L0002913 , L0002919	, L0002914 ,	, L0002915	, L0002916	,
L0002925	L0002920 , L0002926	, L0002921 , L0002927	, L0002922 ,	, L0002923	, L0002924	,
L0002933	L0002928 , L0002934	, L0002929 , L0002935	, L0002930 ,	, L0002931	, L0002932	,
L0002941	L0002936 , L0002942	, L0002937 , L0002943	, L0002938 ,	, L0002939	, L0002940	,
L0002949	L0002944 , L0002950	, L0002945 , L0002951	, L0002946 ,	, L0002947	, L0002948	,
L0002957	L0002952 , L0002958	, L0002953 , L0002959	, L0002954 ,	, L0002955	, L0002956	,
L0002965	L0002960 , L0002966	, L0002961 , L0002967	, L0002962 ,	, L0002963	, L0002964	,
L0002973	L0002968 , L0002974	, L0002969 , L0002975	, L0002970 ,	, L0002971	, L0002972	,
L0002981	L0002976 , L0002982	, L0002977 , L0002983	, L0002978 ,	, L0002979	, L0002980	,
L0002989	L0002984 , L0002990	, L0002985 , L0002991	, L0002986 ,	, L0002987	, L0002988	,
L0002997	L0002992 , L0002998	, L0002993 , L0002999	, L0002994 ,	, L0002995	, L0002996	,

L0003005      L0003000      , L0003001      , L0003002      , L0003003      , L0003004      ,  
                  , L0003006      , L0003007      ,  
  
 L0003013      L0003008      , L0003009      , L0003010      , L0003011      , L0003012      ,  
                  , L0003014      , L0003015      ,  
  
 L0003021      L0003016      , L0003017      , L0003018      , L0003019      , L0003020      ,  
                  , L0003022      , L0003023      ,  
  
 L0003029      L0003024      , L0003025      , L0003026      , L0003027      , L0003028      ,  
                  , L0003030      , L0003031      ,  
  
 L0003037      L0003032      , L0003033      , L0003034      , L0003035      , L0003036      ,  
                  , L0003038      , L0003039      ,

\*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*      08/25/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
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\*\*\* MODELOPTs:      RegDFault      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID	SOURCE IDs
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L0003045	L0003040 , L0003041 , L0003042 , L0003043 , L0003044 , , L0003046 , L0003047 ,
L0003053	L0003048 , L0003049 , L0003050 , L0003051 , L0003052 , , L0003054 , L0003055 ,
L0003061	L0003056 , L0003057 , L0003058 , L0003059 , L0003060 , , L0003062 , L0003063 ,
L0003069	L0003064 , L0003065 , L0003066 , L0003067 , L0003068 , , L0003070 , L0003071 ,
L0003077	L0003072 , L0003073 , L0003074 , L0003075 , L0003076 , , L0003078 , L0003079 ,
L0003085	L0003080 , L0003081 , L0003082 , L0003083 , L0003084 , , L0003086 , L0003087 ,
	L0003088 , L0003089 , L0003090 , L0003091 , L0003092 ,



L0003093 , L0003094 , L0003095 ,  
 L0003101 , L0003102 , L0003103 , L0003096 , L0003097 , L0003098 , L0003099 , L0003100 ,  
 L0003109 , L0003110 , L0003111 , L0003104 , L0003105 , L0003106 , L0003107 , L0003108 ,  
 L0003117 , L0003118 , L0003119 , L0003112 , L0003113 , L0003114 , L0003115 , L0003116 ,  
 L0003125 , L0003126 , L0003127 , L0003120 , L0003121 , L0003122 , L0003123 , L0003124 ,  
 L0003133 , L0003134 , L0003135 , L0003128 , L0003129 , L0003130 , L0003131 , L0003132 ,  
 L0003141 , L0003142 , L0003143 , L0003136 , L0003137 , L0003138 , L0003139 , L0003140 ,  
 L0003149 , L0003150 , L0003151 , L0003144 , L0003145 , L0003146 , L0003147 , L0003148 ,  
 L0003157 , L0003158 , L0003159 , L0003152 , L0003153 , L0003154 , L0003155 , L0003156 ,  
 L0003165 , L0003166 , L0003167 , L0003160 , L0003161 , L0003162 , L0003163 , L0003164 ,  
 L0003173 , L0003174 , L0003175 , L0003168 , L0003169 , L0003170 , L0003171 , L0003172 ,  
 L0003181 , L0003182 , L0003183 , L0003176 , L0003177 , L0003178 , L0003179 , L0003180 ,  
 L0003189 , L0003190 , L0003191 , L0003184 , L0003185 , L0003186 , L0003187 , L0003188 ,  
 L0003197 , L0003198 , L0003199 , L0003192 , L0003193 , L0003194 , L0003195 , L0003196 ,

^ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/25/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*  
 \*\*\* 10:02:08

\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID	SOURCE IDs					
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L0003205	L0003200	, L0003201	, L0003202	, L0003203	, L0003204	,
	, L0003206	, L0003207	,			
L0003213	L0003208	, L0003209	, L0003210	, L0003211	, L0003212	,
	, L0003214	, L0003215	,			
L0003221	L0003216	, L0003217	, L0003218	, L0003219	, L0003220	,
	, L0003222	, L0003223	,			
L0003229	L0003224	, L0003225	, L0003226	, L0003227	, L0003228	,
	, L0003230	, L0003231	,			
L0003237	L0003232	, L0003233	, L0003234	, L0003235	, L0003236	,
	, L0003238	, L0003239	,			
L0003245	L0003240	, L0003241	, L0003242	, L0003243	, L0003244	,
	, L0003246	, L0003247	,			
L0003253	L0003248	, L0003249	, L0003250	, L0003251	, L0003252	,
	, L0003254	, L0003255	,			
L0003261	L0003256	, L0003257	, L0003258	, L0003259	, L0003260	,
	, L0003262	, L0003263	,			
L0003269	L0003264	, L0003265	, L0003266	, L0003267	, L0003268	,
	, L0003270	, L0003271	,			
L0003277	L0003272	, L0003273	, L0003274	, L0003275	, L0003276	,
	, L0003278	, L0003279	,			
L0003285	L0003280	, L0003281	, L0003282	, L0003283	, L0003284	,
	, L0003286	, L0003287	,			
L0003293	L0003288	, L0003289	, L0003290	, L0003291	, L0003292	,
	, L0003294	, L0003295	,			

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/25/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*  
 \*\*\* 10:02:08

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

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URBAN ID -----	URBAN POP -----	SOURCE IDs -----					
L0002169 L0002172	2035210. , L0002170 ,	L0002165 , L0002171 ,	L0002166 ,	L0002167 ,	L0002168 ,		
L0002178	L0002173 , L0002179 ,	L0002174 , L0002180 ,	L0002175 ,	L0002176 ,	L0002177 ,		
L0002186	L0002181 , L0002187 ,	L0002182 , L0002188 ,	L0002183 ,	L0002184 ,	L0002185 ,		
L0002194	L0002189 , L0002195 ,	L0002190 , L0002196 ,	L0002191 ,	L0002192 ,	L0002193 ,		
L0002202	L0002197 , L0002203 ,	L0002198 , L0002204 ,	L0002199 ,	L0002200 ,	L0002201 ,		
L0002210	L0002205 , L0002211 ,	L0002206 , L0002212 ,	L0002207 ,	L0002208 ,	L0002209 ,		
L0002218	L0002213 , L0002219 ,	L0002214 , L0002220 ,	L0002215 ,	L0002216 ,	L0002217 ,		
L0002226	L0002221 , L0002227 ,	L0002222 , L0002228 ,	L0002223 ,	L0002224 ,	L0002225 ,		
L0002234	L0002229 , L0002235 ,	L0002230 , L0002236 ,	L0002231 ,	L0002232 ,	L0002233 ,		
L0002242	L0002237 , L0002243 ,	L0002238 , L0002244 ,	L0002239 ,	L0002240 ,	L0002241 ,		
L0002250	L0002245 , L0002251 ,	L0002246 , L0002252 ,	L0002247 ,	L0002248 ,	L0002249 ,		
L0002258	L0002253 , L0002259 ,	L0002254 , L0002260 ,	L0002255 ,	L0002256 ,	L0002257 ,		
L0002266	L0002261 , L0002267 ,	L0002262 , L0002268 ,	L0002263 ,	L0002264 ,	L0002265 ,		
	L0002269 ,	L0002270 ,	L0002271 ,	L0002272 ,	L0002273 ,		

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      L0002285 , L0002361 , L0002362 , L0002363 , L0002364 ,
L0002365 , L0002366 , L0002367 ,
      L0002368 , L0002369 , L0002370 , L0002371 , L0002372 ,
L0002373 , L0002374 , L0002375 ,
      L0002376 , L0002377 , L0002378 , L0002379 , L0002380 ,
L0002381 , L0002382 , L0002383 ,
      L0002384 , L0002385 , L0002386 , L0002387 , L0002388 ,
L0002389 , L0002390 , L0002391 ,
      L0002392 , L0002393 , L0002394 , L0002395 , L0002396 ,
L0002397 , L0002398 , L0002399 ,
^ *** AERMOD - VERSION 21112 *** *** C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U *** 08/25/21
*** AERMET - VERSION 16216 *** ***
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

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URBAN ID	URBAN POP	SOURCE IDs
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L0002405	L0002400 , L0002406	L0002401 , L0002402 , L0002403 , L0002404 , L0002407
L0002413	L0002408 , L0002414	L0002409 , L0002410 , L0002411 , L0002412 , L0002415
L0002421	L0002416 , L0002422	L0002417 , L0002418 , L0002419 , L0002420 , L0002423
L0002429	L0002424 , L0002430	L0002425 , L0002426 , L0002427 , L0002428 , L0002431
L0002437	L0002432 , L0002438	L0002433 , L0002434 , L0002435 , L0002436 , L0002439

L0002445      L0002440      , L0002441      , L0002442      , L0002443      , L0002444      ,  
                  , L0002446      , L0002447      ,  
  
 L0002453      L0002448      , L0002449      , L0002450      , L0002451      , L0002452      ,  
                  , L0002454      , L0002455      ,  
  
 L0002461      L0002456      , L0002457      , L0002458      , L0002459      , L0002460      ,  
                  , L0002462      , L0002463      ,  
  
 L0002469      L0002464      , L0002465      , L0002466      , L0002467      , L0002468      ,  
                  , L0002470      , L0002471      ,  
  
 L0002477      L0002472      , L0002473      , L0002474      , L0002475      , L0002476      ,  
                  , L0002478      , L0002479      ,  
  
 L0002485      L0002480      , L0002481      , L0002482      , L0002483      , L0002484      ,  
                  , L0002486      , L0002487      ,  
  
 L0002493      L0002488      , L0002489      , L0002490      , L0002491      , L0002492      ,  
                  , L0002494      , L0002495      ,  
  
 L0002501      L0002496      , L0002497      , L0002498      , L0002499      , L0002500      ,  
                  , L0002502      , L0002503      ,  
  
 L0002509      L0002504      , L0002505      , L0002506      , L0002507      , L0002508      ,  
                  , L0002510      , L0002511      ,  
  
 L0002517      L0002512      , L0002513      , L0002514      , L0002515      , L0002516      ,  
                  , L0002518      , L0002519      ,  
  
 L0002525      L0002520      , L0002521      , L0002522      , L0002523      , L0002524      ,  
                  , L0002526      , L0002527      ,  
  
 L0002533      L0002528      , L0002529      , L0002530      , L0002531      , L0002532      ,  
                  , L0002534      , L0002535      ,  
  
 L0002541      L0002536      , L0002537      , L0002538      , L0002539      , L0002540      ,  
                  , L0002542      , L0002543      ,  
  
 L0002549      L0002544      , L0002545      , L0002546      , L0002547      , L0002548      ,  
                  , L0002550      , L0002551      ,  
  
 L0002557      L0002552      , L0002553      , L0002554      , L0002555      , L0002556      ,  
                  , L0002558      , L0002559      ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*      08/25/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
                  \*\*\*      10:02:08

\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID	URBAN POP	SOURCE IDs					
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L0002565	L0002560 , L0002566	, L0002561 , L0002567	, L0002562 ,	, L0002563	, L0002564	,	
L0002573	L0002568 , L0002574	, L0002569 , L0002575	, L0002570 ,	, L0002571	, L0002572	,	
L0002581	L0002576 , L0002582	, L0002577 , L0002583	, L0002578 ,	, L0002579	, L0002580	,	
L0002589	L0002584 , L0002590	, L0002585 , L0002591	, L0002586 ,	, L0002587	, L0002588	,	
L0002597	L0002592 , L0002598	, L0002593 , L0002599	, L0002594 ,	, L0002595	, L0002596	,	
L0002605	L0002600 , L0002606	, L0002601 , L0002607	, L0002602 ,	, L0002603	, L0002604	,	
L0002613	L0002608 , L0002614	, L0002609 , L0002615	, L0002610 ,	, L0002611	, L0002612	,	
L0002621	L0002616 , L0002622	, L0002617 , L0002623	, L0002618 ,	, L0002619	, L0002620	,	
L0002629	L0002624 , L0002630	, L0002625 , L0002631	, L0002626 ,	, L0002627	, L0002628	,	
L0002637	L0002632 , L0002638	, L0002633 , L0002639	, L0002634 ,	, L0002635	, L0002636	,	
L0002645	L0002640 , L0002646	, L0002641 , L0002647	, L0002642 ,	, L0002643	, L0002644	,	
L0002653	L0002648 , L0002654	, L0002649 , L0002655	, L0002650 ,	, L0002651	, L0002652	,	
	L0002656	, L0002657	, L0002658	, L0002659	, L0002660	,	

L0002661 , L0002662 , L0002663 ,  
 L0002664 , L0002665 , L0002666 , L0002667 , L0002668 ,  
 L0002669 , L0002670 , L0002671 ,  
 L0002672 , L0002673 , L0002674 , L0002675 , L0002676 ,  
 L0002677 , L0002678 , L0002679 ,  
 L0002680 , L0002681 , L0002682 , L0002683 , L0002684 ,  
 L0002685 , L0002686 , L0002687 ,  
 L0002688 , L0002689 , L0002690 , L0002691 , L0002692 ,  
 L0002693 , L0002694 , L0002695 ,  
 L0002696 , L0002697 , L0002698 , L0002699 , L0002700 ,  
 L0002701 , L0002702 , L0002703 ,  
 L0002704 , L0002705 , L0002706 , L0002707 , L0002708 ,  
 L0002709 , L0002710 , L0002711 ,  
 L0002712 , L0002713 , L0002714 , L0002715 , L0002716 ,  
 L0002717 , L0002718 , L0002719 ,

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

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URBAN ID	URBAN POP	SOURCE IDs
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L0002725	L0002720 , L0002726	L0002721 , L0002722 , L0002723 , L0002724 ,
L0002733	L0002728 , L0002734	L0002729 , L0002730 , L0002731 , L0002732 ,
L0002741	L0002736 , L0002742	L0002737 , L0002738 , L0002739 , L0002740 ,
L0002749	L0002744 , L0002750	L0002745 , L0002746 , L0002747 , L0002748 ,

L0002757      L0002752      , L0002753      , L0002754      , L0002755      , L0002756      ,  
                  , L0002758      , L0002759      ,  
  
 L0002765      L0002760      , L0002761      , L0002762      , L0002763      , L0002764      ,  
                  , L0002766      , L0002767      ,  
  
 L0002773      L0002768      , L0002769      , L0002770      , L0002771      , L0002772      ,  
                  , L0002774      , L0002775      ,  
  
 L0002781      L0002776      , L0002777      , L0002778      , L0002779      , L0002780      ,  
                  , L0002782      , L0002783      ,  
  
 L0002789      L0002784      , L0002785      , L0002786      , L0002787      , L0002788      ,  
                  , L0002790      , L0002791      ,  
  
 L0002797      L0002792      , L0002793      , L0002794      , L0002795      , L0002796      ,  
                  , L0002798      , L0002799      ,  
  
 L0002805      L0002800      , L0002801      , L0002802      , L0002803      , L0002804      ,  
                  , L0002806      , L0002807      ,  
  
 L0002813      L0002808      , L0002809      , L0002810      , L0002811      , L0002812      ,  
                  , L0002814      , L0002815      ,  
  
 L0002821      L0002816      , L0002817      , L0002818      , L0002819      , L0002820      ,  
                  , L0002822      , L0002823      ,  
  
 L0002829      L0002824      , L0002825      , L0002826      , L0002827      , L0002828      ,  
                  , L0002830      , L0002831      ,  
  
 L0002837      L0002832      , L0002833      , L0002834      , L0002835      , L0002836      ,  
                  , L0002838      , L0002839      ,  
  
 L0002845      L0002840      , L0002841      , L0002842      , L0002843      , L0002844      ,  
                  , L0002846      , L0002847      ,  
  
 L0002853      L0002848      , L0002849      , L0002850      , L0002851      , L0002852      ,  
                  , L0002854      , L0002855      ,  
  
 L0002861      L0002856      , L0002857      , L0002858      , L0002859      , L0002860      ,  
                  , L0002862      , L0002863      ,  
  
 L0002869      L0002864      , L0002865      , L0002866      , L0002867      , L0002868      ,  
                  , L0002870      , L0002871      ,  
  
 L0002877      L0002872      , L0002873      , L0002874      , L0002875      , L0002876      ,  
                  , L0002878      , L0002879      ,

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

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URBAN ID	URBAN POP	SOURCE IDs					
-----	-----	-----					
L0002885	L0002880 , L0002886	, L0002881 , L0002887	, L0002882 ,	, L0002883	, L0002884	,	
L0002893	L0002888 , L0002894	, L0002889 , L0002895	, L0002890 ,	, L0002891	, L0002892	,	
L0002901	L0002896 , L0002902	, L0002897 , L0002903	, L0002898 ,	, L0002899	, L0002900	,	
L0002909	L0002904 , L0002910	, L0002905 , L0002911	, L0002906 ,	, L0002907	, L0002908	,	
L0002917	L0002912 , L0002918	, L0002913 , L0002919	, L0002914 ,	, L0002915	, L0002916	,	
L0002925	L0002920 , L0002926	, L0002921 , L0002927	, L0002922 ,	, L0002923	, L0002924	,	
L0002933	L0002928 , L0002934	, L0002929 , L0002935	, L0002930 ,	, L0002931	, L0002932	,	
L0002941	L0002936 , L0002942	, L0002937 , L0002943	, L0002938 ,	, L0002939	, L0002940	,	
L0002949	L0002944 , L0002950	, L0002945 , L0002951	, L0002946 ,	, L0002947	, L0002948	,	
L0002957	L0002952 , L0002958	, L0002953 , L0002959	, L0002954 ,	, L0002955	, L0002956	,	
L0002965	L0002960 , L0002966	, L0002961 , L0002967	, L0002962 ,	, L0002963	, L0002964	,	
	L0002968	, L0002969	, L0002970	, L0002971	, L0002972	,	

L0002973 , L0002974 , L0002975 ,  
 L0002981 , L0002976 , L0002977 , L0002978 , L0002979 , L0002980 ,  
 L0002982 , L0002983 ,  
 L0002989 , L0002984 , L0002985 , L0002986 , L0002987 , L0002988 ,  
 L0002990 , L0002991 ,  
 L0002997 , L0002992 , L0002993 , L0002994 , L0002995 , L0002996 ,  
 L0002998 , L0002999 ,  
 L0003005 , L0003000 , L0003001 , L0003002 , L0003003 , L0003004 ,  
 L0003006 , L0003007 ,  
 L0003013 , L0003008 , L0003009 , L0003010 , L0003011 , L0003012 ,  
 L0003014 , L0003015 ,  
 L0003021 , L0003016 , L0003017 , L0003018 , L0003019 , L0003020 ,  
 L0003022 , L0003023 ,  
 L0003029 , L0003024 , L0003025 , L0003026 , L0003027 , L0003028 ,  
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 L0003037 , L0003032 , L0003033 , L0003034 , L0003035 , L0003036 ,  
 L0003038 , L0003039 ,

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

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URBAN ID	URBAN POP	SOURCE IDs
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L0003045	L0003040 , L0003046	L0003041 , L0003042 , L0003043 , L0003044 , L0003047
L0003053	L0003048 , L0003054	L0003049 , L0003050 , L0003051 , L0003052 , L0003055
L0003061	L0003056 , L0003062	L0003057 , L0003058 , L0003059 , L0003060 , L0003063

L0003069	L0003064 , L0003070	, L0003065 , L0003071	, L0003066 ,	, L0003067	, L0003068	,
L0003077	L0003072 , L0003078	, L0003073 , L0003079	, L0003074 ,	, L0003075	, L0003076	,
L0003085	L0003080 , L0003086	, L0003081 , L0003087	, L0003082 ,	, L0003083	, L0003084	,
L0003093	L0003088 , L0003094	, L0003089 , L0003095	, L0003090 ,	, L0003091	, L0003092	,
L0003101	L0003096 , L0003102	, L0003097 , L0003103	, L0003098 ,	, L0003099	, L0003100	,
L0003109	L0003104 , L0003110	, L0003105 , L0003111	, L0003106 ,	, L0003107	, L0003108	,
L0003117	L0003112 , L0003118	, L0003113 , L0003119	, L0003114 ,	, L0003115	, L0003116	,
L0003125	L0003120 , L0003126	, L0003121 , L0003127	, L0003122 ,	, L0003123	, L0003124	,
L0003133	L0003128 , L0003134	, L0003129 , L0003135	, L0003130 ,	, L0003131	, L0003132	,
L0003141	L0003136 , L0003142	, L0003137 , L0003143	, L0003138 ,	, L0003139	, L0003140	,
L0003149	L0003144 , L0003150	, L0003145 , L0003151	, L0003146 ,	, L0003147	, L0003148	,
L0003157	L0003152 , L0003158	, L0003153 , L0003159	, L0003154 ,	, L0003155	, L0003156	,
L0003165	L0003160 , L0003166	, L0003161 , L0003167	, L0003162 ,	, L0003163	, L0003164	,
L0003173	L0003168 , L0003174	, L0003169 , L0003175	, L0003170 ,	, L0003171	, L0003172	,
L0003181	L0003176 , L0003182	, L0003177 , L0003183	, L0003178 ,	, L0003179	, L0003180	,
L0003189	L0003184 , L0003190	, L0003185 , L0003191	, L0003186 ,	, L0003187	, L0003188	,

L0003192 , L0003193 , L0003194 , L0003195 , L0003196 ,  
 L0003197 , L0003198 , L0003199 ,  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

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URBAN ID	URBAN POP	SOURCE IDs
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L0003205	L0003200 , L0003206	L0003201 , L0003202 , L0003203 , L0003204 , L0003207
L0003213	L0003208 , L0003214	L0003209 , L0003210 , L0003211 , L0003212 , L0003215
L0003221	L0003216 , L0003222	L0003217 , L0003218 , L0003219 , L0003220 , L0003223
L0003229	L0003224 , L0003230	L0003225 , L0003226 , L0003227 , L0003228 , L0003231
L0003237	L0003232 , L0003238	L0003233 , L0003234 , L0003235 , L0003236 , L0003239
L0003245	L0003240 , L0003246	L0003241 , L0003242 , L0003243 , L0003244 , L0003247
L0003253	L0003248 , L0003254	L0003249 , L0003250 , L0003251 , L0003252 , L0003255
L0003261	L0003256 , L0003262	L0003257 , L0003258 , L0003259 , L0003260 , L0003263
L0003269	L0003264 , L0003270	L0003265 , L0003266 , L0003267 , L0003268 , L0003271
L0003277	L0003272 , L0003278	L0003273 , L0003274 , L0003275 , L0003276 , L0003279
	L0003280	L0003281 , L0003282 , L0003283 , L0003284

L0003285 , L0003286 , L0003287 ,  
L0003288 , L0003289 , L0003290 , L0003291 , L0003292 ,  
L0003293 , L0003294 , L0003295 ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

( 440566.1, 3761307.7, 204.0, 204.0, 0.0); ( 440754.0,  
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( 440893.9, 3761226.5, 204.0, 204.0, 0.0); ( 441213.1,  
3761237.7, 204.1, 204.1, 0.0);  
( 441159.8, 3761390.7, 205.1, 205.1, 0.0); ( 441227.4,  
3761481.3, 206.3, 206.3, 0.0);  
( 441082.1, 3761541.4, 206.4, 206.4, 0.0); ( 441232.2,  
3761830.6, 208.8, 208.8, 0.0);  
( 441646.9, 3761227.7, 205.0, 205.0, 0.0); ( 441817.1,  
3761247.3, 205.5, 205.5, 0.0);  
( 442032.0, 3761370.5, 206.8, 206.8, 0.0); ( 442032.0,  
3761419.3, 207.1, 207.1, 0.0);  
( 442027.4, 3761327.6, 206.3, 206.3, 0.0); ( 441953.5,  
3761508.7, 207.9, 207.9, 0.0);  
( 442028.7, 3761572.7, 208.0, 208.0, 0.0); ( 440323.6,  
3761295.4, 203.4, 203.4, 0.0);  
( 440261.5, 3761302.2, 203.4, 203.4, 0.0); ( 440432.9,  
3761497.0, 205.5, 205.5, 0.0);  
( 440427.0, 3761600.6, 206.9, 206.9, 0.0); ( 440485.5,  
3762029.1, 210.9, 210.9, 0.0);  
( 440533.9, 3762035.0, 211.0, 211.0, 0.0); ( 440588.1,  
3762035.0, 211.0, 211.0, 0.0);  
( 440657.3, 3762052.1, 211.3, 211.3, 0.0); ( 440598.0,  
3762118.1, 211.9, 211.9, 0.0);  
( 440232.0, 3762035.2, 210.5, 210.5, 0.0); ( 440283.8,  
3762037.1, 210.7, 210.7, 0.0);  
( 440897.0, 3762038.4, 211.6, 211.6, 0.0); ( 439514.8,  
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( 439564.8, 3761885.5, 207.0, 207.0, 0.0); ( 439864.8,  
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( 439514.8, 3761935.5, 208.8, 208.8, 0.0); ( 439564.8,

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 ( 439864.8, 3761935.5, 208.4, 208.4, 0.0); ( 439514.8,  
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 ( 439564.8, 3761985.5, 208.5, 208.5, 0.0); ( 439864.8,  
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 ( 439514.8, 3762035.5, 209.1, 209.1, 0.0); ( 439564.8,  
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 ( 439864.8, 3762035.5, 209.4, 209.4, 0.0); ( 439864.8,  
 3762085.5, 210.1, 210.1, 0.0);  
 ( 439514.8, 3762135.5, 210.0, 210.0, 0.0); ( 439564.8,  
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 ( 439614.8, 3762135.5, 210.3, 210.3, 0.0); ( 439664.8,  
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 ( 439864.8, 3762135.5, 210.6, 210.6, 0.0); ( 439512.6,  
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 ( 439562.6, 3760864.6, 198.0, 198.0, 0.0); ( 439612.6,  
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 ( 439662.6, 3760864.6, 198.4, 198.4, 0.0); ( 439712.6,  
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 ( 439762.6, 3760864.6, 199.0, 199.0, 0.0); ( 439812.6,  
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 ( 439862.6, 3760864.6, 198.7, 198.7, 0.0); ( 439512.6,  
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 ( 439862.6, 3760914.6, 199.3, 199.3, 0.0); ( 439512.6,  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

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^ *** AERMOD - VERSION 21112 *** *** C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U ***
*** AERMET - VERSION 16216 *** ***
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10:02:08

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08/25/21

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

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^ *** AERMOD - VERSION 21112 *** *** C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U *** 08/25/21
*** AERMET - VERSION 16216 *** ***
*** 10:02:08

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

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^ *** AERMOD - VERSION 21112 *** C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U *** 08/25/21
*** AERMET - VERSION 16216 ***
*** 10:02:08

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

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*** AERMET - VERSION 16216 *** ***
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT  
BE PERFORMED \*  
LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR  
FASTAREA/FASTALL

DISTANCE (METERS)	SOURCE		- - RECEPTOR LOCATION - -	
	ID	XR (METERS)	YR (METERS)	
-9.39	L0002459	440374.9	3760519.4	
-17.10	L0002480	439908.5	3760435.0	
	L0002560	439858.5	3760592.9	

-0.20	L0002563	439859.1	3760692.9
0.33	L0002564	439859.4	3760742.9
-0.07	L0002567	439860.0	3760842.9
-0.89	L0002568	439862.6	3760864.6
0.15	L0002569	439862.6	3760914.6
-3.34	L0002570	439862.6	3760964.6
-1.09	L0002572	439862.6	3761014.6
-1.67	L0002573	439862.6	3761064.6
-2.73	L0002576	439862.6	3761164.6
-2.49	L0002577	439862.6	3761214.6
-1.08	L0002579	439862.6	3761264.6
-0.40	L0002580	439862.6	3761314.6
-2.24	L0002583	439862.6	3761414.6
-1.53	L0002584	439862.6	3761464.6
-0.94	L0002586	439862.6	3761514.6
0.95	L0002587	439862.6	3761564.6
-1.62	L0002590	439862.6	3761664.6
-0.46	L0002591	439862.6	3761714.6
-0.68	L0002594	439862.6	3761814.6
-0.89	L0002596	439864.8	3761885.5
-2.80	L0002597	439864.8	3761935.5
-1.02	L0002599	439864.8	3761985.5
-0.90	L0002600	439864.8	3762035.5
-2.39	L0002603	439864.8	3762135.5
-1.89			

-0.24 L0002961 445191.7 3760355.2  
-25.74 L0002962 445191.7 3760355.2  
0.25 L0002963 445191.7 3760355.2

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\*\*\* AERMET - VERSION 16216 \*\*\*  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* METEOROLOGICAL DAYS SELECTED FOR  
PROCESSING \*\*\*

(1=YES; 0=NO)

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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

\*\*\* UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED  
CATEGORIES \*\*\*

(METERS/SEC)

1.54, 3.09, 5.14, 8.23,  
10.80,

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View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/25/21  
\*\*\* AERMET - VERSION 16216 \*\*\*  
\*\*\* 10:02:08

\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* UP TO THE FIRST 24 HOURS OF METEOROLOGICAL

DATA \*\*\*

Surface file: ..\KCNO\_V9\_ADJU\KCNO\_v9.SFC  
 Met Version: 16216  
 Profile file: ..\KCNO\_V9\_ADJU\KCNO\_v9.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 3179  
 Name: UNKNOWN

Upper air station no.: 3190  
 Name: UNKNOWN

Year: 2012

Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN
ALBEDO	REF	WS	WD	HT	REF	TA	HT							
12	01	01	1	01	-2.3	0.067	-9.000	-9.000	-999.	41.	11.2	0.09	0.74	
1.00	0.73	313.			7.9	279.2	2.0							
12	01	01	1	02	-2.7	0.070	-9.000	-9.000	-999.	44.	11.3	0.09	0.74	
1.00	0.80	342.			7.9	280.9	2.0							
12	01	01	1	03	-5.6	0.098	-9.000	-9.000	-999.	73.	14.7	0.09	0.74	
1.00	1.20	9.			7.9	281.4	2.0							
12	01	01	1	04	-3.5	0.078	-9.000	-9.000	-999.	52.	11.9	0.09	0.74	
1.00	0.94	21.			7.9	282.0	2.0							
12	01	01	1	05	-8.4	0.119	-9.000	-9.000	-999.	99.	18.1	0.09	0.74	
1.00	1.45	353.			7.9	279.9	2.0							
12	01	01	1	06	-7.6	0.113	-9.000	-9.000	-999.	91.	17.0	0.09	0.74	
1.00	1.38	325.			7.9	277.5	2.0							
12	01	01	1	07	-8.0	0.117	-9.000	-9.000	-999.	96.	17.7	0.09	0.74	
1.00	1.42	313.			7.9	281.4	2.0							
12	01	01	1	08	-5.2	0.101	-9.000	-9.000	-999.	77.	17.5	0.09	0.74	
0.53	1.23	19.			7.9	280.9	2.0							
12	01	01	1	09	23.2	0.117	0.267	0.012	29.	97.	-6.2	0.09	0.74	
0.31	0.96	318.			7.9	287.5	2.0							
12	01	01	1	10	65.2	0.101	0.531	0.014	82.	77.	-1.4	0.09	0.74	
0.24	0.63	244.			7.9	291.4	2.0							
12	01	01	1	11	95.5	0.162	0.778	0.008	176.	156.	-4.0	0.09	0.74	
0.21	1.23	91.			7.9	296.4	2.0							
12	01	01	1	12	110.8	0.197	1.018	0.005	338.	209.	-6.1	0.09	0.74	
0.20	1.60	90.			7.9	299.9	2.0							

12	01	01	1	13	110.5	0.229	1.184	0.005	534.	262.	-9.6	0.09	0.74
0.20	1.98	92.		7.9	302.0	2.0							
12	01	01	1	14	94.6	0.185	1.215	0.005	674.	191.	-5.9	0.09	0.74
0.21	1.50	73.		7.9	303.1	2.0							
12	01	01	1	15	68.6	0.187	1.184	0.005	858.	194.	-8.4	0.09	0.74
0.25	1.59	64.		7.9	303.1	2.0							
12	01	01	1	16	24.9	0.255	0.862	0.005	911.	308.	-58.8	0.09	0.74
0.34	2.61	92.		7.9	300.4	2.0							
12	01	01	1	17	-13.7	0.168	-9.000	-9.000	-999.	168.	31.1	0.09	0.74
0.62	1.98	107.		7.9	295.4	2.0							
12	01	01	1	18	-26.7	0.279	-9.000	-9.000	-999.	354.	85.6	0.09	0.74
1.00	3.22	134.		7.9	291.4	2.0							
12	01	01	1	19	-8.0	0.118	-9.000	-9.000	-999.	120.	18.2	0.09	0.74
1.00	1.43	37.		7.9	290.4	2.0							
12	01	01	1	20	-7.7	0.115	-9.000	-9.000	-999.	94.	17.6	0.09	0.74
1.00	1.40	49.		7.9	287.0	2.0							
12	01	01	1	21	-9.7	0.130	-9.000	-9.000	-999.	113.	20.2	0.09	0.74
1.00	1.57	26.		7.9	288.8	2.0							
12	01	01	1	22	-4.8	0.090	-9.000	-9.000	-999.	65.	13.6	0.09	0.74
1.00	1.11	56.		7.9	284.9	2.0							
12	01	01	1	23	-11.5	0.141	-9.000	-9.000	-999.	127.	21.9	0.09	0.74
1.00	1.69	36.		7.9	282.0	2.0							
12	01	01	1	24	-16.9	0.172	-9.000	-9.000	-999.	171.	32.4	0.09	0.74
1.00	2.03	33.		7.9	279.9	2.0							

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
12	01	01	01	7.9	1	313.	0.73	279.3	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

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 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
                                          \*\*\*                      10:02:08

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\*\*\* MODELOPTs:      RegDFault      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL                      INCLUDING SOURCE(S):      L0002165      , L0002166  
 , L0002167      , L0002168      , L0002169      ,  
                                          L0002170      , L0002171      , L0002172      , L0002173      , L0002174  
 , L0002175      , L0002176      , L0002177      ,  
                                          L0002178      , L0002179      , L0002180      , L0002181      , L0002182  
 , L0002183      , L0002184      , L0002185      ,  
                                          L0002186      , L0002187      , L0002188      , L0002189      , L0002190  
 , L0002191      , L0002192      , . . .      ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

Y-COORD (M)	X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
3761303.17	440566.09	3761307.70	0.54834	440753.96
3761298.60	440851.52	3761299.51	0.50345	440971.94
3761237.69	440893.94	3761226.53	0.69765	441213.06
3761481.34	441159.80	3761390.72	0.24492	441227.40
3761830.62	441082.11	3761541.41	0.16086	441232.16
3761247.30	441646.93	3761227.68	0.18101	441817.10
3761419.29	442031.98	3761370.48	0.11011	442031.98
3761508.71	442027.42	3761327.59	0.11284	441953.51
3761295.37	442028.70	3761572.71	0.09336	440323.58
3761497.04	440261.53	3761302.22	0.30511	440432.94
3762029.06	440427.03	3761600.65	0.13588	440485.55
3762034.96	440533.86	3762034.96	0.05204	440588.09
3762118.06	440657.35	3762052.07	0.05077	440598.04
3762037.11	440231.97	3762035.21	0.04915	440283.76
3761885.55	440897.05	3762038.37	0.05043	439514.80
3761885.55	439564.80	3761885.55	0.04421	439864.80
3761935.55	439514.80	3761935.55	0.03872	439564.80
3761985.55	439864.80	3761935.55	0.05106	439514.80
3761985.55	439564.80	3761985.55	0.03857	439864.80
3761985.55	439564.80	3761985.55	0.04742	

439514.80	3762035.55	0.03526	439564.80
3762035.55	0.03634		
439864.80	3762035.55	0.04444	439864.80
3762085.55	0.04226		
439514.80	3762135.55	0.03174	439564.80
3762135.55	0.03248		
439614.80	3762135.55	0.03336	439664.80
3762135.55	0.03376		
439714.80	3762135.55	0.03450	439764.80
3762135.55	0.03542		
439864.80	3762135.55	0.03894	439512.61
3760864.65	0.08921		
439562.61	3760864.65	0.09662	439612.61
3760864.65	0.10509		
439662.61	3760864.65	0.11485	439712.61
3760864.65	0.12617		
439762.61	3760864.65	0.13947	439812.61
3760864.65	0.15530		
439862.61	3760864.65	0.17435	439512.61
3760914.65	0.08870		
439562.61	3760914.65	0.09606	439612.61
3760914.65	0.10445		
439662.61	3760914.65	0.11411	439712.61
3760914.65	0.12532		
439762.61	3760914.65	0.13847	439812.61
3760914.65	0.15414		
439862.61	3760914.65	0.17291	439512.61
3760964.65	0.08789		
439562.61	3760964.65	0.09514	439612.61
3760964.65	0.10338		
439662.61	3760964.65	0.11287	439712.61
3760964.65	0.12386		
439762.61	3760964.65	0.13673	439812.61
3760964.65	0.15208		
439862.61	3760964.65	0.17052	439512.61
3761014.65	0.08681		
439562.61	3761014.65	0.09388	439612.61
3761014.65	0.10192		
439662.61	3761014.65	0.11116	439712.61
3761014.65	0.12183		
439762.61	3761014.65	0.13430	439812.61
3761014.65	0.14916		

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08/25/21



\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
439862.61	3761014.65	0.16691	439512.61
3761064.65	0.08547		
439562.61	3761064.65	0.09232	439612.61
3761064.65	0.10011		
439662.61	3761064.65	0.10902	439712.61
3761064.65	0.11929		
439762.61	3761064.65	0.13125	439812.61
3761064.65	0.14548		
439862.61	3761064.65	0.16238	439512.61
3761114.65	0.08390		
439562.61	3761114.65	0.09050	439612.61
3761114.65	0.09798		
439662.61	3761114.65	0.10650	439712.61
3761114.65	0.11630		
439762.61	3761114.65	0.12767	439812.61
3761114.65	0.14113		
439862.61	3761114.65	0.15791	439512.61
3761164.65	0.08212		
439562.61	3761164.65	0.08843	439612.61
3761164.65	0.09556		
439662.61	3761164.65	0.10365	439712.61
3761164.65	0.11293		
439762.61	3761164.65	0.12364	439812.61
3761164.65	0.13526		
439862.61	3761164.65	0.14999	439512.61
3761214.65	0.08018		
439562.61	3761214.65	0.08618	439612.61

3761214.65	0.09293		
439662.61	3761214.65	0.09985	439712.61
3761214.65	0.10849		
439762.61	3761214.65	0.11822	439812.61
3761214.65	0.12964		
439862.61	3761214.65	0.14260	439512.61
3761264.65	0.07811		
439562.61	3761264.65	0.08379	439612.61
3761264.65	0.09016		
439662.61	3761264.65	0.09661	439712.61
3761264.65	0.10452		
439762.61	3761264.65	0.11271	439812.61
3761264.65	0.12221		
439862.61	3761264.65	0.13529	439512.61
3761314.65	0.07595		
439562.61	3761314.65	0.08083	439612.61
3761314.65	0.08541		
439662.61	3761314.65	0.09172	439712.61
3761314.65	0.10056		
439762.61	3761314.65	0.10683	439812.61
3761314.65	0.11533		
439862.61	3761314.65	0.12610	439512.61
3761364.65	0.07318		
439562.61	3761364.65	0.07801	439612.61
3761364.65	0.08162		
439662.61	3761364.65	0.08712	439712.61
3761364.65	0.09379		
439762.61	3761364.65	0.10119	439812.61
3761364.65	0.10967		
439862.61	3761364.65	0.12014	439512.61
3761414.65	0.06972		
439562.61	3761414.65	0.07428	439612.61
3761414.65	0.07866		
439662.61	3761414.65	0.08360	439712.61
3761414.65	0.08943		
439762.61	3761414.65	0.09601	439812.61
3761414.65	0.10383		
439862.61	3761414.65	0.11222	439512.61
3761464.65	0.06610		
439562.61	3761464.65	0.07048	439612.61
3761464.65	0.07504		
439662.61	3761464.65	0.07994	439712.61
3761464.65	0.08523		
439762.61	3761464.65	0.09114	439812.61
3761464.65	0.09815		
439862.61	3761464.65	0.10563	439512.61
3761514.65	0.06399		
439562.61	3761514.65	0.06782	439612.61
3761514.65	0.07182		

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      439662.61    3761514.65          0.07615          439712.61
3761514.65      0.08098
      439762.61    3761514.65          0.08589          439812.61
3761514.65      0.09185
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

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*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL      ***
      INCLUDING SOURCE(S):      L0002165      , L0002166
, L0002167      , L0002168      , L0002169      ,
      L0002170      , L0002171      , L0002172      , L0002173      , L0002174
, L0002175      , L0002176      , L0002177      ,
      L0002178      , L0002179      , L0002180      , L0002181      , L0002182
, L0002183      , L0002184      , L0002185      ,
      L0002186      , L0002187      , L0002188      , L0002189      , L0002190
, L0002191      , L0002192      , . . .      ,

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\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup>

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
439862.61	3761514.65	0.09767	439512.61
3761564.65	0.06157		
439562.61	3761564.65	0.06489	439612.61
3761564.65	0.06854		
439662.61	3761564.65	0.07254	439712.61
3761564.65	0.07599		
439762.61	3761564.65	0.07898	439812.61
3761564.65	0.08336		
439862.61	3761564.65	0.08853	439512.61
3761614.65	0.05904		
439562.61	3761614.65	0.06213	439862.61
3761614.65	0.08349		
439512.61	3761664.65	0.05450	439562.61
3761664.65	0.05739		
439862.61	3761664.65	0.07673	439512.61
3761714.65	0.05246		

439562.61	3761714.65	0.05439	439862.61
3761714.65	0.07140		
439512.61	3761764.65	0.05039	439562.61
3761764.65	0.05164		
439862.61	3761764.65	0.06628	439512.61
3761814.65	0.04761		
439562.61	3761814.65	0.04868	439862.61
3761814.65	0.06050		
439512.61	3761864.65	0.04520	439562.61
3761864.65	0.04615		
439862.61	3761864.65	0.05680	439947.85
3760913.55	0.21339		
439947.57	3760863.55	0.21492	439947.28
3760813.55	0.21459		
439947.00	3760763.55	0.21278	439946.72
3760713.55	0.20946		
439946.44	3760663.55	0.20473	439946.16
3760613.56	0.19867		
439945.87	3760563.56	0.19152	439945.59
3760513.56	0.18413		
439840.54	3760412.27	0.13576	439840.25
3760362.27	0.12959		
439839.97	3760312.27	0.12343	439839.69
3760262.27	0.11727		
439839.41	3760212.27	0.11126	439839.13
3760162.27	0.10546		
439838.84	3760112.27	0.09985	439838.56
3760062.27	0.09450		
439838.28	3760012.27	0.08940	439838.00
3759962.28	0.08459		
439837.72	3759912.28	0.08008	439837.43
3759862.28	0.07582		
439837.15	3759812.28	0.07184	439827.57
3758112.30	0.01965		
439927.52	3758104.25	0.02050	439937.11
3759804.22	0.07711		
439937.39	3759854.22	0.08175	439937.67
3759904.22	0.08684		
439937.95	3759954.22	0.09228	439938.24
3760004.22	0.09813		
439938.52	3760054.22	0.10448	439938.80
3760104.22	0.11131		
439939.08	3760154.22	0.11868	439939.36
3760204.22	0.12652		
439939.65	3760254.22	0.13477	439939.93
3760304.22	0.14349		
439940.21	3760354.21	0.15261	439940.49
3760404.21	0.16237		
439857.97	3760492.88	0.15095	439858.26

3760542.88	0.15660			
439858.54	3760592.88	0.16085		439858.82
3760642.88	0.16591			
439859.10	3760692.88	0.16864		439859.38
3760742.88	0.17119			
439859.67	3760792.88	0.17347		439859.95
3760842.88	0.17331			
439908.55	3760435.04	0.15903		439949.66
3760417.49	0.16795			
439999.66	3760417.71	0.18459		440049.66
3760417.93	0.20408			
440099.66	3760418.15	0.22679		440149.66
3760418.37	0.25340			
440199.66	3760418.59	0.28425		440249.66
3760418.81	0.31951			

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\*\*\* MODELOPTs:      RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL      INCLUDING SOURCE(S):      L0002165      ,      L0002166  
 , L0002167      ,      L0002168      ,      L0002169      ,  
                                  L0002170      ,      L0002171      ,      L0002172      ,      L0002173      ,      L0002174  
 , L0002175      ,      L0002176      ,      L0002177      ,  
                                  L0002178      ,      L0002179      ,      L0002180      ,      L0002181      ,      L0002182  
 , L0002183      ,      L0002184      ,      L0002185      ,  
                                  L0002186      ,      L0002187      ,      L0002188      ,      L0002189      ,      L0002190  
 , L0002191      ,      L0002192      ,      . . .      ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10      IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
440299.66	3760419.03	0.35891	440349.66
3760419.25	0.40125		
440399.66	3760419.46	0.44223	440799.65
3760421.22	0.44200		
440849.65	3760421.44	0.40512	440899.65

3760421.66	0.36901		
440949.65	3760421.88	0.33725	440999.65
3760422.10	0.30918		
441049.65	3760422.32	0.28440	441099.65
3760422.54	0.26244		
441149.65	3760422.76	0.24295	441199.65
3760422.98	0.22563		
441249.65	3760423.20	0.21012	441299.65
3760423.42	0.19622		
441349.65	3760423.64	0.18373	441399.65
3760423.86	0.17249		
441449.65	3760424.07	0.16227	441499.65
3760424.29	0.15299		
441549.65	3760424.51	0.14454	441599.64
3760424.73	0.13683		
441649.64	3760424.95	0.12975	441699.64
3760425.17	0.12324		
441749.64	3760425.39	0.11725	441799.64
3760425.61	0.11171		
441849.64	3760425.83	0.10658	441899.64
3760426.05	0.10181		
441949.64	3760426.27	0.09738	441999.64
3760426.49	0.09323		
442049.64	3760426.71	0.08938	442099.64
3760426.93	0.08576		
442149.64	3760427.15	0.08238	442199.64
3760427.37	0.07921		
442249.64	3760427.59	0.07623	442299.64
3760427.81	0.07342		
442349.64	3760428.03	0.07078	442399.64
3760428.25	0.06830		
442449.64	3760428.47	0.06596	442499.64
3760428.69	0.06374		
442549.64	3760428.90	0.06163	442599.64
3760429.12	0.05962		
442649.63	3760429.34	0.05773	442699.63
3760429.56	0.05595		
442749.63	3760429.78	0.05425	442799.63
3760430.00	0.05263		
442849.63	3760430.22	0.05109	442899.63
3760430.44	0.04962		
442949.63	3760430.66	0.04822	442999.63
3760430.88	0.04688		
443049.63	3760431.10	0.04560	443099.63
3760431.32	0.04438		
443149.63	3760431.54	0.04321	443199.63
3760431.76	0.04227		
443249.63	3760431.98	0.04122	443299.63
3760432.20	0.04019		

443349.63	3760432.42	0.03925	443399.63
3760432.64	0.03847		
443449.63	3760432.86	0.03768	443499.63
3760433.08	0.03675		
443549.63	3760433.30	0.03600	443599.63
3760433.51	0.03550		
443649.63	3760433.73	0.03480	443699.62
3760433.95	0.03396		
443749.62	3760434.17	0.03322	443799.62
3760434.39	0.03252		
443849.62	3760434.61	0.03197	443899.62
3760434.83	0.03144		
443957.56	3760448.00	0.03168	444003.78
3760428.92	0.03039		
444049.99	3760409.83	0.02945	444096.20
3760390.74	0.02853		
444142.42	3760371.65	0.02736	444191.79
3760367.99	0.02660		
444241.79	3760367.35	0.02608	444291.78
3760366.71	0.02564		
444341.78	3760366.07	0.02519	444391.77
3760365.44	0.02474		
444441.77	3760364.80	0.02432	444491.77
3760364.16	0.02390		
444541.76	3760363.52	0.02348	444591.76
3760362.88	0.02308		

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*                    08/25/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*  
                                          \*\*\*                    10:02:08

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\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL                    INCLUDING SOURCE(S):            L0002165            , L0002166  
 , L0002167            , L0002168            , L0002169            ,  
                                          L0002170            , L0002171            , L0002172            , L0002173            , L0002174  
 , L0002175            , L0002176            , L0002177            ,  
                                          L0002178            , L0002179            , L0002180            , L0002181            , L0002182  
 , L0002183            , L0002184            , L0002185            ,  
                                          L0002186            , L0002187            , L0002188            , L0002189            , L0002190  
 , L0002191            , L0002192            , . . .            ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10            IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
444641.75	3760362.25	0.02261	444691.75
3760361.61	0.02234		
444741.75	3760360.97	0.02200	444791.74
3760360.33	0.02166		
444841.74	3760359.69	0.02133	444891.73
3760359.05	0.02102		
444941.73	3760358.42	0.02071	444991.73
3760357.78	0.02043		
445041.72	3760357.14	0.02018	445091.72
3760356.50	0.01998		
445141.71	3760355.86	0.02000	445191.71
3760355.22	0.01906		
445166.91	3760455.55	0.02127	445116.92
3760456.19	0.02083		
445066.92	3760456.83	0.02092	445016.93
3760457.46	0.02115		
444966.93	3760458.10	0.02143	444916.93
3760458.74	0.02167		
444866.94	3760459.38	0.02192	444816.94
3760460.02	0.02219		
444766.95	3760460.66	0.02252	444716.95
3760461.29	0.02313		
444666.95	3760461.93	0.02320	444616.96
3760462.57	0.02351		
444566.96	3760463.21	0.02440	444516.97
3760463.85	0.02474		
444466.97	3760464.48	0.02506	444416.97
3760465.12	0.02554		
444366.98	3760465.76	0.02595	444316.98
3760466.40	0.02631		
444266.99	3760467.04	0.02681	444216.99
3760467.68	0.02735		
444167.26	3760469.59	0.02801	444121.04
3760488.68	0.02843		
444074.83	3760507.76	0.02947	444028.62
3760526.85	0.03019		
443982.40	3760545.94	0.03102	443933.78
3760552.72	0.03198		
443874.89	3760534.72	0.03280	443824.89
3760534.50	0.03341		
443774.89	3760534.29	0.03399	443724.89
3760534.07	0.03473		
443674.89	3760533.85	0.03552	443624.89



3760533.63	0.03632			
443574.89	3760533.41	0.03708		443524.89
3760533.19	0.03809			
443474.89	3760532.97	0.03903		443424.90
3760532.75	0.04003			
443374.90	3760532.53	0.04096		443324.90
3760532.31	0.04207			
443274.90	3760532.09	0.04319		443224.90
3760531.87	0.04429			
443174.90	3760531.65	0.04531		443124.90
3760531.43	0.04644			
443074.90	3760531.21	0.04757		443024.90
3760530.99	0.04895			
442974.90	3760530.77	0.04956		442924.90
3760530.55	0.05106			
442874.90	3760530.33	0.05264		442824.90
3760530.11	0.05431			
442774.90	3760529.89	0.05606		442724.90
3760529.68	0.05784			
442674.90	3760529.46	0.05972		442624.90
3760529.24	0.06184			
442574.90	3760529.02	0.06410		442524.90
3760528.80	0.06641			
442474.90	3760528.58	0.06886		442424.91
3760528.36	0.07146			
442374.91	3760528.14	0.07423		442324.91
3760527.92	0.07718			
442274.91	3760527.70	0.08033		442224.91
3760527.48	0.08370			
442174.91	3760527.26	0.08730		442124.91
3760527.04	0.09115			
442074.91	3760526.82	0.09529		442024.91
3760526.60	0.09974			
441974.91	3760526.38	0.10454		441924.91
3760526.16	0.10974			
441874.91	3760525.94	0.11536		441824.91
3760525.72	0.12146			

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\*\*\* MODELOPTs:      RegDFault      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL      INCLUDING SOURCE(S):      L0002165      ,      L0002166  
 ,      L0002167      ,      L0002168      ,      L0002169      ,

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, L0002175      , L0002170      , L0002171      , L0002172      , L0002173      , L0002174
, L0002176      , L0002176      , L0002177      ,
, L0002183      , L0002178      , L0002179      , L0002180      , L0002181      , L0002182
, L0002184      , L0002184      , L0002185      ,
, L0002186      , L0002186      , L0002187      , L0002188      , L0002189      , L0002190
, L0002191      , L0002192      , . . .

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\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup>

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
441774.91	3760525.50	0.12811	441724.91
3760525.28	0.13537		
441674.91	3760525.06	0.14333	441624.91
3760524.85	0.15209		
441574.91	3760524.63	0.16176	441524.91
3760524.41	0.17249		
441474.91	3760524.19	0.18447	441424.91
3760523.97	0.19789		
441374.92	3760523.75	0.21303	441324.92
3760523.53	0.23023		
441274.92	3760523.31	0.24991	441224.92
3760523.09	0.27260		
441174.92	3760522.87	0.29899	441124.92
3760522.65	0.32994		
441074.92	3760522.43	0.36660	441024.92
3760522.21	0.41039		
440974.92	3760521.99	0.46358	440924.92
3760521.77	0.52824		
440874.92	3760521.55	0.60784	440824.92
3760521.33	0.70502		
440374.92	3760519.36	0.67008	440324.93
3760519.14	0.55217		
440274.93	3760518.92	0.45708	440224.93
3760518.70	0.38272		
440174.93	3760518.48	0.32681	440124.93
3760518.26	0.28305		
440074.93	3760518.04	0.24791	440024.93
3760517.82	0.21939		
439974.93	3760517.60	0.19608	439933.82
3760535.15	0.18309		
445138.86	3760315.71	0.01919	445165.09
3759616.20	0.01528		

445166.97	3759566.24	0.01476	445208.34
3759556.77	0.01513		
445258.34	3759556.14	0.01545	445308.34
3759555.51	0.01539		
449408.01	3759503.78	0.00656	449423.82
3759603.59	0.00654		
445238.82	3760499.17	0.02039	445239.41
3760549.16	0.02049		
449255.91	3762522.00	0.00779	449232.19
3762619.67	0.00768		
445265.82	3762064.86	0.01838	445215.82
3762064.86	0.01853		
445165.82	3762064.86	0.01861	445156.70
3762023.50	0.01909		
445139.69	3760573.60	0.02027	445139.10
3760523.60	0.02021		
441152.00	3762046.59	0.04976	441564.94
3762050.09	0.05069		
439944.18	3762179.79	0.03864	439944.37
3762229.79	0.03660		
439944.57	3762279.79	0.03426	439944.77
3762329.79	0.03240		
439944.96	3762379.79	0.03090	439945.16
3762429.79	0.02923		
439945.36	3762479.79	0.02768	439945.55
3762529.79	0.02632		
439945.75	3762579.79	0.02499	439945.94
3762629.79	0.02385		
439946.14	3762679.79	0.02274	439946.34
3762729.79	0.02177		
439958.30	3765779.77	0.00513	439846.49
3762769.33	0.01972		
439846.29	3762719.33	0.02061	439846.10
3762669.33	0.02163		
439845.90	3762619.33	0.02270	439845.71
3762569.33	0.02383		
439845.51	3762519.33	0.02507	439845.31
3762469.33	0.02628		
439845.12	3762419.33	0.02764	439844.92
3762369.33	0.02918		
439844.73	3762319.33	0.03077	439844.53
3762269.33	0.03276		
439844.33	3762219.33	0.03488	446702.53
3762334.08	0.01290		
446751.23	3762345.44	0.01267	446708.40
3762438.13	0.01240		
439319.73	3759944.08	0.05077	439369.73
3759944.08	0.05311		

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION

VALUES FOR SOURCE GROUP: ALL

\*\*\*

INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 , L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 , L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 , L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
439419.73	3759944.08	0.05561	439469.73
3759944.08	0.05826		
439519.73	3759944.08	0.06103	439569.73
3759944.08	0.06395		
439619.73	3759944.08	0.06704	439669.73
3759944.08	0.07027		
439719.73	3759944.08	0.07369	439319.73
3759994.08	0.05224		
439369.73	3759994.08	0.05475	439419.73
3759994.08	0.05743		
439469.73	3759994.08	0.06026	439519.73
3759994.08	0.06330		
439569.73	3759994.08	0.06655	439619.73
3759994.08	0.06985		
439669.73	3759994.08	0.07346	439719.73
3759994.08	0.07728		
439319.73	3760044.08	0.05369	439369.73
3760044.08	0.05638		
439419.73	3760044.08	0.05924	439469.73
3760044.08	0.06229		
439519.73	3760044.08	0.06558	439569.73

3760044.08	0.06906			
439619.73	3760044.08	0.07270		439669.73
3760044.08	0.07677			
439719.73	3760044.08	0.08102		439319.73
3760094.08	0.05513			
439369.73	3760094.08	0.05800		439419.73
3760094.08	0.06108			
439469.73	3760094.08	0.06437		439519.73
3760094.08	0.06793			
439569.73	3760094.08	0.07170		439619.73
3760094.08	0.07573			
439669.73	3760094.08	0.08020		439719.73
3760094.08	0.08489			
439319.73	3760144.08	0.05652		439369.73
3760144.08	0.05957			
439419.73	3760144.08	0.06288		439469.73
3760144.08	0.06640			
439519.73	3760144.08	0.07023		439569.73
3760144.08	0.07433			
439619.73	3760144.08	0.07875		439669.73
3760144.08	0.08363			
439719.73	3760144.08	0.08883		439319.73
3760194.08	0.05787			
439369.73	3760194.08	0.06108		439419.73
3760194.08	0.06467			
439469.73	3760194.08	0.06841		439519.73
3760194.08	0.07247			
439569.73	3760194.08	0.07693		439619.73
3760194.08	0.08176			
439669.73	3760194.08	0.08706		439719.73
3760194.08	0.09283			
439319.73	3760244.08	0.05918		439369.73
3760244.08	0.06256			
439419.73	3760244.08	0.06638		439469.73
3760244.08	0.07032			
439519.73	3760244.08	0.07476		439569.73
3760244.08	0.07952			
439619.73	3760244.08	0.08466		439669.73
3760244.08	0.09053			
439719.73	3760244.08	0.09689		439319.73
3760294.08	0.06054			
439369.73	3760294.08	0.06410		439419.73
3760294.08	0.06796			
439469.73	3760294.08	0.07221		439519.73
3760294.08	0.07692			
439569.73	3760294.08	0.08204		439619.73
3760294.08	0.08760			
439669.73	3760294.08	0.09388		439719.73
3760294.08	0.10091			

439319.73	3760344.08	0.06176	439369.73
3760344.08	0.06549		
439419.73	3760344.08	0.06959	439469.73
3760344.08	0.07406		
439519.73	3760344.08	0.07898	439569.73
3760344.08	0.08443		
439619.73	3760344.08	0.09052	439669.73
3760344.08	0.09734		
439719.73	3760344.08	0.10493	439319.73
3760394.08	0.06293		

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\*\*\* MODELOPTs:    RegDEFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL    INCLUDING SOURCE(S):    L0002165    ,    L0002166  
 , L0002167    , L0002168    , L0002169    ,  
                                  L0002170    , L0002171    , L0002172    , L0002173    , L0002174  
 , L0002175    , L0002176    , L0002177    ,  
                                  L0002178    , L0002179    , L0002180    , L0002181    , L0002182  
 , L0002183    , L0002184    , L0002185    ,  
                                  L0002186    , L0002187    , L0002188    , L0002189    , L0002190  
 , L0002191    , L0002192    , . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10    IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
439369.73	3760394.08	0.06684	439419.73
3760394.08	0.07113		
439469.73	3760394.08	0.07586	439519.73
3760394.08	0.08107		
439569.73	3760394.08	0.08685	439619.73
3760394.08	0.09335		
439669.73	3760394.08	0.10067	439719.73
3760394.08	0.10887		
439874.21	3765787.45	0.00440	438730.25
3763176.04	0.01040		

439155.52 3762752.44 0.01561 438236.34  
 3763973.00 0.00611

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 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/25/21  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

Y-COORD (M)	X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	CONC (YYMMDDHH)	X-COORD (M)
3761303.17	440566.09	3761307.70	4.05102 (16090204)	4.05102 (16090204)	440753.96
3761298.60	440851.52	3761299.51	3.50035 (13110717)	3.50035 (13110717)	440971.94
3761237.69	440893.94	3761226.53	3.36050 (15070606)	3.36050 (15070606)	441213.06
3761481.34	441159.80	3761390.72	1.96033 (13062920)	1.96033 (13062920)	441227.40
3761830.62	441082.11	3761541.41	2.13248 (15061306)	2.13248 (15061306)	441232.16
3761247.30	441646.93	3761227.68	1.21745 (15082520)	1.21745 (15082520)	441817.10
3761419.29	442031.98	3761370.48	1.01059 (16081622)	1.01059 (16081622)	442031.98
3761508.71	442027.42	3761327.59	1.00108 (12092020)	1.00108 (12092020)	441953.51
3761295.37	442028.70	3761572.71	1.03297 (13062921)	1.03297 (13062921)	440323.58
	3761295.37	3.48190 (16102019)			

440261.53	3761302.22	2.97971	(15072002)	440432.94
3761497.04	2.88682 (16110223)			
440427.03	3761600.65	2.63707	(16091906)	440485.55
3762029.06	1.95339 (13083106)			
440533.86	3762034.96	1.94578	(16072222)	440588.09
3762034.96	1.92429 (15063001)			
440657.35	3762052.07	1.90676	(14091620)	440598.04
3762118.06	1.83518 (16062624)			
440231.97	3762035.21	1.76034	(12121804)	440283.76
3762037.11	1.81598 (14082205)			
440897.05	3762038.37	1.86554	(12082922)	439514.80
3761885.55	1.13262 (15102306)			
439564.80	3761885.55	1.18097	(15102306)	439864.80
3761885.55	1.51032 (15090205)			
439514.80	3761935.55	1.20814	(12081704)	439564.80
3761935.55	1.21502 (16040703)			
439864.80	3761935.55	1.47749	(15100522)	439514.80
3761985.55	1.16416 (15013007)			
439564.80	3761985.55	1.21203	(15092402)	439864.80
3761985.55	1.47698 (12010219)			
439514.80	3762035.55	1.17792	(15092402)	439564.80
3762035.55	1.21201 (15092402)			
439864.80	3762035.55	1.45800	(12010219)	439864.80
3762085.55	1.45524 (14091524)			
439514.80	3762135.55	1.16074	(15062224)	439564.80
3762135.55	1.20249 (16102018)			
439614.80	3762135.55	1.23748	(16072323)	439664.80
3762135.55	1.30584 (16072103)			
439714.80	3762135.55	1.35491	(13091323)	439764.80
3762135.55	1.39148 (13091323)			
439864.80	3762135.55	1.43180	(14091524)	439512.61
3760864.65	1.08340 (16102417)			
439562.61	3760864.65	1.13089	(16102417)	439612.61
3760864.65	1.18158 (16102417)			
439662.61	3760864.65	1.23692	(14020117)	439712.61
3760864.65	1.29831 (14011717)			
439762.61	3760864.65	1.36490	(14011717)	439812.61
3760864.65	1.45297 (15100918)			
439862.61	3760864.65	1.55189	(15100918)	439512.61
3760914.65	1.09373 (16102417)			
439562.61	3760914.65	1.14368	(16102417)	439612.61
3760914.65	1.19622 (16102417)			
439662.61	3760914.65	1.25412	(16102417)	439712.61
3760914.65	1.31691 (16102417)			
439762.61	3760914.65	1.38601	(16102417)	439812.61
3760914.65	1.46123 (16102417)			
439862.61	3760914.65	1.55155	(14011717)	439512.61
3760964.65	1.08007 (15120517)			
439562.61	3760964.65	1.13114	(16102417)	439612.61



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3760964.65      1.18556 (16102417)
      439662.61  3760964.65      1.24673 (16102417)      439712.61
3760964.65      1.31398 (16102417)
      439762.61  3760964.65      1.38973 (16102417)      439812.61
3760964.65      1.47425 (16102417)
      439862.61  3760964.65      1.56928 (16102417)      439512.61
3761014.65      1.06624 (12121001)
      439562.61  3761014.65      1.11700 (16022406)      439612.61
3761014.65      1.17092 (16022406)
      439662.61  3761014.65      1.23021 (16022406)      439712.61
3761014.65      1.29481 (16022406)
      439762.61  3761014.65      1.36627 (16022406)      439812.61
3761014.65      1.44842 (16122920)

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^ *** AERMOD - VERSION 21112 *** *** C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U ***      08/25/21
*** AERMET - VERSION 16216 *** ***
***      10:02:08

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

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*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL ***
      INCLUDING SOURCE(S): L0002165 , L0002166
, L0002167 , L0002168 , L0002169 ,
      L0002170 , L0002171 , L0002172 , L0002173 , L0002174
, L0002175 , L0002176 , L0002177 ,
      L0002178 , L0002179 , L0002180 , L0002181 , L0002182
, L0002183 , L0002184 , L0002185 ,
      L0002186 , L0002187 , L0002188 , L0002189 , L0002190
, L0002191 , L0002192 , . . . ,

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\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)
439862.61	3761014.65	1.54305 (16122920)	439512.61
3761064.65	1.07043 (15110717)		
439562.61	3761064.65	1.12363 (15110717)	439612.61
3761064.65	1.18015 (15110717)		
439662.61	3761064.65	1.24166 (15110717)	439712.61
3761064.65	1.30855 (15110717)		
439762.61	3761064.65	1.38228 (15110717)	439812.61

3761064.65	1.46549	(15110717)			
439862.61	3761064.65		1.55776	(15110717)	439512.61
3761114.65	1.07511	(15110717)			
439562.61	3761114.65		1.12463	(15110717)	439612.61
3761114.65	1.18170	(15031224)			
439662.61	3761114.65		1.24397	(15031224)	439712.61
3761114.65	1.31147	(15031224)			
439762.61	3761114.65		1.38554	(15031224)	439812.61
3761114.65	1.47442	(15063019)			
439862.61	3761114.65		1.57723	(15063019)	439512.61
3761164.65	1.07846	(15031224)			
439562.61	3761164.65		1.12825	(15031224)	439612.61
3761164.65	1.18953	(15063019)			
439662.61	3761164.65		1.25714	(15063019)	439712.61
3761164.65	1.32979	(15063019)			
439762.61	3761164.65		1.40844	(15063019)	439812.61
3761164.65	1.48754	(15063019)			
439862.61	3761164.65		1.58160	(15063019)	439512.61
3761214.65	1.08938	(15063019)			
439562.61	3761214.65		1.14407	(15063019)	439612.61
3761214.65	1.20152	(15063019)			
439662.61	3761214.65		1.25676	(15063019)	439712.61
3761214.65	1.32084	(15063019)			
439762.61	3761214.65		1.38818	(15063019)	439812.61
3761214.65	1.46149	(15063019)			
439862.61	3761214.65		1.53603	(15063019)	439512.61
3761264.65	1.08709	(15063019)			
439562.61	3761264.65		1.13372	(15063019)	439612.61
3761264.65	1.18193	(15063019)			
439662.61	3761264.65		1.22639	(15063019)	439712.61
3761264.65	1.29084	(15112017)			
439762.61	3761264.65		1.35737	(15112017)	439812.61
3761264.65	1.45147	(15090919)			
439862.61	3761264.65		1.53144	(15090919)	439512.61
3761314.65	1.05584	(15063019)			
439562.61	3761314.65		1.10616	(15112017)	439612.61
3761314.65	1.16461	(15090919)			
439662.61	3761314.65		1.23212	(15090919)	439712.61
3761314.65	1.28261	(15090919)			
439762.61	3761314.65		1.36231	(15090919)	439812.61
3761314.65	1.44214	(16122818)			
439862.61	3761314.65		1.53236	(15031221)	439512.61
3761364.65	1.04860	(15112017)			
439562.61	3761364.65		1.09551	(15090919)	439612.61
3761364.65	1.17690	(15090919)			
439662.61	3761364.65		1.22612	(15090919)	439712.61
3761364.65	1.28440	(16122818)			
439762.61	3761364.65		1.35301	(16122818)	439812.61
3761364.65	1.44406	(15031221)			

3761414.65	439862.61	3761364.65	1.53391	(15031221)	439512.61
		1.05619 (15090919)			
3761414.65	439562.61	3761414.65	1.09442	(15090919)	439612.61
		1.14474 (16122818)			
3761414.65	439662.61	3761414.65	1.21505	(16122818)	439712.61
		1.28608 (15031221)			
3761414.65	439762.61	3761414.65	1.36666	(15031221)	439812.61
		1.43659 (15031221)			
3761414.65	439862.61	3761414.65	1.50644	(15031221)	439512.61
		1.06396 (16122818)			
3761464.65	439562.61	3761464.65	1.10393	(16122818)	439612.61
		1.14951 (15031221)			
3761464.65	439662.61	3761464.65	1.21856	(15031221)	439712.61
		1.28585 (15031221)			
3761464.65	439762.61	3761464.65	1.34577	(15031221)	439812.61
		1.40042 (15120219)			
3761464.65	439862.61	3761464.65	1.48404	(13101421)	439512.61
		1.04352 (16122818)			
3761514.65	439562.61	3761514.65	1.09707	(15031221)	439612.61
		1.15869 (15031221)			
3761514.65	439662.61	3761514.65	1.21365	(15031221)	439712.61
		1.25595 (15031221)			
3761514.65	439762.61	3761514.65	1.33666	(15120219)	439812.61
		1.41559 (13101421)			

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/25/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 10:02:08

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup>

\*\*

Y-COORD (M)	X-COORD (M)	Y-COORD (M) CONC (YYMMDDHH)	CONC	(YYMMDDHH)	X-COORD (M)
3761564.65	439862.61	3761514.65	1.53170	(16102418)	439512.61
3761564.65	439562.61	1.04942 (15031221)	1.10138	(15031221)	439612.61
3761564.65	439662.61	3761564.65	1.17872	(12020718)	439712.61
3761564.65	439762.61	1.14151 (15031221)	1.41915	(13101421)	439812.61
3761564.65	439862.61	3761564.65	1.59845	(16102418)	439512.61
3761614.65	439562.61	1.04232 (15031221)	1.07280	(15031221)	439862.61
3761614.65	439512.61	3761614.65	1.11034	(12020718)	439562.61
3761614.65	439512.61	1.58051 (15070104)	1.14942	(14030901)	439512.61
3761614.65	439862.61	3761664.65	1.57909	(15070104)	439512.61
3761614.65	439862.61	1.14942 (14030901)	1.15498	(15120219)	439862.61
3761614.65	439512.61	3761714.65	1.06917	(13101421)	439562.61
3761614.65	439512.61	1.55942 (14010617)	1.15525	(13101421)	439512.61
3761614.65	439862.61	3761764.65	1.55685	(15031521)	439512.61
3761614.65	439862.61	1.08681 (13101421)	1.15639	(15102306)	439862.61
3761614.65	439512.61	3761814.65	1.07754	(16102418)	439562.61
3761614.65	439512.61	1.54759 (15090205)	1.07754	(16102418)	439562.61
3761614.65	439862.61	3761864.65	1.53048	(15090205)	439947.85
3760913.55	439862.61	1.14907 (15102306)	1.73583	(14011717)	439947.28
3760913.55	439947.57	3760863.55	1.73834	(15100918)	439947.28
3760813.55	439947.00	1.66933 (15030621)	1.65492	(14051419)	439946.72
3760713.55	439946.44	3760763.55	1.62080	(15100918)	439946.16
3760613.56	439946.44	1.61685 (14051419)	1.62080	(15100918)	439946.16
3760613.56	439945.87	3760663.55	1.62406	(14051419)	439945.59
3760513.56	439945.87	1.62317 (14051419)	1.62406	(14051419)	439945.59
3760513.56	439840.54	3760563.56	1.40561	(16101918)	439840.25
3760362.27	439839.97	1.62853 (14051322)	1.40561	(16101918)	439840.25
3760262.27	439839.97	3760412.27	1.36309	(13101522)	439839.69
3760262.27	439839.41	1.39546 (16101918)	1.36309	(13101522)	439839.69
3760162.27	439839.41	3760312.27	1.29878	(14042901)	439839.13
3760162.27	439838.84	1.33516 (14043002)	1.29878	(14042901)	439839.13
3760062.27	439838.84	3760212.27	1.22472	(16021419)	439838.56
3760062.27	439838.84	1.27132 (14042901)	1.22472	(16021419)	439838.56
3760062.27	439838.28	3760112.27	1.14204	(12010822)	439838.00
3760062.27	439838.28	1.19247 (16021419)	1.14204	(12010822)	439838.00
3760062.27	439838.28	3760012.27	1.14204	(12010822)	439838.00

3759962.28	1.10279	(12010822)			
439837.72	3759912.28		1.05958	(15031301)	439837.43
3759862.28	1.03083	(15031301)			
439837.15	3759812.28		0.98896	(15031301)	439827.57
3758112.30	0.36621	(13050220)			
439927.52	3758104.25		0.36833	(16092606)	439937.11
3759804.22	1.06922	(12110417)			
439937.39	3759854.22		1.08917	(12110417)	439937.67
3759904.22	1.11900	(16012522)			
439937.95	3759954.22		1.17361	(15031301)	439938.24
3760004.22	1.22317	(15031301)			
439938.52	3760054.22		1.25926	(14110501)	439938.80
3760104.22	1.31735	(12010822)			
439939.08	3760154.22		1.37583	(16021419)	439939.36
3760204.22	1.42112	(16021419)			
439939.65	3760254.22		1.47614	(14042901)	439939.93
3760304.22	1.50576	(14043002)			
439940.21	3760354.21		1.54784	(13101522)	439940.49
3760404.21	1.58587	(16101918)			
439857.97	3760492.88		1.46371	(14051322)	439858.26
3760542.88	1.45692	(15031321)			
439858.54	3760592.88		1.47041	(14051419)	439858.82
3760642.88	1.47262	(14051419)			
439859.10	3760692.88		1.47233	(14051419)	439859.38
3760742.88	1.47489	(15100918)			
439859.67	3760792.88		1.50716	(15100918)	439859.95
3760842.88	1.54104	(15100918)			
439908.55	3760435.04		1.53955	(16101918)	439949.66
3760417.49	1.61592	(16101918)			
439999.66	3760417.71		1.72065	(16101918)	440049.66
3760417.93	1.85574	(13101522)			
440099.66	3760418.15		2.00917	(14042901)	440149.66
3760418.37	2.21061	(14042901)			
440199.66	3760418.59		2.41732	(16021419)	440249.66
3760418.81	2.63644	(15031301)			

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/25/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*  
 \*\*\* 10:02:08

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,

, L0002183 , L0002184 , L0002185 , L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
440299.66	3760419.03	2.92098	(12110417)	440349.66
3760419.25	3.18620 (13101517)			
440399.66	3760419.46	3.28798	(13101419)	440799.65
3760421.22	3.31713 (15062801)			
440849.65	3760421.44	3.17823	(12012517)	440899.65
3760421.66	2.89047 (15071919)			
440949.65	3760421.88	2.65403	(13012317)	440999.65
3760422.10	2.40940 (12012417)			
441049.65	3760422.32	2.20741	(12092121)	441099.65
3760422.54	2.02343 (15080521)			
441149.65	3760422.76	1.86416	(15080521)	441199.65
3760422.98	1.73932 (16083020)			
441249.65	3760423.20	1.62811	(16062022)	441299.65
3760423.42	1.52489 (15091122)			
441349.65	3760423.64	1.43514	(15091122)	441399.65
3760423.86	1.35952 (12091022)			
441449.65	3760424.07	1.29157	(16072722)	441499.65
3760424.29	1.23227 (16072722)			
441549.65	3760424.51	1.17379	(16072722)	441599.64
3760424.73	1.12189 (12081321)			
441649.64	3760424.95	1.07646	(12081321)	441699.64
3760425.17	1.03102 (12081321)			
441749.64	3760425.39	0.98559	(12081321)	441799.64
3760425.61	0.94923 (15092620)			
441849.64	3760425.83	0.91492	(15092620)	441899.64
3760426.05	0.88054 (15092620)			
441949.64	3760426.27	0.84622	(15092620)	441999.64
3760426.49	0.81181 (15092620)			
442049.64	3760426.71	0.78385	(15083022)	442099.64
3760426.93	0.75856 (15082820)			
442149.64	3760427.15	0.73554	(13090321)	442199.64
3760427.37	0.71323 (13090321)			
442249.64	3760427.59	0.69096	(13090321)	442299.64
3760427.81	0.66891 (13090321)			

442349.64	3760428.03	0.64712	(13090321)	442399.64
3760428.25	0.62567 (13090321)			
442449.64	3760428.47	0.60547	(15072224)	442499.64
3760428.69	0.58889 (16060906)			
442549.64	3760428.90	0.57394	(16060906)	442599.64
3760429.12	0.55903 (16060906)			
442649.63	3760429.34	0.54439	(16060906)	442699.63
3760429.56	0.52998 (16060906)			
442749.63	3760429.78	0.51578	(16060906)	442799.63
3760430.00	0.50295 (15082519)			
442849.63	3760430.22	0.49177	(15082519)	442899.63
3760430.44	0.48074 (15082519)			
442949.63	3760430.66	0.46986	(15082519)	442999.63
3760430.88	0.45915 (15082519)			
443049.63	3760431.10	0.44861	(15082519)	443099.63
3760431.32	0.43827 (15082519)			
443149.63	3760431.54	0.42813	(15082519)	443199.63
3760431.76	0.42222 (15082519)			
443249.63	3760431.98	0.41308	(15082519)	443299.63
3760432.20	0.40327 (15082519)			
443349.63	3760432.42	0.39455	(15082519)	443399.63
3760432.64	0.38975 (12091419)			
443449.63	3760432.86	0.38578	(12101519)	443499.63
3760433.08	0.37544 (12101519)			
443549.63	3760433.30	0.37231	(13090520)	443599.63
3760433.51	0.37931 (13090520)			
443649.63	3760433.73	0.37615	(13090520)	443699.62
3760433.95	0.36578 (13090520)			
443749.62	3760434.17	0.35831	(13090520)	443799.62
3760434.39	0.35212 (13090520)			
443849.62	3760434.61	0.35116	(13090520)	443899.62
3760434.83	0.35105 (14091619)			
443957.56	3760448.00	0.35205	(14091619)	444003.78
3760428.92	0.33826 (14091619)			
444049.99	3760409.83	0.32835	(14091619)	444096.20
3760390.74	0.31697 (13090520)			
444142.42	3760371.65	0.29658	(13090520)	444191.79
3760367.99	0.27901 (15072521)			
444241.79	3760367.35	0.27214	(15072521)	444291.78
3760366.71	0.26784 (15072521)			
444341.78	3760366.07	0.26347	(15072521)	444391.77
3760365.44	0.25945 (12071219)			
444441.77	3760364.80	0.25552	(12071219)	444491.77
3760364.16	0.25164 (12071219)			
444541.76	3760363.52	0.24780	(12071219)	444591.76
3760362.88	0.24402 (12071219)			

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*  
 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*

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\*\*\* 10:02:08

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*

INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)
444641.75	3760362.25	0.23981 (12071219)	444691.75
3760361.61	0.23671 (12071219)		
444741.75	3760360.97	0.23314 (12071219)	444791.74
3760360.33	0.22963 (12071219)		
444841.74	3760359.69	0.22621 (12071219)	444891.73
3760359.05	0.22288 (12071219)		
444941.73	3760358.42	0.21959 (12071219)	444991.73
3760357.78	0.21637 (12071219)		
445041.72	3760357.14	0.21322 (12071219)	445091.72
3760356.50	0.21032 (16062406)		
445141.71	3760355.86	0.20768 (16062406)	445191.71
3760355.22	0.20460 (16062406)		
445166.91	3760455.55	0.20850 (16062406)	445116.92
3760456.19	0.21140 (16062406)		
445066.92	3760456.83	0.21386 (16062406)	445016.93
3760457.46	0.21773 (16062406)		
444966.93	3760458.10	0.22177 (16062406)	444916.93
3760458.74	0.22374 (16062406)		
444866.94	3760459.38	0.22533 (16062406)	444816.94
3760460.02	0.22755 (16062406)		
444766.95	3760460.66	0.23111 (16062406)	444716.95
3760461.29	0.24511 (16062406)		
444666.95	3760461.93	0.23851 (16062406)	444616.96



3760462.57	0.24214	(16062406)			
444566.96	3760463.21	0.26370	(16062406)	444516.97	
3760463.85	0.26428	(16062406)			
444466.97	3760464.48	0.26414	(16062406)	444416.97	
3760465.12	0.27057	(16062406)			
444366.98	3760465.76	0.27323	(16062406)	444316.98	
3760466.40	0.27343	(16062406)			
444266.99	3760467.04	0.27827	(16062406)	444216.99	
3760467.68	0.28346	(16062406)			
444167.26	3760469.59	0.28886	(16062406)	444121.04	
3760488.68	0.29349	(16062406)			
444074.83	3760507.76	0.31746	(16062406)	444028.62	
3760526.85	0.33121	(15091022)			
443982.40	3760545.94	0.35864	(15091022)	443933.78	
3760552.72	0.38453	(13090105)			
443874.89	3760534.72	0.37159	(13090105)	443824.89	
3760534.50	0.37019	(13090105)			
443774.89	3760534.29	0.36759	(15091022)	443724.89	
3760534.07	0.37251	(14091619)			
443674.89	3760533.85	0.37953	(14091619)	443624.89	
3760533.63	0.38562	(14091619)			
443574.89	3760533.41	0.38865	(16062406)	443524.89	
3760533.19	0.40277	(14091619)			
443474.89	3760532.97	0.41170	(14091619)	443424.90	
3760532.75	0.42335	(14091619)			
443374.90	3760532.53	0.42624	(14091619)	443324.90	
3760532.31	0.43845	(14091619)			
443274.90	3760532.09	0.44836	(14091619)	443224.90	
3760531.87	0.45519	(14091619)			
443174.90	3760531.65	0.45521	(16062406)	443124.90	
3760531.43	0.45984	(13090520)			
443074.90	3760531.21	0.46396	(13090520)	443024.90	
3760530.99	0.47492	(13090520)			
442974.90	3760530.77	0.45885	(15072521)	442924.90	
3760530.55	0.47050	(12091419)			
442874.90	3760530.33	0.48395	(15082519)	442824.90	
3760530.11	0.49814	(15082519)			
442774.90	3760529.89	0.51276	(15082519)	442724.90	
3760529.68	0.52750	(15082519)			
442674.90	3760529.46	0.54245	(15082519)	442624.90	
3760529.24	0.55879	(15082519)			
442574.90	3760529.02	0.57552	(15082519)	442524.90	
3760528.80	0.59233	(15082519)			
442474.90	3760528.58	0.60958	(15082519)	442424.91	
3760528.36	0.62727	(15082519)			
442374.91	3760528.14	0.64543	(15082519)	442324.91	
3760527.92	0.66407	(15082519)			
442274.91	3760527.70	0.68324	(15082519)	442224.91	
3760527.48	0.70449	(16060906)			

442174.91	3760527.26	0.72794	(16060906)	442124.91
3760527.04	0.75197	(16060906)		
442074.91	3760526.82	0.77656	(16060906)	442024.91
3760526.60	0.80452	(13090321)		
441974.91	3760526.38	0.83745	(13090321)	441924.91
3760526.16	0.87120	(13090321)		
441874.91	3760525.94	0.90572	(13090321)	441824.91
3760525.72	0.94114	(13090321)		

^ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
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 \*\*\* 10:02:08

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 , L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 , L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 , L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
441774.91	3760525.50	0.97744	(13090321)	441724.91
3760525.28	1.01643	(15082820)		
441674.91	3760525.06	1.05996	(15092620)	441624.91
3760524.85	1.11118	(15092620)		
441574.91	3760524.63	1.16352	(15092620)	441524.91
3760524.41	1.21780	(15092620)		
441474.91	3760524.19	1.27486	(15092620)	441424.91
3760523.97	1.34368	(12081321)		
441374.92	3760523.75	1.41677	(12081321)	441324.92
3760523.53	1.49632	(12081321)		
441274.92	3760523.31	1.58613	(12081321)	441224.92
3760523.09	1.69455	(16072722)		

441174.92	3760522.87	1.82418	(16072722)	441124.92
3760522.65	1.98263 (16072722)			
441074.92	3760522.43	2.18079	(12091022)	441024.92
3760522.21	2.44140 (15091122)			
440974.92	3760521.99	2.75619	(16062022)	440924.92
3760521.77	3.15557 (15080521)			
440874.92	3760521.55	3.63593	(13012317)	440824.92
3760521.33	4.14559 (12012517)			
440374.92	3760519.36	4.30649	(13101517)	440324.93
3760519.14	3.67604 (15031301)			
440274.93	3760518.92	3.19713	(14042901)	440224.93
3760518.70	2.75786 (16101918)			
440174.93	3760518.48	2.45554	(16101918)	440124.93
3760518.26	2.18557 (14051322)			
440074.93	3760518.04	1.98718	(14051322)	440024.93
3760517.82	1.82316 (14051322)			
439974.93	3760517.60	1.69197	(14051322)	439933.82
3760535.15	1.59871 (14051322)			
445138.86	3760315.71	0.20606	(12071219)	445165.09
3759616.20	0.19436 (13090321)			
445166.97	3759566.24	0.19268	(16062923)	445208.34
3759556.77	0.19059 (16062923)			
445258.34	3759556.14	0.18922	(16062923)	445308.34
3759555.51	0.18826 (13090321)			
449408.01	3759503.78	0.09932	(13090621)	449423.82
3759603.59	0.09333 (12101519)			
445238.82	3760499.17	0.21608	(15091022)	445239.41
3760549.16	0.22118 (15091022)			
449255.91	3762522.00	0.23706	(15090806)	449232.19
3762619.67	0.22779 (15090806)			
445265.82	3762064.86	0.39271	(13071305)	445215.82
3762064.86	0.39003 (16070402)			
445165.82	3762064.86	0.39744	(16070402)	445156.70
3762023.50	0.39477 (15101424)			
445139.69	3760573.60	0.22430	(15091022)	445139.10
3760523.60	0.21900 (15091022)			
441152.00	3762046.59	1.65381	(15080523)	441564.94
3762050.09	1.31213 (12081324)			
439944.18	3762179.79	1.49776	(12091522)	439944.37
3762229.79	1.46224 (15081402)			
439944.57	3762279.79	1.45973	(15081402)	439944.77
3762329.79	1.42335 (16082406)			
439944.96	3762379.79	1.38333	(14092706)	439945.16
3762429.79	1.37050 (13082824)			
439945.36	3762479.79	1.37934	(13082824)	439945.55
3762529.79	1.37305 (13082824)			
439945.75	3762579.79	1.36381	(13082824)	439945.94
3762629.79	1.33776 (13082824)			
439946.14	3762679.79	1.32915	(12071824)	439946.34

3762729.79	1.31975	(12071824)			
439958.30	3765779.77		0.61927	(16072406)	439846.49
3762769.33	1.26418	(13082824)			
439846.29	3762719.33		1.26803	(13082824)	439846.10
3762669.33	1.26311	(14092706)			
439845.90	3762619.33		1.27694	(14092706)	439845.71
3762569.33	1.28650	(16082406)			
439845.51	3762519.33		1.30326	(15081402)	439845.31
3762469.33	1.33330	(15081402)			
439845.12	3762419.33		1.34995	(12091522)	439844.92
3762369.33	1.36413	(12091522)			
439844.73	3762319.33		1.37164	(12091522)	439844.53
3762269.33	1.37843	(15092601)			
439844.33	3762219.33		1.37545	(15092601)	446702.53
3762334.08	0.32087	(16081422)			
446751.23	3762345.44		0.31755	(16081422)	446708.40
3762438.13	0.32897	(14071301)			
439319.73	3759944.08		0.76084	(13101522)	439369.73
3759944.08	0.78341	(14043002)			

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\*\*\* MODELOPTs:    RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL                    \*\*\*  
                                          INCLUDING SOURCE(S):    L0002165    , L0002166  
 , L0002167    , L0002168    , L0002169    ,  
                                          L0002170    , L0002171    , L0002172    , L0002173    , L0002174  
 , L0002175    , L0002176    , L0002177    ,  
                                          L0002178    , L0002179    , L0002180    , L0002181    , L0002182  
 , L0002183    , L0002184    , L0002185    ,  
                                          L0002186    , L0002187    , L0002188    , L0002189    , L0002190  
 , L0002191    , L0002192    , . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10    IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YMMDDHH)		
439419.73	3759944.08	0.81473	(14043002)	439469.73

3759944.08	0.83874	(14043002)			
439519.73	3759944.08		0.87052	(14042901)	439569.73
3759944.08	0.90867	(14042901)			
439619.73	3759944.08		0.93644	(14042901)	439669.73
3759944.08	0.96843	(16021419)			
439719.73	3759944.08		1.00910	(16021419)	439319.73
3759994.08	0.76791	(13101522)			
439369.73	3759994.08		0.80151	(13101522)	439419.73
3759994.08	0.83011	(13101522)			
439469.73	3759994.08		0.86141	(14043002)	439519.73
3759994.08	0.89125	(14043002)			
439569.73	3759994.08		0.92339	(14042901)	439619.73
3759994.08	0.96468	(14042901)			
439669.73	3759994.08		0.99836	(14042901)	439719.73
3759994.08	1.03421	(16021419)			
439319.73	3760044.08		0.79185	(16101918)	439369.73
3760044.08	0.81197	(16101918)			
439419.73	3760044.08		0.84382	(13101522)	439469.73
3760044.08	0.87822	(13101522)			
439519.73	3760044.08		0.91157	(14043002)	439569.73
3760044.08	0.94714	(14043002)			
439619.73	3760044.08		0.97344	(14042901)	439669.73
3760044.08	1.02872	(14042901)			
439719.73	3760044.08		1.06944	(14042901)	439319.73
3760094.08	0.80563	(16101918)			
439369.73	3760094.08		0.83712	(16101918)	439419.73
3760094.08	0.86392	(16101918)			
439469.73	3760094.08		0.88895	(13101522)	439519.73
3760094.08	0.93216	(13101522)			
439569.73	3760094.08		0.96693	(13101522)	439619.73
3760094.08	1.00798	(14043002)			
439669.73	3760094.08		1.04574	(14043002)	439719.73
3760094.08	1.09993	(14042901)			
439319.73	3760144.08		0.80443	(13100622)	439369.73
3760144.08	0.84367	(16101918)			
439419.73	3760144.08		0.88342	(16101918)	439469.73
3760144.08	0.91696	(16101918)			
439519.73	3760144.08		0.94658	(16101918)	439569.73
3760144.08	0.98582	(13101522)			
439619.73	3760144.08		1.02956	(13101522)	439669.73
3760144.08	1.07814	(14043002)			
439719.73	3760144.08		1.12166	(14043002)	439319.73
3760194.08	0.82711	(15071822)			
439369.73	3760194.08		0.85183	(15071822)	439419.73
3760194.08	0.88417	(16101918)			
439469.73	3760194.08		0.92917	(16101918)	439519.73
3760194.08	0.97074	(16101918)			
439569.73	3760194.08		1.00919	(16101918)	439619.73
3760194.08	1.04241	(13101522)			

439669.73	3760194.08	1.09859	(13101522)	439719.73
3760194.08	1.14997 (14043002)			
439319.73	3760244.08	0.84502	(14051322)	439369.73
3760244.08	0.87519 (14051322)			
439419.73	3760244.08	0.90822	(15071822)	439469.73
3760244.08	0.93502 (15071822)			
439519.73	3760244.08	0.97539	(16101918)	439569.73
3760244.08	1.02704 (16101918)			
439619.73	3760244.08	1.07259	(16101918)	439669.73
3760244.08	1.12001 (16101918)			
439719.73	3760244.08	1.17214	(13101522)	439319.73
3760294.08	0.84938 (14051322)			
439369.73	3760294.08	0.88841	(14051322)	439419.73
3760294.08	0.92563 (14051322)			
439469.73	3760294.08	0.96142	(14051322)	439519.73
3760294.08	0.99704 (14051322)			
439569.73	3760294.08	1.03254	(15071822)	439619.73
3760294.08	1.07972 (16101918)			
439669.73	3760294.08	1.14150	(16101918)	439719.73
3760294.08	1.20195 (16101918)			
439319.73	3760344.08	0.85860	(15031321)	439369.73
3760344.08	0.89354 (15031321)			
439419.73	3760344.08	0.92748	(15031321)	439469.73
3760344.08	0.97170 (14051322)			
439519.73	3760344.08	1.01593	(14051322)	439569.73
3760344.08	1.05907 (14051322)			
439619.73	3760344.08	1.10286	(14051322)	439669.73
3760344.08	1.14903 (15071822)			
439719.73	3760344.08	1.21477	(16101918)	439319.73
3760394.08	0.87205 (15071824)			

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
439369.73	3760394.08	0.90394	(15071824)	439419.73
3760394.08	0.93683	(15031321)		
439469.73	3760394.08	0.97883	(15031321)	439519.73
3760394.08	1.02000	(15031321)		
439569.73	3760394.08	1.06870	(14051322)	439619.73
3760394.08	1.12461	(14051322)		
439669.73	3760394.08	1.18147	(14051322)	439719.73
3760394.08	1.23786	(14051322)		
439874.21	3765787.45	0.62938	(16072406)	438730.25
3763176.04	0.82922	(12080924)		
439155.52	3762752.44	0.96824	(13082623)	438236.34
3763973.00	0.69399	(13082623)		

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/25/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 , L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 , L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 , L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		

440566.09	3761307.70	1.20995c (14020124)	440753.96
3761303.17	1.35755 (16101624)		
440851.52	3761299.51	1.34418m (16031424)	440971.94
3761298.60	1.14883m (16031424)		
440893.94	3761226.53	1.69088 (12120224)	441213.06
3761237.69	0.86668 (12120224)		
441159.80	3761390.72	0.77128 (12120224)	441227.40
3761481.34	0.63452 (12120224)		
441082.11	3761541.41	0.58813 (16030624)	441232.16
3761830.62	0.38235 (13102424)		
441646.93	3761227.68	0.49280m (12050224)	441817.10
3761247.30	0.43207m (12050224)		
442031.98	3761370.48	0.32959 (13020524)	442031.98
3761419.29	0.32531 (13020524)		
442027.42	3761327.59	0.33158m (12050224)	441953.51
3761508.71	0.34154 (14032624)		
442028.70	3761572.71	0.32076 (14032624)	440323.58
3761295.37	1.14735 (12020424)		
440261.53	3761302.22	1.07392 (12020424)	440432.94
3761497.04	0.62024m (14021824)		
440427.03	3761600.65	0.48955m (14021824)	440485.55
3762029.06	0.22963 (14122524)		
440533.86	3762034.96	0.24166c (12120424)	440588.09
3762034.96	0.25887c (12120424)		
440657.35	3762052.07	0.26570c (12120424)	440598.04
3762118.06	0.23624c (12120424)		
440231.97	3762035.21	0.23285 (13112324)	440283.76
3762037.11	0.22271 (12120624)		
440897.05	3762038.37	0.23293 (14120424)	439514.80
3761885.55	0.32342 (12020424)		
439564.80	3761885.55	0.32924 (12020424)	439864.80
3761885.55	0.28768m (15011124)		
439514.80	3761935.55	0.31769 (12020424)	439564.80
3761935.55	0.31481 (12020424)		
439864.80	3761935.55	0.28141m (15011124)	439514.80
3761985.55	0.29707 (12020424)		
439564.80	3761985.55	0.29094 (12020424)	439864.80
3761985.55	0.27544m (15011124)		
439514.80	3762035.55	0.27560 (12020424)	439564.80
3762035.55	0.26517 (12020424)		
439864.80	3762035.55	0.26557m (15011124)	439864.80
3762085.55	0.25784m (15011124)		
439514.80	3762135.55	0.22550 (12020424)	439564.80
3762135.55	0.20941 (12020424)		
439614.80	3762135.55	0.19762m (15011124)	439664.80
3762135.55	0.21347m (15011124)		
439714.80	3762135.55	0.22714m (15011124)	439764.80



3762135.55	0.23828m (15011124)		
439864.80	3762135.55	0.24478m (15011124)	439512.61
3760864.65	0.30052 (12122024)		
439562.61	3760864.65	0.32719 (12122024)	439612.61
3760864.65	0.35753 (12122024)		
439662.61	3760864.65	0.39225 (12122024)	439712.61
3760864.65	0.43207 (12122024)		
439762.61	3760864.65	0.47796 (12122024)	439812.61
3760864.65	0.53108 (12122024)		
439862.61	3760864.65	0.59213 (12122024)	439512.61
3760914.65	0.31868 (12122024)		
439562.61	3760914.65	0.34627 (12122024)	439612.61
3760914.65	0.37727 (12122024)		
439662.61	3760914.65	0.41240 (12122024)	439712.61
3760914.65	0.45222 (12122024)		
439762.61	3760914.65	0.49751 (12122024)	439812.61
3760914.65	0.54939 (12122024)		
439862.61	3760914.65	0.60772 (12122024)	439512.61
3760964.65	0.33463 (12122024)		
439562.61	3760964.65	0.36252 (12122024)	439612.61
3760964.65	0.39360 (12122024)		
439662.61	3760964.65	0.42851 (12122024)	439712.61
3760964.65	0.46773 (12122024)		
439762.61	3760964.65	0.51197 (12122024)	439812.61
3760964.65	0.56251 (12122024)		
439862.61	3760964.65	0.61925 (12122024)	439512.61
3761014.65	0.34808 (12122024)		
439562.61	3761014.65	0.37583 (12122024)	439612.61
3761014.65	0.40660 (12122024)		
439662.61	3761014.65	0.44094 (12122024)	439712.61
3761014.65	0.47938 (12122024)		
439762.61	3761014.65	0.52259 (12122024)	439812.61
3761014.65	0.57213 (12122024)		

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*

\*\*\* 10:02:08

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\*\*\* MODELOPTs:    RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL                    \*\*\*  
                                          INCLUDING SOURCE(S):    L0002165    , L0002166  
 , L0002167    , L0002168    , L0002169    ,  
                                          L0002170    , L0002171    , L0002172    , L0002173    , L0002174  
 , L0002175    , L0002176    , L0002177    ,  
                                          L0002178    , L0002179    , L0002180    , L0002181    , L0002182  
 , L0002183    , L0002184    , L0002185    ,

L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M) Y-COORD (M)	Y-COORD (M) CONC (YYMMDDHH)	CONC (YYMMDDHH)	(YYMMDDHH)	X-COORD (M)
439862.61	3761014.65	0.62808	(12122024)	439512.61
3761064.65	0.35844 (12122024)			
439562.61	3761064.65	0.38568	(12122024)	439612.61
3761064.65	0.41577 (12122024)			
439662.61	3761064.65	0.44920	(12122024)	439712.61
3761064.65	0.48651 (12122024)			
439762.61	3761064.65	0.52850	(12122024)	439812.61
3761064.65	0.57664 (12122024)			
439862.61	3761064.65	0.63079	(12122024)	439512.61
3761114.65	0.36494 (12122024)			
439562.61	3761114.65	0.39120	(12122024)	439612.61
3761114.65	0.42010 (12122024)			
439662.61	3761114.65	0.45206	(12122024)	439712.61
3761114.65	0.48763 (12122024)			
439762.61	3761114.65	0.52756	(12122024)	439812.61
3761114.65	0.57306 (12122024)			
439862.61	3761114.65	0.62599	(12122024)	439512.61
3761164.65	0.36666 (12122024)			
439562.61	3761164.65	0.39140	(12122024)	439612.61
3761164.65	0.41847 (12122024)			
439662.61	3761164.65	0.44822	(12122024)	439712.61
3761164.65	0.48119 (12122024)			
439762.61	3761164.65	0.51795	(12122024)	439812.61
3761164.65	0.55847 (12122024)			
439862.61	3761164.65	0.60426	(12122024)	439512.61
3761214.65	0.36306 (12122024)			
439562.61	3761214.65	0.38565	(12122024)	439612.61
3761214.65	0.41021 (12122024)			
439662.61	3761214.65	0.43655	(12122024)	439712.61
3761214.65	0.46575 (12122024)			
439762.61	3761214.65	0.49785	(12122024)	439812.61
3761214.65	0.53380 (12122024)			
439862.61	3761214.65	0.57259	(12122024)	439512.61
3761264.65	0.35381 (12122024)			
439562.61	3761264.65	0.37378	(12122024)	439612.61
3761264.65	0.39526 (12122024)			

439662.61	3761264.65	0.41764	(12122024)	439712.61
3761264.65	0.44253	(12122024)		
439762.61	3761264.65	0.46878	(12122024)	439812.61
3761264.65	0.50178	(12011324)		
439862.61	3761264.65	0.53787	(12011324)	439512.61
3761314.65	0.33918	(12122024)		
439562.61	3761314.65	0.35551	(12122024)	439612.61
3761314.65	0.37240	(12122024)		
439662.61	3761314.65	0.39670	(12011324)	439712.61
3761314.65	0.41640	(12011324)		
439762.61	3761314.65	0.45942	(12011324)	439812.61
3761314.65	0.49708	(12011324)		
439862.61	3761314.65	0.53197	(12011324)	439512.61
3761364.65	0.31916	(12122024)		
439562.61	3761364.65	0.33586	(12011324)	439612.61
3761364.65	0.37374	(12011324)		
439662.61	3761364.65	0.40012	(12011324)	439712.61
3761364.65	0.42419	(12011324)		
439762.61	3761364.65	0.45047	(12011324)	439812.61
3761364.65	0.47853	(12011324)		
439862.61	3761364.65	0.52817	(12020424)	439512.61
3761414.65	0.32306	(12011324)		
439562.61	3761414.65	0.34227	(12011324)	439612.61
3761414.65	0.36646	(12011324)		
439662.61	3761414.65	0.38938	(12011324)	439712.61
3761414.65	0.41046	(12011324)		
439762.61	3761414.65	0.44119	(12020424)	439812.61
3761414.65	0.48457	(12020424)		
439862.61	3761414.65	0.52943	(12020424)	439512.61
3761464.65	0.32823	(12011324)		
439562.61	3761464.65	0.34242	(12011324)	439612.61
3761464.65	0.35810	(12011324)		
439662.61	3761464.65	0.37397	(12011324)	439712.61
3761464.65	0.40957	(12020424)		
439762.61	3761464.65	0.44823	(12020424)	439812.61
3761464.65	0.48525	(12020424)		
439862.61	3761464.65	0.52106	(12020424)	439512.61
3761514.65	0.31660	(12011324)		
439562.61	3761514.65	0.32908	(12011324)	439612.61
3761514.65	0.34839	(12020424)		
439662.61	3761514.65	0.38247	(12020424)	439712.61
3761514.65	0.41576	(12020424)		
439762.61	3761514.65	0.45111	(12020424)	439812.61
3761514.65	0.48231	(12020424)		

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 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*

08/25/21

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC (YYMMDDHH)		
439862.61	3761514.65	0.51546 (12020424)	439512.61
3761564.65	0.30332 (12011324)		
439562.61	3761564.65	0.32823 (12020424)	439612.61
3761564.65	0.35816 (12020424)		
439662.61	3761564.65	0.38724 (12020424)	439712.61
3761564.65	0.42254 (12020424)		
439762.61	3761564.65	0.46010 (12020424)	439812.61
3761564.65	0.48817 (12020424)		
439862.61	3761564.65	0.50988 (12020424)	439512.61
3761614.65	0.30958 (12020424)		
439562.61	3761614.65	0.33616 (12020424)	439862.61
3761614.65	0.47806 (12020424)		
439512.61	3761664.65	0.32896 (12020424)	439562.61
3761664.65	0.35324 (12020424)		
439862.61	3761664.65	0.44104 (12020424)	439512.61
3761714.65	0.33193 (12020424)		
439562.61	3761714.65	0.35508 (12020424)	439862.61
3761714.65	0.39743 (12020424)		
439512.61	3761764.65	0.32994 (12020424)	439562.61
3761764.65	0.35117 (12020424)		
439862.61	3761764.65	0.36073 (12020424)	439512.61
3761814.65	0.32848 (12020424)		
439562.61	3761814.65	0.34398 (12020424)	439862.61
3761814.65	0.31612 (12020424)		
439512.61	3761864.65	0.31995 (12020424)	439562.61

3761864.65	0.33003	(12020424)		
439862.61	3761864.65		0.28983m	(15011124) 439947.85
3760913.55	0.72537	(12122024)		
439947.57	3760863.55		0.71520	(12122024) 439947.28
3760813.55	0.69234	(12122024)		
439947.00	3760763.55		0.65075	(16122724) 439946.72
3760713.55	0.67016	(14122624)		
439946.44	3760663.55		0.68629	(16122724) 439946.16
3760613.56	0.69629	(16122724)		
439945.87	3760563.56		0.69528	(16122724) 439945.59
3760513.56	0.68228	(16122724)		
439840.54	3760412.27		0.53606	(16122724) 439840.25
3760362.27	0.51264	(16122724)		
439839.97	3760312.27		0.48459	(16122724) 439839.69
3760262.27	0.45260	(16122724)		
439839.41	3760212.27		0.41799	(16122724) 439839.13
3760162.27	0.39206	(15031324)		
439838.84	3760112.27		0.38098	(15031324) 439838.56
3760062.27	0.36705	(15031324)		
439838.28	3760012.27		0.35050	(15031324) 439838.00
3759962.28	0.33191	(15031324)		
439837.72	3759912.28		0.31193	(15031324) 439837.43
3759862.28	0.29098	(15031324)		
439837.15	3759812.28		0.26985	(15031324) 439827.57
3758112.30	0.07694m	(13010324)		
439927.52	3758104.25		0.07566m	(13010324) 439937.11
3759804.22	0.25515	(15031324)		
439937.39	3759854.22		0.28110	(15031324) 439937.67
3759904.22	0.30881	(15031324)		
439937.95	3759954.22		0.33706	(15031324) 439938.24
3760004.22	0.36545	(15031324)		
439938.52	3760054.22		0.39347	(15031324) 439938.80
3760104.22	0.42005	(15031324)		
439939.08	3760154.22		0.44461	(15031324) 439939.36
3760204.22	0.46600	(15031324)		
439939.65	3760254.22		0.48348	(15031324) 439939.93
3760304.22	0.51957	(16122724)		
439940.21	3760354.21		0.56672	(16122724) 439940.49
3760404.21	0.61009	(16122724)		
439857.97	3760492.88		0.57872	(16122724) 439858.26
3760542.88	0.58405	(16122724)		
439858.54	3760592.88		0.57790	(16122724) 439858.82
3760642.88	0.56702	(16122724)		
439859.10	3760692.88		0.55284	(14122624) 439859.38
3760742.88	0.53250	(14122624)		
439859.67	3760792.88		0.54662	(12122024) 439859.95
3760842.88	0.57806	(12122024)		
439908.55	3760435.04		0.60634	(16122724) 439949.66
3760417.49	0.62904	(16122724)		

439999.66	3760417.71	0.67348	(16122724)	440049.66
3760417.93	0.71854	(16122724)		
440099.66	3760418.15	0.76263	(16122724)	440149.66
3760418.37	0.84959	(15031324)		
440199.66	3760418.59	0.94669	(15031324)	440249.66
3760418.81	1.03278	(15031324)		

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
440299.66	3760419.03	1.08519	(15031324)	440349.66
3760419.25	1.12383	(15011524)		
440399.66	3760419.46	1.18838	(15011524)	440799.65
3760421.22	1.25396	(12010924)		
440849.65	3760421.44	1.09731	(12010924)	440899.65
3760421.66	0.98616	(14110424)		
440949.65	3760421.88	0.87306	(14110424)	440999.65
3760422.10	0.76570	(14110424)		
441049.65	3760422.32	0.67213	(14110424)	441099.65
3760422.54	0.59254	(14110424)		
441149.65	3760422.76	0.54918b	(14072524)	441199.65
3760422.98	0.53390b	(14072524)		
441249.65	3760423.20	0.51590b	(14072524)	441299.65
3760423.42	0.49685b	(14072524)		

441349.65	3760423.64	0.47762b (14072524)	441399.65
3760423.86	0.45848b (14072524)		
441449.65	3760424.07	0.43914b (14072524)	441499.65
3760424.29	0.41989b (14072524)		
441549.65	3760424.51	0.40080b (14072524)	441599.64
3760424.73	0.38189b (14072524)		
441649.64	3760424.95	0.36312b (14072524)	441699.64
3760425.17	0.34471b (14072524)		
441749.64	3760425.39	0.32674b (14072524)	441799.64
3760425.61	0.30936b (14072524)		
441849.64	3760425.83	0.29259b (14072524)	441899.64
3760426.05	0.27652b (14072524)		
441949.64	3760426.27	0.26324 (13050124)	441999.64
3760426.49	0.25595 (13050124)		
442049.64	3760426.71	0.24882 (13050124)	442099.64
3760426.93	0.24179 (13050124)		
442149.64	3760427.15	0.23493 (13050124)	442199.64
3760427.37	0.22824 (13050124)		
442249.64	3760427.59	0.22171 (13050124)	442299.64
3760427.81	0.21537 (13050124)		
442349.64	3760428.03	0.20922 (13050124)	442399.64
3760428.25	0.20326 (13050124)		
442449.64	3760428.47	0.19748 (13050124)	442499.64
3760428.69	0.19190 (13050124)		
442549.64	3760428.90	0.18653 (13050124)	442599.64
3760429.12	0.18131 (13050124)		
442649.63	3760429.34	0.17631 (13050124)	442699.63
3760429.56	0.17150 (13050124)		
442749.63	3760429.78	0.16686 (13050124)	442799.63
3760430.00	0.16239 (13050124)		
442849.63	3760430.22	0.15809 (13050124)	442899.63
3760430.44	0.15394 (13050124)		
442949.63	3760430.66	0.14995 (13050124)	442999.63
3760430.88	0.14611 (13050124)		
443049.63	3760431.10	0.14242 (13050124)	443099.63
3760431.32	0.13887 (13050124)		
443149.63	3760431.54	0.13545 (13050124)	443199.63
3760431.76	0.13401 (13050124)		
443249.63	3760431.98	0.13119 (13050124)	443299.63
3760432.20	0.12810 (13050124)		
443349.63	3760432.42	0.12556 (13050124)	443399.63
3760432.64	0.12433 (13050124)		
443449.63	3760432.86	0.12286 (13050124)	443499.63
3760433.08	0.11947 (13050124)		
443549.63	3760433.30	0.11783 (13050124)	443599.63
3760433.51	0.11855 (13050124)		
443649.63	3760433.73	0.11697 (13050124)	443699.62
3760433.95	0.11375 (13050124)		
443749.62	3760434.17	0.11125 (13050124)	443799.62

3760434.39	0.10912 (13050124)			
443849.62	3760434.61	0.10829 (13050124)		443899.62
3760434.83	0.10740b (14070124)			
443957.56	3760448.00	0.10815b (14070124)		444003.78
3760428.92	0.10330b (14070124)			
444049.99	3760409.83	0.09958b (14070124)		444096.20
3760390.74	0.09506b (14070124)			
444142.42	3760371.65	0.08910 (13050124)		444191.79
3760367.99	0.08446 (13050124)			
444241.79	3760367.35	0.08230 (13050124)		444291.78
3760366.71	0.08098 (13050124)			
444341.78	3760366.07	0.07962 (13050124)		444391.77
3760365.44	0.07826 (13050124)			
444441.77	3760364.80	0.07694 (13050124)		444491.77
3760364.16	0.07565 (13050124)			
444541.76	3760363.52	0.07439 (13050124)		444591.76
3760362.88	0.07315 (13050124)			

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/25/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 10:02:08

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC (YYMMDDHH)		
444641.75	3760362.25	0.07177 (13050124)	444691.75
3760361.61	0.07081 (13050124)		
444741.75	3760360.97	0.06969 (13050124)	444791.74



3760360.33	0.06859 (13050124)		
444841.74	3760359.69	0.06753 (13050124)	444891.73
3760359.05	0.06652b (14070124)		
444941.73	3760358.42	0.06563b (14070124)	444991.73
3760357.78	0.06476b (14070124)		
445041.72	3760357.14	0.06391b (14070124)	445091.72
3760356.50	0.06310b (14070124)		
445141.71	3760355.86	0.06238b (14070124)	445191.71
3760355.22	0.06136b (14070124)		
445166.91	3760455.55	0.06568b (14070124)	445116.92
3760456.19	0.06638b (14070124)		
445066.92	3760456.83	0.06703b (14070124)	445016.93
3760457.46	0.06822b (14070124)		
444966.93	3760458.10	0.06947b (14070124)	444916.93
3760458.74	0.06995b (14070124)		
444866.94	3760459.38	0.07029b (14070124)	444816.94
3760460.02	0.07087b (14070124)		
444766.95	3760460.66	0.07193b (14070124)	444716.95
3760461.29	0.07666b (14070124)		
444666.95	3760461.93	0.07415b (14070124)	444616.96
3760462.57	0.07521b (14070124)		
444566.96	3760463.21	0.08249b (14070124)	444516.97
3760463.85	0.08254b (14070124)		
444466.97	3760464.48	0.08239b (14070124)	444416.97
3760465.12	0.08439b (14070124)		
444366.98	3760465.76	0.08517b (14070124)	444316.98
3760466.40	0.08512b (14070124)		
444266.99	3760467.04	0.08661b (14070124)	444216.99
3760467.68	0.08838 (13050124)		
444167.26	3760469.59	0.09043 (13050124)	444121.04
3760488.68	0.09241 (13050124)		
444074.83	3760507.76	0.10081b (14070124)	444028.62
3760526.85	0.10533b (14070124)		
443982.40	3760545.94	0.11315b (14070124)	443933.78
3760552.72	0.12033b (14070124)		
443874.89	3760534.72	0.11767b (14070124)	443824.89
3760534.50	0.11795b (14070124)		
443774.89	3760534.29	0.11782b (14070124)	443724.89
3760534.07	0.11967b (14070124)		
443674.89	3760533.85	0.12186b (14070124)	443624.89
3760533.63	0.12393 (13050124)		
443574.89	3760533.41	0.12552 (13050124)	443524.89
3760533.19	0.12991 (13050124)		
443474.89	3760532.97	0.13307 (13050124)	443424.90
3760532.75	0.13691 (13050124)		
443374.90	3760532.53	0.13888 (13050124)	443324.90
3760532.31	0.14298 (13050124)		
443274.90	3760532.09	0.14667 (13050124)	443224.90
3760531.87	0.14981 (13050124)		

443174.90	3760531.65	0.15142	(13050124)	443124.90
3760531.43	0.15399	(13050124)		
443074.90	3760531.21	0.15620	(13050124)	443024.90
3760530.99	0.16054	(13050124)		
442974.90	3760530.77	0.15626	(13050124)	442924.90
3760530.55	0.16078	(13050124)		
442874.90	3760530.33	0.16552	(13050124)	442824.90
3760530.11	0.17048	(13050124)		
442774.90	3760529.89	0.17568	(13050124)	442724.90
3760529.68	0.18106	(13050124)		
442674.90	3760529.46	0.18663	(13050124)	442624.90
3760529.24	0.19273	(13050124)		
442574.90	3760529.02	0.19910	(13050124)	442524.90
3760528.80	0.20569	(13050124)		
442474.90	3760528.58	0.21261	(13050124)	442424.91
3760528.36	0.21986	(13050124)		
442374.91	3760528.14	0.22749	(13050124)	442324.91
3760527.92	0.23551	(13050124)		
442274.91	3760527.70	0.24395	(13050124)	442224.91
3760527.48	0.25281	(13050124)		
442174.91	3760527.26	0.26211	(13050124)	442124.91
3760527.04	0.27187	(13050124)		
442074.91	3760526.82	0.28211	(13050124)	442024.91
3760526.60	0.29287	(13050124)		
441974.91	3760526.38	0.30416	(13050124)	441924.91
3760526.16	0.31605	(13050124)		
441874.91	3760525.94	0.32850	(13050124)	441824.91
3760525.72	0.34157	(13050124)		

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\*\*\* MODELOPTs:      RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE      1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL      INCLUDING SOURCE(S):      L0002165      ,      L0002166  
 , L0002167      , L0002168      , L0002169      ,  
                                  L0002170      , L0002171      , L0002172      , L0002173      , L0002174  
 , L0002175      , L0002176      , L0002177      ,  
                                  L0002178      , L0002179      , L0002180      , L0002181      , L0002182  
 , L0002183      , L0002184      , L0002185      ,  
                                  L0002186      , L0002187      , L0002188      , L0002189      , L0002190  
 , L0002191      , L0002192      , . . .      ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

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Y-COORD (M)	X-COORD (M)	Y-COORD (M) CONC (YYMMDDHH)	CONC (YYMMDDHH)	X-COORD (M)
3760525.28	441774.91	3760525.50	0.35528 (13050124)	441724.91
3760524.85	441674.91	3760525.06	0.38489 (13050124)	441624.91
3760524.41	441574.91	3760524.63	0.41802 (13050124)	441524.91
3760523.97	441474.91	3760524.19	0.47277b (14072524)	441424.91
3760523.53	441374.92	3760523.75	0.53578b (14072524)	441324.92
3760523.09	441274.92	3760523.31	0.60705b (14072524)	441224.92
3760522.65	441174.92	3760522.87	0.69421b (14072524)	441124.92
3760522.21	441074.92	3760522.43	0.81007b (14072524)	441024.92
3760521.77	440974.92	3760521.99	1.01760 (14110424)	440924.92
3760521.33	440874.92	3760521.55	1.46228 (14110424)	440824.92
3760519.14	440374.92	3760519.36	1.77685 (14120224)	440324.93
3760518.70	440274.93	3760518.92	1.39970 (15031324)	440224.93
3760518.26	440174.93	3760518.48	1.08378 (14122624)	440124.93
3760517.82	440074.93	3760518.04	0.87158 (16122724)	440024.93
3760535.15	439974.93	3760517.60	0.72118 (16122724)	439933.82
3759616.20	445138.86	3760315.71	0.06047b (14070124)	445165.09
3759556.77	445166.97	3759566.24	0.04254 (13071224)	445208.34
3759555.51	445258.34	3759556.14	0.04232 (13071224)	445308.34
3759603.59	449408.01	3759503.78	0.02379 (12072324)	449423.82
3760549.16	445238.82	3760499.17	0.06766b (14070124)	445239.41
	449255.91	3762522.00	0.03536b (16071024)	449232.19

3762619.67	0.03454b (16071024)		
445265.82	3762064.86	0.07745c (13050524)	445215.82
3762064.86	0.07736c (13050524)		
445165.82	3762064.86	0.07849c (13050524)	445156.70
3762023.50	0.07835c (13050524)		
445139.69	3760573.60	0.06914b (14070124)	445139.10
3760523.60	0.06781b (14070124)		
441152.00	3762046.59	0.23381 (16082624)	441564.94
3762050.09	0.32438 (13102424)		
439944.18	3762179.79	0.22860 (13112324)	439944.37
3762229.79	0.21508 (13112324)		
439944.57	3762279.79	0.20173 (13112324)	439944.77
3762329.79	0.18949 (13112324)		
439944.96	3762379.79	0.17846 (13112324)	439945.16
3762429.79	0.16770 (13112324)		
439945.36	3762479.79	0.15768 (13112324)	439945.55
3762529.79	0.14855 (13112324)		
439945.75	3762579.79	0.13990 (13112324)	439945.94
3762629.79	0.13211 (13112324)		
439946.14	3762679.79	0.12494 (12052224)	439946.34
3762729.79	0.12036 (12052224)		
439958.30	3765779.77	0.04255 (12120624)	439846.49
3762769.33	0.12447 (12052224)		
439846.29	3762719.33	0.12653 (13112324)	439846.10
3762669.33	0.13325 (13112324)		
439845.90	3762619.33	0.14043 (13112324)	439845.71
3762569.33	0.14809 (13112324)		
439845.51	3762519.33	0.15641 (13112324)	439845.31
3762469.33	0.16615m (15011124)		
439845.12	3762419.33	0.17860m (15011124)	439844.92
3762369.33	0.19083m (15011124)		
439844.73	3762319.33	0.20349m (15011124)	439844.53
3762269.33	0.21468m (15011124)		
439844.33	3762219.33	0.22576m (15011124)	446702.53
3762334.08	0.05674c (13050524)		
446751.23	3762345.44	0.05601c (13050524)	446708.40
3762438.13	0.05856c (13050524)		
439319.73	3759944.08	0.22393 (16122724)	439369.73
3759944.08	0.23190 (16122724)		

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*

INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
439419.73	3759944.08	0.23923	(16122724)	439469.73
3759944.08	0.24536	(16122724)		
439519.73	3759944.08	0.24984	(16122724)	439569.73
3759944.08	0.25245	(16122724)		
439619.73	3759944.08	0.26371	(15031324)	439669.73
3759944.08	0.28024	(15031324)		
439719.73	3759944.08	0.29579	(15031324)	439319.73
3759994.08	0.23011	(16122724)		
439369.73	3759994.08	0.23991	(16122724)	439419.73
3759994.08	0.24922	(16122724)		
439469.73	3759994.08	0.25759	(16122724)	439519.73
3759994.08	0.26491	(16122724)		
439569.73	3759994.08	0.27078	(16122724)	439619.73
3759994.08	0.27382	(16122724)		
439669.73	3759994.08	0.28594	(15031324)	439719.73
3759994.08	0.30492	(15031324)		
439319.73	3760044.08	0.23501	(16122724)	439369.73
3760044.08	0.24654	(16122724)		
439419.73	3760044.08	0.25774	(16122724)	439469.73
3760044.08	0.26839	(16122724)		
439519.73	3760044.08	0.27838	(16122724)	439569.73
3760044.08	0.28697	(16122724)		
439619.73	3760044.08	0.29341	(16122724)	439669.73
3760044.08	0.29875	(16122724)		
439719.73	3760044.08	0.31192	(15031324)	439319.73
3760094.08	0.24163	(14122624)		
439369.73	3760094.08	0.25189	(16122724)	439419.73
3760094.08	0.26504	(16122724)		
439469.73	3760094.08	0.27799	(16122724)	439519.73
3760094.08	0.29065	(16122724)		

439569.73	3760094.08	0.30214	(16122724)	439619.73
3760094.08	0.31226	(16122724)		
439669.73	3760094.08	0.32149	(16122724)	439719.73
3760094.08	0.32772	(16122724)		
439319.73	3760144.08	0.25094	(14122624)	439369.73
3760144.08	0.26087	(14122624)		
439419.73	3760144.08	0.27084	(14122624)	439469.73
3760144.08	0.28568	(16122724)		
439519.73	3760144.08	0.30080	(16122724)	439569.73
3760144.08	0.31534	(16122724)		
439619.73	3760144.08	0.32903	(16122724)	439669.73
3760144.08	0.34215	(16122724)		
439719.73	3760144.08	0.35295	(16122724)	439319.73
3760194.08	0.25761	(14122624)		
439369.73	3760194.08	0.26961	(14122624)	439419.73
3760194.08	0.28255	(14122624)		
439469.73	3760194.08	0.29421	(14122624)	439519.73
3760194.08	0.30886	(16122724)		
439569.73	3760194.08	0.32638	(16122724)	439619.73
3760194.08	0.34365	(16122724)		
439669.73	3760194.08	0.36050	(16122724)	439719.73
3760194.08	0.37618	(16122724)		
439319.73	3760244.08	0.26134	(14122624)	439369.73
3760244.08	0.27537	(14122624)		
439419.73	3760244.08	0.29085	(14122624)	439469.73
3760244.08	0.30481	(14122624)		
439519.73	3760244.08	0.32003	(14122624)	439569.73
3760244.08	0.33552	(16122724)		
439619.73	3760244.08	0.35535	(16122724)	439669.73
3760244.08	0.37669	(16122724)		
439719.73	3760244.08	0.39712	(16122724)	439319.73
3760294.08	0.26297	(14122624)		
439369.73	3760294.08	0.27872	(14122624)	439419.73
3760294.08	0.29500	(14122624)		
439469.73	3760294.08	0.31196	(14122624)	439519.73
3760294.08	0.32997	(14122624)		
439569.73	3760294.08	0.34803	(14122624)	439619.73
3760294.08	0.36585	(14122624)		
439669.73	3760294.08	0.38958	(16122724)	439719.73
3760294.08	0.41504	(16122724)		
439319.73	3760344.08	0.26069	(14122624)	439369.73
3760344.08	0.27801	(14122624)		
439419.73	3760344.08	0.29627	(14122624)	439469.73
3760344.08	0.31535	(14122624)		
439519.73	3760344.08	0.33527	(14122624)	439569.73
3760344.08	0.35617	(14122624)		
439619.73	3760344.08	0.37860	(14122624)	439669.73
3760344.08	0.40233	(14122624)		
439719.73	3760344.08	0.42996	(16122724)	439319.73

3760394.08 0.25561 (14122624)  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

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Y-COORD (M)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
3760394.08	439369.73	3760394.08	0.27405	(14122624)	439419.73
3760394.08	439469.73	3760394.08	0.31473	(14122624)	439519.73
3760394.08	439569.73	3760394.08	0.36044	(14122624)	439619.73
3760394.08	439669.73	3760394.08	0.41339	(14122624)	439719.73
3763176.04	439874.21	3765787.45	0.04838	(12120624)	438730.25
3763973.00	439155.52	3762752.44	0.11456m	(15011124)	438236.34

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/25/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 10:02:08

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE SUMMARY OF MAXIMUM PERIOD ( 43848

HRS) RESULTS \*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

GROUP ID	NETWORK	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV,
ZHILL, ZFLAG)	OF TYPE GRID-ID		
ALL	1ST HIGHEST VALUE IS	0.70502 AT (	440824.92, 3760521.33, 196.81,
196.81,	0.00) DC		
	2ND HIGHEST VALUE IS	0.69765 AT (	440893.94, 3761226.53, 203.98,
203.98,	0.00) DC		
	3RD HIGHEST VALUE IS	0.67008 AT (	440374.92, 3760519.36, 195.42,
195.42,	0.00) DC		
	4TH HIGHEST VALUE IS	0.60784 AT (	440874.92, 3760521.55, 197.55,
197.55,	0.00) DC		
	5TH HIGHEST VALUE IS	0.55525 AT (	440753.96, 3761303.17, 204.07,
204.07,	0.00) DC		
	6TH HIGHEST VALUE IS	0.55217 AT (	440324.93, 3760519.14, 194.81,
194.81,	0.00) DC		
	7TH HIGHEST VALUE IS	0.54834 AT (	440566.09, 3761307.70, 203.98,
203.98,	0.00) DC		
	8TH HIGHEST VALUE IS	0.52824 AT (	440924.92, 3760521.77, 198.06,
198.06,	0.00) DC		
	9TH HIGHEST VALUE IS	0.50345 AT (	440851.52, 3761299.51, 204.20,
204.20,	0.00) DC		
	10TH HIGHEST VALUE IS	0.46358 AT (	440974.92, 3760521.99, 198.41,
198.41,	0.00) DC		

\*\*\* RECEPTOR TYPES: GC = GRIDCART  
 GP = GRIDPOLR  
 DC = DISCCART  
 DP = DISCPOLR

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/25/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*  
 \*\*\* 10:02:08

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*



\*\*\* THE SUMMARY OF HIGHEST 1-HR

RESULTS \*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

GROUP ID (XR, YR, ZELEV, ZHILL, ZFLAG)	AVERAGE CONC OF TYPE	NETWORK GRID-ID	DATE (YYMMDDHH)	RECEPTOR
ALL HIGH 1ST HIGH VALUE IS 3760519.36, 195.42, 195.42,	4.30649 0.00)	DC	ON 13101517: AT (	440374.92,

\*\*\* RECEPTOR TYPES: GC = GRIDCART  
 GP = GRIDPOLR  
 DC = DISCCART  
 DP = DISCPOLR

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/25/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 10:02:08

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE SUMMARY OF HIGHEST 24-HR

RESULTS \*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

GROUP ID (XR, YR, ZELEV, ZHILL, ZFLAG)	AVERAGE CONC OF TYPE	NETWORK GRID-ID	DATE (YYMMDDHH)	RECEPTOR
ALL HIGH 1ST HIGH VALUE IS 3760519.36, 195.42, 195.42,	1.77685 0.00)	DC	ON 14120224: AT (	440374.92,

\*\*\* RECEPTOR TYPES: GC = GRIDCART

GP = GRIDPOLR  
DC = DISCCART  
DP = DISCPOLR

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*

08/25/21

\*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
\*\*\* 10:02:08

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* Message Summary : AERMOD Model Execution \*\*\*

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)  
A Total of 2 Warning Message(s)  
A Total of 1279 Informational Message(s)  
  
A Total of 43848 Hours Were Processed  
  
A Total of 917 Calm Hours Identified  
  
A Total of 362 Missing Hours Identified ( 0.83 Percent)

\*\*\*\*\* FATAL ERROR MESSAGES \*\*\*\*\*  
\*\*\* NONE \*\*\*

\*\*\*\*\* WARNING MESSAGES \*\*\*\*\*  
ME W186 2591 MEOPEN: THRESH\_1MIN 1-min ASOS wind speed threshold used  
0.50  
ME W187 2591 MEOPEN: ADJ\_U\* Option for Stable Low Winds used in AERMET

\*\*\*\*\*  
\*\*\* AERMOD Finishes Successfully \*\*\*  
\*\*\*\*\*

```

**
*****
**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.0.0
** Lakes Environmental Software Inc.
** Date: 8/24/2021
** File: C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Mitigated_Operations\ORBP_Mitigated_Operations.ADI
**
*****
**
**
*****
** AERMOD Control Pathway
*****
**
**
CO STARTING
  TITLEONE C:\Lakes\AERMOD View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U
  MODELOPT DFAULT CONC
  AVERTIME 1 24 PERIOD
  URBANOPT 2035210 San_Bernardino_County
  POLLUTID PM_10
  RUNORNOT RUN
  ERRORFIL ORBP_Mitigated_Operations.err
CO FINISHED
**
*****
** AERMOD Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC Bldg 8 Idle
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 0.0000118
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440439.187, 3761172.343, 201.64, 3.15, 4.51
** 440486.700, 3761173.085, 201.84, 3.15, 4.51

```

```

** -----
LOCATION L0002165      VOLUME  440444.036 3761172.419 201.77
LOCATION L0002166      VOLUME  440453.735 3761172.570 201.82
LOCATION L0002167      VOLUME  440463.434 3761172.722 201.87
LOCATION L0002168      VOLUME  440473.133 3761172.873 201.91
LOCATION L0002169      VOLUME  440482.832 3761173.025 201.95
** End of LINE VOLUME Source ID = SLINE1
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE2
** DESCRSRC Bldg 9 Idle
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 7.77E-06
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440568.364, 3761173.085, 202.38, 3.15, 4.51
** 440599.545, 3761172.343, 202.59, 3.15, 4.51
** -----
LOCATION L0002170      VOLUME  440573.213 3761172.970 202.58
LOCATION L0002171      VOLUME  440582.910 3761172.739 202.67
LOCATION L0002172      VOLUME  440592.607 3761172.508 202.75
** End of LINE VOLUME Source ID = SLINE2
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE3
** DESCRSRC Bldg 10 Idle
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 0.0000117
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440693.529, 3761171.296, 202.22, 3.15, 4.51
** 440740.423, 3761171.296, 202.54, 3.15, 4.51
** -----
LOCATION L0002173      VOLUME  440698.379 3761171.296 202.63
LOCATION L0002174      VOLUME  440708.079 3761171.296 202.63
LOCATION L0002175      VOLUME  440717.779 3761171.296 202.62
LOCATION L0002176      VOLUME  440727.479 3761171.296 202.62
LOCATION L0002177      VOLUME  440737.179 3761171.296 202.64
** End of LINE VOLUME Source ID = SLINE3
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE4
** DESCRSRC Bldg 11 Idle

```

```

** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 0.0000644
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440465.649, 3761010.074, 200.18, 3.15, 4.51
** 440724.146, 3761006.974, 200.94, 3.15, 4.51
** -----
LOCATION L0002178      VOLUME  440470.498 3761010.016 200.24
LOCATION L0002179      VOLUME  440480.198 3761009.900 200.24
LOCATION L0002180      VOLUME  440489.897 3761009.784 200.25
LOCATION L0002181      VOLUME  440499.596 3761009.667 200.24
LOCATION L0002182      VOLUME  440509.296 3761009.551 200.23
LOCATION L0002183      VOLUME  440518.995 3761009.435 200.23
LOCATION L0002184      VOLUME  440528.694 3761009.318 200.25
LOCATION L0002185      VOLUME  440538.394 3761009.202 200.27
LOCATION L0002186      VOLUME  440548.093 3761009.086 200.39
LOCATION L0002187      VOLUME  440557.792 3761008.969 200.56
LOCATION L0002188      VOLUME  440567.491 3761008.853 200.73
LOCATION L0002189      VOLUME  440577.191 3761008.737 200.89
LOCATION L0002190      VOLUME  440586.890 3761008.620 201.05
LOCATION L0002191      VOLUME  440596.589 3761008.504 201.18
LOCATION L0002192      VOLUME  440606.289 3761008.388 201.24
LOCATION L0002193      VOLUME  440615.988 3761008.271 201.30
LOCATION L0002194      VOLUME  440625.687 3761008.155 201.22
LOCATION L0002195      VOLUME  440635.387 3761008.039 201.07
LOCATION L0002196      VOLUME  440645.086 3761007.922 200.91
LOCATION L0002197      VOLUME  440654.785 3761007.806 200.66
LOCATION L0002198      VOLUME  440664.484 3761007.690 200.42
LOCATION L0002199      VOLUME  440674.184 3761007.573 200.27
LOCATION L0002200      VOLUME  440683.883 3761007.457 200.29
LOCATION L0002201      VOLUME  440693.582 3761007.341 200.31
LOCATION L0002202      VOLUME  440703.282 3761007.224 200.50
LOCATION L0002203      VOLUME  440712.981 3761007.108 200.76
LOCATION L0002204      VOLUME  440722.680 3761006.992 201.00
** End of LINE VOLUME Source ID = SLINE4
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE5
** DESCRSRC N Bldg 12 Idle
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 0.0000644
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2

```

\*\* 440465.649, 3760892.646, 199.15, 3.15, 4.51  
\*\* 440724.146, 3760891.096, 199.90, 3.15, 4.51

\*\* -----

LOCATION	L0002205	VOLUME	440470.499	3760892.617	199.20
LOCATION	L0002206	VOLUME	440480.198	3760892.559	199.21
LOCATION	L0002207	VOLUME	440489.898	3760892.501	199.22
LOCATION	L0002208	VOLUME	440499.598	3760892.443	199.21
LOCATION	L0002209	VOLUME	440509.298	3760892.385	199.20
LOCATION	L0002210	VOLUME	440518.998	3760892.326	199.19
LOCATION	L0002211	VOLUME	440528.698	3760892.268	199.19
LOCATION	L0002212	VOLUME	440538.397	3760892.210	199.20
LOCATION	L0002213	VOLUME	440548.097	3760892.152	199.30
LOCATION	L0002214	VOLUME	440557.797	3760892.094	199.46
LOCATION	L0002215	VOLUME	440567.497	3760892.035	199.61
LOCATION	L0002216	VOLUME	440577.197	3760891.977	199.78
LOCATION	L0002217	VOLUME	440586.897	3760891.919	199.96
LOCATION	L0002218	VOLUME	440596.596	3760891.861	200.08
LOCATION	L0002219	VOLUME	440606.296	3760891.803	200.13
LOCATION	L0002220	VOLUME	440615.996	3760891.745	200.17
LOCATION	L0002221	VOLUME	440625.696	3760891.686	200.07
LOCATION	L0002222	VOLUME	440635.396	3760891.628	199.92
LOCATION	L0002223	VOLUME	440645.096	3760891.570	199.77
LOCATION	L0002224	VOLUME	440654.795	3760891.512	199.56
LOCATION	L0002225	VOLUME	440664.495	3760891.454	199.35
LOCATION	L0002226	VOLUME	440674.195	3760891.396	199.25
LOCATION	L0002227	VOLUME	440683.895	3760891.337	199.27
LOCATION	L0002228	VOLUME	440693.595	3760891.279	199.29
LOCATION	L0002229	VOLUME	440703.294	3760891.221	199.51
LOCATION	L0002230	VOLUME	440712.994	3760891.163	199.77
LOCATION	L0002231	VOLUME	440722.694	3760891.105	199.99

\*\* End of LINE VOLUME Source ID = SLINE5

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE6

\*\* DESCRSRC S Bldg 12 Idle

\*\* PREFIX

\*\* Length of Side = 9.70

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000646

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440465.649, 3760738.401, 197.59, 3.15, 4.51

\*\* 440724.921, 3760735.688, 197.93, 3.15, 4.51

\*\* -----

LOCATION	L0002232	VOLUME	440470.498	3760738.350	197.66
LOCATION	L0002233	VOLUME	440480.198	3760738.248	197.70
LOCATION	L0002234	VOLUME	440489.897	3760738.147	197.74
LOCATION	L0002235	VOLUME	440499.597	3760738.045	197.78

LOCATION	VOLUME				
L0002236	440509.296	3760737.944	197.82		
L0002237	440518.996	3760737.843	197.86		
L0002238	440528.695	3760737.741	197.91		
L0002239	440538.395	3760737.640	197.95		
L0002240	440548.094	3760737.538	198.02		
L0002241	440557.794	3760737.437	198.10		
L0002242	440567.493	3760737.335	198.17		
L0002243	440577.193	3760737.234	198.16		
L0002244	440586.892	3760737.132	198.15		
L0002245	440596.592	3760737.031	197.91		
L0002246	440606.291	3760736.929	197.41		
L0002247	440615.991	3760736.828	196.92		
L0002248	440625.690	3760736.726	196.72		
L0002249	440635.389	3760736.625	196.57		
L0002250	440645.089	3760736.523	196.46		
L0002251	440654.788	3760736.422	196.46		
L0002252	440664.488	3760736.320	196.46		
L0002253	440674.187	3760736.219	196.51		
L0002254	440683.887	3760736.117	196.60		
L0002255	440693.586	3760736.016	196.69		
L0002256	440703.286	3760735.914	197.12		
L0002257	440712.985	3760735.813	197.59		
L0002258	440722.685	3760735.711	197.99		

\*\* End of LINE VOLUME Source ID = SLINE6

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE7

\*\* DESCRSRC Bldg 13 Idle

\*\* PREFIX

\*\* Length of Side = 9.70

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000642

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440466.811, 3760620.585, 196.37, 3.15, 4.51

\*\* 440724.533, 3760619.422, 197.46, 3.15, 4.51

\*\* -----

L0002259	440471.661	3760620.563	196.40		
L0002260	440481.361	3760620.519	196.41		
L0002261	440491.061	3760620.476	196.43		
L0002262	440500.761	3760620.432	196.46		
L0002263	440510.461	3760620.388	196.49		
L0002264	440520.161	3760620.344	196.53		
L0002265	440529.861	3760620.301	196.60		
L0002266	440539.561	3760620.257	196.66		
L0002267	440549.261	3760620.213	196.73		
L0002268	440558.960	3760620.169	196.80		
L0002269	440568.660	3760620.126	196.87		

LOCATION	VOLUME				
L0002270	440578.360	3760620.082	196.95		
L0002271	440588.060	3760620.038	197.02		
L0002272	440597.760	3760619.994	197.06		
L0002273	440607.460	3760619.950	197.07		
L0002274	440617.160	3760619.907	197.09		
L0002275	440626.860	3760619.863	197.13		
L0002276	440636.560	3760619.819	197.18		
L0002277	440646.260	3760619.775	197.22		
L0002278	440655.959	3760619.732	197.25		
L0002279	440665.659	3760619.688	197.29		
L0002280	440675.359	3760619.644	197.31		
L0002281	440685.059	3760619.600	197.33		
L0002282	440694.759	3760619.557	197.36		
L0002283	440704.459	3760619.513	197.40		
L0002284	440714.159	3760619.469	197.45		
L0002285	440723.859	3760619.425	197.49		

\*\* End of LINE VOLUME Source ID = SLINE7

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE8

\*\* DESCRSRC Driveway 1 & 12

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 4.38E-07

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440393.246, 3761134.275, 201.60, 3.15, 12.09

\*\* 440788.072, 3761130.781, 201.86, 3.15, 12.09

\*\* -----

LOCATION	VOLUME				
L0002286	440406.246	3761134.160	201.53		
L0002287	440432.245	3761133.930	201.47		
L0002288	440458.244	3761133.700	201.55		
L0002289	440484.243	3761133.470	201.64		
L0002290	440510.242	3761133.239	201.70		
L0002291	440536.241	3761133.009	201.74		
L0002292	440562.240	3761132.779	202.24		
L0002293	440588.239	3761132.549	202.45		
L0002294	440614.238	3761132.319	202.46		
L0002295	440640.237	3761132.089	202.16		
L0002296	440666.236	3761131.859	201.68		
L0002297	440692.235	3761131.629	201.60		
L0002298	440718.234	3761131.399	202.08		
L0002299	440744.233	3761131.169	202.28		
L0002300	440770.232	3761130.939	201.69		

\*\* End of LINE VOLUME Source ID = SLINE8

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources



```

** LINE VOLUME Source ID = SLINE9
** DESCRSRC Driveway 2 & 13
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0000434
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440394.120, 3760984.031, 199.86, 3.15, 12.09
** 440785.452, 3760983.158, 200.49, 3.15, 12.09
** -----
LOCATION L0002301    VOLUME    440407.120 3760984.002 199.82
LOCATION L0002302    VOLUME    440433.120 3760983.944 199.86
LOCATION L0002303    VOLUME    440459.120 3760983.886 199.96
LOCATION L0002304    VOLUME    440485.120 3760983.828 200.00
LOCATION L0002305    VOLUME    440511.120 3760983.770 200.00
LOCATION L0002306    VOLUME    440537.120 3760983.712 200.03
LOCATION L0002307    VOLUME    440563.119 3760983.654 200.41
LOCATION L0002308    VOLUME    440589.119 3760983.596 200.85
LOCATION L0002309    VOLUME    440615.119 3760983.538 201.06
LOCATION L0002310    VOLUME    440641.119 3760983.480 200.74
LOCATION L0002311    VOLUME    440667.119 3760983.422 200.10
LOCATION L0002312    VOLUME    440693.119 3760983.364 200.06
LOCATION L0002313    VOLUME    440719.119 3760983.306 200.68
LOCATION L0002314    VOLUME    440745.119 3760983.248 200.91
LOCATION L0002315    VOLUME    440771.119 3760983.190 200.46
** End of LINE VOLUME Source ID = SLINE9
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE10
** DESCRSRC Driveway 3 & 14
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0000436
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440393.246, 3760919.392, 199.10, 3.15, 12.09
** 440786.325, 3760918.518, 199.90, 3.15, 12.09
** -----
LOCATION L0002316    VOLUME    440406.246 3760919.363 199.24
LOCATION L0002317    VOLUME    440432.246 3760919.305 199.31
LOCATION L0002318    VOLUME    440458.246 3760919.247 199.39
LOCATION L0002319    VOLUME    440484.246 3760919.189 199.44
LOCATION L0002320    VOLUME    440510.246 3760919.132 199.43
LOCATION L0002321    VOLUME    440536.246 3760919.074 199.44
LOCATION L0002322    VOLUME    440562.246 3760919.016 199.80

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LOCATION L0002323	VOLUME	440588.246	3760918.958	200.25
LOCATION L0002324	VOLUME	440614.246	3760918.901	200.42
LOCATION L0002325	VOLUME	440640.246	3760918.843	200.17
LOCATION L0002326	VOLUME	440666.246	3760918.785	199.61
LOCATION L0002327	VOLUME	440692.246	3760918.727	199.53
LOCATION L0002328	VOLUME	440718.246	3760918.669	200.15
LOCATION L0002329	VOLUME	440744.246	3760918.612	200.34
LOCATION L0002330	VOLUME	440770.245	3760918.554	199.98

\*\* End of LINE VOLUME Source ID = SLINE10

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE11

\*\* DESCRSRC Driveway 5 & 16

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000436

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440395.867, 3760713.244, 197.25, 3.15, 12.09

\*\* 440788.946, 3760709.750, 198.71, 3.15, 12.09

\*\* -----

LOCATION L0002331	VOLUME	440408.866	3760713.128	197.33
LOCATION L0002332	VOLUME	440434.865	3760712.897	197.28
LOCATION L0002333	VOLUME	440460.864	3760712.666	197.34
LOCATION L0002334	VOLUME	440486.863	3760712.435	197.41
LOCATION L0002335	VOLUME	440512.862	3760712.204	197.53
LOCATION L0002336	VOLUME	440538.861	3760711.973	197.70
LOCATION L0002337	VOLUME	440564.860	3760711.742	197.82
LOCATION L0002338	VOLUME	440590.859	3760711.510	197.87
LOCATION L0002339	VOLUME	440616.858	3760711.279	197.46
LOCATION L0002340	VOLUME	440642.857	3760711.048	197.40
LOCATION L0002341	VOLUME	440668.856	3760710.817	197.47
LOCATION L0002342	VOLUME	440694.855	3760710.586	197.60
LOCATION L0002343	VOLUME	440720.854	3760710.355	198.07
LOCATION L0002344	VOLUME	440746.853	3760710.124	198.34
LOCATION L0002345	VOLUME	440772.852	3760709.893	198.60

\*\* End of LINE VOLUME Source ID = SLINE11

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE12

\*\* DESCRSRC Driveway 6 & 17

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000434

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

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** Nodes = 2
** 440394.120, 3760648.604, 196.51, 3.15, 12.09
** 440785.452, 3760646.857, 197.99, 3.15, 12.09
** -----
LOCATION L0002346      VOLUME  440407.120 3760648.546 196.72
LOCATION L0002347      VOLUME  440433.120 3760648.430 196.64
LOCATION L0002348      VOLUME  440459.119 3760648.314 196.66
LOCATION L0002349      VOLUME  440485.119 3760648.198 196.71
LOCATION L0002350      VOLUME  440511.119 3760648.082 196.79
LOCATION L0002351      VOLUME  440537.118 3760647.966 196.97
LOCATION L0002352      VOLUME  440563.118 3760647.850 197.14
LOCATION L0002353      VOLUME  440589.118 3760647.734 197.31
LOCATION L0002354      VOLUME  440615.118 3760647.617 197.35
LOCATION L0002355      VOLUME  440641.117 3760647.501 197.45
LOCATION L0002356      VOLUME  440667.117 3760647.385 197.55
LOCATION L0002357      VOLUME  440693.117 3760647.269 197.60
LOCATION L0002358      VOLUME  440719.117 3760647.153 197.69
LOCATION L0002359      VOLUME  440745.116 3760647.037 197.78
LOCATION L0002360      VOLUME  440771.116 3760646.921 198.03
** End of LINE VOLUME Source ID = SLINE12
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE13
** DESCRSRC West Access Road - Sultana 15 mph
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0000643
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440392.516, 3761134.605, 201.61, 3.15, 12.09
** 440390.843, 3760473.617, 195.36, 3.15, 12.09
** -----
LOCATION L0002361      VOLUME  440392.483 3761121.605 201.48
LOCATION L0002362      VOLUME  440392.418 3761095.606 201.17
LOCATION L0002363      VOLUME  440392.352 3761069.606 200.87
LOCATION L0002364      VOLUME  440392.286 3761043.606 200.56
LOCATION L0002365      VOLUME  440392.220 3761017.606 200.25
LOCATION L0002366      VOLUME  440392.154 3760991.606 199.95
LOCATION L0002367      VOLUME  440392.089 3760965.606 199.68
LOCATION L0002368      VOLUME  440392.023 3760939.606 199.43
LOCATION L0002369      VOLUME  440391.957 3760913.606 199.16
LOCATION L0002370      VOLUME  440391.891 3760887.606 198.93
LOCATION L0002371      VOLUME  440391.825 3760861.606 198.72
LOCATION L0002372      VOLUME  440391.759 3760835.606 198.48
LOCATION L0002373      VOLUME  440391.694 3760809.606 198.22
LOCATION L0002374      VOLUME  440391.628 3760783.607 197.97
LOCATION L0002375      VOLUME  440391.562 3760757.607 197.71

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LOCATION L0002376	VOLUME	440391.496	3760731.607	197.44
LOCATION L0002377	VOLUME	440391.430	3760705.607	197.19
LOCATION L0002378	VOLUME	440391.364	3760679.607	196.95
LOCATION L0002379	VOLUME	440391.299	3760653.607	196.72
LOCATION L0002380	VOLUME	440391.233	3760627.607	196.51
LOCATION L0002381	VOLUME	440391.167	3760601.607	196.30
LOCATION L0002382	VOLUME	440391.101	3760575.607	196.08
LOCATION L0002383	VOLUME	440391.035	3760549.607	195.89
LOCATION L0002384	VOLUME	440390.970	3760523.607	195.68
LOCATION L0002385	VOLUME	440390.904	3760497.607	195.53

\*\* End of LINE VOLUME Source ID = SLINE13

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE14

\*\* DESCRSRC Merril W of Site 50 mph

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000385

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440391.194, 3760467.870, 195.22, 3.15, 12.09

\*\* 439902.492, 3760463.238, 193.60, 3.15, 12.09

\*\* -----

LOCATION L0002386	VOLUME	440378.195	3760467.747	195.12
LOCATION L0002387	VOLUME	440352.196	3760467.500	194.83
LOCATION L0002388	VOLUME	440326.197	3760467.254	194.71
LOCATION L0002389	VOLUME	440300.199	3760467.008	194.61
LOCATION L0002390	VOLUME	440274.200	3760466.761	194.52
LOCATION L0002391	VOLUME	440248.201	3760466.515	194.35
LOCATION L0002392	VOLUME	440222.202	3760466.268	194.19
LOCATION L0002393	VOLUME	440196.203	3760466.022	194.09
LOCATION L0002394	VOLUME	440170.204	3760465.775	193.96
LOCATION L0002395	VOLUME	440144.206	3760465.529	193.82
LOCATION L0002396	VOLUME	440118.207	3760465.282	193.71
LOCATION L0002397	VOLUME	440092.208	3760465.036	193.66
LOCATION L0002398	VOLUME	440066.209	3760464.790	193.63
LOCATION L0002399	VOLUME	440040.210	3760464.543	193.60
LOCATION L0002400	VOLUME	440014.211	3760464.297	193.59
LOCATION L0002401	VOLUME	439988.213	3760464.050	193.57
LOCATION L0002402	VOLUME	439962.214	3760463.804	193.57
LOCATION L0002403	VOLUME	439936.215	3760463.557	193.63
LOCATION L0002404	VOLUME	439910.216	3760463.311	193.67

\*\* End of LINE VOLUME Source ID = SLINE14

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE15

\*\* DESCRSRC Euclide South of Merril 45 mph

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** PREFIX
** Length of Side = 31.00
** Configuration = Adjacent
** Emission Rate = 0.000105
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 439894.728, 3760450.854, 193.57, 3.15, 14.42
** 439882.847, 3758051.793, 175.42, 3.15, 14.42

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LOCATION L0002405    VOLUME  439894.651 3760435.354 193.42
LOCATION L0002406    VOLUME  439894.497 3760404.354 193.22
LOCATION L0002407    VOLUME  439894.344 3760373.355 193.05
LOCATION L0002408    VOLUME  439894.190 3760342.355 192.86
LOCATION L0002409    VOLUME  439894.037 3760311.356 192.61
LOCATION L0002410    VOLUME  439893.883 3760280.356 192.34
LOCATION L0002411    VOLUME  439893.730 3760249.356 192.06
LOCATION L0002412    VOLUME  439893.576 3760218.357 191.79
LOCATION L0002413    VOLUME  439893.423 3760187.357 191.52
LOCATION L0002414    VOLUME  439893.269 3760156.357 191.32
LOCATION L0002415    VOLUME  439893.116 3760125.358 191.16
LOCATION L0002416    VOLUME  439892.962 3760094.358 191.03
LOCATION L0002417    VOLUME  439892.809 3760063.359 190.90
LOCATION L0002418    VOLUME  439892.655 3760032.359 190.76
LOCATION L0002419    VOLUME  439892.502 3760001.359 190.60
LOCATION L0002420    VOLUME  439892.348 3759970.360 190.44
LOCATION L0002421    VOLUME  439892.195 3759939.360 190.27
LOCATION L0002422    VOLUME  439892.041 3759908.360 190.10
LOCATION L0002423    VOLUME  439891.888 3759877.361 189.91
LOCATION L0002424    VOLUME  439891.734 3759846.361 189.67
LOCATION L0002425    VOLUME  439891.581 3759815.362 189.41
LOCATION L0002426    VOLUME  439891.427 3759784.362 189.14
LOCATION L0002427    VOLUME  439891.274 3759753.362 188.87
LOCATION L0002428    VOLUME  439891.120 3759722.363 188.57
LOCATION L0002429    VOLUME  439890.967 3759691.363 188.30
LOCATION L0002430    VOLUME  439890.813 3759660.364 188.05
LOCATION L0002431    VOLUME  439890.660 3759629.364 187.78
LOCATION L0002432    VOLUME  439890.506 3759598.364 187.52
LOCATION L0002433    VOLUME  439890.352 3759567.365 187.26
LOCATION L0002434    VOLUME  439890.199 3759536.365 187.01
LOCATION L0002435    VOLUME  439890.045 3759505.365 186.78
LOCATION L0002436    VOLUME  439889.892 3759474.366 186.59
LOCATION L0002437    VOLUME  439889.738 3759443.366 186.40
LOCATION L0002438    VOLUME  439889.585 3759412.367 186.20
LOCATION L0002439    VOLUME  439889.431 3759381.367 185.98
LOCATION L0002440    VOLUME  439889.278 3759350.367 185.79
LOCATION L0002441    VOLUME  439889.124 3759319.368 185.62
LOCATION L0002442    VOLUME  439888.971 3759288.368 185.43
LOCATION L0002443    VOLUME  439888.817 3759257.368 185.17

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LOCATION L0002444	VOLUME	439888.664	3759226.369	184.88
LOCATION L0002445	VOLUME	439888.510	3759195.369	184.57
LOCATION L0002446	VOLUME	439888.357	3759164.370	184.29
LOCATION L0002447	VOLUME	439888.203	3759133.370	183.99
LOCATION L0002448	VOLUME	439888.050	3759102.370	183.75
LOCATION L0002449	VOLUME	439887.896	3759071.371	183.55
LOCATION L0002450	VOLUME	439887.743	3759040.371	183.39
LOCATION L0002451	VOLUME	439887.589	3759009.372	183.24
LOCATION L0002452	VOLUME	439887.436	3758978.372	183.05
LOCATION L0002453	VOLUME	439887.282	3758947.372	182.83
LOCATION L0002454	VOLUME	439887.129	3758916.373	182.56
LOCATION L0002455	VOLUME	439886.975	3758885.373	182.21
LOCATION L0002456	VOLUME	439886.822	3758854.373	181.90
LOCATION L0002457	VOLUME	439886.668	3758823.374	181.56
LOCATION L0002458	VOLUME	439886.515	3758792.374	181.26
LOCATION L0002459	VOLUME	439886.361	3758761.375	181.04
LOCATION L0002460	VOLUME	439886.208	3758730.375	180.85
LOCATION L0002461	VOLUME	439886.054	3758699.375	180.68
LOCATION L0002462	VOLUME	439885.901	3758668.376	180.48
LOCATION L0002463	VOLUME	439885.747	3758637.376	180.25
LOCATION L0002464	VOLUME	439885.594	3758606.376	180.00
LOCATION L0002465	VOLUME	439885.440	3758575.377	179.78
LOCATION L0002466	VOLUME	439885.287	3758544.377	179.58
LOCATION L0002467	VOLUME	439885.133	3758513.378	179.37
LOCATION L0002468	VOLUME	439884.980	3758482.378	179.09
LOCATION L0002469	VOLUME	439884.826	3758451.378	178.77
LOCATION L0002470	VOLUME	439884.673	3758420.379	178.42
LOCATION L0002471	VOLUME	439884.519	3758389.379	178.08
LOCATION L0002472	VOLUME	439884.366	3758358.379	177.78
LOCATION L0002473	VOLUME	439884.212	3758327.380	177.48
LOCATION L0002474	VOLUME	439884.059	3758296.380	177.24
LOCATION L0002475	VOLUME	439883.905	3758265.381	177.02
LOCATION L0002476	VOLUME	439883.752	3758234.381	176.77
LOCATION L0002477	VOLUME	439883.598	3758203.381	176.52
LOCATION L0002478	VOLUME	439883.444	3758172.382	176.26
LOCATION L0002479	VOLUME	439883.291	3758141.382	176.00
LOCATION L0002480	VOLUME	439883.137	3758110.383	175.77
LOCATION L0002481	VOLUME	439882.984	3758079.383	175.59

\*\* End of LINE VOLUME Source ID = SLINE15

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 \*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE16

\*\* DESCRSRC Euclide N of Merril 45 MPH

\*\* PREFIX

\*\* Length of Side = 36.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000331

\*\* Vertical Dimension = 5.78

\*\* SZINIT = 2.69

\*\* Nodes = 4  
 \*\* 439893.985, 3760466.447, 193.63, 2.89, 16.74  
 \*\* 439902.153, 3763463.230, 227.18, 2.89, 16.74  
 \*\* 439912.548, 3763601.338, 228.39, 2.89, 16.74  
 \*\* 439915.518, 3765792.495, 254.78, 2.89, 16.74

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LOCATION	VOLUME				
L0002482	VOLUME	439894.034	3760484.447	193.85	
L0002483	VOLUME	439894.132	3760520.446	194.19	
L0002484	VOLUME	439894.230	3760556.446	194.55	
L0002485	VOLUME	439894.328	3760592.446	194.87	
L0002486	VOLUME	439894.427	3760628.446	195.19	
L0002487	VOLUME	439894.525	3760664.446	195.50	
L0002488	VOLUME	439894.623	3760700.446	195.83	
L0002489	VOLUME	439894.721	3760736.446	196.22	
L0002490	VOLUME	439894.819	3760772.445	196.64	
L0002491	VOLUME	439894.917	3760808.445	197.09	
L0002492	VOLUME	439895.015	3760844.445	197.60	
L0002493	VOLUME	439895.113	3760880.445	198.09	
L0002494	VOLUME	439895.211	3760916.445	198.56	
L0002495	VOLUME	439895.310	3760952.445	199.00	
L0002496	VOLUME	439895.408	3760988.445	199.46	
L0002497	VOLUME	439895.506	3761024.445	199.92	
L0002498	VOLUME	439895.604	3761060.444	200.35	
L0002499	VOLUME	439895.702	3761096.444	200.72	
L0002500	VOLUME	439895.800	3761132.444	201.08	
L0002501	VOLUME	439895.898	3761168.444	201.46	
L0002502	VOLUME	439895.996	3761204.444	201.79	
L0002503	VOLUME	439896.095	3761240.444	202.06	
L0002504	VOLUME	439896.193	3761276.444	202.40	
L0002505	VOLUME	439896.291	3761312.443	202.79	
L0002506	VOLUME	439896.389	3761348.443	203.17	
L0002507	VOLUME	439896.487	3761384.443	203.62	
L0002508	VOLUME	439896.585	3761420.443	204.07	
L0002509	VOLUME	439896.683	3761456.443	204.49	
L0002510	VOLUME	439896.781	3761492.443	204.90	
L0002511	VOLUME	439896.879	3761528.443	205.33	
L0002512	VOLUME	439896.978	3761564.443	205.74	
L0002513	VOLUME	439897.076	3761600.442	206.09	
L0002514	VOLUME	439897.174	3761636.442	206.37	
L0002515	VOLUME	439897.272	3761672.442	206.67	
L0002516	VOLUME	439897.370	3761708.442	206.97	
L0002517	VOLUME	439897.468	3761744.442	207.28	
L0002518	VOLUME	439897.566	3761780.442	207.61	
L0002519	VOLUME	439897.664	3761816.442	207.93	
L0002520	VOLUME	439897.763	3761852.441	208.24	
L0002521	VOLUME	439897.861	3761888.441	208.54	
L0002522	VOLUME	439897.959	3761924.441	208.86	
L0002523	VOLUME	439898.057	3761960.441	209.18	
L0002524	VOLUME	439898.155	3761996.441	209.49	

LOCATION L0002525	VOLUME	439898.253	3762032.441	209.76
LOCATION L0002526	VOLUME	439898.351	3762068.441	210.03
LOCATION L0002527	VOLUME	439898.449	3762104.441	210.31
LOCATION L0002528	VOLUME	439898.547	3762140.440	210.55
LOCATION L0002529	VOLUME	439898.646	3762176.440	210.85
LOCATION L0002530	VOLUME	439898.744	3762212.440	211.26
LOCATION L0002531	VOLUME	439898.842	3762248.440	211.77
LOCATION L0002532	VOLUME	439898.940	3762284.440	212.37
LOCATION L0002533	VOLUME	439899.038	3762320.440	212.95
LOCATION L0002534	VOLUME	439899.136	3762356.440	213.47
LOCATION L0002535	VOLUME	439899.234	3762392.439	213.94
LOCATION L0002536	VOLUME	439899.332	3762428.439	214.41
LOCATION L0002537	VOLUME	439899.431	3762464.439	214.87
LOCATION L0002538	VOLUME	439899.529	3762500.439	215.27
LOCATION L0002539	VOLUME	439899.627	3762536.439	215.67
LOCATION L0002540	VOLUME	439899.725	3762572.439	216.08
LOCATION L0002541	VOLUME	439899.823	3762608.439	216.52
LOCATION L0002542	VOLUME	439899.921	3762644.439	217.01
LOCATION L0002543	VOLUME	439900.019	3762680.438	217.48
LOCATION L0002544	VOLUME	439900.117	3762716.438	217.98
LOCATION L0002545	VOLUME	439900.215	3762752.438	218.46
LOCATION L0002546	VOLUME	439900.314	3762788.438	218.96
LOCATION L0002547	VOLUME	439900.412	3762824.438	219.46
LOCATION L0002548	VOLUME	439900.510	3762860.438	219.99
LOCATION L0002549	VOLUME	439900.608	3762896.438	220.50
LOCATION L0002550	VOLUME	439900.706	3762932.437	220.93
LOCATION L0002551	VOLUME	439900.804	3762968.437	221.31
LOCATION L0002552	VOLUME	439900.902	3763004.437	221.71
LOCATION L0002553	VOLUME	439901.000	3763040.437	222.07
LOCATION L0002554	VOLUME	439901.098	3763076.437	222.48
LOCATION L0002555	VOLUME	439901.197	3763112.437	222.92
LOCATION L0002556	VOLUME	439901.295	3763148.437	223.40
LOCATION L0002557	VOLUME	439901.393	3763184.437	223.91
LOCATION L0002558	VOLUME	439901.491	3763220.436	224.44
LOCATION L0002559	VOLUME	439901.589	3763256.436	224.97
LOCATION L0002560	VOLUME	439901.687	3763292.436	225.41
LOCATION L0002561	VOLUME	439901.785	3763328.436	225.83
LOCATION L0002562	VOLUME	439901.883	3763364.436	226.22
LOCATION L0002563	VOLUME	439901.982	3763400.436	226.57
LOCATION L0002564	VOLUME	439902.080	3763436.436	226.88
LOCATION L0002565	VOLUME	439902.844	3763472.410	227.21
LOCATION L0002566	VOLUME	439905.546	3763508.308	227.55
LOCATION L0002567	VOLUME	439908.248	3763544.206	227.87
LOCATION L0002568	VOLUME	439910.950	3763580.105	228.17
LOCATION L0002569	VOLUME	439912.568	3763616.045	228.46
LOCATION L0002570	VOLUME	439912.617	3763652.045	228.76
LOCATION L0002571	VOLUME	439912.665	3763688.045	229.12
LOCATION L0002572	VOLUME	439912.714	3763724.045	229.40
LOCATION L0002573	VOLUME	439912.763	3763760.045	229.65



LOCATION L0002574	VOLUME	439912.812	3763796.045	229.92
LOCATION L0002575	VOLUME	439912.861	3763832.045	230.22
LOCATION L0002576	VOLUME	439912.909	3763868.045	230.54
LOCATION L0002577	VOLUME	439912.958	3763904.045	230.93
LOCATION L0002578	VOLUME	439913.007	3763940.045	231.41
LOCATION L0002579	VOLUME	439913.056	3763976.044	231.93
LOCATION L0002580	VOLUME	439913.105	3764012.044	232.48
LOCATION L0002581	VOLUME	439913.153	3764048.044	233.06
LOCATION L0002582	VOLUME	439913.202	3764084.044	233.63
LOCATION L0002583	VOLUME	439913.251	3764120.044	234.17
LOCATION L0002584	VOLUME	439913.300	3764156.044	234.76
LOCATION L0002585	VOLUME	439913.349	3764192.044	235.34
LOCATION L0002586	VOLUME	439913.397	3764228.044	235.93
LOCATION L0002587	VOLUME	439913.446	3764264.044	236.50
LOCATION L0002588	VOLUME	439913.495	3764300.044	237.09
LOCATION L0002589	VOLUME	439913.544	3764336.044	237.65
LOCATION L0002590	VOLUME	439913.593	3764372.044	238.14
LOCATION L0002591	VOLUME	439913.641	3764408.044	238.51
LOCATION L0002592	VOLUME	439913.690	3764444.044	238.76
LOCATION L0002593	VOLUME	439913.739	3764480.044	238.94
LOCATION L0002594	VOLUME	439913.788	3764516.044	239.14
LOCATION L0002595	VOLUME	439913.837	3764552.044	239.32
LOCATION L0002596	VOLUME	439913.885	3764588.044	239.55
LOCATION L0002597	VOLUME	439913.934	3764624.044	239.91
LOCATION L0002598	VOLUME	439913.983	3764660.044	240.33
LOCATION L0002599	VOLUME	439914.032	3764696.044	240.78
LOCATION L0002600	VOLUME	439914.081	3764732.044	241.22
LOCATION L0002601	VOLUME	439914.129	3764768.044	241.87
LOCATION L0002602	VOLUME	439914.178	3764804.044	242.52
LOCATION L0002603	VOLUME	439914.227	3764840.044	243.09
LOCATION L0002604	VOLUME	439914.276	3764876.044	243.65
LOCATION L0002605	VOLUME	439914.324	3764912.044	244.15
LOCATION L0002606	VOLUME	439914.373	3764948.044	244.65
LOCATION L0002607	VOLUME	439914.422	3764984.044	245.21
LOCATION L0002608	VOLUME	439914.471	3765020.044	245.75
LOCATION L0002609	VOLUME	439914.520	3765056.043	246.10
LOCATION L0002610	VOLUME	439914.568	3765092.043	246.38
LOCATION L0002611	VOLUME	439914.617	3765128.043	246.65
LOCATION L0002612	VOLUME	439914.666	3765164.043	246.95
LOCATION L0002613	VOLUME	439914.715	3765200.043	247.30
LOCATION L0002614	VOLUME	439914.764	3765236.043	247.82
LOCATION L0002615	VOLUME	439914.812	3765272.043	248.35
LOCATION L0002616	VOLUME	439914.861	3765308.043	248.96
LOCATION L0002617	VOLUME	439914.910	3765344.043	249.57
LOCATION L0002618	VOLUME	439914.959	3765380.043	250.15
LOCATION L0002619	VOLUME	439915.008	3765416.043	250.77
LOCATION L0002620	VOLUME	439915.056	3765452.043	251.36
LOCATION L0002621	VOLUME	439915.105	3765488.043	251.81
LOCATION L0002622	VOLUME	439915.154	3765524.043	252.12

LOCATION L0002623	VOLUME	439915.203	3765560.043	252.55
LOCATION L0002624	VOLUME	439915.252	3765596.043	252.94
LOCATION L0002625	VOLUME	439915.300	3765632.043	253.19
LOCATION L0002626	VOLUME	439915.349	3765668.043	253.63
LOCATION L0002627	VOLUME	439915.398	3765704.043	254.14
LOCATION L0002628	VOLUME	439915.447	3765740.043	254.48
LOCATION L0002629	VOLUME	439915.496	3765776.043	254.77

\*\* End of LINE VOLUME Source ID = SLINE16

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE17

\*\* DESCRSRC East Access Road Campus 15 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000474

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440788.002, 3761131.581, 201.87, 3.15, 12.09

\*\* 440792.839, 3760493.155, 196.84, 3.15, 12.09

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LOCATION L0002630	VOLUME	440788.101	3761118.581	201.62
LOCATION L0002631	VOLUME	440788.297	3761092.582	201.37
LOCATION L0002632	VOLUME	440788.494	3761066.583	201.14
LOCATION L0002633	VOLUME	440788.691	3761040.584	200.92
LOCATION L0002634	VOLUME	440788.888	3761014.584	200.72
LOCATION L0002635	VOLUME	440789.085	3760988.585	200.51
LOCATION L0002636	VOLUME	440789.282	3760962.586	200.30
LOCATION L0002637	VOLUME	440789.479	3760936.587	200.11
LOCATION L0002638	VOLUME	440789.676	3760910.587	199.91
LOCATION L0002639	VOLUME	440789.873	3760884.588	199.74
LOCATION L0002640	VOLUME	440790.070	3760858.589	199.60
LOCATION L0002641	VOLUME	440790.267	3760832.590	199.52
LOCATION L0002642	VOLUME	440790.464	3760806.590	199.45
LOCATION L0002643	VOLUME	440790.661	3760780.591	199.30
LOCATION L0002644	VOLUME	440790.858	3760754.592	198.99
LOCATION L0002645	VOLUME	440791.055	3760728.593	198.81
LOCATION L0002646	VOLUME	440791.252	3760702.593	198.61
LOCATION L0002647	VOLUME	440791.449	3760676.594	198.40
LOCATION L0002648	VOLUME	440791.646	3760650.595	198.19
LOCATION L0002649	VOLUME	440791.843	3760624.595	197.97
LOCATION L0002650	VOLUME	440792.040	3760598.596	197.72
LOCATION L0002651	VOLUME	440792.237	3760572.597	197.45
LOCATION L0002652	VOLUME	440792.434	3760546.598	197.22
LOCATION L0002653	VOLUME	440792.631	3760520.598	197.02
LOCATION L0002654	VOLUME	440792.828	3760494.599	196.88

\*\* End of LINE VOLUME Source ID = SLINE17

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\*\* Line Source Represented by Adjacent Volume Sources  
 \*\* LINE VOLUME Source ID = SLINE18  
 \*\* DESCRSRC Merrill East of Site 50 MPH  
 \*\* PREFIX  
 \*\* Length of Side = 26.00  
 \*\* Configuration = Adjacent  
 \*\* Emission Rate = 0.000221  
 \*\* Vertical Dimension = 6.29  
 \*\* SZINIT = 2.93  
 \*\* Nodes = 4  
 \*\* 440792.839, 3760468.972, 196.77, 3.15, 12.09  
 \*\* 443966.833, 3760482.272, 204.47, 3.15, 12.09  
 \*\* 444151.831, 3760416.979, 202.33, 3.15, 12.09  
 \*\* 445194.110, 3760409.724, 201.48, 3.15, 12.09  
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LOCATION	L0002655	VOLUME	440805.838	3760469.026	196.69
LOCATION	L0002656	VOLUME	440831.838	3760469.135	196.70
LOCATION	L0002657	VOLUME	440857.838	3760469.244	196.88
LOCATION	L0002658	VOLUME	440883.838	3760469.353	197.13
LOCATION	L0002659	VOLUME	440909.838	3760469.462	197.39
LOCATION	L0002660	VOLUME	440935.837	3760469.571	197.56
LOCATION	L0002661	VOLUME	440961.837	3760469.680	197.64
LOCATION	L0002662	VOLUME	440987.837	3760469.789	197.74
LOCATION	L0002663	VOLUME	441013.837	3760469.898	197.89
LOCATION	L0002664	VOLUME	441039.836	3760470.007	198.06
LOCATION	L0002665	VOLUME	441065.836	3760470.116	198.25
LOCATION	L0002666	VOLUME	441091.836	3760470.225	198.46
LOCATION	L0002667	VOLUME	441117.836	3760470.334	198.59
LOCATION	L0002668	VOLUME	441143.836	3760470.443	198.64
LOCATION	L0002669	VOLUME	441169.835	3760470.552	198.63
LOCATION	L0002670	VOLUME	441195.835	3760470.661	198.95
LOCATION	L0002671	VOLUME	441221.835	3760470.770	198.86
LOCATION	L0002672	VOLUME	441247.835	3760470.879	198.67
LOCATION	L0002673	VOLUME	441273.834	3760470.988	198.71
LOCATION	L0002674	VOLUME	441299.834	3760471.096	198.79
LOCATION	L0002675	VOLUME	441325.834	3760471.205	198.90
LOCATION	L0002676	VOLUME	441351.834	3760471.314	198.98
LOCATION	L0002677	VOLUME	441377.833	3760471.423	199.10
LOCATION	L0002678	VOLUME	441403.833	3760471.532	199.23
LOCATION	L0002679	VOLUME	441429.833	3760471.641	199.30
LOCATION	L0002680	VOLUME	441455.833	3760471.750	199.33
LOCATION	L0002681	VOLUME	441481.833	3760471.859	199.62
LOCATION	L0002682	VOLUME	441507.832	3760471.968	199.82
LOCATION	L0002683	VOLUME	441533.832	3760472.077	199.93
LOCATION	L0002684	VOLUME	441559.832	3760472.186	199.99
LOCATION	L0002685	VOLUME	441585.832	3760472.295	200.00
LOCATION	L0002686	VOLUME	441611.831	3760472.404	200.07
LOCATION	L0002687	VOLUME	441637.831	3760472.513	200.18
LOCATION	L0002688	VOLUME	441663.831	3760472.622	200.19

LOCATION	L0002689	VOLUME	441689.831	3760472.731	200.18
LOCATION	L0002690	VOLUME	441715.830	3760472.840	200.15
LOCATION	L0002691	VOLUME	441741.830	3760472.949	200.10
LOCATION	L0002692	VOLUME	441767.830	3760473.058	200.08
LOCATION	L0002693	VOLUME	441793.830	3760473.167	200.09
LOCATION	L0002694	VOLUME	441819.830	3760473.275	200.09
LOCATION	L0002695	VOLUME	441845.829	3760473.384	200.08
LOCATION	L0002696	VOLUME	441871.829	3760473.493	200.12
LOCATION	L0002697	VOLUME	441897.829	3760473.602	200.15
LOCATION	L0002698	VOLUME	441923.829	3760473.711	200.22
LOCATION	L0002699	VOLUME	441949.828	3760473.820	200.29
LOCATION	L0002700	VOLUME	441975.828	3760473.929	200.11
LOCATION	L0002701	VOLUME	442001.828	3760474.038	199.94
LOCATION	L0002702	VOLUME	442027.828	3760474.147	200.38
LOCATION	L0002703	VOLUME	442053.828	3760474.256	200.42
LOCATION	L0002704	VOLUME	442079.827	3760474.365	200.43
LOCATION	L0002705	VOLUME	442105.827	3760474.474	200.40
LOCATION	L0002706	VOLUME	442131.827	3760474.583	200.37
LOCATION	L0002707	VOLUME	442157.827	3760474.692	200.38
LOCATION	L0002708	VOLUME	442183.826	3760474.801	200.40
LOCATION	L0002709	VOLUME	442209.826	3760474.910	200.40
LOCATION	L0002710	VOLUME	442235.826	3760475.019	200.44
LOCATION	L0002711	VOLUME	442261.826	3760475.128	200.55
LOCATION	L0002712	VOLUME	442287.825	3760475.237	200.67
LOCATION	L0002713	VOLUME	442313.825	3760475.346	200.80
LOCATION	L0002714	VOLUME	442339.825	3760475.455	200.98
LOCATION	L0002715	VOLUME	442365.825	3760475.563	201.07
LOCATION	L0002716	VOLUME	442391.825	3760475.672	201.05
LOCATION	L0002717	VOLUME	442417.824	3760475.781	201.12
LOCATION	L0002718	VOLUME	442443.824	3760475.890	201.14
LOCATION	L0002719	VOLUME	442469.824	3760475.999	201.12
LOCATION	L0002720	VOLUME	442495.824	3760476.108	201.09
LOCATION	L0002721	VOLUME	442521.823	3760476.217	201.06
LOCATION	L0002722	VOLUME	442547.823	3760476.326	201.01
LOCATION	L0002723	VOLUME	442573.823	3760476.435	200.96
LOCATION	L0002724	VOLUME	442599.823	3760476.544	200.85
LOCATION	L0002725	VOLUME	442625.823	3760476.653	200.70
LOCATION	L0002726	VOLUME	442651.822	3760476.762	200.64
LOCATION	L0002727	VOLUME	442677.822	3760476.871	200.61
LOCATION	L0002728	VOLUME	442703.822	3760476.980	200.62
LOCATION	L0002729	VOLUME	442729.822	3760477.089	200.73
LOCATION	L0002730	VOLUME	442755.821	3760477.198	200.85
LOCATION	L0002731	VOLUME	442781.821	3760477.307	200.82
LOCATION	L0002732	VOLUME	442807.821	3760477.416	200.80
LOCATION	L0002733	VOLUME	442833.821	3760477.525	200.83
LOCATION	L0002734	VOLUME	442859.820	3760477.634	200.98
LOCATION	L0002735	VOLUME	442885.820	3760477.742	201.07
LOCATION	L0002736	VOLUME	442911.820	3760477.851	201.13
LOCATION	L0002737	VOLUME	442937.820	3760477.960	201.24

LOCATION	L0002738	VOLUME	442963.820	3760478.069	201.34
LOCATION	L0002739	VOLUME	442989.819	3760478.178	201.66
LOCATION	L0002740	VOLUME	443015.819	3760478.287	201.87
LOCATION	L0002741	VOLUME	443041.819	3760478.396	201.68
LOCATION	L0002742	VOLUME	443067.819	3760478.505	201.58
LOCATION	L0002743	VOLUME	443093.818	3760478.614	201.61
LOCATION	L0002744	VOLUME	443119.818	3760478.723	201.69
LOCATION	L0002745	VOLUME	443145.818	3760478.832	201.82
LOCATION	L0002746	VOLUME	443171.818	3760478.941	202.12
LOCATION	L0002747	VOLUME	443197.817	3760479.050	202.75
LOCATION	L0002748	VOLUME	443223.817	3760479.159	203.08
LOCATION	L0002749	VOLUME	443249.817	3760479.268	203.11
LOCATION	L0002750	VOLUME	443275.817	3760479.377	203.19
LOCATION	L0002751	VOLUME	443301.817	3760479.486	203.21
LOCATION	L0002752	VOLUME	443327.816	3760479.595	203.34
LOCATION	L0002753	VOLUME	443353.816	3760479.704	203.23
LOCATION	L0002754	VOLUME	443379.816	3760479.813	203.32
LOCATION	L0002755	VOLUME	443405.816	3760479.922	203.44
LOCATION	L0002756	VOLUME	443431.815	3760480.030	203.41
LOCATION	L0002757	VOLUME	443457.815	3760480.139	203.39
LOCATION	L0002758	VOLUME	443483.815	3760480.248	203.40
LOCATION	L0002759	VOLUME	443509.815	3760480.357	203.34
LOCATION	L0002760	VOLUME	443535.815	3760480.466	203.32
LOCATION	L0002761	VOLUME	443561.814	3760480.575	203.18
LOCATION	L0002762	VOLUME	443587.814	3760480.684	203.18
LOCATION	L0002763	VOLUME	443613.814	3760480.793	203.46
LOCATION	L0002764	VOLUME	443639.814	3760480.902	203.54
LOCATION	L0002765	VOLUME	443665.813	3760481.011	203.63
LOCATION	L0002766	VOLUME	443691.813	3760481.120	203.67
LOCATION	L0002767	VOLUME	443717.813	3760481.229	203.73
LOCATION	L0002768	VOLUME	443743.813	3760481.338	203.77
LOCATION	L0002769	VOLUME	443769.812	3760481.447	203.85
LOCATION	L0002770	VOLUME	443795.812	3760481.556	204.00
LOCATION	L0002771	VOLUME	443821.812	3760481.665	204.17
LOCATION	L0002772	VOLUME	443847.812	3760481.774	204.20
LOCATION	L0002773	VOLUME	443873.812	3760481.883	204.53
LOCATION	L0002774	VOLUME	443899.811	3760481.992	203.97
LOCATION	L0002775	VOLUME	443925.811	3760482.101	204.05
LOCATION	L0002776	VOLUME	443951.811	3760482.210	204.58
LOCATION	L0002777	VOLUME	443977.185	3760478.619	204.36
LOCATION	L0002778	VOLUME	444001.703	3760469.965	203.93
LOCATION	L0002779	VOLUME	444026.220	3760461.312	203.42
LOCATION	L0002780	VOLUME	444050.738	3760452.659	203.27
LOCATION	L0002781	VOLUME	444075.256	3760444.005	203.00
LOCATION	L0002782	VOLUME	444099.774	3760435.352	202.74
LOCATION	L0002783	VOLUME	444124.291	3760426.699	202.61
LOCATION	L0002784	VOLUME	444148.809	3760418.045	202.42
LOCATION	L0002785	VOLUME	444174.626	3760416.820	202.24
LOCATION	L0002786	VOLUME	444200.625	3760416.639	202.16

LOCATION	L0002787	VOLUME	444226.625	3760416.458	202.11
LOCATION	L0002788	VOLUME	444252.624	3760416.277	202.08
LOCATION	L0002789	VOLUME	444278.623	3760416.096	202.08
LOCATION	L0002790	VOLUME	444304.623	3760415.915	202.08
LOCATION	L0002791	VOLUME	444330.622	3760415.734	202.05
LOCATION	L0002792	VOLUME	444356.621	3760415.553	202.09
LOCATION	L0002793	VOLUME	444382.621	3760415.372	202.09
LOCATION	L0002794	VOLUME	444408.620	3760415.191	201.88
LOCATION	L0002795	VOLUME	444434.620	3760415.010	201.81
LOCATION	L0002796	VOLUME	444460.619	3760414.830	201.86
LOCATION	L0002797	VOLUME	444486.618	3760414.649	201.93
LOCATION	L0002798	VOLUME	444512.618	3760414.468	201.96
LOCATION	L0002799	VOLUME	444538.617	3760414.287	202.07
LOCATION	L0002800	VOLUME	444564.616	3760414.106	202.19
LOCATION	L0002801	VOLUME	444590.616	3760413.925	202.08
LOCATION	L0002802	VOLUME	444616.615	3760413.744	198.42
LOCATION	L0002803	VOLUME	444642.615	3760413.563	197.62
LOCATION	L0002804	VOLUME	444668.614	3760413.382	201.81
LOCATION	L0002805	VOLUME	444694.613	3760413.201	202.20
LOCATION	L0002806	VOLUME	444720.613	3760413.020	201.98
LOCATION	L0002807	VOLUME	444746.612	3760412.839	201.80
LOCATION	L0002808	VOLUME	444772.611	3760412.658	201.20
LOCATION	L0002809	VOLUME	444798.611	3760412.477	200.69
LOCATION	L0002810	VOLUME	444824.610	3760412.296	201.48
LOCATION	L0002811	VOLUME	444850.609	3760412.115	201.42
LOCATION	L0002812	VOLUME	444876.609	3760411.934	201.16
LOCATION	L0002813	VOLUME	444902.608	3760411.753	201.20
LOCATION	L0002814	VOLUME	444928.608	3760411.572	201.45
LOCATION	L0002815	VOLUME	444954.607	3760411.391	201.75
LOCATION	L0002816	VOLUME	444980.606	3760411.210	201.86
LOCATION	L0002817	VOLUME	445006.606	3760411.029	201.80
LOCATION	L0002818	VOLUME	445032.605	3760410.848	201.77
LOCATION	L0002819	VOLUME	445058.604	3760410.667	201.77
LOCATION	L0002820	VOLUME	445084.604	3760410.486	201.74
LOCATION	L0002821	VOLUME	445110.603	3760410.305	201.77
LOCATION	L0002822	VOLUME	445136.603	3760410.124	201.91
LOCATION	L0002823	VOLUME	445162.602	3760409.943	201.80
LOCATION	L0002824	VOLUME	445188.601	3760409.762	201.42

\*\* End of LINE VOLUME Source ID = SLINE18

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE19

\*\* DESCRSRC Archibald North of Merrill 55 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000692

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2  
 \*\* 445197.002, 3760432.429, 201.58, 3.15, 12.09  
 \*\* 445203.414, 3762029.057, 216.23, 3.15, 12.09

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LOCATION	L0002825	VOLUME	445197.054	3760445.429	201.61
LOCATION	L0002826	VOLUME	445197.159	3760471.429	201.78
LOCATION	L0002827	VOLUME	445197.263	3760497.429	201.94
LOCATION	L0002828	VOLUME	445197.368	3760523.429	202.11
LOCATION	L0002829	VOLUME	445197.472	3760549.428	202.26
LOCATION	L0002830	VOLUME	445197.576	3760575.428	202.43
LOCATION	L0002831	VOLUME	445197.681	3760601.428	202.62
LOCATION	L0002832	VOLUME	445197.785	3760627.428	202.85
LOCATION	L0002833	VOLUME	445197.890	3760653.428	203.09
LOCATION	L0002834	VOLUME	445197.994	3760679.427	203.34
LOCATION	L0002835	VOLUME	445198.098	3760705.427	203.60
LOCATION	L0002836	VOLUME	445198.203	3760731.427	203.84
LOCATION	L0002837	VOLUME	445198.307	3760757.427	204.09
LOCATION	L0002838	VOLUME	445198.412	3760783.427	204.31
LOCATION	L0002839	VOLUME	445198.516	3760809.426	204.58
LOCATION	L0002840	VOLUME	445198.621	3760835.426	204.84
LOCATION	L0002841	VOLUME	445198.725	3760861.426	205.09
LOCATION	L0002842	VOLUME	445198.829	3760887.426	205.36
LOCATION	L0002843	VOLUME	445198.934	3760913.426	205.59
LOCATION	L0002844	VOLUME	445199.038	3760939.425	205.83
LOCATION	L0002845	VOLUME	445199.143	3760965.425	206.10
LOCATION	L0002846	VOLUME	445199.247	3760991.425	206.35
LOCATION	L0002847	VOLUME	445199.351	3761017.425	206.59
LOCATION	L0002848	VOLUME	445199.456	3761043.424	206.83
LOCATION	L0002849	VOLUME	445199.560	3761069.424	207.07
LOCATION	L0002850	VOLUME	445199.665	3761095.424	207.30
LOCATION	L0002851	VOLUME	445199.769	3761121.424	207.55
LOCATION	L0002852	VOLUME	445199.874	3761147.424	207.81
LOCATION	L0002853	VOLUME	445199.978	3761173.423	208.02
LOCATION	L0002854	VOLUME	445200.082	3761199.423	208.30
LOCATION	L0002855	VOLUME	445200.187	3761225.423	208.72
LOCATION	L0002856	VOLUME	445200.291	3761251.423	209.11
LOCATION	L0002857	VOLUME	445200.396	3761277.423	209.39
LOCATION	L0002858	VOLUME	445200.500	3761303.422	209.67
LOCATION	L0002859	VOLUME	445200.604	3761329.422	209.96
LOCATION	L0002860	VOLUME	445200.709	3761355.422	210.20
LOCATION	L0002861	VOLUME	445200.813	3761381.422	210.41
LOCATION	L0002862	VOLUME	445200.918	3761407.422	210.60
LOCATION	L0002863	VOLUME	445201.022	3761433.421	210.77
LOCATION	L0002864	VOLUME	445201.127	3761459.421	210.92
LOCATION	L0002865	VOLUME	445201.231	3761485.421	211.13
LOCATION	L0002866	VOLUME	445201.335	3761511.421	211.35
LOCATION	L0002867	VOLUME	445201.440	3761537.420	211.52
LOCATION	L0002868	VOLUME	445201.544	3761563.420	211.70
LOCATION	L0002869	VOLUME	445201.649	3761589.420	211.90

LOCATION	VOLUME	VOLUME	VOLUME	VOLUME
L0002870	445201.753	3761615.420	212.09	
L0002871	445201.857	3761641.420	212.27	
L0002872	445201.962	3761667.419	212.45	
L0002873	445202.066	3761693.419	212.61	
L0002874	445202.171	3761719.419	212.77	
L0002875	445202.275	3761745.419	213.00	
L0002876	445202.380	3761771.419	213.31	
L0002877	445202.484	3761797.418	213.59	
L0002878	445202.588	3761823.418	213.87	
L0002879	445202.693	3761849.418	214.14	
L0002880	445202.797	3761875.418	214.43	
L0002881	445202.902	3761901.418	214.72	
L0002882	445203.006	3761927.417	215.03	
L0002883	445203.110	3761953.417	215.33	
L0002884	445203.215	3761979.417	215.64	
L0002885	445203.319	3762005.417	215.92	

\*\* End of LINE VOLUME Source ID = SLINE19

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE20

\*\* DESCRSRC Archibald South of Merrill 55 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000282

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445190.590, 3760393.956, 201.32, 3.15, 12.09

\*\* 445213.033, 3759579.612, 197.47, 3.15, 12.09

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LOCATION	VOLUME	VOLUME	VOLUME	VOLUME
L0002886	445190.948	3760380.961	201.25	
L0002887	445191.664	3760354.971	201.07	
L0002888	445192.381	3760328.981	200.90	
L0002889	445193.097	3760302.991	200.72	
L0002890	445193.813	3760277.001	200.57	
L0002891	445194.529	3760251.011	200.42	
L0002892	445195.246	3760225.021	200.27	
L0002893	445195.962	3760199.030	200.12	
L0002894	445196.678	3760173.040	199.96	
L0002895	445197.394	3760147.050	199.80	
L0002896	445198.111	3760121.060	199.64	
L0002897	445198.827	3760095.070	199.49	
L0002898	445199.543	3760069.080	199.32	
L0002899	445200.259	3760043.090	199.14	
L0002900	445200.976	3760017.100	198.96	
L0002901	445201.692	3759991.109	198.82	
L0002902	445202.408	3759965.119	198.64	
L0002903	445203.125	3759939.129	198.60	



LOCATION L0002904	VOLUME	445203.841	3759913.139	198.65
LOCATION L0002905	VOLUME	445204.557	3759887.149	198.74
LOCATION L0002906	VOLUME	445205.273	3759861.159	198.79
LOCATION L0002907	VOLUME	445205.990	3759835.169	198.62
LOCATION L0002908	VOLUME	445206.706	3759809.178	198.12
LOCATION L0002909	VOLUME	445207.422	3759783.188	198.27
LOCATION L0002910	VOLUME	445208.138	3759757.198	198.31
LOCATION L0002911	VOLUME	445208.855	3759731.208	198.20
LOCATION L0002912	VOLUME	445209.571	3759705.218	198.10
LOCATION L0002913	VOLUME	445210.287	3759679.228	197.99
LOCATION L0002914	VOLUME	445211.003	3759653.238	197.83
LOCATION L0002915	VOLUME	445211.720	3759627.248	197.71
LOCATION L0002916	VOLUME	445212.436	3759601.257	197.57

\*\* End of LINE VOLUME Source ID = SLINE20

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE21

\*\* DESCRSRC Limonite West of Hamner 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000115

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445208.816, 3759586.179, 197.53, 3.15, 12.09

\*\* 448421.656, 3759563.991, 203.23, 3.15, 12.09

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LOCATION L0002917	VOLUME	445221.815	3759586.089	197.44
LOCATION L0002918	VOLUME	445247.815	3759585.910	197.38
LOCATION L0002919	VOLUME	445273.814	3759585.730	197.39
LOCATION L0002920	VOLUME	445299.813	3759585.551	197.38
LOCATION L0002921	VOLUME	445325.813	3759585.371	197.43
LOCATION L0002922	VOLUME	445351.812	3759585.192	197.43
LOCATION L0002923	VOLUME	445377.812	3759585.012	197.46
LOCATION L0002924	VOLUME	445403.811	3759584.833	197.48
LOCATION L0002925	VOLUME	445429.810	3759584.653	197.56
LOCATION L0002926	VOLUME	445455.810	3759584.473	197.63
LOCATION L0002927	VOLUME	445481.809	3759584.294	197.63
LOCATION L0002928	VOLUME	445507.808	3759584.114	197.63
LOCATION L0002929	VOLUME	445533.808	3759583.935	197.73
LOCATION L0002930	VOLUME	445559.807	3759583.755	197.78
LOCATION L0002931	VOLUME	445585.807	3759583.576	197.85
LOCATION L0002932	VOLUME	445611.806	3759583.396	198.20
LOCATION L0002933	VOLUME	445637.805	3759583.217	198.31
LOCATION L0002934	VOLUME	445663.805	3759583.037	198.15
LOCATION L0002935	VOLUME	445689.804	3759582.857	198.11
LOCATION L0002936	VOLUME	445715.803	3759582.678	198.45
LOCATION L0002937	VOLUME	445741.803	3759582.498	198.66

LOCATION L0002938	VOLUME	445767.802	3759582.319	198.70
LOCATION L0002939	VOLUME	445793.802	3759582.139	198.86
LOCATION L0002940	VOLUME	445819.801	3759581.960	198.90
LOCATION L0002941	VOLUME	445845.800	3759581.780	198.97
LOCATION L0002942	VOLUME	445871.800	3759581.601	199.06
LOCATION L0002943	VOLUME	445897.799	3759581.421	199.08
LOCATION L0002944	VOLUME	445923.798	3759581.241	199.07
LOCATION L0002945	VOLUME	445949.798	3759581.062	199.03
LOCATION L0002946	VOLUME	445975.797	3759580.882	198.99
LOCATION L0002947	VOLUME	446001.797	3759580.703	198.83
LOCATION L0002948	VOLUME	446027.796	3759580.523	199.03
LOCATION L0002949	VOLUME	446053.795	3759580.344	199.25
LOCATION L0002950	VOLUME	446079.795	3759580.164	199.31
LOCATION L0002951	VOLUME	446105.794	3759579.985	199.37
LOCATION L0002952	VOLUME	446131.794	3759579.805	199.47
LOCATION L0002953	VOLUME	446157.793	3759579.625	199.58
LOCATION L0002954	VOLUME	446183.792	3759579.446	199.71
LOCATION L0002955	VOLUME	446209.792	3759579.266	199.83
LOCATION L0002956	VOLUME	446235.791	3759579.087	199.95
LOCATION L0002957	VOLUME	446261.790	3759578.907	200.08
LOCATION L0002958	VOLUME	446287.790	3759578.728	200.22
LOCATION L0002959	VOLUME	446313.789	3759578.548	200.33
LOCATION L0002960	VOLUME	446339.789	3759578.369	200.38
LOCATION L0002961	VOLUME	446365.788	3759578.189	200.38
LOCATION L0002962	VOLUME	446391.787	3759578.010	200.27
LOCATION L0002963	VOLUME	446417.787	3759577.830	200.16
LOCATION L0002964	VOLUME	446443.786	3759577.650	200.42
LOCATION L0002965	VOLUME	446469.785	3759577.471	200.88
LOCATION L0002966	VOLUME	446495.785	3759577.291	201.11
LOCATION L0002967	VOLUME	446521.784	3759577.112	201.23
LOCATION L0002968	VOLUME	446547.784	3759576.932	201.36
LOCATION L0002969	VOLUME	446573.783	3759576.753	201.49
LOCATION L0002970	VOLUME	446599.782	3759576.573	201.61
LOCATION L0002971	VOLUME	446625.782	3759576.394	201.74
LOCATION L0002972	VOLUME	446651.781	3759576.214	201.85
LOCATION L0002973	VOLUME	446677.781	3759576.034	201.97
LOCATION L0002974	VOLUME	446703.780	3759575.855	202.14
LOCATION L0002975	VOLUME	446729.779	3759575.675	202.28
LOCATION L0002976	VOLUME	446755.779	3759575.496	202.28
LOCATION L0002977	VOLUME	446781.778	3759575.316	202.08
LOCATION L0002978	VOLUME	446807.777	3759575.137	201.79
LOCATION L0002979	VOLUME	446833.777	3759574.957	201.68
LOCATION L0002980	VOLUME	446859.776	3759574.778	201.57
LOCATION L0002981	VOLUME	446885.776	3759574.598	201.31
LOCATION L0002982	VOLUME	446911.775	3759574.418	201.16
LOCATION L0002983	VOLUME	446937.774	3759574.239	201.14
LOCATION L0002984	VOLUME	446963.774	3759574.059	201.13
LOCATION L0002985	VOLUME	446989.773	3759573.880	201.19
LOCATION L0002986	VOLUME	447015.772	3759573.700	201.32

LOCATION L0002987	VOLUME	447041.772	3759573.521	201.43
LOCATION L0002988	VOLUME	447067.771	3759573.341	201.44
LOCATION L0002989	VOLUME	447093.771	3759573.162	201.34
LOCATION L0002990	VOLUME	447119.770	3759572.982	201.26
LOCATION L0002991	VOLUME	447145.769	3759572.802	201.16
LOCATION L0002992	VOLUME	447171.769	3759572.623	201.03
LOCATION L0002993	VOLUME	447197.768	3759572.443	200.91
LOCATION L0002994	VOLUME	447223.767	3759572.264	200.58
LOCATION L0002995	VOLUME	447249.767	3759572.084	200.58
LOCATION L0002996	VOLUME	447275.766	3759571.905	200.77
LOCATION L0002997	VOLUME	447301.766	3759571.725	200.92
LOCATION L0002998	VOLUME	447327.765	3759571.546	201.04
LOCATION L0002999	VOLUME	447353.764	3759571.366	201.18
LOCATION L0003000	VOLUME	447379.764	3759571.186	201.29
LOCATION L0003001	VOLUME	447405.763	3759571.007	201.34
LOCATION L0003002	VOLUME	447431.763	3759570.827	201.32
LOCATION L0003003	VOLUME	447457.762	3759570.648	201.23
LOCATION L0003004	VOLUME	447483.761	3759570.468	201.12
LOCATION L0003005	VOLUME	447509.761	3759570.289	201.01
LOCATION L0003006	VOLUME	447535.760	3759570.109	200.91
LOCATION L0003007	VOLUME	447561.759	3759569.930	200.62
LOCATION L0003008	VOLUME	447587.759	3759569.750	200.50
LOCATION L0003009	VOLUME	447613.758	3759569.570	200.62
LOCATION L0003010	VOLUME	447639.758	3759569.391	201.05
LOCATION L0003011	VOLUME	447665.757	3759569.211	201.09
LOCATION L0003012	VOLUME	447691.756	3759569.032	201.13
LOCATION L0003013	VOLUME	447717.756	3759568.852	201.12
LOCATION L0003014	VOLUME	447743.755	3759568.673	201.07
LOCATION L0003015	VOLUME	447769.754	3759568.493	201.07
LOCATION L0003016	VOLUME	447795.754	3759568.314	201.09
LOCATION L0003017	VOLUME	447821.753	3759568.134	201.07
LOCATION L0003018	VOLUME	447847.753	3759567.954	200.98
LOCATION L0003019	VOLUME	447873.752	3759567.775	200.98
LOCATION L0003020	VOLUME	447899.751	3759567.595	201.05
LOCATION L0003021	VOLUME	447925.751	3759567.416	201.13
LOCATION L0003022	VOLUME	447951.750	3759567.236	201.25
LOCATION L0003023	VOLUME	447977.750	3759567.057	201.37
LOCATION L0003024	VOLUME	448003.749	3759566.877	201.43
LOCATION L0003025	VOLUME	448029.748	3759566.698	201.49
LOCATION L0003026	VOLUME	448055.748	3759566.518	201.63
LOCATION L0003027	VOLUME	448081.747	3759566.339	201.71
LOCATION L0003028	VOLUME	448107.746	3759566.159	201.76
LOCATION L0003029	VOLUME	448133.746	3759565.979	201.75
LOCATION L0003030	VOLUME	448159.745	3759565.800	201.70
LOCATION L0003031	VOLUME	448185.745	3759565.620	201.68
LOCATION L0003032	VOLUME	448211.744	3759565.441	201.71
LOCATION L0003033	VOLUME	448237.743	3759565.261	201.78
LOCATION L0003034	VOLUME	448263.743	3759565.082	201.95
LOCATION L0003035	VOLUME	448289.742	3759564.902	202.15

LOCATION	L0003036	VOLUME	448315.741	3759564.723	202.31
LOCATION	L0003037	VOLUME	448341.741	3759564.543	202.55
LOCATION	L0003038	VOLUME	448367.740	3759564.363	202.83
LOCATION	L0003039	VOLUME	448393.740	3759564.184	203.08
LOCATION	L0003040	VOLUME	448419.739	3759564.004	203.22

\*\* End of LINE VOLUME Source ID = SLINE21

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 \*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE22

\*\* DESCRSRC Limonite East of Hamner 45 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000186

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 448433.751, 3759567.438, 203.30, 3.15, 12.09

\*\* 449436.212, 3759550.509, 204.35, 3.15, 12.09

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LOCATION	L0003041	VOLUME	448446.749	3759567.219	203.28
LOCATION	L0003042	VOLUME	448472.745	3759566.780	203.20
LOCATION	L0003043	VOLUME	448498.741	3759566.341	203.07
LOCATION	L0003044	VOLUME	448524.738	3759565.902	203.02
LOCATION	L0003045	VOLUME	448550.734	3759565.463	202.91
LOCATION	L0003046	VOLUME	448576.730	3759565.024	202.89
LOCATION	L0003047	VOLUME	448602.727	3759564.585	203.21
LOCATION	L0003048	VOLUME	448628.723	3759564.146	203.51
LOCATION	L0003049	VOLUME	448654.719	3759563.707	203.50
LOCATION	L0003050	VOLUME	448680.715	3759563.268	203.48
LOCATION	L0003051	VOLUME	448706.712	3759562.829	203.56
LOCATION	L0003052	VOLUME	448732.708	3759562.389	203.67
LOCATION	L0003053	VOLUME	448758.704	3759561.950	203.86
LOCATION	L0003054	VOLUME	448784.701	3759561.511	203.99
LOCATION	L0003055	VOLUME	448810.697	3759561.072	203.90
LOCATION	L0003056	VOLUME	448836.693	3759560.633	203.95
LOCATION	L0003057	VOLUME	448862.689	3759560.194	203.89
LOCATION	L0003058	VOLUME	448888.686	3759559.755	203.57
LOCATION	L0003059	VOLUME	448914.682	3759559.316	203.51
LOCATION	L0003060	VOLUME	448940.678	3759558.877	203.83
LOCATION	L0003061	VOLUME	448966.675	3759558.438	203.93
LOCATION	L0003062	VOLUME	448992.671	3759557.999	204.17
LOCATION	L0003063	VOLUME	449018.667	3759557.560	204.56
LOCATION	L0003064	VOLUME	449044.663	3759557.121	204.89
LOCATION	L0003065	VOLUME	449070.660	3759556.682	205.18
LOCATION	L0003066	VOLUME	449096.656	3759556.243	205.41
LOCATION	L0003067	VOLUME	449122.652	3759555.804	205.48
LOCATION	L0003068	VOLUME	449148.649	3759555.365	205.25
LOCATION	L0003069	VOLUME	449174.645	3759554.926	205.78

LOCATION L0003070	VOLUME	449200.641	3759554.487	206.53
LOCATION L0003071	VOLUME	449226.638	3759554.048	205.42
LOCATION L0003072	VOLUME	449252.634	3759553.609	204.31
LOCATION L0003073	VOLUME	449278.630	3759553.170	202.22
LOCATION L0003074	VOLUME	449304.626	3759552.731	201.60
LOCATION L0003075	VOLUME	449330.623	3759552.292	203.11
LOCATION L0003076	VOLUME	449356.619	3759551.853	204.32
LOCATION L0003077	VOLUME	449382.615	3759551.414	205.11
LOCATION L0003078	VOLUME	449408.612	3759550.975	205.53
LOCATION L0003079	VOLUME	449434.608	3759550.536	204.55

\*\* End of LINE VOLUME Source ID = SLINE22

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE23

\*\* DESCRSRC Edison 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000231

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445228.172, 3762001.993, 216.23, 3.15, 12.09

\*\* 446055.217, 3762005.931, 218.73, 3.15, 12.09

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LOCATION L0003080	VOLUME	445241.172	3762002.055	216.17
LOCATION L0003081	VOLUME	445267.171	3762002.179	216.48
LOCATION L0003082	VOLUME	445293.171	3762002.302	216.54
LOCATION L0003083	VOLUME	445319.171	3762002.426	217.04
LOCATION L0003084	VOLUME	445345.171	3762002.550	217.35
LOCATION L0003085	VOLUME	445371.170	3762002.674	217.64
LOCATION L0003086	VOLUME	445397.170	3762002.798	217.99
LOCATION L0003087	VOLUME	445423.170	3762002.922	218.27
LOCATION L0003088	VOLUME	445449.169	3762003.045	218.44
LOCATION L0003089	VOLUME	445475.169	3762003.169	218.50
LOCATION L0003090	VOLUME	445501.169	3762003.293	218.44
LOCATION L0003091	VOLUME	445527.169	3762003.417	218.23
LOCATION L0003092	VOLUME	445553.168	3762003.541	218.19
LOCATION L0003093	VOLUME	445579.168	3762003.664	218.14
LOCATION L0003094	VOLUME	445605.168	3762003.788	218.09
LOCATION L0003095	VOLUME	445631.167	3762003.912	218.10
LOCATION L0003096	VOLUME	445657.167	3762004.036	218.06
LOCATION L0003097	VOLUME	445683.167	3762004.160	217.91
LOCATION L0003098	VOLUME	445709.166	3762004.283	217.70
LOCATION L0003099	VOLUME	445735.166	3762004.407	217.28
LOCATION L0003100	VOLUME	445761.166	3762004.531	216.90
LOCATION L0003101	VOLUME	445787.166	3762004.655	216.96
LOCATION L0003102	VOLUME	445813.165	3762004.779	217.38
LOCATION L0003103	VOLUME	445839.165	3762004.902	217.69

LOCATION L0003104	VOLUME	445865.165	3762005.026	217.94
LOCATION L0003105	VOLUME	445891.164	3762005.150	218.24
LOCATION L0003106	VOLUME	445917.164	3762005.274	218.05
LOCATION L0003107	VOLUME	445943.164	3762005.398	218.24
LOCATION L0003108	VOLUME	445969.164	3762005.521	218.48
LOCATION L0003109	VOLUME	445995.163	3762005.645	218.61
LOCATION L0003110	VOLUME	446021.163	3762005.769	218.61
LOCATION L0003111	VOLUME	446047.163	3762005.893	218.63

\*\* End of LINE VOLUME Source ID = SLINE23

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE24

\*\* DESCRSRC Ontario Ranch Road 50 MPH

\*\* PREFIX

\*\* Length of Side = 31.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000965

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 8

\*\* 446065.063, 3762013.808, 218.80, 3.15, 14.42

\*\* 446293.485, 3762124.081, 220.01, 3.15, 14.42

\*\* 446500.247, 3762297.366, 221.42, 3.15, 14.42

\*\* 446722.761, 3762397.793, 222.35, 3.15, 14.42

\*\* 446819.250, 3762403.701, 222.18, 3.15, 14.42

\*\* 448441.834, 3762389.917, 225.33, 3.15, 14.42

\*\* 448792.344, 3762411.577, 226.13, 3.15, 14.42

\*\* 449294.479, 3762594.709, 233.70, 3.15, 14.42

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LOCATION L0003112	VOLUME	446079.022	3762020.547	218.95
LOCATION L0003113	VOLUME	446106.939	3762034.024	219.27
LOCATION L0003114	VOLUME	446134.856	3762047.501	219.30
LOCATION L0003115	VOLUME	446162.773	3762060.978	219.54
LOCATION L0003116	VOLUME	446190.690	3762074.455	219.63
LOCATION L0003117	VOLUME	446218.607	3762087.933	219.78
LOCATION L0003118	VOLUME	446246.524	3762101.410	219.88
LOCATION L0003119	VOLUME	446274.441	3762114.887	220.00
LOCATION L0003120	VOLUME	446301.037	3762130.410	220.13
LOCATION L0003121	VOLUME	446324.796	3762150.322	220.33
LOCATION L0003122	VOLUME	446348.555	3762170.234	220.43
LOCATION L0003123	VOLUME	446372.314	3762190.147	220.66
LOCATION L0003124	VOLUME	446396.073	3762210.059	220.91
LOCATION L0003125	VOLUME	446419.833	3762229.972	220.98
LOCATION L0003126	VOLUME	446443.592	3762249.884	221.28
LOCATION L0003127	VOLUME	446467.351	3762269.797	221.28
LOCATION L0003128	VOLUME	446491.110	3762289.709	221.36
LOCATION L0003129	VOLUME	446517.636	3762305.215	221.68
LOCATION L0003130	VOLUME	446545.892	3762317.967	221.71
LOCATION L0003131	VOLUME	446574.147	3762330.720	221.88

LOCATION	L0003132	VOLUME	446602.403	3762343.472	221.99
LOCATION	L0003133	VOLUME	446630.658	3762356.225	222.17
LOCATION	L0003134	VOLUME	446658.914	3762368.977	222.43
LOCATION	L0003135	VOLUME	446687.169	3762381.730	222.48
LOCATION	L0003136	VOLUME	446715.425	3762394.482	222.88
LOCATION	L0003137	VOLUME	446745.669	3762399.196	222.92
LOCATION	L0003138	VOLUME	446776.612	3762401.090	222.76
LOCATION	L0003139	VOLUME	446807.554	3762402.985	222.19
LOCATION	L0003140	VOLUME	446838.531	3762403.537	221.88
LOCATION	L0003141	VOLUME	446869.530	3762403.274	221.96
LOCATION	L0003142	VOLUME	446900.529	3762403.010	221.98
LOCATION	L0003143	VOLUME	446931.528	3762402.747	222.17
LOCATION	L0003144	VOLUME	446962.527	3762402.484	222.50
LOCATION	L0003145	VOLUME	446993.525	3762402.220	222.57
LOCATION	L0003146	VOLUME	447024.524	3762401.957	222.59
LOCATION	L0003147	VOLUME	447055.523	3762401.694	222.70
LOCATION	L0003148	VOLUME	447086.522	3762401.430	222.95
LOCATION	L0003149	VOLUME	447117.521	3762401.167	223.14
LOCATION	L0003150	VOLUME	447148.520	3762400.904	223.29
LOCATION	L0003151	VOLUME	447179.519	3762400.640	223.34
LOCATION	L0003152	VOLUME	447210.518	3762400.377	223.38
LOCATION	L0003153	VOLUME	447241.516	3762400.114	223.28
LOCATION	L0003154	VOLUME	447272.515	3762399.850	223.39
LOCATION	L0003155	VOLUME	447303.514	3762399.587	223.48
LOCATION	L0003156	VOLUME	447334.513	3762399.324	223.41
LOCATION	L0003157	VOLUME	447365.512	3762399.060	223.31
LOCATION	L0003158	VOLUME	447396.511	3762398.797	223.21
LOCATION	L0003159	VOLUME	447427.510	3762398.534	223.15
LOCATION	L0003160	VOLUME	447458.509	3762398.270	223.11
LOCATION	L0003161	VOLUME	447489.507	3762398.007	222.98
LOCATION	L0003162	VOLUME	447520.506	3762397.743	222.80
LOCATION	L0003163	VOLUME	447551.505	3762397.480	222.72
LOCATION	L0003164	VOLUME	447582.504	3762397.217	222.66
LOCATION	L0003165	VOLUME	447613.503	3762396.953	222.54
LOCATION	L0003166	VOLUME	447644.502	3762396.690	222.38
LOCATION	L0003167	VOLUME	447675.501	3762396.427	222.48
LOCATION	L0003168	VOLUME	447706.500	3762396.163	222.63
LOCATION	L0003169	VOLUME	447737.499	3762395.900	222.78
LOCATION	L0003170	VOLUME	447768.497	3762395.637	222.92
LOCATION	L0003171	VOLUME	447799.496	3762395.373	223.06
LOCATION	L0003172	VOLUME	447830.495	3762395.110	223.18
LOCATION	L0003173	VOLUME	447861.494	3762394.847	223.30
LOCATION	L0003174	VOLUME	447892.493	3762394.583	223.39
LOCATION	L0003175	VOLUME	447923.492	3762394.320	223.49
LOCATION	L0003176	VOLUME	447954.491	3762394.057	223.66
LOCATION	L0003177	VOLUME	447985.490	3762393.793	223.82
LOCATION	L0003178	VOLUME	448016.488	3762393.530	223.93
LOCATION	L0003179	VOLUME	448047.487	3762393.267	224.04
LOCATION	L0003180	VOLUME	448078.486	3762393.003	224.13

LOCATION	L0003181	VOLUME	448109.485	3762392.740	224.28
LOCATION	L0003182	VOLUME	448140.484	3762392.477	224.42
LOCATION	L0003183	VOLUME	448171.483	3762392.213	224.59
LOCATION	L0003184	VOLUME	448202.482	3762391.950	224.77
LOCATION	L0003185	VOLUME	448233.481	3762391.687	224.90
LOCATION	L0003186	VOLUME	448264.480	3762391.423	225.07
LOCATION	L0003187	VOLUME	448295.478	3762391.160	225.24
LOCATION	L0003188	VOLUME	448326.477	3762390.897	225.33
LOCATION	L0003189	VOLUME	448357.476	3762390.633	225.38
LOCATION	L0003190	VOLUME	448388.475	3762390.370	225.39
LOCATION	L0003191	VOLUME	448419.474	3762390.107	225.36
LOCATION	L0003192	VOLUME	448450.457	3762390.450	225.32
LOCATION	L0003193	VOLUME	448481.398	3762392.362	225.21
LOCATION	L0003194	VOLUME	448512.339	3762394.274	225.02
LOCATION	L0003195	VOLUME	448543.280	3762396.186	224.88
LOCATION	L0003196	VOLUME	448574.221	3762398.098	224.77
LOCATION	L0003197	VOLUME	448605.162	3762400.010	224.69
LOCATION	L0003198	VOLUME	448636.103	3762401.922	224.54
LOCATION	L0003199	VOLUME	448667.044	3762403.834	224.41
LOCATION	L0003200	VOLUME	448697.984	3762405.746	224.44
LOCATION	L0003201	VOLUME	448728.925	3762407.658	224.73
LOCATION	L0003202	VOLUME	448759.866	3762409.570	225.55
LOCATION	L0003203	VOLUME	448790.807	3762411.482	225.87
LOCATION	L0003204	VOLUME	448820.021	3762421.671	225.69
LOCATION	L0003205	VOLUME	448849.145	3762432.293	226.70
LOCATION	L0003206	VOLUME	448878.268	3762442.914	227.66
LOCATION	L0003207	VOLUME	448907.392	3762453.536	228.07
LOCATION	L0003208	VOLUME	448936.516	3762464.158	229.27
LOCATION	L0003209	VOLUME	448965.639	3762474.779	229.74
LOCATION	L0003210	VOLUME	448994.763	3762485.401	230.27
LOCATION	L0003211	VOLUME	449023.886	3762496.022	233.06
LOCATION	L0003212	VOLUME	449053.010	3762506.644	234.84
LOCATION	L0003213	VOLUME	449082.133	3762517.265	235.04
LOCATION	L0003214	VOLUME	449111.257	3762527.887	232.42
LOCATION	L0003215	VOLUME	449140.381	3762538.508	227.42
LOCATION	L0003216	VOLUME	449169.504	3762549.130	226.85
LOCATION	L0003217	VOLUME	449198.628	3762559.751	227.04
LOCATION	L0003218	VOLUME	449227.751	3762570.373	227.98
LOCATION	L0003219	VOLUME	449256.875	3762580.995	232.17
LOCATION	L0003220	VOLUME	449285.999	3762591.616	233.05

\*\* End of LINE VOLUME Source ID = SLINE24

\*\* Source Parameters \*\*

\*\* LINE VOLUME Source ID = SLINE1

SRCPARAM	L0002165	0.00000236	3.15	4.51	2.93
SRCPARAM	L0002166	0.00000236	3.15	4.51	2.93
SRCPARAM	L0002167	0.00000236	3.15	4.51	2.93
SRCPARAM	L0002168	0.00000236	3.15	4.51	2.93
SRCPARAM	L0002169	0.00000236	3.15	4.51	2.93

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** LINE VOLUME Source ID = SLINE2
SRCPARAM L0002170    0.00000259    3.15    4.51    2.93
SRCPARAM L0002171    0.00000259    3.15    4.51    2.93
SRCPARAM L0002172    0.00000259    3.15    4.51    2.93
** -----
** LINE VOLUME Source ID = SLINE3
SRCPARAM L0002173    0.00000234    3.15    4.51    2.93
SRCPARAM L0002174    0.00000234    3.15    4.51    2.93
SRCPARAM L0002175    0.00000234    3.15    4.51    2.93
SRCPARAM L0002176    0.00000234    3.15    4.51    2.93
SRCPARAM L0002177    0.00000234    3.15    4.51    2.93
** -----
** LINE VOLUME Source ID = SLINE4
SRCPARAM L0002178    0.000002385    3.15    4.51    2.93
SRCPARAM L0002179    0.000002385    3.15    4.51    2.93
SRCPARAM L0002180    0.000002385    3.15    4.51    2.93
SRCPARAM L0002181    0.000002385    3.15    4.51    2.93
SRCPARAM L0002182    0.000002385    3.15    4.51    2.93
SRCPARAM L0002183    0.000002385    3.15    4.51    2.93
SRCPARAM L0002184    0.000002385    3.15    4.51    2.93
SRCPARAM L0002185    0.000002385    3.15    4.51    2.93
SRCPARAM L0002186    0.000002385    3.15    4.51    2.93
SRCPARAM L0002187    0.000002385    3.15    4.51    2.93
SRCPARAM L0002188    0.000002385    3.15    4.51    2.93
SRCPARAM L0002189    0.000002385    3.15    4.51    2.93
SRCPARAM L0002190    0.000002385    3.15    4.51    2.93
SRCPARAM L0002191    0.000002385    3.15    4.51    2.93
SRCPARAM L0002192    0.000002385    3.15    4.51    2.93
SRCPARAM L0002193    0.000002385    3.15    4.51    2.93
SRCPARAM L0002194    0.000002385    3.15    4.51    2.93
SRCPARAM L0002195    0.000002385    3.15    4.51    2.93
SRCPARAM L0002196    0.000002385    3.15    4.51    2.93
SRCPARAM L0002197    0.000002385    3.15    4.51    2.93
SRCPARAM L0002198    0.000002385    3.15    4.51    2.93
SRCPARAM L0002199    0.000002385    3.15    4.51    2.93
SRCPARAM L0002200    0.000002385    3.15    4.51    2.93
SRCPARAM L0002201    0.000002385    3.15    4.51    2.93
SRCPARAM L0002202    0.000002385    3.15    4.51    2.93
SRCPARAM L0002203    0.000002385    3.15    4.51    2.93
SRCPARAM L0002204    0.000002385    3.15    4.51    2.93
** -----
** LINE VOLUME Source ID = SLINE5
SRCPARAM L0002205    0.000002385    3.15    4.51    2.93
SRCPARAM L0002206    0.000002385    3.15    4.51    2.93
SRCPARAM L0002207    0.000002385    3.15    4.51    2.93
SRCPARAM L0002208    0.000002385    3.15    4.51    2.93
SRCPARAM L0002209    0.000002385    3.15    4.51    2.93
SRCPARAM L0002210    0.000002385    3.15    4.51    2.93
SRCPARAM L0002211    0.000002385    3.15    4.51    2.93

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SRCPARAM	L0002212	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002213	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002214	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002215	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002216	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002217	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002218	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002219	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002220	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002221	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002222	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002223	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002224	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002225	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002226	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002227	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002228	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002229	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002230	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002231	0.000002385	3.15	4.51	2.93

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\*\* LINE VOLUME Source ID = SLINE6

SRCPARAM	L0002232	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002233	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002234	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002235	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002236	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002237	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002238	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002239	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002240	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002241	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002242	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002243	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002244	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002245	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002246	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002247	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002248	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002249	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002250	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002251	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002252	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002253	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002254	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002255	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002256	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002257	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002258	0.000002393	3.15	4.51	2.93

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\*\* LINE VOLUME Source ID = SLINE7

SRCPARAM	L0002259	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002260	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002261	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002262	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002263	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002264	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002265	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002266	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002267	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002268	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002269	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002270	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002271	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002272	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002273	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002274	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002275	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002276	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002277	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002278	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002279	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002280	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002281	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002282	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002283	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002284	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002285	0.000002378	3.15	4.51	2.93

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\*\* LINE VOLUME Source ID = SLINE8

SRCPARAM	L0002286	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002287	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002288	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002289	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002290	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002291	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002292	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002293	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002294	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002295	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002296	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002297	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002298	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002299	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002300	0.0000000292	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE9

SRCPARAM	L0002301	0.000002893	3.15	12.09	2.93
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SRCPARAM	L0002302	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002303	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002304	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002305	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002306	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002307	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002308	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002309	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002310	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002311	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002312	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002313	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002314	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002315	0.000002893	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE10

SRCPARAM	L0002316	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002317	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002318	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002319	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002320	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002321	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002322	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002323	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002324	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002325	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002326	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002327	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002328	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002329	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002330	0.000002907	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE11

SRCPARAM	L0002331	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002332	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002333	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002334	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002335	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002336	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002337	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002338	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002339	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002340	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002341	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002342	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002343	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002344	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002345	0.000002907	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE12

SRCPARAM L0002346	0.000002893	3.15	12.09	2.93
SRCPARAM L0002347	0.000002893	3.15	12.09	2.93
SRCPARAM L0002348	0.000002893	3.15	12.09	2.93
SRCPARAM L0002349	0.000002893	3.15	12.09	2.93
SRCPARAM L0002350	0.000002893	3.15	12.09	2.93
SRCPARAM L0002351	0.000002893	3.15	12.09	2.93
SRCPARAM L0002352	0.000002893	3.15	12.09	2.93
SRCPARAM L0002353	0.000002893	3.15	12.09	2.93
SRCPARAM L0002354	0.000002893	3.15	12.09	2.93
SRCPARAM L0002355	0.000002893	3.15	12.09	2.93
SRCPARAM L0002356	0.000002893	3.15	12.09	2.93
SRCPARAM L0002357	0.000002893	3.15	12.09	2.93
SRCPARAM L0002358	0.000002893	3.15	12.09	2.93
SRCPARAM L0002359	0.000002893	3.15	12.09	2.93
SRCPARAM L0002360	0.000002893	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE13

SRCPARAM L0002361	0.000002572	3.15	12.09	2.93
SRCPARAM L0002362	0.000002572	3.15	12.09	2.93
SRCPARAM L0002363	0.000002572	3.15	12.09	2.93
SRCPARAM L0002364	0.000002572	3.15	12.09	2.93
SRCPARAM L0002365	0.000002572	3.15	12.09	2.93
SRCPARAM L0002366	0.000002572	3.15	12.09	2.93
SRCPARAM L0002367	0.000002572	3.15	12.09	2.93
SRCPARAM L0002368	0.000002572	3.15	12.09	2.93
SRCPARAM L0002369	0.000002572	3.15	12.09	2.93
SRCPARAM L0002370	0.000002572	3.15	12.09	2.93
SRCPARAM L0002371	0.000002572	3.15	12.09	2.93
SRCPARAM L0002372	0.000002572	3.15	12.09	2.93
SRCPARAM L0002373	0.000002572	3.15	12.09	2.93
SRCPARAM L0002374	0.000002572	3.15	12.09	2.93
SRCPARAM L0002375	0.000002572	3.15	12.09	2.93
SRCPARAM L0002376	0.000002572	3.15	12.09	2.93
SRCPARAM L0002377	0.000002572	3.15	12.09	2.93
SRCPARAM L0002378	0.000002572	3.15	12.09	2.93
SRCPARAM L0002379	0.000002572	3.15	12.09	2.93
SRCPARAM L0002380	0.000002572	3.15	12.09	2.93
SRCPARAM L0002381	0.000002572	3.15	12.09	2.93
SRCPARAM L0002382	0.000002572	3.15	12.09	2.93
SRCPARAM L0002383	0.000002572	3.15	12.09	2.93
SRCPARAM L0002384	0.000002572	3.15	12.09	2.93
SRCPARAM L0002385	0.000002572	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE14

SRCPARAM L0002386	0.000002026	3.15	12.09	2.93
SRCPARAM L0002387	0.000002026	3.15	12.09	2.93
SRCPARAM L0002388	0.000002026	3.15	12.09	2.93
SRCPARAM L0002389	0.000002026	3.15	12.09	2.93

SRCPARAM	L0002390	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002391	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002392	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002393	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002394	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002395	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002396	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002397	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002398	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002399	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002400	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002401	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002402	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002403	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002404	0.000002026	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE15

SRCPARAM	L0002405	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002406	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002407	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002408	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002409	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002410	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002411	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002412	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002413	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002414	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002415	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002416	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002417	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002418	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002419	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002420	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002421	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002422	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002423	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002424	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002425	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002426	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002427	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002428	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002429	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002430	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002431	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002432	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002433	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002434	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002435	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002436	0.000001364	3.15	14.42	2.93

SRCPARAM	L0002437	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002438	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002439	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002440	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002441	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002442	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002443	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002444	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002445	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002446	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002447	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002448	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002449	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002450	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002451	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002452	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002453	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002454	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002455	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002456	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002457	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002458	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002459	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002460	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002461	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002462	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002463	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002464	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002465	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002466	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002467	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002468	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002469	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002470	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002471	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002472	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002473	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002474	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002475	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002476	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002477	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002478	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002479	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002480	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002481	0.000001364	3.15	14.42	2.93

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\*\* LINE VOLUME Source ID = SLINE16

SRCPARAM	L0002482	0.000002236	2.89	16.74	2.69
SRCPARAM	L0002483	0.000002236	2.89	16.74	2.69









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** LINE VOLUME Source ID = SLINE17
SRCPARAM L0002630 0.000001896 3.15 12.09 2.93
SRCPARAM L0002631 0.000001896 3.15 12.09 2.93
SRCPARAM L0002632 0.000001896 3.15 12.09 2.93
SRCPARAM L0002633 0.000001896 3.15 12.09 2.93
SRCPARAM L0002634 0.000001896 3.15 12.09 2.93
SRCPARAM L0002635 0.000001896 3.15 12.09 2.93
SRCPARAM L0002636 0.000001896 3.15 12.09 2.93
SRCPARAM L0002637 0.000001896 3.15 12.09 2.93
SRCPARAM L0002638 0.000001896 3.15 12.09 2.93
SRCPARAM L0002639 0.000001896 3.15 12.09 2.93
SRCPARAM L0002640 0.000001896 3.15 12.09 2.93
SRCPARAM L0002641 0.000001896 3.15 12.09 2.93
SRCPARAM L0002642 0.000001896 3.15 12.09 2.93
SRCPARAM L0002643 0.000001896 3.15 12.09 2.93
SRCPARAM L0002644 0.000001896 3.15 12.09 2.93
SRCPARAM L0002645 0.000001896 3.15 12.09 2.93
SRCPARAM L0002646 0.000001896 3.15 12.09 2.93
SRCPARAM L0002647 0.000001896 3.15 12.09 2.93
SRCPARAM L0002648 0.000001896 3.15 12.09 2.93
SRCPARAM L0002649 0.000001896 3.15 12.09 2.93
SRCPARAM L0002650 0.000001896 3.15 12.09 2.93
SRCPARAM L0002651 0.000001896 3.15 12.09 2.93
SRCPARAM L0002652 0.000001896 3.15 12.09 2.93
SRCPARAM L0002653 0.000001896 3.15 12.09 2.93
SRCPARAM L0002654 0.000001896 3.15 12.09 2.93

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** LINE VOLUME Source ID = SLINE18
SRCPARAM L0002655 0.0000013 3.15 12.09 2.93
SRCPARAM L0002656 0.0000013 3.15 12.09 2.93
SRCPARAM L0002657 0.0000013 3.15 12.09 2.93
SRCPARAM L0002658 0.0000013 3.15 12.09 2.93
SRCPARAM L0002659 0.0000013 3.15 12.09 2.93
SRCPARAM L0002660 0.0000013 3.15 12.09 2.93
SRCPARAM L0002661 0.0000013 3.15 12.09 2.93
SRCPARAM L0002662 0.0000013 3.15 12.09 2.93
SRCPARAM L0002663 0.0000013 3.15 12.09 2.93
SRCPARAM L0002664 0.0000013 3.15 12.09 2.93
SRCPARAM L0002665 0.0000013 3.15 12.09 2.93
SRCPARAM L0002666 0.0000013 3.15 12.09 2.93
SRCPARAM L0002667 0.0000013 3.15 12.09 2.93
SRCPARAM L0002668 0.0000013 3.15 12.09 2.93
SRCPARAM L0002669 0.0000013 3.15 12.09 2.93
SRCPARAM L0002670 0.0000013 3.15 12.09 2.93
SRCPARAM L0002671 0.0000013 3.15 12.09 2.93
SRCPARAM L0002672 0.0000013 3.15 12.09 2.93
SRCPARAM L0002673 0.0000013 3.15 12.09 2.93
SRCPARAM L0002674 0.0000013 3.15 12.09 2.93
SRCPARAM L0002675 0.0000013 3.15 12.09 2.93

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SRCPARAM	L0002823	0.0000013	3.15	12.09	2.93
SRCPARAM	L0002824	0.0000013	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE19

SRCPARAM	L0002825	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002826	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002827	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002828	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002829	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002830	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002831	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002832	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002833	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002834	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002835	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002836	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002837	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002838	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002839	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002840	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002841	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002842	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002843	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002844	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002845	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002846	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002847	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002848	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002849	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002850	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002851	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002852	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002853	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002854	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002855	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002856	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002857	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002858	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002859	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002860	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002861	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002862	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002863	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002864	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002865	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002866	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002867	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002868	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002869	0.000001134	3.15	12.09	2.93

SRCPARAM	L0002870	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002871	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002872	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002873	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002874	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002875	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002876	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002877	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002878	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002879	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002880	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002881	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002882	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002883	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002884	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002885	0.000001134	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE20

SRCPARAM	L0002886	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002887	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002888	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002889	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002890	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002891	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002892	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002893	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002894	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002895	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002896	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002897	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002898	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002899	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002900	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002901	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002902	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002903	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002904	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002905	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002906	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002907	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002908	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002909	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002910	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002911	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002912	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002913	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002914	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002915	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002916	0.0000009097	3.15	12.09	2.93



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\*\* LINE VOLUME Source ID = SLINE21

SRCPARAM	L0002917	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002918	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002919	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002920	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002921	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002922	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002923	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002924	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002925	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002926	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002927	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002928	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002929	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002930	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002931	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002932	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002933	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002934	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002935	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002936	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002937	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002938	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002939	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002940	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002941	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002942	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002943	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002944	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002945	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002946	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002947	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002948	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002949	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002950	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002951	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002952	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002953	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002954	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002955	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002956	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002957	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002958	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002959	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002960	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002961	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002962	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002963	0.0000009274	3.15	12.09	2.93



SRCPARAM	L0003013	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003014	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003015	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003016	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003017	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003018	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003019	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003020	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003021	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003022	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003023	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003024	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003025	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003026	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003027	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003028	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003029	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003030	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003031	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003032	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003033	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003034	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003035	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003036	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003037	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003038	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003039	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003040	0.0000009274	3.15	12.09	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE22

SRCPARAM	L0003041	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003042	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003043	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003044	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003045	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003046	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003047	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003048	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003049	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003050	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003051	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003052	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003053	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003054	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003055	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003056	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003057	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003058	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003059	0.0000004769	3.15	12.09	2.93

SRCPARAM	L0003060	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003061	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003062	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003063	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003064	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003065	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003066	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003067	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003068	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003069	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003070	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003071	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003072	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003073	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003074	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003075	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003076	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003077	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003078	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003079	0.0000004769	3.15	12.09	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE23

SRCPARAM	L0003080	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003081	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003082	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003083	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003084	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003085	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003086	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003087	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003088	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003089	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003090	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003091	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003092	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003093	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003094	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003095	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003096	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003097	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003098	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003099	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003100	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003101	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003102	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003103	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003104	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003105	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003106	0.0000007219	3.15	12.09	2.93

SRCPARAM	L0003107	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003108	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003109	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003110	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003111	0.0000007219	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE24

SRCPARAM	L0003112	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003113	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003114	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003115	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003116	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003117	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003118	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003119	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003120	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003121	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003122	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003123	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003124	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003125	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003126	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003127	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003128	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003129	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003130	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003131	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003132	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003133	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003134	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003135	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003136	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003137	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003138	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003139	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003140	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003141	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003142	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003143	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003144	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003145	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003146	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003147	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003148	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003149	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003150	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003151	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003152	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003153	0.0000008853	3.15	14.42	2.93



SRCPARAM L0003203	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003204	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003205	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003206	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003207	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003208	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003209	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003210	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003211	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003212	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003213	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003214	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003215	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003216	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003217	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003218	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003219	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003220	0.0000008853	3.15	14.42	2.93

\*\* -----

URBANSRC ALL  
SRCGROUP ALL

SO FINISHED

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\*\* AERMOD Receptor Pathway

\*\*\*\*\*

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RE STARTING

INCLUDED ORBP\_Mitigated\_Operations.rou

RE FINISHED

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\*\*\*\*\*

\*\* AERMOD Meteorology Pathway

\*\*\*\*\*

\*\*

\*\*

ME STARTING

SURFFILE ..\KCNO\_V9\_ADJU\KCNO\_v9.SFC

PROFFILE ..\KCNO\_V9\_ADJU\KCNO\_v9.PFL

SURFDATA 3179 2012

UAIRDATA 3190 2012

PROFBASE 198.0 METERS

ME FINISHED

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\*\* AERMOD Output Pathway

\*\*\*\*\*

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**
OU STARTING
  RECTABLE ALLAVE 1ST
  RECTABLE 1 1ST
  RECTABLE 24 1ST
** Auto-Generated Plotfiles
  PLOTFILE 1 ALL 1ST ORBP_MITIGATED_OPERATIONS.AD\01H1GALL.PLT 31
  PLOTFILE 24 ALL 1ST ORBP_MITIGATED_OPERATIONS.AD\24H1GALL.PLT 32
  PLOTFILE PERIOD ALL ORBP_MITIGATED_OPERATIONS.AD\PE00GALL.PLT 33
  SUMMFILE ORBP_Mitigated_Operations.sum
OU FINISHED
**
*****
** Project Parameters
*****
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    North American Datum 1983
** DTMRGN   CONUS
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```



```

**
*****
**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.0.0
** Lakes Environmental Software Inc.
** Date: 8/24/2021
** File: C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Mitigated_Operations\ORBP_Mitigated_Operations.ADI
**
*****
**
**
*****
** AERMOD Control Pathway
*****
**
**
CO STARTING
  TITLEONE C:\Lakes\AERMOD View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U
  MODELOPT DFAULT CONC
  AVERTIME 1 24 PERIOD
  URBANOPT 2035210 San_Bernardino_County
  POLLUTID PM_10
  RUNORNOT RUN
  ERRORFIL ORBP_Mitigated_Operations.err
CO FINISHED
**
*****
** AERMOD Source Pathway
*****
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC Bldg 8 Idle
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 0.0000118
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440439.187, 3761172.343, 201.64, 3.15, 4.51
** 440486.700, 3761173.085, 201.84, 3.15, 4.51

```

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** -----
LOCATION L0002165      VOLUME  440444.036 3761172.419 201.77
LOCATION L0002166      VOLUME  440453.735 3761172.570 201.82
LOCATION L0002167      VOLUME  440463.434 3761172.722 201.87
LOCATION L0002168      VOLUME  440473.133 3761172.873 201.91
LOCATION L0002169      VOLUME  440482.832 3761173.025 201.95
** End of LINE VOLUME Source ID = SLINE1
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE2
** DESCRSRC Bldg 9 Idle
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 7.77E-06
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440568.364, 3761173.085, 202.38, 3.15, 4.51
** 440599.545, 3761172.343, 202.59, 3.15, 4.51
** -----
LOCATION L0002170      VOLUME  440573.213 3761172.970 202.58
LOCATION L0002171      VOLUME  440582.910 3761172.739 202.67
LOCATION L0002172      VOLUME  440592.607 3761172.508 202.75
** End of LINE VOLUME Source ID = SLINE2
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE3
** DESCRSRC Bldg 10 Idle
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 0.0000117
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440693.529, 3761171.296, 202.22, 3.15, 4.51
** 440740.423, 3761171.296, 202.54, 3.15, 4.51
** -----
LOCATION L0002173      VOLUME  440698.379 3761171.296 202.63
LOCATION L0002174      VOLUME  440708.079 3761171.296 202.63
LOCATION L0002175      VOLUME  440717.779 3761171.296 202.62
LOCATION L0002176      VOLUME  440727.479 3761171.296 202.62
LOCATION L0002177      VOLUME  440737.179 3761171.296 202.64
** End of LINE VOLUME Source ID = SLINE3
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE4
** DESCRSRC Bldg 11 Idle

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** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 0.0000644
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440465.649, 3761010.074, 200.18, 3.15, 4.51
** 440724.146, 3761006.974, 200.94, 3.15, 4.51
** -----
LOCATION L0002178    VOLUME  440470.498 3761010.016 200.24
LOCATION L0002179    VOLUME  440480.198 3761009.900 200.24
LOCATION L0002180    VOLUME  440489.897 3761009.784 200.25
LOCATION L0002181    VOLUME  440499.596 3761009.667 200.24
LOCATION L0002182    VOLUME  440509.296 3761009.551 200.23
LOCATION L0002183    VOLUME  440518.995 3761009.435 200.23
LOCATION L0002184    VOLUME  440528.694 3761009.318 200.25
LOCATION L0002185    VOLUME  440538.394 3761009.202 200.27
LOCATION L0002186    VOLUME  440548.093 3761009.086 200.39
LOCATION L0002187    VOLUME  440557.792 3761008.969 200.56
LOCATION L0002188    VOLUME  440567.491 3761008.853 200.73
LOCATION L0002189    VOLUME  440577.191 3761008.737 200.89
LOCATION L0002190    VOLUME  440586.890 3761008.620 201.05
LOCATION L0002191    VOLUME  440596.589 3761008.504 201.18
LOCATION L0002192    VOLUME  440606.289 3761008.388 201.24
LOCATION L0002193    VOLUME  440615.988 3761008.271 201.30
LOCATION L0002194    VOLUME  440625.687 3761008.155 201.22
LOCATION L0002195    VOLUME  440635.387 3761008.039 201.07
LOCATION L0002196    VOLUME  440645.086 3761007.922 200.91
LOCATION L0002197    VOLUME  440654.785 3761007.806 200.66
LOCATION L0002198    VOLUME  440664.484 3761007.690 200.42
LOCATION L0002199    VOLUME  440674.184 3761007.573 200.27
LOCATION L0002200    VOLUME  440683.883 3761007.457 200.29
LOCATION L0002201    VOLUME  440693.582 3761007.341 200.31
LOCATION L0002202    VOLUME  440703.282 3761007.224 200.50
LOCATION L0002203    VOLUME  440712.981 3761007.108 200.76
LOCATION L0002204    VOLUME  440722.680 3761006.992 201.00
** End of LINE VOLUME Source ID = SLINE4
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE5
** DESCRSRC N Bldg 12 Idle
** PREFIX
** Length of Side = 9.70
** Configuration = Adjacent
** Emission Rate = 0.0000644
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2

```

\*\* 440465.649, 3760892.646, 199.15, 3.15, 4.51  
\*\* 440724.146, 3760891.096, 199.90, 3.15, 4.51

\*\* -----

LOCATION	L0002205	VOLUME	440470.499	3760892.617	199.20
LOCATION	L0002206	VOLUME	440480.198	3760892.559	199.21
LOCATION	L0002207	VOLUME	440489.898	3760892.501	199.22
LOCATION	L0002208	VOLUME	440499.598	3760892.443	199.21
LOCATION	L0002209	VOLUME	440509.298	3760892.385	199.20
LOCATION	L0002210	VOLUME	440518.998	3760892.326	199.19
LOCATION	L0002211	VOLUME	440528.698	3760892.268	199.19
LOCATION	L0002212	VOLUME	440538.397	3760892.210	199.20
LOCATION	L0002213	VOLUME	440548.097	3760892.152	199.30
LOCATION	L0002214	VOLUME	440557.797	3760892.094	199.46
LOCATION	L0002215	VOLUME	440567.497	3760892.035	199.61
LOCATION	L0002216	VOLUME	440577.197	3760891.977	199.78
LOCATION	L0002217	VOLUME	440586.897	3760891.919	199.96
LOCATION	L0002218	VOLUME	440596.596	3760891.861	200.08
LOCATION	L0002219	VOLUME	440606.296	3760891.803	200.13
LOCATION	L0002220	VOLUME	440615.996	3760891.745	200.17
LOCATION	L0002221	VOLUME	440625.696	3760891.686	200.07
LOCATION	L0002222	VOLUME	440635.396	3760891.628	199.92
LOCATION	L0002223	VOLUME	440645.096	3760891.570	199.77
LOCATION	L0002224	VOLUME	440654.795	3760891.512	199.56
LOCATION	L0002225	VOLUME	440664.495	3760891.454	199.35
LOCATION	L0002226	VOLUME	440674.195	3760891.396	199.25
LOCATION	L0002227	VOLUME	440683.895	3760891.337	199.27
LOCATION	L0002228	VOLUME	440693.595	3760891.279	199.29
LOCATION	L0002229	VOLUME	440703.294	3760891.221	199.51
LOCATION	L0002230	VOLUME	440712.994	3760891.163	199.77
LOCATION	L0002231	VOLUME	440722.694	3760891.105	199.99

\*\* End of LINE VOLUME Source ID = SLINE5

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE6

\*\* DESCRSRC S Bldg 12 Idle

\*\* PREFIX

\*\* Length of Side = 9.70

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000646

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440465.649, 3760738.401, 197.59, 3.15, 4.51

\*\* 440724.921, 3760735.688, 197.93, 3.15, 4.51

\*\* -----

LOCATION	L0002232	VOLUME	440470.498	3760738.350	197.66
LOCATION	L0002233	VOLUME	440480.198	3760738.248	197.70
LOCATION	L0002234	VOLUME	440489.897	3760738.147	197.74
LOCATION	L0002235	VOLUME	440499.597	3760738.045	197.78

LOCATION	L0002236	VOLUME	440509.296	3760737.944	197.82
LOCATION	L0002237	VOLUME	440518.996	3760737.843	197.86
LOCATION	L0002238	VOLUME	440528.695	3760737.741	197.91
LOCATION	L0002239	VOLUME	440538.395	3760737.640	197.95
LOCATION	L0002240	VOLUME	440548.094	3760737.538	198.02
LOCATION	L0002241	VOLUME	440557.794	3760737.437	198.10
LOCATION	L0002242	VOLUME	440567.493	3760737.335	198.17
LOCATION	L0002243	VOLUME	440577.193	3760737.234	198.16
LOCATION	L0002244	VOLUME	440586.892	3760737.132	198.15
LOCATION	L0002245	VOLUME	440596.592	3760737.031	197.91
LOCATION	L0002246	VOLUME	440606.291	3760736.929	197.41
LOCATION	L0002247	VOLUME	440615.991	3760736.828	196.92
LOCATION	L0002248	VOLUME	440625.690	3760736.726	196.72
LOCATION	L0002249	VOLUME	440635.389	3760736.625	196.57
LOCATION	L0002250	VOLUME	440645.089	3760736.523	196.46
LOCATION	L0002251	VOLUME	440654.788	3760736.422	196.46
LOCATION	L0002252	VOLUME	440664.488	3760736.320	196.46
LOCATION	L0002253	VOLUME	440674.187	3760736.219	196.51
LOCATION	L0002254	VOLUME	440683.887	3760736.117	196.60
LOCATION	L0002255	VOLUME	440693.586	3760736.016	196.69
LOCATION	L0002256	VOLUME	440703.286	3760735.914	197.12
LOCATION	L0002257	VOLUME	440712.985	3760735.813	197.59
LOCATION	L0002258	VOLUME	440722.685	3760735.711	197.99

\*\* End of LINE VOLUME Source ID = SLINE6

\*\*

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE7

\*\* DESCRSRC Bldg 13 Idle

\*\* PREFIX

\*\* Length of Side = 9.70

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000642

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440466.811, 3760620.585, 196.37, 3.15, 4.51

\*\* 440724.533, 3760619.422, 197.46, 3.15, 4.51

\*\*

LOCATION	L0002259	VOLUME	440471.661	3760620.563	196.40
LOCATION	L0002260	VOLUME	440481.361	3760620.519	196.41
LOCATION	L0002261	VOLUME	440491.061	3760620.476	196.43
LOCATION	L0002262	VOLUME	440500.761	3760620.432	196.46
LOCATION	L0002263	VOLUME	440510.461	3760620.388	196.49
LOCATION	L0002264	VOLUME	440520.161	3760620.344	196.53
LOCATION	L0002265	VOLUME	440529.861	3760620.301	196.60
LOCATION	L0002266	VOLUME	440539.561	3760620.257	196.66
LOCATION	L0002267	VOLUME	440549.261	3760620.213	196.73
LOCATION	L0002268	VOLUME	440558.960	3760620.169	196.80
LOCATION	L0002269	VOLUME	440568.660	3760620.126	196.87

LOCATION	VOLUME				
L0002270	440578.360	3760620.082	196.95		
L0002271	440588.060	3760620.038	197.02		
L0002272	440597.760	3760619.994	197.06		
L0002273	440607.460	3760619.950	197.07		
L0002274	440617.160	3760619.907	197.09		
L0002275	440626.860	3760619.863	197.13		
L0002276	440636.560	3760619.819	197.18		
L0002277	440646.260	3760619.775	197.22		
L0002278	440655.959	3760619.732	197.25		
L0002279	440665.659	3760619.688	197.29		
L0002280	440675.359	3760619.644	197.31		
L0002281	440685.059	3760619.600	197.33		
L0002282	440694.759	3760619.557	197.36		
L0002283	440704.459	3760619.513	197.40		
L0002284	440714.159	3760619.469	197.45		
L0002285	440723.859	3760619.425	197.49		

\*\* End of LINE VOLUME Source ID = SLINE7

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE8

\*\* DESCRSRC Driveway 1 & 12

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 4.38E-07

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440393.246, 3761134.275, 201.60, 3.15, 12.09

\*\* 440788.072, 3761130.781, 201.86, 3.15, 12.09

\*\* -----

LOCATION	VOLUME				
L0002286	440406.246	3761134.160	201.53		
L0002287	440432.245	3761133.930	201.47		
L0002288	440458.244	3761133.700	201.55		
L0002289	440484.243	3761133.470	201.64		
L0002290	440510.242	3761133.239	201.70		
L0002291	440536.241	3761133.009	201.74		
L0002292	440562.240	3761132.779	202.24		
L0002293	440588.239	3761132.549	202.45		
L0002294	440614.238	3761132.319	202.46		
L0002295	440640.237	3761132.089	202.16		
L0002296	440666.236	3761131.859	201.68		
L0002297	440692.235	3761131.629	201.60		
L0002298	440718.234	3761131.399	202.08		
L0002299	440744.233	3761131.169	202.28		
L0002300	440770.232	3761130.939	201.69		

\*\* End of LINE VOLUME Source ID = SLINE8

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

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** LINE VOLUME Source ID = SLINE9
** DESCRSRC Driveway 2 & 13
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0000434
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440394.120, 3760984.031, 199.86, 3.15, 12.09
** 440785.452, 3760983.158, 200.49, 3.15, 12.09
** -----
LOCATION L0002301      VOLUME  440407.120 3760984.002 199.82
LOCATION L0002302      VOLUME  440433.120 3760983.944 199.86
LOCATION L0002303      VOLUME  440459.120 3760983.886 199.96
LOCATION L0002304      VOLUME  440485.120 3760983.828 200.00
LOCATION L0002305      VOLUME  440511.120 3760983.770 200.00
LOCATION L0002306      VOLUME  440537.120 3760983.712 200.03
LOCATION L0002307      VOLUME  440563.119 3760983.654 200.41
LOCATION L0002308      VOLUME  440589.119 3760983.596 200.85
LOCATION L0002309      VOLUME  440615.119 3760983.538 201.06
LOCATION L0002310      VOLUME  440641.119 3760983.480 200.74
LOCATION L0002311      VOLUME  440667.119 3760983.422 200.10
LOCATION L0002312      VOLUME  440693.119 3760983.364 200.06
LOCATION L0002313      VOLUME  440719.119 3760983.306 200.68
LOCATION L0002314      VOLUME  440745.119 3760983.248 200.91
LOCATION L0002315      VOLUME  440771.119 3760983.190 200.46
** End of LINE VOLUME Source ID = SLINE9
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE10
** DESCRSRC Driveway 3 & 14
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0000436
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440393.246, 3760919.392, 199.10, 3.15, 12.09
** 440786.325, 3760918.518, 199.90, 3.15, 12.09
** -----
LOCATION L0002316      VOLUME  440406.246 3760919.363 199.24
LOCATION L0002317      VOLUME  440432.246 3760919.305 199.31
LOCATION L0002318      VOLUME  440458.246 3760919.247 199.39
LOCATION L0002319      VOLUME  440484.246 3760919.189 199.44
LOCATION L0002320      VOLUME  440510.246 3760919.132 199.43
LOCATION L0002321      VOLUME  440536.246 3760919.074 199.44
LOCATION L0002322      VOLUME  440562.246 3760919.016 199.80

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LOCATION L0002323	VOLUME	440588.246	3760918.958	200.25
LOCATION L0002324	VOLUME	440614.246	3760918.901	200.42
LOCATION L0002325	VOLUME	440640.246	3760918.843	200.17
LOCATION L0002326	VOLUME	440666.246	3760918.785	199.61
LOCATION L0002327	VOLUME	440692.246	3760918.727	199.53
LOCATION L0002328	VOLUME	440718.246	3760918.669	200.15
LOCATION L0002329	VOLUME	440744.246	3760918.612	200.34
LOCATION L0002330	VOLUME	440770.245	3760918.554	199.98

\*\* End of LINE VOLUME Source ID = SLINE10

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE11

\*\* DESCRSRC Driveway 5 & 16

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000436

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440395.867, 3760713.244, 197.25, 3.15, 12.09

\*\* 440788.946, 3760709.750, 198.71, 3.15, 12.09

\*\* -----

LOCATION L0002331	VOLUME	440408.866	3760713.128	197.33
LOCATION L0002332	VOLUME	440434.865	3760712.897	197.28
LOCATION L0002333	VOLUME	440460.864	3760712.666	197.34
LOCATION L0002334	VOLUME	440486.863	3760712.435	197.41
LOCATION L0002335	VOLUME	440512.862	3760712.204	197.53
LOCATION L0002336	VOLUME	440538.861	3760711.973	197.70
LOCATION L0002337	VOLUME	440564.860	3760711.742	197.82
LOCATION L0002338	VOLUME	440590.859	3760711.510	197.87
LOCATION L0002339	VOLUME	440616.858	3760711.279	197.46
LOCATION L0002340	VOLUME	440642.857	3760711.048	197.40
LOCATION L0002341	VOLUME	440668.856	3760710.817	197.47
LOCATION L0002342	VOLUME	440694.855	3760710.586	197.60
LOCATION L0002343	VOLUME	440720.854	3760710.355	198.07
LOCATION L0002344	VOLUME	440746.853	3760710.124	198.34
LOCATION L0002345	VOLUME	440772.852	3760709.893	198.60

\*\* End of LINE VOLUME Source ID = SLINE11

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE12

\*\* DESCRSRC Driveway 6 & 17

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000434

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93



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** Nodes = 2
** 440394.120, 3760648.604, 196.51, 3.15, 12.09
** 440785.452, 3760646.857, 197.99, 3.15, 12.09
** -----
LOCATION L0002346      VOLUME  440407.120 3760648.546 196.72
LOCATION L0002347      VOLUME  440433.120 3760648.430 196.64
LOCATION L0002348      VOLUME  440459.119 3760648.314 196.66
LOCATION L0002349      VOLUME  440485.119 3760648.198 196.71
LOCATION L0002350      VOLUME  440511.119 3760648.082 196.79
LOCATION L0002351      VOLUME  440537.118 3760647.966 196.97
LOCATION L0002352      VOLUME  440563.118 3760647.850 197.14
LOCATION L0002353      VOLUME  440589.118 3760647.734 197.31
LOCATION L0002354      VOLUME  440615.118 3760647.617 197.35
LOCATION L0002355      VOLUME  440641.117 3760647.501 197.45
LOCATION L0002356      VOLUME  440667.117 3760647.385 197.55
LOCATION L0002357      VOLUME  440693.117 3760647.269 197.60
LOCATION L0002358      VOLUME  440719.117 3760647.153 197.69
LOCATION L0002359      VOLUME  440745.116 3760647.037 197.78
LOCATION L0002360      VOLUME  440771.116 3760646.921 198.03
** End of LINE VOLUME Source ID = SLINE12
** -----
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE13
** DESCRSRC West Access Road - Sultana 15 mph
** PREFIX
** Length of Side = 26.00
** Configuration = Adjacent
** Emission Rate = 0.0000643
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 440392.516, 3761134.605, 201.61, 3.15, 12.09
** 440390.843, 3760473.617, 195.36, 3.15, 12.09
** -----
LOCATION L0002361      VOLUME  440392.483 3761121.605 201.48
LOCATION L0002362      VOLUME  440392.418 3761095.606 201.17
LOCATION L0002363      VOLUME  440392.352 3761069.606 200.87
LOCATION L0002364      VOLUME  440392.286 3761043.606 200.56
LOCATION L0002365      VOLUME  440392.220 3761017.606 200.25
LOCATION L0002366      VOLUME  440392.154 3760991.606 199.95
LOCATION L0002367      VOLUME  440392.089 3760965.606 199.68
LOCATION L0002368      VOLUME  440392.023 3760939.606 199.43
LOCATION L0002369      VOLUME  440391.957 3760913.606 199.16
LOCATION L0002370      VOLUME  440391.891 3760887.606 198.93
LOCATION L0002371      VOLUME  440391.825 3760861.606 198.72
LOCATION L0002372      VOLUME  440391.759 3760835.606 198.48
LOCATION L0002373      VOLUME  440391.694 3760809.606 198.22
LOCATION L0002374      VOLUME  440391.628 3760783.607 197.97
LOCATION L0002375      VOLUME  440391.562 3760757.607 197.71

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LOCATION L0002376	VOLUME	440391.496	3760731.607	197.44
LOCATION L0002377	VOLUME	440391.430	3760705.607	197.19
LOCATION L0002378	VOLUME	440391.364	3760679.607	196.95
LOCATION L0002379	VOLUME	440391.299	3760653.607	196.72
LOCATION L0002380	VOLUME	440391.233	3760627.607	196.51
LOCATION L0002381	VOLUME	440391.167	3760601.607	196.30
LOCATION L0002382	VOLUME	440391.101	3760575.607	196.08
LOCATION L0002383	VOLUME	440391.035	3760549.607	195.89
LOCATION L0002384	VOLUME	440390.970	3760523.607	195.68
LOCATION L0002385	VOLUME	440390.904	3760497.607	195.53

\*\* End of LINE VOLUME Source ID = SLINE13

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE14

\*\* DESCRSRC Merril W of Site 50 mph

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000385

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440391.194, 3760467.870, 195.22, 3.15, 12.09

\*\* 439902.492, 3760463.238, 193.60, 3.15, 12.09

\*\* -----

LOCATION L0002386	VOLUME	440378.195	3760467.747	195.12
LOCATION L0002387	VOLUME	440352.196	3760467.500	194.83
LOCATION L0002388	VOLUME	440326.197	3760467.254	194.71
LOCATION L0002389	VOLUME	440300.199	3760467.008	194.61
LOCATION L0002390	VOLUME	440274.200	3760466.761	194.52
LOCATION L0002391	VOLUME	440248.201	3760466.515	194.35
LOCATION L0002392	VOLUME	440222.202	3760466.268	194.19
LOCATION L0002393	VOLUME	440196.203	3760466.022	194.09
LOCATION L0002394	VOLUME	440170.204	3760465.775	193.96
LOCATION L0002395	VOLUME	440144.206	3760465.529	193.82
LOCATION L0002396	VOLUME	440118.207	3760465.282	193.71
LOCATION L0002397	VOLUME	440092.208	3760465.036	193.66
LOCATION L0002398	VOLUME	440066.209	3760464.790	193.63
LOCATION L0002399	VOLUME	440040.210	3760464.543	193.60
LOCATION L0002400	VOLUME	440014.211	3760464.297	193.59
LOCATION L0002401	VOLUME	439988.213	3760464.050	193.57
LOCATION L0002402	VOLUME	439962.214	3760463.804	193.57
LOCATION L0002403	VOLUME	439936.215	3760463.557	193.63
LOCATION L0002404	VOLUME	439910.216	3760463.311	193.67

\*\* End of LINE VOLUME Source ID = SLINE14

\*\* -----

\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE15

\*\* DESCRSRC Euclide South of Merril 45 mph

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** PREFIX
** Length of Side = 31.00
** Configuration = Adjacent
** Emission Rate = 0.000105
** Vertical Dimension = 6.29
** SZINIT = 2.93
** Nodes = 2
** 439894.728, 3760450.854, 193.57, 3.15, 14.42
** 439882.847, 3758051.793, 175.42, 3.15, 14.42

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LOCATION	VOLUME				
L0002405	VOLUME	439894.651	3760435.354	193.42	
L0002406	VOLUME	439894.497	3760404.354	193.22	
L0002407	VOLUME	439894.344	3760373.355	193.05	
L0002408	VOLUME	439894.190	3760342.355	192.86	
L0002409	VOLUME	439894.037	3760311.356	192.61	
L0002410	VOLUME	439893.883	3760280.356	192.34	
L0002411	VOLUME	439893.730	3760249.356	192.06	
L0002412	VOLUME	439893.576	3760218.357	191.79	
L0002413	VOLUME	439893.423	3760187.357	191.52	
L0002414	VOLUME	439893.269	3760156.357	191.32	
L0002415	VOLUME	439893.116	3760125.358	191.16	
L0002416	VOLUME	439892.962	3760094.358	191.03	
L0002417	VOLUME	439892.809	3760063.359	190.90	
L0002418	VOLUME	439892.655	3760032.359	190.76	
L0002419	VOLUME	439892.502	3760001.359	190.60	
L0002420	VOLUME	439892.348	3759970.360	190.44	
L0002421	VOLUME	439892.195	3759939.360	190.27	
L0002422	VOLUME	439892.041	3759908.360	190.10	
L0002423	VOLUME	439891.888	3759877.361	189.91	
L0002424	VOLUME	439891.734	3759846.361	189.67	
L0002425	VOLUME	439891.581	3759815.362	189.41	
L0002426	VOLUME	439891.427	3759784.362	189.14	
L0002427	VOLUME	439891.274	3759753.362	188.87	
L0002428	VOLUME	439891.120	3759722.363	188.57	
L0002429	VOLUME	439890.967	3759691.363	188.30	
L0002430	VOLUME	439890.813	3759660.364	188.05	
L0002431	VOLUME	439890.660	3759629.364	187.78	
L0002432	VOLUME	439890.506	3759598.364	187.52	
L0002433	VOLUME	439890.352	3759567.365	187.26	
L0002434	VOLUME	439890.199	3759536.365	187.01	
L0002435	VOLUME	439890.045	3759505.365	186.78	
L0002436	VOLUME	439889.892	3759474.366	186.59	
L0002437	VOLUME	439889.738	3759443.366	186.40	
L0002438	VOLUME	439889.585	3759412.367	186.20	
L0002439	VOLUME	439889.431	3759381.367	185.98	
L0002440	VOLUME	439889.278	3759350.367	185.79	
L0002441	VOLUME	439889.124	3759319.368	185.62	
L0002442	VOLUME	439888.971	3759288.368	185.43	
L0002443	VOLUME	439888.817	3759257.368	185.17	

LOCATION L0002444	VOLUME	439888.664	3759226.369	184.88
LOCATION L0002445	VOLUME	439888.510	3759195.369	184.57
LOCATION L0002446	VOLUME	439888.357	3759164.370	184.29
LOCATION L0002447	VOLUME	439888.203	3759133.370	183.99
LOCATION L0002448	VOLUME	439888.050	3759102.370	183.75
LOCATION L0002449	VOLUME	439887.896	3759071.371	183.55
LOCATION L0002450	VOLUME	439887.743	3759040.371	183.39
LOCATION L0002451	VOLUME	439887.589	3759009.372	183.24
LOCATION L0002452	VOLUME	439887.436	3758978.372	183.05
LOCATION L0002453	VOLUME	439887.282	3758947.372	182.83
LOCATION L0002454	VOLUME	439887.129	3758916.373	182.56
LOCATION L0002455	VOLUME	439886.975	3758885.373	182.21
LOCATION L0002456	VOLUME	439886.822	3758854.373	181.90
LOCATION L0002457	VOLUME	439886.668	3758823.374	181.56
LOCATION L0002458	VOLUME	439886.515	3758792.374	181.26
LOCATION L0002459	VOLUME	439886.361	3758761.375	181.04
LOCATION L0002460	VOLUME	439886.208	3758730.375	180.85
LOCATION L0002461	VOLUME	439886.054	3758699.375	180.68
LOCATION L0002462	VOLUME	439885.901	3758668.376	180.48
LOCATION L0002463	VOLUME	439885.747	3758637.376	180.25
LOCATION L0002464	VOLUME	439885.594	3758606.376	180.00
LOCATION L0002465	VOLUME	439885.440	3758575.377	179.78
LOCATION L0002466	VOLUME	439885.287	3758544.377	179.58
LOCATION L0002467	VOLUME	439885.133	3758513.378	179.37
LOCATION L0002468	VOLUME	439884.980	3758482.378	179.09
LOCATION L0002469	VOLUME	439884.826	3758451.378	178.77
LOCATION L0002470	VOLUME	439884.673	3758420.379	178.42
LOCATION L0002471	VOLUME	439884.519	3758389.379	178.08
LOCATION L0002472	VOLUME	439884.366	3758358.379	177.78
LOCATION L0002473	VOLUME	439884.212	3758327.380	177.48
LOCATION L0002474	VOLUME	439884.059	3758296.380	177.24
LOCATION L0002475	VOLUME	439883.905	3758265.381	177.02
LOCATION L0002476	VOLUME	439883.752	3758234.381	176.77
LOCATION L0002477	VOLUME	439883.598	3758203.381	176.52
LOCATION L0002478	VOLUME	439883.444	3758172.382	176.26
LOCATION L0002479	VOLUME	439883.291	3758141.382	176.00
LOCATION L0002480	VOLUME	439883.137	3758110.383	175.77
LOCATION L0002481	VOLUME	439882.984	3758079.383	175.59

\*\* End of LINE VOLUME Source ID = SLINE15

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE16

\*\* DESCRSRC Euclide N of Merril 45 MPH

\*\* PREFIX

\*\* Length of Side = 36.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000331

\*\* Vertical Dimension = 5.78

\*\* SZINIT = 2.69

\*\* Nodes = 4  
 \*\* 439893.985, 3760466.447, 193.63, 2.89, 16.74  
 \*\* 439902.153, 3763463.230, 227.18, 2.89, 16.74  
 \*\* 439912.548, 3763601.338, 228.39, 2.89, 16.74  
 \*\* 439915.518, 3765792.495, 254.78, 2.89, 16.74

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LOCATION	VOLUME				
L0002482	VOLUME	439894.034	3760484.447	193.85	
L0002483	VOLUME	439894.132	3760520.446	194.19	
L0002484	VOLUME	439894.230	3760556.446	194.55	
L0002485	VOLUME	439894.328	3760592.446	194.87	
L0002486	VOLUME	439894.427	3760628.446	195.19	
L0002487	VOLUME	439894.525	3760664.446	195.50	
L0002488	VOLUME	439894.623	3760700.446	195.83	
L0002489	VOLUME	439894.721	3760736.446	196.22	
L0002490	VOLUME	439894.819	3760772.445	196.64	
L0002491	VOLUME	439894.917	3760808.445	197.09	
L0002492	VOLUME	439895.015	3760844.445	197.60	
L0002493	VOLUME	439895.113	3760880.445	198.09	
L0002494	VOLUME	439895.211	3760916.445	198.56	
L0002495	VOLUME	439895.310	3760952.445	199.00	
L0002496	VOLUME	439895.408	3760988.445	199.46	
L0002497	VOLUME	439895.506	3761024.445	199.92	
L0002498	VOLUME	439895.604	3761060.444	200.35	
L0002499	VOLUME	439895.702	3761096.444	200.72	
L0002500	VOLUME	439895.800	3761132.444	201.08	
L0002501	VOLUME	439895.898	3761168.444	201.46	
L0002502	VOLUME	439895.996	3761204.444	201.79	
L0002503	VOLUME	439896.095	3761240.444	202.06	
L0002504	VOLUME	439896.193	3761276.444	202.40	
L0002505	VOLUME	439896.291	3761312.443	202.79	
L0002506	VOLUME	439896.389	3761348.443	203.17	
L0002507	VOLUME	439896.487	3761384.443	203.62	
L0002508	VOLUME	439896.585	3761420.443	204.07	
L0002509	VOLUME	439896.683	3761456.443	204.49	
L0002510	VOLUME	439896.781	3761492.443	204.90	
L0002511	VOLUME	439896.879	3761528.443	205.33	
L0002512	VOLUME	439896.978	3761564.443	205.74	
L0002513	VOLUME	439897.076	3761600.442	206.09	
L0002514	VOLUME	439897.174	3761636.442	206.37	
L0002515	VOLUME	439897.272	3761672.442	206.67	
L0002516	VOLUME	439897.370	3761708.442	206.97	
L0002517	VOLUME	439897.468	3761744.442	207.28	
L0002518	VOLUME	439897.566	3761780.442	207.61	
L0002519	VOLUME	439897.664	3761816.442	207.93	
L0002520	VOLUME	439897.763	3761852.441	208.24	
L0002521	VOLUME	439897.861	3761888.441	208.54	
L0002522	VOLUME	439897.959	3761924.441	208.86	
L0002523	VOLUME	439898.057	3761960.441	209.18	
L0002524	VOLUME	439898.155	3761996.441	209.49	

LOCATION	L0002525	VOLUME	439898.253	3762032.441	209.76
LOCATION	L0002526	VOLUME	439898.351	3762068.441	210.03
LOCATION	L0002527	VOLUME	439898.449	3762104.441	210.31
LOCATION	L0002528	VOLUME	439898.547	3762140.440	210.55
LOCATION	L0002529	VOLUME	439898.646	3762176.440	210.85
LOCATION	L0002530	VOLUME	439898.744	3762212.440	211.26
LOCATION	L0002531	VOLUME	439898.842	3762248.440	211.77
LOCATION	L0002532	VOLUME	439898.940	3762284.440	212.37
LOCATION	L0002533	VOLUME	439899.038	3762320.440	212.95
LOCATION	L0002534	VOLUME	439899.136	3762356.440	213.47
LOCATION	L0002535	VOLUME	439899.234	3762392.439	213.94
LOCATION	L0002536	VOLUME	439899.332	3762428.439	214.41
LOCATION	L0002537	VOLUME	439899.431	3762464.439	214.87
LOCATION	L0002538	VOLUME	439899.529	3762500.439	215.27
LOCATION	L0002539	VOLUME	439899.627	3762536.439	215.67
LOCATION	L0002540	VOLUME	439899.725	3762572.439	216.08
LOCATION	L0002541	VOLUME	439899.823	3762608.439	216.52
LOCATION	L0002542	VOLUME	439899.921	3762644.439	217.01
LOCATION	L0002543	VOLUME	439900.019	3762680.438	217.48
LOCATION	L0002544	VOLUME	439900.117	3762716.438	217.98
LOCATION	L0002545	VOLUME	439900.215	3762752.438	218.46
LOCATION	L0002546	VOLUME	439900.314	3762788.438	218.96
LOCATION	L0002547	VOLUME	439900.412	3762824.438	219.46
LOCATION	L0002548	VOLUME	439900.510	3762860.438	219.99
LOCATION	L0002549	VOLUME	439900.608	3762896.438	220.50
LOCATION	L0002550	VOLUME	439900.706	3762932.437	220.93
LOCATION	L0002551	VOLUME	439900.804	3762968.437	221.31
LOCATION	L0002552	VOLUME	439900.902	3763004.437	221.71
LOCATION	L0002553	VOLUME	439901.000	3763040.437	222.07
LOCATION	L0002554	VOLUME	439901.098	3763076.437	222.48
LOCATION	L0002555	VOLUME	439901.197	3763112.437	222.92
LOCATION	L0002556	VOLUME	439901.295	3763148.437	223.40
LOCATION	L0002557	VOLUME	439901.393	3763184.437	223.91
LOCATION	L0002558	VOLUME	439901.491	3763220.436	224.44
LOCATION	L0002559	VOLUME	439901.589	3763256.436	224.97
LOCATION	L0002560	VOLUME	439901.687	3763292.436	225.41
LOCATION	L0002561	VOLUME	439901.785	3763328.436	225.83
LOCATION	L0002562	VOLUME	439901.883	3763364.436	226.22
LOCATION	L0002563	VOLUME	439901.982	3763400.436	226.57
LOCATION	L0002564	VOLUME	439902.080	3763436.436	226.88
LOCATION	L0002565	VOLUME	439902.844	3763472.410	227.21
LOCATION	L0002566	VOLUME	439905.546	3763508.308	227.55
LOCATION	L0002567	VOLUME	439908.248	3763544.206	227.87
LOCATION	L0002568	VOLUME	439910.950	3763580.105	228.17
LOCATION	L0002569	VOLUME	439912.568	3763616.045	228.46
LOCATION	L0002570	VOLUME	439912.617	3763652.045	228.76
LOCATION	L0002571	VOLUME	439912.665	3763688.045	229.12
LOCATION	L0002572	VOLUME	439912.714	3763724.045	229.40
LOCATION	L0002573	VOLUME	439912.763	3763760.045	229.65

LOCATION L0002574	VOLUME	439912.812	3763796.045	229.92
LOCATION L0002575	VOLUME	439912.861	3763832.045	230.22
LOCATION L0002576	VOLUME	439912.909	3763868.045	230.54
LOCATION L0002577	VOLUME	439912.958	3763904.045	230.93
LOCATION L0002578	VOLUME	439913.007	3763940.045	231.41
LOCATION L0002579	VOLUME	439913.056	3763976.044	231.93
LOCATION L0002580	VOLUME	439913.105	3764012.044	232.48
LOCATION L0002581	VOLUME	439913.153	3764048.044	233.06
LOCATION L0002582	VOLUME	439913.202	3764084.044	233.63
LOCATION L0002583	VOLUME	439913.251	3764120.044	234.17
LOCATION L0002584	VOLUME	439913.300	3764156.044	234.76
LOCATION L0002585	VOLUME	439913.349	3764192.044	235.34
LOCATION L0002586	VOLUME	439913.397	3764228.044	235.93
LOCATION L0002587	VOLUME	439913.446	3764264.044	236.50
LOCATION L0002588	VOLUME	439913.495	3764300.044	237.09
LOCATION L0002589	VOLUME	439913.544	3764336.044	237.65
LOCATION L0002590	VOLUME	439913.593	3764372.044	238.14
LOCATION L0002591	VOLUME	439913.641	3764408.044	238.51
LOCATION L0002592	VOLUME	439913.690	3764444.044	238.76
LOCATION L0002593	VOLUME	439913.739	3764480.044	238.94
LOCATION L0002594	VOLUME	439913.788	3764516.044	239.14
LOCATION L0002595	VOLUME	439913.837	3764552.044	239.32
LOCATION L0002596	VOLUME	439913.885	3764588.044	239.55
LOCATION L0002597	VOLUME	439913.934	3764624.044	239.91
LOCATION L0002598	VOLUME	439913.983	3764660.044	240.33
LOCATION L0002599	VOLUME	439914.032	3764696.044	240.78
LOCATION L0002600	VOLUME	439914.081	3764732.044	241.22
LOCATION L0002601	VOLUME	439914.129	3764768.044	241.87
LOCATION L0002602	VOLUME	439914.178	3764804.044	242.52
LOCATION L0002603	VOLUME	439914.227	3764840.044	243.09
LOCATION L0002604	VOLUME	439914.276	3764876.044	243.65
LOCATION L0002605	VOLUME	439914.324	3764912.044	244.15
LOCATION L0002606	VOLUME	439914.373	3764948.044	244.65
LOCATION L0002607	VOLUME	439914.422	3764984.044	245.21
LOCATION L0002608	VOLUME	439914.471	3765020.044	245.75
LOCATION L0002609	VOLUME	439914.520	3765056.043	246.10
LOCATION L0002610	VOLUME	439914.568	3765092.043	246.38
LOCATION L0002611	VOLUME	439914.617	3765128.043	246.65
LOCATION L0002612	VOLUME	439914.666	3765164.043	246.95
LOCATION L0002613	VOLUME	439914.715	3765200.043	247.30
LOCATION L0002614	VOLUME	439914.764	3765236.043	247.82
LOCATION L0002615	VOLUME	439914.812	3765272.043	248.35
LOCATION L0002616	VOLUME	439914.861	3765308.043	248.96
LOCATION L0002617	VOLUME	439914.910	3765344.043	249.57
LOCATION L0002618	VOLUME	439914.959	3765380.043	250.15
LOCATION L0002619	VOLUME	439915.008	3765416.043	250.77
LOCATION L0002620	VOLUME	439915.056	3765452.043	251.36
LOCATION L0002621	VOLUME	439915.105	3765488.043	251.81
LOCATION L0002622	VOLUME	439915.154	3765524.043	252.12

LOCATION L0002623	VOLUME	439915.203	3765560.043	252.55
LOCATION L0002624	VOLUME	439915.252	3765596.043	252.94
LOCATION L0002625	VOLUME	439915.300	3765632.043	253.19
LOCATION L0002626	VOLUME	439915.349	3765668.043	253.63
LOCATION L0002627	VOLUME	439915.398	3765704.043	254.14
LOCATION L0002628	VOLUME	439915.447	3765740.043	254.48
LOCATION L0002629	VOLUME	439915.496	3765776.043	254.77

\*\* End of LINE VOLUME Source ID = SLINE16

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE17

\*\* DESCRSRC East Access Road Campus 15 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000474

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 440788.002, 3761131.581, 201.87, 3.15, 12.09

\*\* 440792.839, 3760493.155, 196.84, 3.15, 12.09

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LOCATION L0002630	VOLUME	440788.101	3761118.581	201.62
LOCATION L0002631	VOLUME	440788.297	3761092.582	201.37
LOCATION L0002632	VOLUME	440788.494	3761066.583	201.14
LOCATION L0002633	VOLUME	440788.691	3761040.584	200.92
LOCATION L0002634	VOLUME	440788.888	3761014.584	200.72
LOCATION L0002635	VOLUME	440789.085	3760988.585	200.51
LOCATION L0002636	VOLUME	440789.282	3760962.586	200.30
LOCATION L0002637	VOLUME	440789.479	3760936.587	200.11
LOCATION L0002638	VOLUME	440789.676	3760910.587	199.91
LOCATION L0002639	VOLUME	440789.873	3760884.588	199.74
LOCATION L0002640	VOLUME	440790.070	3760858.589	199.60
LOCATION L0002641	VOLUME	440790.267	3760832.590	199.52
LOCATION L0002642	VOLUME	440790.464	3760806.590	199.45
LOCATION L0002643	VOLUME	440790.661	3760780.591	199.30
LOCATION L0002644	VOLUME	440790.858	3760754.592	198.99
LOCATION L0002645	VOLUME	440791.055	3760728.593	198.81
LOCATION L0002646	VOLUME	440791.252	3760702.593	198.61
LOCATION L0002647	VOLUME	440791.449	3760676.594	198.40
LOCATION L0002648	VOLUME	440791.646	3760650.595	198.19
LOCATION L0002649	VOLUME	440791.843	3760624.595	197.97
LOCATION L0002650	VOLUME	440792.040	3760598.596	197.72
LOCATION L0002651	VOLUME	440792.237	3760572.597	197.45
LOCATION L0002652	VOLUME	440792.434	3760546.598	197.22
LOCATION L0002653	VOLUME	440792.631	3760520.598	197.02
LOCATION L0002654	VOLUME	440792.828	3760494.599	196.88

\*\* End of LINE VOLUME Source ID = SLINE17

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\*\* Line Source Represented by Adjacent Volume Sources  
 \*\* LINE VOLUME Source ID = SLINE18  
 \*\* DESCRSRC Merrill East of Site 50 MPH  
 \*\* PREFIX  
 \*\* Length of Side = 26.00  
 \*\* Configuration = Adjacent  
 \*\* Emission Rate = 0.000221  
 \*\* Vertical Dimension = 6.29  
 \*\* SZINIT = 2.93  
 \*\* Nodes = 4  
 \*\* 440792.839, 3760468.972, 196.77, 3.15, 12.09  
 \*\* 443966.833, 3760482.272, 204.47, 3.15, 12.09  
 \*\* 444151.831, 3760416.979, 202.33, 3.15, 12.09  
 \*\* 445194.110, 3760409.724, 201.48, 3.15, 12.09  
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LOCATION	VOLUME	VOLUME	VOLUME	VOLUME
L0002655	440805.838	3760469.026	196.69	
L0002656	440831.838	3760469.135	196.70	
L0002657	440857.838	3760469.244	196.88	
L0002658	440883.838	3760469.353	197.13	
L0002659	440909.838	3760469.462	197.39	
L0002660	440935.837	3760469.571	197.56	
L0002661	440961.837	3760469.680	197.64	
L0002662	440987.837	3760469.789	197.74	
L0002663	441013.837	3760469.898	197.89	
L0002664	441039.836	3760470.007	198.06	
L0002665	441065.836	3760470.116	198.25	
L0002666	441091.836	3760470.225	198.46	
L0002667	441117.836	3760470.334	198.59	
L0002668	441143.836	3760470.443	198.64	
L0002669	441169.835	3760470.552	198.63	
L0002670	441195.835	3760470.661	198.95	
L0002671	441221.835	3760470.770	198.86	
L0002672	441247.835	3760470.879	198.67	
L0002673	441273.834	3760470.988	198.71	
L0002674	441299.834	3760471.096	198.79	
L0002675	441325.834	3760471.205	198.90	
L0002676	441351.834	3760471.314	198.98	
L0002677	441377.833	3760471.423	199.10	
L0002678	441403.833	3760471.532	199.23	
L0002679	441429.833	3760471.641	199.30	
L0002680	441455.833	3760471.750	199.33	
L0002681	441481.833	3760471.859	199.62	
L0002682	441507.832	3760471.968	199.82	
L0002683	441533.832	3760472.077	199.93	
L0002684	441559.832	3760472.186	199.99	
L0002685	441585.832	3760472.295	200.00	
L0002686	441611.831	3760472.404	200.07	
L0002687	441637.831	3760472.513	200.18	
L0002688	441663.831	3760472.622	200.19	

LOCATION	L0002689	VOLUME	441689.831	3760472.731	200.18
LOCATION	L0002690	VOLUME	441715.830	3760472.840	200.15
LOCATION	L0002691	VOLUME	441741.830	3760472.949	200.10
LOCATION	L0002692	VOLUME	441767.830	3760473.058	200.08
LOCATION	L0002693	VOLUME	441793.830	3760473.167	200.09
LOCATION	L0002694	VOLUME	441819.830	3760473.275	200.09
LOCATION	L0002695	VOLUME	441845.829	3760473.384	200.08
LOCATION	L0002696	VOLUME	441871.829	3760473.493	200.12
LOCATION	L0002697	VOLUME	441897.829	3760473.602	200.15
LOCATION	L0002698	VOLUME	441923.829	3760473.711	200.22
LOCATION	L0002699	VOLUME	441949.828	3760473.820	200.29
LOCATION	L0002700	VOLUME	441975.828	3760473.929	200.11
LOCATION	L0002701	VOLUME	442001.828	3760474.038	199.94
LOCATION	L0002702	VOLUME	442027.828	3760474.147	200.38
LOCATION	L0002703	VOLUME	442053.828	3760474.256	200.42
LOCATION	L0002704	VOLUME	442079.827	3760474.365	200.43
LOCATION	L0002705	VOLUME	442105.827	3760474.474	200.40
LOCATION	L0002706	VOLUME	442131.827	3760474.583	200.37
LOCATION	L0002707	VOLUME	442157.827	3760474.692	200.38
LOCATION	L0002708	VOLUME	442183.826	3760474.801	200.40
LOCATION	L0002709	VOLUME	442209.826	3760474.910	200.40
LOCATION	L0002710	VOLUME	442235.826	3760475.019	200.44
LOCATION	L0002711	VOLUME	442261.826	3760475.128	200.55
LOCATION	L0002712	VOLUME	442287.825	3760475.237	200.67
LOCATION	L0002713	VOLUME	442313.825	3760475.346	200.80
LOCATION	L0002714	VOLUME	442339.825	3760475.455	200.98
LOCATION	L0002715	VOLUME	442365.825	3760475.563	201.07
LOCATION	L0002716	VOLUME	442391.825	3760475.672	201.05
LOCATION	L0002717	VOLUME	442417.824	3760475.781	201.12
LOCATION	L0002718	VOLUME	442443.824	3760475.890	201.14
LOCATION	L0002719	VOLUME	442469.824	3760475.999	201.12
LOCATION	L0002720	VOLUME	442495.824	3760476.108	201.09
LOCATION	L0002721	VOLUME	442521.823	3760476.217	201.06
LOCATION	L0002722	VOLUME	442547.823	3760476.326	201.01
LOCATION	L0002723	VOLUME	442573.823	3760476.435	200.96
LOCATION	L0002724	VOLUME	442599.823	3760476.544	200.85
LOCATION	L0002725	VOLUME	442625.823	3760476.653	200.70
LOCATION	L0002726	VOLUME	442651.822	3760476.762	200.64
LOCATION	L0002727	VOLUME	442677.822	3760476.871	200.61
LOCATION	L0002728	VOLUME	442703.822	3760476.980	200.62
LOCATION	L0002729	VOLUME	442729.822	3760477.089	200.73
LOCATION	L0002730	VOLUME	442755.821	3760477.198	200.85
LOCATION	L0002731	VOLUME	442781.821	3760477.307	200.82
LOCATION	L0002732	VOLUME	442807.821	3760477.416	200.80
LOCATION	L0002733	VOLUME	442833.821	3760477.525	200.83
LOCATION	L0002734	VOLUME	442859.820	3760477.634	200.98
LOCATION	L0002735	VOLUME	442885.820	3760477.742	201.07
LOCATION	L0002736	VOLUME	442911.820	3760477.851	201.13
LOCATION	L0002737	VOLUME	442937.820	3760477.960	201.24

LOCATION L0002738	VOLUME	442963.820	3760478.069	201.34
LOCATION L0002739	VOLUME	442989.819	3760478.178	201.66
LOCATION L0002740	VOLUME	443015.819	3760478.287	201.87
LOCATION L0002741	VOLUME	443041.819	3760478.396	201.68
LOCATION L0002742	VOLUME	443067.819	3760478.505	201.58
LOCATION L0002743	VOLUME	443093.818	3760478.614	201.61
LOCATION L0002744	VOLUME	443119.818	3760478.723	201.69
LOCATION L0002745	VOLUME	443145.818	3760478.832	201.82
LOCATION L0002746	VOLUME	443171.818	3760478.941	202.12
LOCATION L0002747	VOLUME	443197.817	3760479.050	202.75
LOCATION L0002748	VOLUME	443223.817	3760479.159	203.08
LOCATION L0002749	VOLUME	443249.817	3760479.268	203.11
LOCATION L0002750	VOLUME	443275.817	3760479.377	203.19
LOCATION L0002751	VOLUME	443301.817	3760479.486	203.21
LOCATION L0002752	VOLUME	443327.816	3760479.595	203.34
LOCATION L0002753	VOLUME	443353.816	3760479.704	203.23
LOCATION L0002754	VOLUME	443379.816	3760479.813	203.32
LOCATION L0002755	VOLUME	443405.816	3760479.922	203.44
LOCATION L0002756	VOLUME	443431.815	3760480.030	203.41
LOCATION L0002757	VOLUME	443457.815	3760480.139	203.39
LOCATION L0002758	VOLUME	443483.815	3760480.248	203.40
LOCATION L0002759	VOLUME	443509.815	3760480.357	203.34
LOCATION L0002760	VOLUME	443535.815	3760480.466	203.32
LOCATION L0002761	VOLUME	443561.814	3760480.575	203.18
LOCATION L0002762	VOLUME	443587.814	3760480.684	203.18
LOCATION L0002763	VOLUME	443613.814	3760480.793	203.46
LOCATION L0002764	VOLUME	443639.814	3760480.902	203.54
LOCATION L0002765	VOLUME	443665.813	3760481.011	203.63
LOCATION L0002766	VOLUME	443691.813	3760481.120	203.67
LOCATION L0002767	VOLUME	443717.813	3760481.229	203.73
LOCATION L0002768	VOLUME	443743.813	3760481.338	203.77
LOCATION L0002769	VOLUME	443769.812	3760481.447	203.85
LOCATION L0002770	VOLUME	443795.812	3760481.556	204.00
LOCATION L0002771	VOLUME	443821.812	3760481.665	204.17
LOCATION L0002772	VOLUME	443847.812	3760481.774	204.20
LOCATION L0002773	VOLUME	443873.812	3760481.883	204.53
LOCATION L0002774	VOLUME	443899.811	3760481.992	203.97
LOCATION L0002775	VOLUME	443925.811	3760482.101	204.05
LOCATION L0002776	VOLUME	443951.811	3760482.210	204.58
LOCATION L0002777	VOLUME	443977.185	3760478.619	204.36
LOCATION L0002778	VOLUME	444001.703	3760469.965	203.93
LOCATION L0002779	VOLUME	444026.220	3760461.312	203.42
LOCATION L0002780	VOLUME	444050.738	3760452.659	203.27
LOCATION L0002781	VOLUME	444075.256	3760444.005	203.00
LOCATION L0002782	VOLUME	444099.774	3760435.352	202.74
LOCATION L0002783	VOLUME	444124.291	3760426.699	202.61
LOCATION L0002784	VOLUME	444148.809	3760418.045	202.42
LOCATION L0002785	VOLUME	444174.626	3760416.820	202.24
LOCATION L0002786	VOLUME	444200.625	3760416.639	202.16

LOCATION	L0002787	VOLUME	444226.625	3760416.458	202.11
LOCATION	L0002788	VOLUME	444252.624	3760416.277	202.08
LOCATION	L0002789	VOLUME	444278.623	3760416.096	202.08
LOCATION	L0002790	VOLUME	444304.623	3760415.915	202.08
LOCATION	L0002791	VOLUME	444330.622	3760415.734	202.05
LOCATION	L0002792	VOLUME	444356.621	3760415.553	202.09
LOCATION	L0002793	VOLUME	444382.621	3760415.372	202.09
LOCATION	L0002794	VOLUME	444408.620	3760415.191	201.88
LOCATION	L0002795	VOLUME	444434.620	3760415.010	201.81
LOCATION	L0002796	VOLUME	444460.619	3760414.830	201.86
LOCATION	L0002797	VOLUME	444486.618	3760414.649	201.93
LOCATION	L0002798	VOLUME	444512.618	3760414.468	201.96
LOCATION	L0002799	VOLUME	444538.617	3760414.287	202.07
LOCATION	L0002800	VOLUME	444564.616	3760414.106	202.19
LOCATION	L0002801	VOLUME	444590.616	3760413.925	202.08
LOCATION	L0002802	VOLUME	444616.615	3760413.744	198.42
LOCATION	L0002803	VOLUME	444642.615	3760413.563	197.62
LOCATION	L0002804	VOLUME	444668.614	3760413.382	201.81
LOCATION	L0002805	VOLUME	444694.613	3760413.201	202.20
LOCATION	L0002806	VOLUME	444720.613	3760413.020	201.98
LOCATION	L0002807	VOLUME	444746.612	3760412.839	201.80
LOCATION	L0002808	VOLUME	444772.611	3760412.658	201.20
LOCATION	L0002809	VOLUME	444798.611	3760412.477	200.69
LOCATION	L0002810	VOLUME	444824.610	3760412.296	201.48
LOCATION	L0002811	VOLUME	444850.609	3760412.115	201.42
LOCATION	L0002812	VOLUME	444876.609	3760411.934	201.16
LOCATION	L0002813	VOLUME	444902.608	3760411.753	201.20
LOCATION	L0002814	VOLUME	444928.608	3760411.572	201.45
LOCATION	L0002815	VOLUME	444954.607	3760411.391	201.75
LOCATION	L0002816	VOLUME	444980.606	3760411.210	201.86
LOCATION	L0002817	VOLUME	445006.606	3760411.029	201.80
LOCATION	L0002818	VOLUME	445032.605	3760410.848	201.77
LOCATION	L0002819	VOLUME	445058.604	3760410.667	201.77
LOCATION	L0002820	VOLUME	445084.604	3760410.486	201.74
LOCATION	L0002821	VOLUME	445110.603	3760410.305	201.77
LOCATION	L0002822	VOLUME	445136.603	3760410.124	201.91
LOCATION	L0002823	VOLUME	445162.602	3760409.943	201.80
LOCATION	L0002824	VOLUME	445188.601	3760409.762	201.42

\*\* End of LINE VOLUME Source ID = SLINE18

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE19

\*\* DESCRSRC Archibald North of Merrill 55 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000692

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2  
 \*\* 445197.002, 3760432.429, 201.58, 3.15, 12.09  
 \*\* 445203.414, 3762029.057, 216.23, 3.15, 12.09

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LOCATION	L0002825	VOLUME	445197.054	3760445.429	201.61
LOCATION	L0002826	VOLUME	445197.159	3760471.429	201.78
LOCATION	L0002827	VOLUME	445197.263	3760497.429	201.94
LOCATION	L0002828	VOLUME	445197.368	3760523.429	202.11
LOCATION	L0002829	VOLUME	445197.472	3760549.428	202.26
LOCATION	L0002830	VOLUME	445197.576	3760575.428	202.43
LOCATION	L0002831	VOLUME	445197.681	3760601.428	202.62
LOCATION	L0002832	VOLUME	445197.785	3760627.428	202.85
LOCATION	L0002833	VOLUME	445197.890	3760653.428	203.09
LOCATION	L0002834	VOLUME	445197.994	3760679.427	203.34
LOCATION	L0002835	VOLUME	445198.098	3760705.427	203.60
LOCATION	L0002836	VOLUME	445198.203	3760731.427	203.84
LOCATION	L0002837	VOLUME	445198.307	3760757.427	204.09
LOCATION	L0002838	VOLUME	445198.412	3760783.427	204.31
LOCATION	L0002839	VOLUME	445198.516	3760809.426	204.58
LOCATION	L0002840	VOLUME	445198.621	3760835.426	204.84
LOCATION	L0002841	VOLUME	445198.725	3760861.426	205.09
LOCATION	L0002842	VOLUME	445198.829	3760887.426	205.36
LOCATION	L0002843	VOLUME	445198.934	3760913.426	205.59
LOCATION	L0002844	VOLUME	445199.038	3760939.425	205.83
LOCATION	L0002845	VOLUME	445199.143	3760965.425	206.10
LOCATION	L0002846	VOLUME	445199.247	3760991.425	206.35
LOCATION	L0002847	VOLUME	445199.351	3761017.425	206.59
LOCATION	L0002848	VOLUME	445199.456	3761043.424	206.83
LOCATION	L0002849	VOLUME	445199.560	3761069.424	207.07
LOCATION	L0002850	VOLUME	445199.665	3761095.424	207.30
LOCATION	L0002851	VOLUME	445199.769	3761121.424	207.55
LOCATION	L0002852	VOLUME	445199.874	3761147.424	207.81
LOCATION	L0002853	VOLUME	445199.978	3761173.423	208.02
LOCATION	L0002854	VOLUME	445200.082	3761199.423	208.30
LOCATION	L0002855	VOLUME	445200.187	3761225.423	208.72
LOCATION	L0002856	VOLUME	445200.291	3761251.423	209.11
LOCATION	L0002857	VOLUME	445200.396	3761277.423	209.39
LOCATION	L0002858	VOLUME	445200.500	3761303.422	209.67
LOCATION	L0002859	VOLUME	445200.604	3761329.422	209.96
LOCATION	L0002860	VOLUME	445200.709	3761355.422	210.20
LOCATION	L0002861	VOLUME	445200.813	3761381.422	210.41
LOCATION	L0002862	VOLUME	445200.918	3761407.422	210.60
LOCATION	L0002863	VOLUME	445201.022	3761433.421	210.77
LOCATION	L0002864	VOLUME	445201.127	3761459.421	210.92
LOCATION	L0002865	VOLUME	445201.231	3761485.421	211.13
LOCATION	L0002866	VOLUME	445201.335	3761511.421	211.35
LOCATION	L0002867	VOLUME	445201.440	3761537.420	211.52
LOCATION	L0002868	VOLUME	445201.544	3761563.420	211.70
LOCATION	L0002869	VOLUME	445201.649	3761589.420	211.90

LOCATION	VOLUME	VOLUME	VOLUME	VOLUME
L0002870	445201.753	3761615.420	212.09	
L0002871	445201.857	3761641.420	212.27	
L0002872	445201.962	3761667.419	212.45	
L0002873	445202.066	3761693.419	212.61	
L0002874	445202.171	3761719.419	212.77	
L0002875	445202.275	3761745.419	213.00	
L0002876	445202.380	3761771.419	213.31	
L0002877	445202.484	3761797.418	213.59	
L0002878	445202.588	3761823.418	213.87	
L0002879	445202.693	3761849.418	214.14	
L0002880	445202.797	3761875.418	214.43	
L0002881	445202.902	3761901.418	214.72	
L0002882	445203.006	3761927.417	215.03	
L0002883	445203.110	3761953.417	215.33	
L0002884	445203.215	3761979.417	215.64	
L0002885	445203.319	3762005.417	215.92	

\*\* End of LINE VOLUME Source ID = SLINE19

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE20

\*\* DESCRSRC Archibald South of Merrill 55 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000282

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445190.590, 3760393.956, 201.32, 3.15, 12.09

\*\* 445213.033, 3759579.612, 197.47, 3.15, 12.09

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LOCATION	VOLUME	VOLUME	VOLUME	VOLUME
L0002886	445190.948	3760380.961	201.25	
L0002887	445191.664	3760354.971	201.07	
L0002888	445192.381	3760328.981	200.90	
L0002889	445193.097	3760302.991	200.72	
L0002890	445193.813	3760277.001	200.57	
L0002891	445194.529	3760251.011	200.42	
L0002892	445195.246	3760225.021	200.27	
L0002893	445195.962	3760199.030	200.12	
L0002894	445196.678	3760173.040	199.96	
L0002895	445197.394	3760147.050	199.80	
L0002896	445198.111	3760121.060	199.64	
L0002897	445198.827	3760095.070	199.49	
L0002898	445199.543	3760069.080	199.32	
L0002899	445200.259	3760043.090	199.14	
L0002900	445200.976	3760017.100	198.96	
L0002901	445201.692	3759991.109	198.82	
L0002902	445202.408	3759965.119	198.64	
L0002903	445203.125	3759939.129	198.60	

LOCATION L0002904	VOLUME	445203.841	3759913.139	198.65
LOCATION L0002905	VOLUME	445204.557	3759887.149	198.74
LOCATION L0002906	VOLUME	445205.273	3759861.159	198.79
LOCATION L0002907	VOLUME	445205.990	3759835.169	198.62
LOCATION L0002908	VOLUME	445206.706	3759809.178	198.12
LOCATION L0002909	VOLUME	445207.422	3759783.188	198.27
LOCATION L0002910	VOLUME	445208.138	3759757.198	198.31
LOCATION L0002911	VOLUME	445208.855	3759731.208	198.20
LOCATION L0002912	VOLUME	445209.571	3759705.218	198.10
LOCATION L0002913	VOLUME	445210.287	3759679.228	197.99
LOCATION L0002914	VOLUME	445211.003	3759653.238	197.83
LOCATION L0002915	VOLUME	445211.720	3759627.248	197.71
LOCATION L0002916	VOLUME	445212.436	3759601.257	197.57

\*\* End of LINE VOLUME Source ID = SLINE20

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE21

\*\* DESCRSRC Limonite West of Hamner 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.000115

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445208.816, 3759586.179, 197.53, 3.15, 12.09

\*\* 448421.656, 3759563.991, 203.23, 3.15, 12.09

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LOCATION L0002917	VOLUME	445221.815	3759586.089	197.44
LOCATION L0002918	VOLUME	445247.815	3759585.910	197.38
LOCATION L0002919	VOLUME	445273.814	3759585.730	197.39
LOCATION L0002920	VOLUME	445299.813	3759585.551	197.38
LOCATION L0002921	VOLUME	445325.813	3759585.371	197.43
LOCATION L0002922	VOLUME	445351.812	3759585.192	197.43
LOCATION L0002923	VOLUME	445377.812	3759585.012	197.46
LOCATION L0002924	VOLUME	445403.811	3759584.833	197.48
LOCATION L0002925	VOLUME	445429.810	3759584.653	197.56
LOCATION L0002926	VOLUME	445455.810	3759584.473	197.63
LOCATION L0002927	VOLUME	445481.809	3759584.294	197.63
LOCATION L0002928	VOLUME	445507.808	3759584.114	197.63
LOCATION L0002929	VOLUME	445533.808	3759583.935	197.73
LOCATION L0002930	VOLUME	445559.807	3759583.755	197.78
LOCATION L0002931	VOLUME	445585.807	3759583.576	197.85
LOCATION L0002932	VOLUME	445611.806	3759583.396	198.20
LOCATION L0002933	VOLUME	445637.805	3759583.217	198.31
LOCATION L0002934	VOLUME	445663.805	3759583.037	198.15
LOCATION L0002935	VOLUME	445689.804	3759582.857	198.11
LOCATION L0002936	VOLUME	445715.803	3759582.678	198.45
LOCATION L0002937	VOLUME	445741.803	3759582.498	198.66

LOCATION L0002938	VOLUME	445767.802	3759582.319	198.70
LOCATION L0002939	VOLUME	445793.802	3759582.139	198.86
LOCATION L0002940	VOLUME	445819.801	3759581.960	198.90
LOCATION L0002941	VOLUME	445845.800	3759581.780	198.97
LOCATION L0002942	VOLUME	445871.800	3759581.601	199.06
LOCATION L0002943	VOLUME	445897.799	3759581.421	199.08
LOCATION L0002944	VOLUME	445923.798	3759581.241	199.07
LOCATION L0002945	VOLUME	445949.798	3759581.062	199.03
LOCATION L0002946	VOLUME	445975.797	3759580.882	198.99
LOCATION L0002947	VOLUME	446001.797	3759580.703	198.83
LOCATION L0002948	VOLUME	446027.796	3759580.523	199.03
LOCATION L0002949	VOLUME	446053.795	3759580.344	199.25
LOCATION L0002950	VOLUME	446079.795	3759580.164	199.31
LOCATION L0002951	VOLUME	446105.794	3759579.985	199.37
LOCATION L0002952	VOLUME	446131.794	3759579.805	199.47
LOCATION L0002953	VOLUME	446157.793	3759579.625	199.58
LOCATION L0002954	VOLUME	446183.792	3759579.446	199.71
LOCATION L0002955	VOLUME	446209.792	3759579.266	199.83
LOCATION L0002956	VOLUME	446235.791	3759579.087	199.95
LOCATION L0002957	VOLUME	446261.790	3759578.907	200.08
LOCATION L0002958	VOLUME	446287.790	3759578.728	200.22
LOCATION L0002959	VOLUME	446313.789	3759578.548	200.33
LOCATION L0002960	VOLUME	446339.789	3759578.369	200.38
LOCATION L0002961	VOLUME	446365.788	3759578.189	200.38
LOCATION L0002962	VOLUME	446391.787	3759578.010	200.27
LOCATION L0002963	VOLUME	446417.787	3759577.830	200.16
LOCATION L0002964	VOLUME	446443.786	3759577.650	200.42
LOCATION L0002965	VOLUME	446469.785	3759577.471	200.88
LOCATION L0002966	VOLUME	446495.785	3759577.291	201.11
LOCATION L0002967	VOLUME	446521.784	3759577.112	201.23
LOCATION L0002968	VOLUME	446547.784	3759576.932	201.36
LOCATION L0002969	VOLUME	446573.783	3759576.753	201.49
LOCATION L0002970	VOLUME	446599.782	3759576.573	201.61
LOCATION L0002971	VOLUME	446625.782	3759576.394	201.74
LOCATION L0002972	VOLUME	446651.781	3759576.214	201.85
LOCATION L0002973	VOLUME	446677.781	3759576.034	201.97
LOCATION L0002974	VOLUME	446703.780	3759575.855	202.14
LOCATION L0002975	VOLUME	446729.779	3759575.675	202.28
LOCATION L0002976	VOLUME	446755.779	3759575.496	202.28
LOCATION L0002977	VOLUME	446781.778	3759575.316	202.08
LOCATION L0002978	VOLUME	446807.777	3759575.137	201.79
LOCATION L0002979	VOLUME	446833.777	3759574.957	201.68
LOCATION L0002980	VOLUME	446859.776	3759574.778	201.57
LOCATION L0002981	VOLUME	446885.776	3759574.598	201.31
LOCATION L0002982	VOLUME	446911.775	3759574.418	201.16
LOCATION L0002983	VOLUME	446937.774	3759574.239	201.14
LOCATION L0002984	VOLUME	446963.774	3759574.059	201.13
LOCATION L0002985	VOLUME	446989.773	3759573.880	201.19
LOCATION L0002986	VOLUME	447015.772	3759573.700	201.32



LOCATION L0002987	VOLUME	447041.772	3759573.521	201.43
LOCATION L0002988	VOLUME	447067.771	3759573.341	201.44
LOCATION L0002989	VOLUME	447093.771	3759573.162	201.34
LOCATION L0002990	VOLUME	447119.770	3759572.982	201.26
LOCATION L0002991	VOLUME	447145.769	3759572.802	201.16
LOCATION L0002992	VOLUME	447171.769	3759572.623	201.03
LOCATION L0002993	VOLUME	447197.768	3759572.443	200.91
LOCATION L0002994	VOLUME	447223.767	3759572.264	200.58
LOCATION L0002995	VOLUME	447249.767	3759572.084	200.58
LOCATION L0002996	VOLUME	447275.766	3759571.905	200.77
LOCATION L0002997	VOLUME	447301.766	3759571.725	200.92
LOCATION L0002998	VOLUME	447327.765	3759571.546	201.04
LOCATION L0002999	VOLUME	447353.764	3759571.366	201.18
LOCATION L0003000	VOLUME	447379.764	3759571.186	201.29
LOCATION L0003001	VOLUME	447405.763	3759571.007	201.34
LOCATION L0003002	VOLUME	447431.763	3759570.827	201.32
LOCATION L0003003	VOLUME	447457.762	3759570.648	201.23
LOCATION L0003004	VOLUME	447483.761	3759570.468	201.12
LOCATION L0003005	VOLUME	447509.761	3759570.289	201.01
LOCATION L0003006	VOLUME	447535.760	3759570.109	200.91
LOCATION L0003007	VOLUME	447561.759	3759569.930	200.62
LOCATION L0003008	VOLUME	447587.759	3759569.750	200.50
LOCATION L0003009	VOLUME	447613.758	3759569.570	200.62
LOCATION L0003010	VOLUME	447639.758	3759569.391	201.05
LOCATION L0003011	VOLUME	447665.757	3759569.211	201.09
LOCATION L0003012	VOLUME	447691.756	3759569.032	201.13
LOCATION L0003013	VOLUME	447717.756	3759568.852	201.12
LOCATION L0003014	VOLUME	447743.755	3759568.673	201.07
LOCATION L0003015	VOLUME	447769.754	3759568.493	201.07
LOCATION L0003016	VOLUME	447795.754	3759568.314	201.09
LOCATION L0003017	VOLUME	447821.753	3759568.134	201.07
LOCATION L0003018	VOLUME	447847.753	3759567.954	200.98
LOCATION L0003019	VOLUME	447873.752	3759567.775	200.98
LOCATION L0003020	VOLUME	447899.751	3759567.595	201.05
LOCATION L0003021	VOLUME	447925.751	3759567.416	201.13
LOCATION L0003022	VOLUME	447951.750	3759567.236	201.25
LOCATION L0003023	VOLUME	447977.750	3759567.057	201.37
LOCATION L0003024	VOLUME	448003.749	3759566.877	201.43
LOCATION L0003025	VOLUME	448029.748	3759566.698	201.49
LOCATION L0003026	VOLUME	448055.748	3759566.518	201.63
LOCATION L0003027	VOLUME	448081.747	3759566.339	201.71
LOCATION L0003028	VOLUME	448107.746	3759566.159	201.76
LOCATION L0003029	VOLUME	448133.746	3759565.979	201.75
LOCATION L0003030	VOLUME	448159.745	3759565.800	201.70
LOCATION L0003031	VOLUME	448185.745	3759565.620	201.68
LOCATION L0003032	VOLUME	448211.744	3759565.441	201.71
LOCATION L0003033	VOLUME	448237.743	3759565.261	201.78
LOCATION L0003034	VOLUME	448263.743	3759565.082	201.95
LOCATION L0003035	VOLUME	448289.742	3759564.902	202.15

LOCATION	L0003036	VOLUME	448315.741	3759564.723	202.31
LOCATION	L0003037	VOLUME	448341.741	3759564.543	202.55
LOCATION	L0003038	VOLUME	448367.740	3759564.363	202.83
LOCATION	L0003039	VOLUME	448393.740	3759564.184	203.08
LOCATION	L0003040	VOLUME	448419.739	3759564.004	203.22

\*\* End of LINE VOLUME Source ID = SLINE21

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 \*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE22

\*\* DESCRSRC Limonite East of Hamner 45 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000186

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 448433.751, 3759567.438, 203.30, 3.15, 12.09

\*\* 449436.212, 3759550.509, 204.35, 3.15, 12.09

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LOCATION	L0003041	VOLUME	448446.749	3759567.219	203.28
LOCATION	L0003042	VOLUME	448472.745	3759566.780	203.20
LOCATION	L0003043	VOLUME	448498.741	3759566.341	203.07
LOCATION	L0003044	VOLUME	448524.738	3759565.902	203.02
LOCATION	L0003045	VOLUME	448550.734	3759565.463	202.91
LOCATION	L0003046	VOLUME	448576.730	3759565.024	202.89
LOCATION	L0003047	VOLUME	448602.727	3759564.585	203.21
LOCATION	L0003048	VOLUME	448628.723	3759564.146	203.51
LOCATION	L0003049	VOLUME	448654.719	3759563.707	203.50
LOCATION	L0003050	VOLUME	448680.715	3759563.268	203.48
LOCATION	L0003051	VOLUME	448706.712	3759562.829	203.56
LOCATION	L0003052	VOLUME	448732.708	3759562.389	203.67
LOCATION	L0003053	VOLUME	448758.704	3759561.950	203.86
LOCATION	L0003054	VOLUME	448784.701	3759561.511	203.99
LOCATION	L0003055	VOLUME	448810.697	3759561.072	203.90
LOCATION	L0003056	VOLUME	448836.693	3759560.633	203.95
LOCATION	L0003057	VOLUME	448862.689	3759560.194	203.89
LOCATION	L0003058	VOLUME	448888.686	3759559.755	203.57
LOCATION	L0003059	VOLUME	448914.682	3759559.316	203.51
LOCATION	L0003060	VOLUME	448940.678	3759558.877	203.83
LOCATION	L0003061	VOLUME	448966.675	3759558.438	203.93
LOCATION	L0003062	VOLUME	448992.671	3759557.999	204.17
LOCATION	L0003063	VOLUME	449018.667	3759557.560	204.56
LOCATION	L0003064	VOLUME	449044.663	3759557.121	204.89
LOCATION	L0003065	VOLUME	449070.660	3759556.682	205.18
LOCATION	L0003066	VOLUME	449096.656	3759556.243	205.41
LOCATION	L0003067	VOLUME	449122.652	3759555.804	205.48
LOCATION	L0003068	VOLUME	449148.649	3759555.365	205.25
LOCATION	L0003069	VOLUME	449174.645	3759554.926	205.78

LOCATION L0003070	VOLUME	449200.641	3759554.487	206.53
LOCATION L0003071	VOLUME	449226.638	3759554.048	205.42
LOCATION L0003072	VOLUME	449252.634	3759553.609	204.31
LOCATION L0003073	VOLUME	449278.630	3759553.170	202.22
LOCATION L0003074	VOLUME	449304.626	3759552.731	201.60
LOCATION L0003075	VOLUME	449330.623	3759552.292	203.11
LOCATION L0003076	VOLUME	449356.619	3759551.853	204.32
LOCATION L0003077	VOLUME	449382.615	3759551.414	205.11
LOCATION L0003078	VOLUME	449408.612	3759550.975	205.53
LOCATION L0003079	VOLUME	449434.608	3759550.536	204.55

\*\* End of LINE VOLUME Source ID = SLINE22

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE23

\*\* DESCRSRC Edison 50 MPH

\*\* PREFIX

\*\* Length of Side = 26.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000231

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 2

\*\* 445228.172, 3762001.993, 216.23, 3.15, 12.09

\*\* 446055.217, 3762005.931, 218.73, 3.15, 12.09

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LOCATION L0003080	VOLUME	445241.172	3762002.055	216.17
LOCATION L0003081	VOLUME	445267.171	3762002.179	216.48
LOCATION L0003082	VOLUME	445293.171	3762002.302	216.54
LOCATION L0003083	VOLUME	445319.171	3762002.426	217.04
LOCATION L0003084	VOLUME	445345.171	3762002.550	217.35
LOCATION L0003085	VOLUME	445371.170	3762002.674	217.64
LOCATION L0003086	VOLUME	445397.170	3762002.798	217.99
LOCATION L0003087	VOLUME	445423.170	3762002.922	218.27
LOCATION L0003088	VOLUME	445449.169	3762003.045	218.44
LOCATION L0003089	VOLUME	445475.169	3762003.169	218.50
LOCATION L0003090	VOLUME	445501.169	3762003.293	218.44
LOCATION L0003091	VOLUME	445527.169	3762003.417	218.23
LOCATION L0003092	VOLUME	445553.168	3762003.541	218.19
LOCATION L0003093	VOLUME	445579.168	3762003.664	218.14
LOCATION L0003094	VOLUME	445605.168	3762003.788	218.09
LOCATION L0003095	VOLUME	445631.167	3762003.912	218.10
LOCATION L0003096	VOLUME	445657.167	3762004.036	218.06
LOCATION L0003097	VOLUME	445683.167	3762004.160	217.91
LOCATION L0003098	VOLUME	445709.166	3762004.283	217.70
LOCATION L0003099	VOLUME	445735.166	3762004.407	217.28
LOCATION L0003100	VOLUME	445761.166	3762004.531	216.90
LOCATION L0003101	VOLUME	445787.166	3762004.655	216.96
LOCATION L0003102	VOLUME	445813.165	3762004.779	217.38
LOCATION L0003103	VOLUME	445839.165	3762004.902	217.69

LOCATION L0003104	VOLUME	445865.165	3762005.026	217.94
LOCATION L0003105	VOLUME	445891.164	3762005.150	218.24
LOCATION L0003106	VOLUME	445917.164	3762005.274	218.05
LOCATION L0003107	VOLUME	445943.164	3762005.398	218.24
LOCATION L0003108	VOLUME	445969.164	3762005.521	218.48
LOCATION L0003109	VOLUME	445995.163	3762005.645	218.61
LOCATION L0003110	VOLUME	446021.163	3762005.769	218.61
LOCATION L0003111	VOLUME	446047.163	3762005.893	218.63

\*\* End of LINE VOLUME Source ID = SLINE23

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\*\* Line Source Represented by Adjacent Volume Sources

\*\* LINE VOLUME Source ID = SLINE24

\*\* DESCRSRC Ontario Ranch Road 50 MPH

\*\* PREFIX

\*\* Length of Side = 31.00

\*\* Configuration = Adjacent

\*\* Emission Rate = 0.0000965

\*\* Vertical Dimension = 6.29

\*\* SZINIT = 2.93

\*\* Nodes = 8

\*\* 446065.063, 3762013.808, 218.80, 3.15, 14.42

\*\* 446293.485, 3762124.081, 220.01, 3.15, 14.42

\*\* 446500.247, 3762297.366, 221.42, 3.15, 14.42

\*\* 446722.761, 3762397.793, 222.35, 3.15, 14.42

\*\* 446819.250, 3762403.701, 222.18, 3.15, 14.42

\*\* 448441.834, 3762389.917, 225.33, 3.15, 14.42

\*\* 448792.344, 3762411.577, 226.13, 3.15, 14.42

\*\* 449294.479, 3762594.709, 233.70, 3.15, 14.42

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LOCATION L0003112	VOLUME	446079.022	3762020.547	218.95
LOCATION L0003113	VOLUME	446106.939	3762034.024	219.27
LOCATION L0003114	VOLUME	446134.856	3762047.501	219.30
LOCATION L0003115	VOLUME	446162.773	3762060.978	219.54
LOCATION L0003116	VOLUME	446190.690	3762074.455	219.63
LOCATION L0003117	VOLUME	446218.607	3762087.933	219.78
LOCATION L0003118	VOLUME	446246.524	3762101.410	219.88
LOCATION L0003119	VOLUME	446274.441	3762114.887	220.00
LOCATION L0003120	VOLUME	446301.037	3762130.410	220.13
LOCATION L0003121	VOLUME	446324.796	3762150.322	220.33
LOCATION L0003122	VOLUME	446348.555	3762170.234	220.43
LOCATION L0003123	VOLUME	446372.314	3762190.147	220.66
LOCATION L0003124	VOLUME	446396.073	3762210.059	220.91
LOCATION L0003125	VOLUME	446419.833	3762229.972	220.98
LOCATION L0003126	VOLUME	446443.592	3762249.884	221.28
LOCATION L0003127	VOLUME	446467.351	3762269.797	221.28
LOCATION L0003128	VOLUME	446491.110	3762289.709	221.36
LOCATION L0003129	VOLUME	446517.636	3762305.215	221.68
LOCATION L0003130	VOLUME	446545.892	3762317.967	221.71
LOCATION L0003131	VOLUME	446574.147	3762330.720	221.88

LOCATION L0003132	VOLUME	446602.403	3762343.472	221.99
LOCATION L0003133	VOLUME	446630.658	3762356.225	222.17
LOCATION L0003134	VOLUME	446658.914	3762368.977	222.43
LOCATION L0003135	VOLUME	446687.169	3762381.730	222.48
LOCATION L0003136	VOLUME	446715.425	3762394.482	222.88
LOCATION L0003137	VOLUME	446745.669	3762399.196	222.92
LOCATION L0003138	VOLUME	446776.612	3762401.090	222.76
LOCATION L0003139	VOLUME	446807.554	3762402.985	222.19
LOCATION L0003140	VOLUME	446838.531	3762403.537	221.88
LOCATION L0003141	VOLUME	446869.530	3762403.274	221.96
LOCATION L0003142	VOLUME	446900.529	3762403.010	221.98
LOCATION L0003143	VOLUME	446931.528	3762402.747	222.17
LOCATION L0003144	VOLUME	446962.527	3762402.484	222.50
LOCATION L0003145	VOLUME	446993.525	3762402.220	222.57
LOCATION L0003146	VOLUME	447024.524	3762401.957	222.59
LOCATION L0003147	VOLUME	447055.523	3762401.694	222.70
LOCATION L0003148	VOLUME	447086.522	3762401.430	222.95
LOCATION L0003149	VOLUME	447117.521	3762401.167	223.14
LOCATION L0003150	VOLUME	447148.520	3762400.904	223.29
LOCATION L0003151	VOLUME	447179.519	3762400.640	223.34
LOCATION L0003152	VOLUME	447210.518	3762400.377	223.38
LOCATION L0003153	VOLUME	447241.516	3762400.114	223.28
LOCATION L0003154	VOLUME	447272.515	3762399.850	223.39
LOCATION L0003155	VOLUME	447303.514	3762399.587	223.48
LOCATION L0003156	VOLUME	447334.513	3762399.324	223.41
LOCATION L0003157	VOLUME	447365.512	3762399.060	223.31
LOCATION L0003158	VOLUME	447396.511	3762398.797	223.21
LOCATION L0003159	VOLUME	447427.510	3762398.534	223.15
LOCATION L0003160	VOLUME	447458.509	3762398.270	223.11
LOCATION L0003161	VOLUME	447489.507	3762398.007	222.98
LOCATION L0003162	VOLUME	447520.506	3762397.743	222.80
LOCATION L0003163	VOLUME	447551.505	3762397.480	222.72
LOCATION L0003164	VOLUME	447582.504	3762397.217	222.66
LOCATION L0003165	VOLUME	447613.503	3762396.953	222.54
LOCATION L0003166	VOLUME	447644.502	3762396.690	222.38
LOCATION L0003167	VOLUME	447675.501	3762396.427	222.48
LOCATION L0003168	VOLUME	447706.500	3762396.163	222.63
LOCATION L0003169	VOLUME	447737.499	3762395.900	222.78
LOCATION L0003170	VOLUME	447768.497	3762395.637	222.92
LOCATION L0003171	VOLUME	447799.496	3762395.373	223.06
LOCATION L0003172	VOLUME	447830.495	3762395.110	223.18
LOCATION L0003173	VOLUME	447861.494	3762394.847	223.30
LOCATION L0003174	VOLUME	447892.493	3762394.583	223.39
LOCATION L0003175	VOLUME	447923.492	3762394.320	223.49
LOCATION L0003176	VOLUME	447954.491	3762394.057	223.66
LOCATION L0003177	VOLUME	447985.490	3762393.793	223.82
LOCATION L0003178	VOLUME	448016.488	3762393.530	223.93
LOCATION L0003179	VOLUME	448047.487	3762393.267	224.04
LOCATION L0003180	VOLUME	448078.486	3762393.003	224.13

LOCATION	L0003181	VOLUME	448109.485	3762392.740	224.28
LOCATION	L0003182	VOLUME	448140.484	3762392.477	224.42
LOCATION	L0003183	VOLUME	448171.483	3762392.213	224.59
LOCATION	L0003184	VOLUME	448202.482	3762391.950	224.77
LOCATION	L0003185	VOLUME	448233.481	3762391.687	224.90
LOCATION	L0003186	VOLUME	448264.480	3762391.423	225.07
LOCATION	L0003187	VOLUME	448295.478	3762391.160	225.24
LOCATION	L0003188	VOLUME	448326.477	3762390.897	225.33
LOCATION	L0003189	VOLUME	448357.476	3762390.633	225.38
LOCATION	L0003190	VOLUME	448388.475	3762390.370	225.39
LOCATION	L0003191	VOLUME	448419.474	3762390.107	225.36
LOCATION	L0003192	VOLUME	448450.457	3762390.450	225.32
LOCATION	L0003193	VOLUME	448481.398	3762392.362	225.21
LOCATION	L0003194	VOLUME	448512.339	3762394.274	225.02
LOCATION	L0003195	VOLUME	448543.280	3762396.186	224.88
LOCATION	L0003196	VOLUME	448574.221	3762398.098	224.77
LOCATION	L0003197	VOLUME	448605.162	3762400.010	224.69
LOCATION	L0003198	VOLUME	448636.103	3762401.922	224.54
LOCATION	L0003199	VOLUME	448667.044	3762403.834	224.41
LOCATION	L0003200	VOLUME	448697.984	3762405.746	224.44
LOCATION	L0003201	VOLUME	448728.925	3762407.658	224.73
LOCATION	L0003202	VOLUME	448759.866	3762409.570	225.55
LOCATION	L0003203	VOLUME	448790.807	3762411.482	225.87
LOCATION	L0003204	VOLUME	448820.021	3762421.671	225.69
LOCATION	L0003205	VOLUME	448849.145	3762432.293	226.70
LOCATION	L0003206	VOLUME	448878.268	3762442.914	227.66
LOCATION	L0003207	VOLUME	448907.392	3762453.536	228.07
LOCATION	L0003208	VOLUME	448936.516	3762464.158	229.27
LOCATION	L0003209	VOLUME	448965.639	3762474.779	229.74
LOCATION	L0003210	VOLUME	448994.763	3762485.401	230.27
LOCATION	L0003211	VOLUME	449023.886	3762496.022	233.06
LOCATION	L0003212	VOLUME	449053.010	3762506.644	234.84
LOCATION	L0003213	VOLUME	449082.133	3762517.265	235.04
LOCATION	L0003214	VOLUME	449111.257	3762527.887	232.42
LOCATION	L0003215	VOLUME	449140.381	3762538.508	227.42
LOCATION	L0003216	VOLUME	449169.504	3762549.130	226.85
LOCATION	L0003217	VOLUME	449198.628	3762559.751	227.04
LOCATION	L0003218	VOLUME	449227.751	3762570.373	227.98
LOCATION	L0003219	VOLUME	449256.875	3762580.995	232.17
LOCATION	L0003220	VOLUME	449285.999	3762591.616	233.05

\*\* End of LINE VOLUME Source ID = SLINE24

\*\* Source Parameters \*\*

\*\* LINE VOLUME Source ID = SLINE1

SRCPARAM	L0002165	0.00000236	3.15	4.51	2.93
SRCPARAM	L0002166	0.00000236	3.15	4.51	2.93
SRCPARAM	L0002167	0.00000236	3.15	4.51	2.93
SRCPARAM	L0002168	0.00000236	3.15	4.51	2.93
SRCPARAM	L0002169	0.00000236	3.15	4.51	2.93

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** LINE VOLUME Source ID = SLINE2
SRCPARAM L0002170    0.00000259    3.15    4.51    2.93
SRCPARAM L0002171    0.00000259    3.15    4.51    2.93
SRCPARAM L0002172    0.00000259    3.15    4.51    2.93
** -----
** LINE VOLUME Source ID = SLINE3
SRCPARAM L0002173    0.00000234    3.15    4.51    2.93
SRCPARAM L0002174    0.00000234    3.15    4.51    2.93
SRCPARAM L0002175    0.00000234    3.15    4.51    2.93
SRCPARAM L0002176    0.00000234    3.15    4.51    2.93
SRCPARAM L0002177    0.00000234    3.15    4.51    2.93
** -----
** LINE VOLUME Source ID = SLINE4
SRCPARAM L0002178    0.000002385    3.15    4.51    2.93
SRCPARAM L0002179    0.000002385    3.15    4.51    2.93
SRCPARAM L0002180    0.000002385    3.15    4.51    2.93
SRCPARAM L0002181    0.000002385    3.15    4.51    2.93
SRCPARAM L0002182    0.000002385    3.15    4.51    2.93
SRCPARAM L0002183    0.000002385    3.15    4.51    2.93
SRCPARAM L0002184    0.000002385    3.15    4.51    2.93
SRCPARAM L0002185    0.000002385    3.15    4.51    2.93
SRCPARAM L0002186    0.000002385    3.15    4.51    2.93
SRCPARAM L0002187    0.000002385    3.15    4.51    2.93
SRCPARAM L0002188    0.000002385    3.15    4.51    2.93
SRCPARAM L0002189    0.000002385    3.15    4.51    2.93
SRCPARAM L0002190    0.000002385    3.15    4.51    2.93
SRCPARAM L0002191    0.000002385    3.15    4.51    2.93
SRCPARAM L0002192    0.000002385    3.15    4.51    2.93
SRCPARAM L0002193    0.000002385    3.15    4.51    2.93
SRCPARAM L0002194    0.000002385    3.15    4.51    2.93
SRCPARAM L0002195    0.000002385    3.15    4.51    2.93
SRCPARAM L0002196    0.000002385    3.15    4.51    2.93
SRCPARAM L0002197    0.000002385    3.15    4.51    2.93
SRCPARAM L0002198    0.000002385    3.15    4.51    2.93
SRCPARAM L0002199    0.000002385    3.15    4.51    2.93
SRCPARAM L0002200    0.000002385    3.15    4.51    2.93
SRCPARAM L0002201    0.000002385    3.15    4.51    2.93
SRCPARAM L0002202    0.000002385    3.15    4.51    2.93
SRCPARAM L0002203    0.000002385    3.15    4.51    2.93
SRCPARAM L0002204    0.000002385    3.15    4.51    2.93
** -----
** LINE VOLUME Source ID = SLINE5
SRCPARAM L0002205    0.000002385    3.15    4.51    2.93
SRCPARAM L0002206    0.000002385    3.15    4.51    2.93
SRCPARAM L0002207    0.000002385    3.15    4.51    2.93
SRCPARAM L0002208    0.000002385    3.15    4.51    2.93
SRCPARAM L0002209    0.000002385    3.15    4.51    2.93
SRCPARAM L0002210    0.000002385    3.15    4.51    2.93
SRCPARAM L0002211    0.000002385    3.15    4.51    2.93

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SRCPARAM	L0002212	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002213	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002214	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002215	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002216	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002217	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002218	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002219	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002220	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002221	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002222	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002223	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002224	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002225	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002226	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002227	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002228	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002229	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002230	0.000002385	3.15	4.51	2.93
SRCPARAM	L0002231	0.000002385	3.15	4.51	2.93

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\*\* LINE VOLUME Source ID = SLINE6

SRCPARAM	L0002232	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002233	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002234	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002235	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002236	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002237	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002238	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002239	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002240	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002241	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002242	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002243	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002244	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002245	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002246	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002247	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002248	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002249	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002250	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002251	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002252	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002253	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002254	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002255	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002256	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002257	0.000002393	3.15	4.51	2.93
SRCPARAM	L0002258	0.000002393	3.15	4.51	2.93



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\*\* LINE VOLUME Source ID = SLINE7

SRCPARAM	L0002259	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002260	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002261	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002262	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002263	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002264	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002265	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002266	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002267	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002268	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002269	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002270	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002271	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002272	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002273	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002274	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002275	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002276	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002277	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002278	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002279	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002280	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002281	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002282	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002283	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002284	0.000002378	3.15	4.51	2.93
SRCPARAM	L0002285	0.000002378	3.15	4.51	2.93

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\*\* LINE VOLUME Source ID = SLINE8

SRCPARAM	L0002286	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002287	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002288	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002289	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002290	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002291	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002292	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002293	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002294	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002295	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002296	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002297	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002298	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002299	0.0000000292	3.15	12.09	2.93
SRCPARAM	L0002300	0.0000000292	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE9

SRCPARAM	L0002301	0.000002893	3.15	12.09	2.93
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SRCPARAM	L0002302	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002303	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002304	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002305	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002306	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002307	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002308	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002309	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002310	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002311	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002312	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002313	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002314	0.000002893	3.15	12.09	2.93
SRCPARAM	L0002315	0.000002893	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE10

SRCPARAM	L0002316	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002317	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002318	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002319	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002320	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002321	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002322	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002323	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002324	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002325	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002326	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002327	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002328	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002329	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002330	0.000002907	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE11

SRCPARAM	L0002331	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002332	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002333	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002334	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002335	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002336	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002337	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002338	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002339	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002340	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002341	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002342	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002343	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002344	0.000002907	3.15	12.09	2.93
SRCPARAM	L0002345	0.000002907	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE12

SRCPARAM L0002346	0.000002893	3.15	12.09	2.93
SRCPARAM L0002347	0.000002893	3.15	12.09	2.93
SRCPARAM L0002348	0.000002893	3.15	12.09	2.93
SRCPARAM L0002349	0.000002893	3.15	12.09	2.93
SRCPARAM L0002350	0.000002893	3.15	12.09	2.93
SRCPARAM L0002351	0.000002893	3.15	12.09	2.93
SRCPARAM L0002352	0.000002893	3.15	12.09	2.93
SRCPARAM L0002353	0.000002893	3.15	12.09	2.93
SRCPARAM L0002354	0.000002893	3.15	12.09	2.93
SRCPARAM L0002355	0.000002893	3.15	12.09	2.93
SRCPARAM L0002356	0.000002893	3.15	12.09	2.93
SRCPARAM L0002357	0.000002893	3.15	12.09	2.93
SRCPARAM L0002358	0.000002893	3.15	12.09	2.93
SRCPARAM L0002359	0.000002893	3.15	12.09	2.93
SRCPARAM L0002360	0.000002893	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE13

SRCPARAM L0002361	0.000002572	3.15	12.09	2.93
SRCPARAM L0002362	0.000002572	3.15	12.09	2.93
SRCPARAM L0002363	0.000002572	3.15	12.09	2.93
SRCPARAM L0002364	0.000002572	3.15	12.09	2.93
SRCPARAM L0002365	0.000002572	3.15	12.09	2.93
SRCPARAM L0002366	0.000002572	3.15	12.09	2.93
SRCPARAM L0002367	0.000002572	3.15	12.09	2.93
SRCPARAM L0002368	0.000002572	3.15	12.09	2.93
SRCPARAM L0002369	0.000002572	3.15	12.09	2.93
SRCPARAM L0002370	0.000002572	3.15	12.09	2.93
SRCPARAM L0002371	0.000002572	3.15	12.09	2.93
SRCPARAM L0002372	0.000002572	3.15	12.09	2.93
SRCPARAM L0002373	0.000002572	3.15	12.09	2.93
SRCPARAM L0002374	0.000002572	3.15	12.09	2.93
SRCPARAM L0002375	0.000002572	3.15	12.09	2.93
SRCPARAM L0002376	0.000002572	3.15	12.09	2.93
SRCPARAM L0002377	0.000002572	3.15	12.09	2.93
SRCPARAM L0002378	0.000002572	3.15	12.09	2.93
SRCPARAM L0002379	0.000002572	3.15	12.09	2.93
SRCPARAM L0002380	0.000002572	3.15	12.09	2.93
SRCPARAM L0002381	0.000002572	3.15	12.09	2.93
SRCPARAM L0002382	0.000002572	3.15	12.09	2.93
SRCPARAM L0002383	0.000002572	3.15	12.09	2.93
SRCPARAM L0002384	0.000002572	3.15	12.09	2.93
SRCPARAM L0002385	0.000002572	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE14

SRCPARAM L0002386	0.000002026	3.15	12.09	2.93
SRCPARAM L0002387	0.000002026	3.15	12.09	2.93
SRCPARAM L0002388	0.000002026	3.15	12.09	2.93
SRCPARAM L0002389	0.000002026	3.15	12.09	2.93

SRCPARAM	L0002390	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002391	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002392	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002393	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002394	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002395	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002396	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002397	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002398	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002399	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002400	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002401	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002402	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002403	0.000002026	3.15	12.09	2.93
SRCPARAM	L0002404	0.000002026	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE15

SRCPARAM	L0002405	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002406	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002407	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002408	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002409	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002410	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002411	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002412	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002413	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002414	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002415	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002416	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002417	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002418	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002419	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002420	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002421	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002422	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002423	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002424	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002425	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002426	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002427	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002428	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002429	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002430	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002431	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002432	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002433	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002434	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002435	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002436	0.000001364	3.15	14.42	2.93

SRCPARAM	L0002437	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002438	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002439	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002440	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002441	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002442	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002443	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002444	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002445	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002446	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002447	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002448	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002449	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002450	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002451	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002452	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002453	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002454	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002455	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002456	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002457	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002458	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002459	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002460	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002461	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002462	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002463	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002464	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002465	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002466	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002467	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002468	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002469	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002470	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002471	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002472	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002473	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002474	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002475	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002476	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002477	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002478	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002479	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002480	0.000001364	3.15	14.42	2.93
SRCPARAM	L0002481	0.000001364	3.15	14.42	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE16

SRCPARAM	L0002482	0.000002236	2.89	16.74	2.69
SRCPARAM	L0002483	0.000002236	2.89	16.74	2.69









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** LINE VOLUME Source ID = SLINE17
SRCPARAM L0002630 0.000001896 3.15 12.09 2.93
SRCPARAM L0002631 0.000001896 3.15 12.09 2.93
SRCPARAM L0002632 0.000001896 3.15 12.09 2.93
SRCPARAM L0002633 0.000001896 3.15 12.09 2.93
SRCPARAM L0002634 0.000001896 3.15 12.09 2.93
SRCPARAM L0002635 0.000001896 3.15 12.09 2.93
SRCPARAM L0002636 0.000001896 3.15 12.09 2.93
SRCPARAM L0002637 0.000001896 3.15 12.09 2.93
SRCPARAM L0002638 0.000001896 3.15 12.09 2.93
SRCPARAM L0002639 0.000001896 3.15 12.09 2.93
SRCPARAM L0002640 0.000001896 3.15 12.09 2.93
SRCPARAM L0002641 0.000001896 3.15 12.09 2.93
SRCPARAM L0002642 0.000001896 3.15 12.09 2.93
SRCPARAM L0002643 0.000001896 3.15 12.09 2.93
SRCPARAM L0002644 0.000001896 3.15 12.09 2.93
SRCPARAM L0002645 0.000001896 3.15 12.09 2.93
SRCPARAM L0002646 0.000001896 3.15 12.09 2.93
SRCPARAM L0002647 0.000001896 3.15 12.09 2.93
SRCPARAM L0002648 0.000001896 3.15 12.09 2.93
SRCPARAM L0002649 0.000001896 3.15 12.09 2.93
SRCPARAM L0002650 0.000001896 3.15 12.09 2.93
SRCPARAM L0002651 0.000001896 3.15 12.09 2.93
SRCPARAM L0002652 0.000001896 3.15 12.09 2.93
SRCPARAM L0002653 0.000001896 3.15 12.09 2.93
SRCPARAM L0002654 0.000001896 3.15 12.09 2.93

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** LINE VOLUME Source ID = SLINE18
SRCPARAM L0002655 0.0000013 3.15 12.09 2.93
SRCPARAM L0002656 0.0000013 3.15 12.09 2.93
SRCPARAM L0002657 0.0000013 3.15 12.09 2.93
SRCPARAM L0002658 0.0000013 3.15 12.09 2.93
SRCPARAM L0002659 0.0000013 3.15 12.09 2.93
SRCPARAM L0002660 0.0000013 3.15 12.09 2.93
SRCPARAM L0002661 0.0000013 3.15 12.09 2.93
SRCPARAM L0002662 0.0000013 3.15 12.09 2.93
SRCPARAM L0002663 0.0000013 3.15 12.09 2.93
SRCPARAM L0002664 0.0000013 3.15 12.09 2.93
SRCPARAM L0002665 0.0000013 3.15 12.09 2.93
SRCPARAM L0002666 0.0000013 3.15 12.09 2.93
SRCPARAM L0002667 0.0000013 3.15 12.09 2.93
SRCPARAM L0002668 0.0000013 3.15 12.09 2.93
SRCPARAM L0002669 0.0000013 3.15 12.09 2.93
SRCPARAM L0002670 0.0000013 3.15 12.09 2.93
SRCPARAM L0002671 0.0000013 3.15 12.09 2.93
SRCPARAM L0002672 0.0000013 3.15 12.09 2.93
SRCPARAM L0002673 0.0000013 3.15 12.09 2.93
SRCPARAM L0002674 0.0000013 3.15 12.09 2.93
SRCPARAM L0002675 0.0000013 3.15 12.09 2.93

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SRCPARAM	L0002823	0.0000013	3.15	12.09	2.93
SRCPARAM	L0002824	0.0000013	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE19

SRCPARAM	L0002825	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002826	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002827	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002828	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002829	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002830	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002831	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002832	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002833	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002834	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002835	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002836	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002837	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002838	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002839	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002840	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002841	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002842	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002843	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002844	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002845	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002846	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002847	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002848	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002849	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002850	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002851	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002852	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002853	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002854	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002855	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002856	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002857	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002858	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002859	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002860	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002861	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002862	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002863	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002864	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002865	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002866	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002867	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002868	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002869	0.000001134	3.15	12.09	2.93

SRCPARAM	L0002870	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002871	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002872	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002873	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002874	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002875	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002876	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002877	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002878	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002879	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002880	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002881	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002882	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002883	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002884	0.000001134	3.15	12.09	2.93
SRCPARAM	L0002885	0.000001134	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE20

SRCPARAM	L0002886	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002887	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002888	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002889	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002890	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002891	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002892	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002893	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002894	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002895	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002896	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002897	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002898	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002899	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002900	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002901	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002902	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002903	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002904	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002905	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002906	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002907	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002908	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002909	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002910	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002911	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002912	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002913	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002914	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002915	0.0000009097	3.15	12.09	2.93
SRCPARAM	L0002916	0.0000009097	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE21

SRCPARAM	L0002917	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002918	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002919	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002920	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002921	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002922	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002923	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002924	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002925	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002926	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002927	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002928	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002929	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002930	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002931	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002932	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002933	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002934	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002935	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002936	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002937	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002938	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002939	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002940	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002941	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002942	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002943	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002944	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002945	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002946	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002947	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002948	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002949	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002950	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002951	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002952	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002953	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002954	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002955	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002956	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002957	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002958	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002959	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002960	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002961	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002962	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0002963	0.0000009274	3.15	12.09	2.93





SRCPARAM	L0003013	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003014	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003015	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003016	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003017	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003018	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003019	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003020	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003021	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003022	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003023	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003024	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003025	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003026	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003027	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003028	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003029	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003030	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003031	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003032	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003033	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003034	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003035	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003036	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003037	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003038	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003039	0.0000009274	3.15	12.09	2.93
SRCPARAM	L0003040	0.0000009274	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE22

SRCPARAM	L0003041	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003042	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003043	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003044	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003045	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003046	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003047	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003048	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003049	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003050	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003051	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003052	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003053	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003054	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003055	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003056	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003057	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003058	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003059	0.0000004769	3.15	12.09	2.93

SRCPARAM	L0003060	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003061	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003062	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003063	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003064	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003065	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003066	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003067	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003068	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003069	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003070	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003071	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003072	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003073	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003074	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003075	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003076	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003077	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003078	0.0000004769	3.15	12.09	2.93
SRCPARAM	L0003079	0.0000004769	3.15	12.09	2.93

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\*\* LINE VOLUME Source ID = SLINE23

SRCPARAM	L0003080	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003081	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003082	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003083	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003084	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003085	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003086	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003087	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003088	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003089	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003090	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003091	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003092	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003093	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003094	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003095	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003096	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003097	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003098	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003099	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003100	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003101	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003102	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003103	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003104	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003105	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003106	0.0000007219	3.15	12.09	2.93

SRCPARAM	L0003107	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003108	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003109	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003110	0.0000007219	3.15	12.09	2.93
SRCPARAM	L0003111	0.0000007219	3.15	12.09	2.93

\*\*

\*\* LINE VOLUME Source ID = SLINE24

SRCPARAM	L0003112	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003113	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003114	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003115	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003116	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003117	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003118	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003119	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003120	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003121	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003122	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003123	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003124	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003125	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003126	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003127	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003128	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003129	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003130	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003131	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003132	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003133	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003134	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003135	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003136	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003137	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003138	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003139	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003140	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003141	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003142	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003143	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003144	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003145	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003146	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003147	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003148	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003149	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003150	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003151	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003152	0.0000008853	3.15	14.42	2.93
SRCPARAM	L0003153	0.0000008853	3.15	14.42	2.93



SRCPARAM L0003203	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003204	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003205	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003206	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003207	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003208	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003209	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003210	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003211	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003212	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003213	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003214	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003215	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003216	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003217	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003218	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003219	0.0000008853	3.15	14.42	2.93
SRCPARAM L0003220	0.0000008853	3.15	14.42	2.93

\*\* -----

URBANSRC ALL  
SRCGROUP ALL

SO FINISHED

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\*\* AERMOD Receptor Pathway

\*\*\*\*\*

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\*\*

RE STARTING

INCLUDED ORBP\_Mitigated\_Operations.rou

RE FINISHED

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\*\*\*\*\*

\*\* AERMOD Meteorology Pathway

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\*\*

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ME STARTING

SURFFILE ..\KCNO\_V9\_ADJU\KCNO\_v9.SFC

PROFFILE ..\KCNO\_V9\_ADJU\KCNO\_v9.PFL

SURFDATA 3179 2012

UAIRDATA 3190 2012

PROFBASE 198.0 METERS

ME FINISHED

\*\*

\*\*\*\*\*

\*\* AERMOD Output Pathway

\*\*\*\*\*

\*\*

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OU STARTING  
RECTABLE ALLAVE 1ST  
RECTABLE 1 1ST  
RECTABLE 24 1ST

\*\* Auto-Generated Plotfiles  
PLOTFILE 1 ALL 1ST ORBP\_MITIGATED\_OPERATIONS.AD\01H1GALL.PLT 31  
PLOTFILE 24 ALL 1ST ORBP\_MITIGATED\_OPERATIONS.AD\24H1GALL.PLT 32  
PLOTFILE PERIOD ALL ORBP\_MITIGATED\_OPERATIONS.AD\PE00GALL.PLT 33  
SUMMFILE ORBP\_Mitigated\_Operations.sum

OU FINISHED

\*\*\* Message Summary For AERMOD Model Setup \*\*\*

----- Summary of Total Messages -----

A Total of                    0 Fatal Error Message(s)  
A Total of                    2 Warning Message(s)  
A Total of                    0 Informational Message(s)

\*\*\*\*\* FATAL ERROR MESSAGES \*\*\*\*\*  
          \*\*\* NONE \*\*\*

\*\*\*\*\* WARNING MESSAGES \*\*\*\*\*  
ME W186     2591            MEOPEN: THRESH\_1MIN 1-min ASOS wind speed threshold used  
          0.50  
ME W187     2591            MEOPEN: ADJ\_U\* Option for Stable Low Winds used in AERMET

\*\*\*\*\*  
\*\*\* SETUP Finishes Successfully \*\*\*  
\*\*\*\*\*

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View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*            08/24/21  
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                                          \*\*\*            19:02:44

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\*\*\* MODELOPTs:     RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\*            MODEL SETUP OPTIONS SUMMARY

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-----

\*\*Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --

\*\*NO GAS DEPOSITION Data Provided.

\*\*NO PARTICLE DEPOSITION Data Provided.

\*\*Model Uses NO DRY DEPLETION. DRYDPLT = F

\*\*Model Uses NO WET DEPLETION. WETDPLT = F

\*\*Model Uses URBAN Dispersion Algorithm for the SBL for 1056 Source(s),  
for Total of 1 Urban Area(s):

Urban Population = 2035210.0 ; Urban Roughness Length = 1.000 m

\*\*Model Uses Regulatory DEFAULT Options:

1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay.
6. Urban Roughness Length of 1.0 Meter Assumed.

\*\*Other Options Specified:

ADJ\_U\* - Use ADJ\_U\* option for SBL in AERMET

CCVR\_Sub - Meteorological data includes CCVR substitutions

TEMP\_Sub - Meteorological data includes TEMP substitutions

\*\*Model Assumes No FLAGPOLE Receptor Heights.

\*\*The User Specified a Pollutant Type of: PM\_10

\*\*Model Calculates 2 Short Term Average(s) of: 1-HR 24-HR  
and Calculates PERIOD Averages

\*\*This Run Includes: 1056 Source(s); 1 Source Group(s); and 572  
Receptor(s)

with: 0 POINT(s), including  
0 POINTCAP(s) and 0 POINTHOR(s)  
and: 1056 VOLUME source(s)  
and: 0 AREA type source(s)  
and: 0 LINE source(s)  
and: 0 RLINE/RLINEXT source(s)  
and: 0 OPENPIT source(s)  
and: 0 BUOYANT LINE source(s) with a total of 0 line(s)

\*\*Model Set To Continue RUNning After the Setup Testing.

\*\*The AERMET Input Meteorological Data Version Date: 16216

\*\*Output Options Selected:  
 Model Outputs Tables of PERIOD Averages by Receptor  
 Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE  
 Keyword)  
 Model Outputs External File(s) of High Values for Plotting (PLOTFILE  
 Keyword)  
 Model Outputs Separate Summary File of High Ranked Values (SUMMFILE  
 Keyword)

\*\*NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours  
 m for Missing Hours  
 b for Both Calm and

Missing Hours

\*\*Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 198.00 ; Decay  
 Coef. = 0.000 ; Rot. Angle = 0.0  
 Emission Units = GRAMS/SEC ;  
 Emission Rate Unit Factor = 0.10000E+07  
 Output Units = MICROGRAMS/M\*\*3

\*\*Approximate Storage Requirements of Model = 4.0 MB of RAM.

\*\*Input Runstream File: aermod.inp

\*\*Output Print File: aermod.out

\*\*Detailed Error/Message File: ORBP\_Mitigated\_Operations.err

\*\*File for Summary of Results: ORBP\_Mitigated\_Operations.sum

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	EMISSION	EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	SOURCE	SCALAR	VARY		X	Y		
ID	CATS.				(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		BY						



L0002165	0	0.23600E-05	440444.0	3761172.4	201.8	3.15	4.51
2.93 YES							
L0002166	0	0.23600E-05	440453.7	3761172.6	201.8	3.15	4.51
2.93 YES							
L0002167	0	0.23600E-05	440463.4	3761172.7	201.9	3.15	4.51
2.93 YES							
L0002168	0	0.23600E-05	440473.1	3761172.9	201.9	3.15	4.51
2.93 YES							
L0002169	0	0.23600E-05	440482.8	3761173.0	202.0	3.15	4.51
2.93 YES							
L0002170	0	0.25900E-05	440573.2	3761173.0	202.6	3.15	4.51
2.93 YES							
L0002171	0	0.25900E-05	440582.9	3761172.7	202.7	3.15	4.51
2.93 YES							
L0002172	0	0.25900E-05	440592.6	3761172.5	202.8	3.15	4.51
2.93 YES							
L0002173	0	0.23400E-05	440698.4	3761171.3	202.6	3.15	4.51
2.93 YES							
L0002174	0	0.23400E-05	440708.1	3761171.3	202.6	3.15	4.51
2.93 YES							
L0002175	0	0.23400E-05	440717.8	3761171.3	202.6	3.15	4.51
2.93 YES							
L0002176	0	0.23400E-05	440727.5	3761171.3	202.6	3.15	4.51
2.93 YES							
L0002177	0	0.23400E-05	440737.2	3761171.3	202.6	3.15	4.51
2.93 YES							
L0002178	0	0.23850E-05	440470.5	3761010.0	200.2	3.15	4.51
2.93 YES							
L0002179	0	0.23850E-05	440480.2	3761009.9	200.2	3.15	4.51
2.93 YES							
L0002180	0	0.23850E-05	440489.9	3761009.8	200.2	3.15	4.51
2.93 YES							
L0002181	0	0.23850E-05	440499.6	3761009.7	200.2	3.15	4.51
2.93 YES							
L0002182	0	0.23850E-05	440509.3	3761009.6	200.2	3.15	4.51
2.93 YES							
L0002183	0	0.23850E-05	440519.0	3761009.4	200.2	3.15	4.51
2.93 YES							
L0002184	0	0.23850E-05	440528.7	3761009.3	200.2	3.15	4.51
2.93 YES							
L0002185	0	0.23850E-05	440538.4	3761009.2	200.3	3.15	4.51
2.93 YES							
L0002186	0	0.23850E-05	440548.1	3761009.1	200.4	3.15	4.51
2.93 YES							
L0002187	0	0.23850E-05	440557.8	3761009.0	200.6	3.15	4.51
2.93 YES							
L0002188	0	0.23850E-05	440567.5	3761008.9	200.7	3.15	4.51

2.93	YES							
L0002189		0	0.23850E-05	440577.2	3761008.7	200.9	3.15	4.51
2.93	YES							
L0002190		0	0.23850E-05	440586.9	3761008.6	201.1	3.15	4.51
2.93	YES							
L0002191		0	0.23850E-05	440596.6	3761008.5	201.2	3.15	4.51
2.93	YES							
L0002192		0	0.23850E-05	440606.3	3761008.4	201.2	3.15	4.51
2.93	YES							
L0002193		0	0.23850E-05	440616.0	3761008.3	201.3	3.15	4.51
2.93	YES							
L0002194		0	0.23850E-05	440625.7	3761008.2	201.2	3.15	4.51
2.93	YES							
L0002195		0	0.23850E-05	440635.4	3761008.0	201.1	3.15	4.51
2.93	YES							
L0002196		0	0.23850E-05	440645.1	3761007.9	200.9	3.15	4.51
2.93	YES							
L0002197		0	0.23850E-05	440654.8	3761007.8	200.7	3.15	4.51
2.93	YES							
L0002198		0	0.23850E-05	440664.5	3761007.7	200.4	3.15	4.51
2.93	YES							
L0002199		0	0.23850E-05	440674.2	3761007.6	200.3	3.15	4.51
2.93	YES							
L0002200		0	0.23850E-05	440683.9	3761007.5	200.3	3.15	4.51
2.93	YES							
L0002201		0	0.23850E-05	440693.6	3761007.3	200.3	3.15	4.51
2.93	YES							
L0002202		0	0.23850E-05	440703.3	3761007.2	200.5	3.15	4.51
2.93	YES							
L0002203		0	0.23850E-05	440713.0	3761007.1	200.8	3.15	4.51
2.93	YES							
L0002204		0	0.23850E-05	440722.7	3761007.0	201.0	3.15	4.51
2.93	YES							

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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	VARY		X	Y		
		CATS.			(METERS)	(METERS)	(METERS)	(METERS)

(METERS)

BY

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L0002205	0	0.23850E-05	440470.5	3760892.6	199.2	3.15	4.51
2.93 YES							
L0002206	0	0.23850E-05	440480.2	3760892.6	199.2	3.15	4.51
2.93 YES							
L0002207	0	0.23850E-05	440489.9	3760892.5	199.2	3.15	4.51
2.93 YES							
L0002208	0	0.23850E-05	440499.6	3760892.4	199.2	3.15	4.51
2.93 YES							
L0002209	0	0.23850E-05	440509.3	3760892.4	199.2	3.15	4.51
2.93 YES							
L0002210	0	0.23850E-05	440519.0	3760892.3	199.2	3.15	4.51
2.93 YES							
L0002211	0	0.23850E-05	440528.7	3760892.3	199.2	3.15	4.51
2.93 YES							
L0002212	0	0.23850E-05	440538.4	3760892.2	199.2	3.15	4.51
2.93 YES							
L0002213	0	0.23850E-05	440548.1	3760892.2	199.3	3.15	4.51
2.93 YES							
L0002214	0	0.23850E-05	440557.8	3760892.1	199.5	3.15	4.51
2.93 YES							
L0002215	0	0.23850E-05	440567.5	3760892.0	199.6	3.15	4.51
2.93 YES							
L0002216	0	0.23850E-05	440577.2	3760892.0	199.8	3.15	4.51
2.93 YES							
L0002217	0	0.23850E-05	440586.9	3760891.9	200.0	3.15	4.51
2.93 YES							
L0002218	0	0.23850E-05	440596.6	3760891.9	200.1	3.15	4.51
2.93 YES							
L0002219	0	0.23850E-05	440606.3	3760891.8	200.1	3.15	4.51
2.93 YES							
L0002220	0	0.23850E-05	440616.0	3760891.7	200.2	3.15	4.51
2.93 YES							
L0002221	0	0.23850E-05	440625.7	3760891.7	200.1	3.15	4.51
2.93 YES							
L0002222	0	0.23850E-05	440635.4	3760891.6	199.9	3.15	4.51
2.93 YES							
L0002223	0	0.23850E-05	440645.1	3760891.6	199.8	3.15	4.51
2.93 YES							
L0002224	0	0.23850E-05	440654.8	3760891.5	199.6	3.15	4.51
2.93 YES							
L0002225	0	0.23850E-05	440664.5	3760891.5	199.4	3.15	4.51
2.93 YES							
L0002226	0	0.23850E-05	440674.2	3760891.4	199.2	3.15	4.51
2.93 YES							
L0002227	0	0.23850E-05	440683.9	3760891.3	199.3	3.15	4.51

2.93	YES							
L0002228		0	0.23850E-05	440693.6	3760891.3	199.3	3.15	4.51
2.93	YES							
L0002229		0	0.23850E-05	440703.3	3760891.2	199.5	3.15	4.51
2.93	YES							
L0002230		0	0.23850E-05	440713.0	3760891.2	199.8	3.15	4.51
2.93	YES							
L0002231		0	0.23850E-05	440722.7	3760891.1	200.0	3.15	4.51
2.93	YES							
L0002232		0	0.23930E-05	440470.5	3760738.3	197.7	3.15	4.51
2.93	YES							
L0002233		0	0.23930E-05	440480.2	3760738.2	197.7	3.15	4.51
2.93	YES							
L0002234		0	0.23930E-05	440489.9	3760738.1	197.7	3.15	4.51
2.93	YES							
L0002235		0	0.23930E-05	440499.6	3760738.0	197.8	3.15	4.51
2.93	YES							
L0002236		0	0.23930E-05	440509.3	3760737.9	197.8	3.15	4.51
2.93	YES							
L0002237		0	0.23930E-05	440519.0	3760737.8	197.9	3.15	4.51
2.93	YES							
L0002238		0	0.23930E-05	440528.7	3760737.7	197.9	3.15	4.51
2.93	YES							
L0002239		0	0.23930E-05	440538.4	3760737.6	198.0	3.15	4.51
2.93	YES							
L0002240		0	0.23930E-05	440548.1	3760737.5	198.0	3.15	4.51
2.93	YES							
L0002241		0	0.23930E-05	440557.8	3760737.4	198.1	3.15	4.51
2.93	YES							
L0002242		0	0.23930E-05	440567.5	3760737.3	198.2	3.15	4.51
2.93	YES							
L0002243		0	0.23930E-05	440577.2	3760737.2	198.2	3.15	4.51
2.93	YES							
L0002244		0	0.23930E-05	440586.9	3760737.1	198.2	3.15	4.51

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\*\*\* MODELOPTs:      RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE			ELEV.	HEIGHT	SY
		PART.	(GRAMS/SEC)	X	Y			

SZ	SOURCE	SCALAR	VARY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
ID		CATS.	BY					
(METERS)								
L0002245		0	0.23930E-05	440596.6	3760737.0	197.9	3.15	4.51
2.93	YES							
L0002246		0	0.23930E-05	440606.3	3760736.9	197.4	3.15	4.51
2.93	YES							
L0002247		0	0.23930E-05	440616.0	3760736.8	196.9	3.15	4.51
2.93	YES							
L0002248		0	0.23930E-05	440625.7	3760736.7	196.7	3.15	4.51
2.93	YES							
L0002249		0	0.23930E-05	440635.4	3760736.6	196.6	3.15	4.51
2.93	YES							
L0002250		0	0.23930E-05	440645.1	3760736.5	196.5	3.15	4.51
2.93	YES							
L0002251		0	0.23930E-05	440654.8	3760736.4	196.5	3.15	4.51
2.93	YES							
L0002252		0	0.23930E-05	440664.5	3760736.3	196.5	3.15	4.51
2.93	YES							
L0002253		0	0.23930E-05	440674.2	3760736.2	196.5	3.15	4.51
2.93	YES							
L0002254		0	0.23930E-05	440683.9	3760736.1	196.6	3.15	4.51
2.93	YES							
L0002255		0	0.23930E-05	440693.6	3760736.0	196.7	3.15	4.51
2.93	YES							
L0002256		0	0.23930E-05	440703.3	3760735.9	197.1	3.15	4.51
2.93	YES							
L0002257		0	0.23930E-05	440713.0	3760735.8	197.6	3.15	4.51
2.93	YES							
L0002258		0	0.23930E-05	440722.7	3760735.7	198.0	3.15	4.51
2.93	YES							
L0002259		0	0.23780E-05	440471.7	3760620.6	196.4	3.15	4.51
2.93	YES							
L0002260		0	0.23780E-05	440481.4	3760620.5	196.4	3.15	4.51
2.93	YES							
L0002261		0	0.23780E-05	440491.1	3760620.5	196.4	3.15	4.51
2.93	YES							
L0002262		0	0.23780E-05	440500.8	3760620.4	196.5	3.15	4.51
2.93	YES							
L0002263		0	0.23780E-05	440510.5	3760620.4	196.5	3.15	4.51
2.93	YES							
L0002264		0	0.23780E-05	440520.2	3760620.3	196.5	3.15	4.51
2.93	YES							
L0002265		0	0.23780E-05	440529.9	3760620.3	196.6	3.15	4.51
2.93	YES							
L0002266		0	0.23780E-05	440539.6	3760620.3	196.7	3.15	4.51

2.93	YES							
L0002267		0	0.23780E-05	440549.3	3760620.2	196.7	3.15	4.51
2.93	YES							
L0002268		0	0.23780E-05	440559.0	3760620.2	196.8	3.15	4.51
2.93	YES							
L0002269		0	0.23780E-05	440568.7	3760620.1	196.9	3.15	4.51
2.93	YES							
L0002270		0	0.23780E-05	440578.4	3760620.1	197.0	3.15	4.51
2.93	YES							
L0002271		0	0.23780E-05	440588.1	3760620.0	197.0	3.15	4.51
2.93	YES							
L0002272		0	0.23780E-05	440597.8	3760620.0	197.1	3.15	4.51
2.93	YES							
L0002273		0	0.23780E-05	440607.5	3760619.9	197.1	3.15	4.51
2.93	YES							
L0002274		0	0.23780E-05	440617.2	3760619.9	197.1	3.15	4.51
2.93	YES							
L0002275		0	0.23780E-05	440626.9	3760619.9	197.1	3.15	4.51
2.93	YES							
L0002276		0	0.23780E-05	440636.6	3760619.8	197.2	3.15	4.51
2.93	YES							
L0002277		0	0.23780E-05	440646.3	3760619.8	197.2	3.15	4.51
2.93	YES							
L0002278		0	0.23780E-05	440656.0	3760619.7	197.2	3.15	4.51
2.93	YES							
L0002279		0	0.23780E-05	440665.7	3760619.7	197.3	3.15	4.51
2.93	YES							
L0002280		0	0.23780E-05	440675.4	3760619.6	197.3	3.15	4.51
2.93	YES							
L0002281		0	0.23780E-05	440685.1	3760619.6	197.3	3.15	4.51
2.93	YES							
L0002282		0	0.23780E-05	440694.8	3760619.6	197.4	3.15	4.51
2.93	YES							
L0002283		0	0.23780E-05	440704.5	3760619.5	197.4	3.15	4.51
2.93	YES							
L0002284		0	0.23780E-05	440714.2	3760619.5	197.5	3.15	4.51

2.93 YES  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

NUMBER EMISSION RATE BASE RELEASE INIT.

INIT. SZ	URBAN SOURCE ID (METERS)	EMISSION RATE PART. (GRAMS/SEC) SCALAR VARY CATS. BY	X (METERS)	Y (METERS)	ELEV. (METERS)	HEIGHT (METERS)	SY (METERS)
	L0002285	0 0.23780E-05	440723.9	3760619.4	197.5	3.15	4.51
2.93	YES						
	L0002286	0 0.29200E-07	440406.2	3761134.2	201.5	3.15	12.09
2.93	YES						
	L0002287	0 0.29200E-07	440432.2	3761133.9	201.5	3.15	12.09
2.93	YES						
	L0002288	0 0.29200E-07	440458.2	3761133.7	201.6	3.15	12.09
2.93	YES						
	L0002289	0 0.29200E-07	440484.2	3761133.5	201.6	3.15	12.09
2.93	YES						
	L0002290	0 0.29200E-07	440510.2	3761133.2	201.7	3.15	12.09
2.93	YES						
	L0002291	0 0.29200E-07	440536.2	3761133.0	201.7	3.15	12.09
2.93	YES						
	L0002292	0 0.29200E-07	440562.2	3761132.8	202.2	3.15	12.09
2.93	YES						
	L0002293	0 0.29200E-07	440588.2	3761132.5	202.5	3.15	12.09
2.93	YES						
	L0002294	0 0.29200E-07	440614.2	3761132.3	202.5	3.15	12.09
2.93	YES						
	L0002295	0 0.29200E-07	440640.2	3761132.1	202.2	3.15	12.09
2.93	YES						
	L0002296	0 0.29200E-07	440666.2	3761131.9	201.7	3.15	12.09
2.93	YES						
	L0002297	0 0.29200E-07	440692.2	3761131.6	201.6	3.15	12.09
2.93	YES						
	L0002298	0 0.29200E-07	440718.2	3761131.4	202.1	3.15	12.09
2.93	YES						
	L0002299	0 0.29200E-07	440744.2	3761131.2	202.3	3.15	12.09
2.93	YES						
	L0002300	0 0.29200E-07	440770.2	3761130.9	201.7	3.15	12.09
2.93	YES						
	L0002301	0 0.28930E-05	440407.1	3760984.0	199.8	3.15	12.09
2.93	YES						
	L0002302	0 0.28930E-05	440433.1	3760983.9	199.9	3.15	12.09
2.93	YES						
	L0002303	0 0.28930E-05	440459.1	3760983.9	200.0	3.15	12.09
2.93	YES						
	L0002304	0 0.28930E-05	440485.1	3760983.8	200.0	3.15	12.09
2.93	YES						
	L0002305	0 0.28930E-05	440511.1	3760983.8	200.0	3.15	12.09

2.93	YES							
L0002306		0	0.28930E-05	440537.1	3760983.7	200.0	3.15	12.09
2.93	YES							
L0002307		0	0.28930E-05	440563.1	3760983.7	200.4	3.15	12.09
2.93	YES							
L0002308		0	0.28930E-05	440589.1	3760983.6	200.9	3.15	12.09
2.93	YES							
L0002309		0	0.28930E-05	440615.1	3760983.5	201.1	3.15	12.09
2.93	YES							
L0002310		0	0.28930E-05	440641.1	3760983.5	200.7	3.15	12.09
2.93	YES							
L0002311		0	0.28930E-05	440667.1	3760983.4	200.1	3.15	12.09
2.93	YES							
L0002312		0	0.28930E-05	440693.1	3760983.4	200.1	3.15	12.09
2.93	YES							
L0002313		0	0.28930E-05	440719.1	3760983.3	200.7	3.15	12.09
2.93	YES							
L0002314		0	0.28930E-05	440745.1	3760983.2	200.9	3.15	12.09
2.93	YES							
L0002315		0	0.28930E-05	440771.1	3760983.2	200.5	3.15	12.09
2.93	YES							
L0002316		0	0.29070E-05	440406.2	3760919.4	199.2	3.15	12.09
2.93	YES							
L0002317		0	0.29070E-05	440432.2	3760919.3	199.3	3.15	12.09
2.93	YES							
L0002318		0	0.29070E-05	440458.2	3760919.2	199.4	3.15	12.09
2.93	YES							
L0002319		0	0.29070E-05	440484.2	3760919.2	199.4	3.15	12.09
2.93	YES							
L0002320		0	0.29070E-05	440510.2	3760919.1	199.4	3.15	12.09
2.93	YES							
L0002321		0	0.29070E-05	440536.2	3760919.1	199.4	3.15	12.09
2.93	YES							
L0002322		0	0.29070E-05	440562.2	3760919.0	199.8	3.15	12.09
2.93	YES							
L0002323		0	0.29070E-05	440588.2	3760919.0	200.2	3.15	12.09
2.93	YES							
L0002324		0	0.29070E-05	440614.2	3760918.9	200.4	3.15	12.09

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\*\*\* MODELOPTs:    RegDEFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*



INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.	
SZ	SOURCE	EMISSION	RATE	(GRAMS/SEC)	X	Y	ELEV.	HEIGHT	SY
(METERS)	ID	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
		CATS.	BY						
L0002325		0	0.29070E-05	440640.2	3760918.8	200.2	3.15	12.09	
2.93	YES								
L0002326		0	0.29070E-05	440666.2	3760918.8	199.6	3.15	12.09	
2.93	YES								
L0002327		0	0.29070E-05	440692.2	3760918.7	199.5	3.15	12.09	
2.93	YES								
L0002328		0	0.29070E-05	440718.2	3760918.7	200.2	3.15	12.09	
2.93	YES								
L0002329		0	0.29070E-05	440744.2	3760918.6	200.3	3.15	12.09	
2.93	YES								
L0002330		0	0.29070E-05	440770.2	3760918.6	200.0	3.15	12.09	
2.93	YES								
L0002331		0	0.29070E-05	440408.9	3760713.1	197.3	3.15	12.09	
2.93	YES								
L0002332		0	0.29070E-05	440434.9	3760712.9	197.3	3.15	12.09	
2.93	YES								
L0002333		0	0.29070E-05	440460.9	3760712.7	197.3	3.15	12.09	
2.93	YES								
L0002334		0	0.29070E-05	440486.9	3760712.4	197.4	3.15	12.09	
2.93	YES								
L0002335		0	0.29070E-05	440512.9	3760712.2	197.5	3.15	12.09	
2.93	YES								
L0002336		0	0.29070E-05	440538.9	3760712.0	197.7	3.15	12.09	
2.93	YES								
L0002337		0	0.29070E-05	440564.9	3760711.7	197.8	3.15	12.09	
2.93	YES								
L0002338		0	0.29070E-05	440590.9	3760711.5	197.9	3.15	12.09	
2.93	YES								
L0002339		0	0.29070E-05	440616.9	3760711.3	197.5	3.15	12.09	
2.93	YES								
L0002340		0	0.29070E-05	440642.9	3760711.0	197.4	3.15	12.09	
2.93	YES								
L0002341		0	0.29070E-05	440668.9	3760710.8	197.5	3.15	12.09	
2.93	YES								
L0002342		0	0.29070E-05	440694.9	3760710.6	197.6	3.15	12.09	
2.93	YES								
L0002343		0	0.29070E-05	440720.9	3760710.4	198.1	3.15	12.09	
2.93	YES								
L0002344		0	0.29070E-05	440746.9	3760710.1	198.3	3.15	12.09	

2.93	YES							
L0002345		0	0.29070E-05	440772.9	3760709.9	198.6	3.15	12.09
2.93	YES							
L0002346		0	0.28930E-05	440407.1	3760648.5	196.7	3.15	12.09
2.93	YES							
L0002347		0	0.28930E-05	440433.1	3760648.4	196.6	3.15	12.09
2.93	YES							
L0002348		0	0.28930E-05	440459.1	3760648.3	196.7	3.15	12.09
2.93	YES							
L0002349		0	0.28930E-05	440485.1	3760648.2	196.7	3.15	12.09
2.93	YES							
L0002350		0	0.28930E-05	440511.1	3760648.1	196.8	3.15	12.09
2.93	YES							
L0002351		0	0.28930E-05	440537.1	3760648.0	197.0	3.15	12.09
2.93	YES							
L0002352		0	0.28930E-05	440563.1	3760647.8	197.1	3.15	12.09
2.93	YES							
L0002353		0	0.28930E-05	440589.1	3760647.7	197.3	3.15	12.09
2.93	YES							
L0002354		0	0.28930E-05	440615.1	3760647.6	197.4	3.15	12.09
2.93	YES							
L0002355		0	0.28930E-05	440641.1	3760647.5	197.5	3.15	12.09
2.93	YES							
L0002356		0	0.28930E-05	440667.1	3760647.4	197.6	3.15	12.09
2.93	YES							
L0002357		0	0.28930E-05	440693.1	3760647.3	197.6	3.15	12.09
2.93	YES							
L0002358		0	0.28930E-05	440719.1	3760647.2	197.7	3.15	12.09
2.93	YES							
L0002359		0	0.28930E-05	440745.1	3760647.0	197.8	3.15	12.09
2.93	YES							
L0002360		0	0.28930E-05	440771.1	3760646.9	198.0	3.15	12.09
2.93	YES							
L0002361		0	0.25720E-05	440392.5	3761121.6	201.5	3.15	12.09
2.93	YES							
L0002362		0	0.25720E-05	440392.4	3761095.6	201.2	3.15	12.09
2.93	YES							
L0002363		0	0.25720E-05	440392.4	3761069.6	200.9	3.15	12.09
2.93	YES							
L0002364		0	0.25720E-05	440392.3	3761043.6	200.6	3.15	12.09

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\*\*\* MODELOPTs:      RegDEFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE	(GRAMS/SEC)	X	ELEV.	HEIGHT	SY
SZ	SOURCE	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)
ID		CATS.	BY					
(METERS)								
L0002365		0	0.25720E-05	440392.2	3761017.6	200.2	3.15	12.09
2.93	YES							
L0002366		0	0.25720E-05	440392.2	3760991.6	200.0	3.15	12.09
2.93	YES							
L0002367		0	0.25720E-05	440392.1	3760965.6	199.7	3.15	12.09
2.93	YES							
L0002368		0	0.25720E-05	440392.0	3760939.6	199.4	3.15	12.09
2.93	YES							
L0002369		0	0.25720E-05	440392.0	3760913.6	199.2	3.15	12.09
2.93	YES							
L0002370		0	0.25720E-05	440391.9	3760887.6	198.9	3.15	12.09
2.93	YES							
L0002371		0	0.25720E-05	440391.8	3760861.6	198.7	3.15	12.09
2.93	YES							
L0002372		0	0.25720E-05	440391.8	3760835.6	198.5	3.15	12.09
2.93	YES							
L0002373		0	0.25720E-05	440391.7	3760809.6	198.2	3.15	12.09
2.93	YES							
L0002374		0	0.25720E-05	440391.6	3760783.6	198.0	3.15	12.09
2.93	YES							
L0002375		0	0.25720E-05	440391.6	3760757.6	197.7	3.15	12.09
2.93	YES							
L0002376		0	0.25720E-05	440391.5	3760731.6	197.4	3.15	12.09
2.93	YES							
L0002377		0	0.25720E-05	440391.4	3760705.6	197.2	3.15	12.09
2.93	YES							
L0002378		0	0.25720E-05	440391.4	3760679.6	197.0	3.15	12.09
2.93	YES							
L0002379		0	0.25720E-05	440391.3	3760653.6	196.7	3.15	12.09
2.93	YES							
L0002380		0	0.25720E-05	440391.2	3760627.6	196.5	3.15	12.09
2.93	YES							
L0002381		0	0.25720E-05	440391.2	3760601.6	196.3	3.15	12.09
2.93	YES							
L0002382		0	0.25720E-05	440391.1	3760575.6	196.1	3.15	12.09
2.93	YES							
L0002383		0	0.25720E-05	440391.0	3760549.6	195.9	3.15	12.09

2.93	YES							
L0002384		0	0.25720E-05	440391.0	3760523.6	195.7	3.15	12.09
2.93	YES							
L0002385		0	0.25720E-05	440390.9	3760497.6	195.5	3.15	12.09
2.93	YES							
L0002386		0	0.20260E-05	440378.2	3760467.7	195.1	3.15	12.09
2.93	YES							
L0002387		0	0.20260E-05	440352.2	3760467.5	194.8	3.15	12.09
2.93	YES							
L0002388		0	0.20260E-05	440326.2	3760467.3	194.7	3.15	12.09
2.93	YES							
L0002389		0	0.20260E-05	440300.2	3760467.0	194.6	3.15	12.09
2.93	YES							
L0002390		0	0.20260E-05	440274.2	3760466.8	194.5	3.15	12.09
2.93	YES							
L0002391		0	0.20260E-05	440248.2	3760466.5	194.4	3.15	12.09
2.93	YES							
L0002392		0	0.20260E-05	440222.2	3760466.3	194.2	3.15	12.09
2.93	YES							
L0002393		0	0.20260E-05	440196.2	3760466.0	194.1	3.15	12.09
2.93	YES							
L0002394		0	0.20260E-05	440170.2	3760465.8	194.0	3.15	12.09
2.93	YES							
L0002395		0	0.20260E-05	440144.2	3760465.5	193.8	3.15	12.09
2.93	YES							
L0002396		0	0.20260E-05	440118.2	3760465.3	193.7	3.15	12.09
2.93	YES							
L0002397		0	0.20260E-05	440092.2	3760465.0	193.7	3.15	12.09
2.93	YES							
L0002398		0	0.20260E-05	440066.2	3760464.8	193.6	3.15	12.09
2.93	YES							
L0002399		0	0.20260E-05	440040.2	3760464.5	193.6	3.15	12.09
2.93	YES							
L0002400		0	0.20260E-05	440014.2	3760464.3	193.6	3.15	12.09
2.93	YES							
L0002401		0	0.20260E-05	439988.2	3760464.0	193.6	3.15	12.09
2.93	YES							
L0002402		0	0.20260E-05	439962.2	3760463.8	193.6	3.15	12.09
2.93	YES							
L0002403		0	0.20260E-05	439936.2	3760463.6	193.6	3.15	12.09
2.93	YES							
L0002404		0	0.20260E-05	439910.2	3760463.3	193.7	3.15	12.09

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*      08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
                                  \*\*\*      19:02:44

\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE		X	ELEV.	HEIGHT	SY
SZ	ID	PART.	(GRAMS/SEC)	BY	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)	CATS.	SCALAR	VARY					
L0002405		0	0.13640E-05		439894.7	3760435.4	193.4	14.42
2.93	YES							
L0002406		0	0.13640E-05		439894.5	3760404.4	193.2	14.42
2.93	YES							
L0002407		0	0.13640E-05		439894.3	3760373.4	193.1	14.42
2.93	YES							
L0002408		0	0.13640E-05		439894.2	3760342.4	192.9	14.42
2.93	YES							
L0002409		0	0.13640E-05		439894.0	3760311.4	192.6	14.42
2.93	YES							
L0002410		0	0.13640E-05		439893.9	3760280.4	192.3	14.42
2.93	YES							
L0002411		0	0.13640E-05		439893.7	3760249.4	192.1	14.42
2.93	YES							
L0002412		0	0.13640E-05		439893.6	3760218.4	191.8	14.42
2.93	YES							
L0002413		0	0.13640E-05		439893.4	3760187.4	191.5	14.42
2.93	YES							
L0002414		0	0.13640E-05		439893.3	3760156.4	191.3	14.42
2.93	YES							
L0002415		0	0.13640E-05		439893.1	3760125.4	191.2	14.42
2.93	YES							
L0002416		0	0.13640E-05		439893.0	3760094.4	191.0	14.42
2.93	YES							
L0002417		0	0.13640E-05		439892.8	3760063.4	190.9	14.42
2.93	YES							
L0002418		0	0.13640E-05		439892.7	3760032.4	190.8	14.42
2.93	YES							
L0002419		0	0.13640E-05		439892.5	3760001.4	190.6	14.42
2.93	YES							
L0002420		0	0.13640E-05		439892.3	3759970.4	190.4	14.42
2.93	YES							
L0002421		0	0.13640E-05		439892.2	3759939.4	190.3	14.42
2.93	YES							
L0002422		0	0.13640E-05		439892.0	3759908.4	190.1	14.42

2.93	YES							
L0002423		0	0.13640E-05	439891.9	3759877.4	189.9	3.15	14.42
2.93	YES							
L0002424		0	0.13640E-05	439891.7	3759846.4	189.7	3.15	14.42
2.93	YES							
L0002425		0	0.13640E-05	439891.6	3759815.4	189.4	3.15	14.42
2.93	YES							
L0002426		0	0.13640E-05	439891.4	3759784.4	189.1	3.15	14.42
2.93	YES							
L0002427		0	0.13640E-05	439891.3	3759753.4	188.9	3.15	14.42
2.93	YES							
L0002428		0	0.13640E-05	439891.1	3759722.4	188.6	3.15	14.42
2.93	YES							
L0002429		0	0.13640E-05	439891.0	3759691.4	188.3	3.15	14.42
2.93	YES							
L0002430		0	0.13640E-05	439890.8	3759660.4	188.1	3.15	14.42
2.93	YES							
L0002431		0	0.13640E-05	439890.7	3759629.4	187.8	3.15	14.42
2.93	YES							
L0002432		0	0.13640E-05	439890.5	3759598.4	187.5	3.15	14.42
2.93	YES							
L0002433		0	0.13640E-05	439890.4	3759567.4	187.3	3.15	14.42
2.93	YES							
L0002434		0	0.13640E-05	439890.2	3759536.4	187.0	3.15	14.42
2.93	YES							
L0002435		0	0.13640E-05	439890.0	3759505.4	186.8	3.15	14.42
2.93	YES							
L0002436		0	0.13640E-05	439889.9	3759474.4	186.6	3.15	14.42
2.93	YES							
L0002437		0	0.13640E-05	439889.7	3759443.4	186.4	3.15	14.42
2.93	YES							
L0002438		0	0.13640E-05	439889.6	3759412.4	186.2	3.15	14.42
2.93	YES							
L0002439		0	0.13640E-05	439889.4	3759381.4	186.0	3.15	14.42
2.93	YES							
L0002440		0	0.13640E-05	439889.3	3759350.4	185.8	3.15	14.42
2.93	YES							
L0002441		0	0.13640E-05	439889.1	3759319.4	185.6	3.15	14.42
2.93	YES							
L0002442		0	0.13640E-05	439889.0	3759288.4	185.4	3.15	14.42
2.93	YES							
L0002443		0	0.13640E-05	439888.8	3759257.4	185.2	3.15	14.42
2.93	YES							
L0002444		0	0.13640E-05	439888.7	3759226.4	184.9	3.15	14.42

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 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
                                  \*\*\*      19:02:44

\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	ID	SCALAR	(GRAMS/SEC)	X	Y	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	VARY	(METERS)	(METERS)			
		BY						
L0002445		0	0.13640E-05	439888.5	3759195.4	184.6	3.15	14.42
2.93	YES							
L0002446		0	0.13640E-05	439888.4	3759164.4	184.3	3.15	14.42
2.93	YES							
L0002447		0	0.13640E-05	439888.2	3759133.4	184.0	3.15	14.42
2.93	YES							
L0002448		0	0.13640E-05	439888.0	3759102.4	183.8	3.15	14.42
2.93	YES							
L0002449		0	0.13640E-05	439887.9	3759071.4	183.6	3.15	14.42
2.93	YES							
L0002450		0	0.13640E-05	439887.7	3759040.4	183.4	3.15	14.42
2.93	YES							
L0002451		0	0.13640E-05	439887.6	3759009.4	183.2	3.15	14.42
2.93	YES							
L0002452		0	0.13640E-05	439887.4	3758978.4	183.1	3.15	14.42
2.93	YES							
L0002453		0	0.13640E-05	439887.3	3758947.4	182.8	3.15	14.42
2.93	YES							
L0002454		0	0.13640E-05	439887.1	3758916.4	182.6	3.15	14.42
2.93	YES							
L0002455		0	0.13640E-05	439887.0	3758885.4	182.2	3.15	14.42
2.93	YES							
L0002456		0	0.13640E-05	439886.8	3758854.4	181.9	3.15	14.42
2.93	YES							
L0002457		0	0.13640E-05	439886.7	3758823.4	181.6	3.15	14.42
2.93	YES							
L0002458		0	0.13640E-05	439886.5	3758792.4	181.3	3.15	14.42
2.93	YES							
L0002459		0	0.13640E-05	439886.4	3758761.4	181.0	3.15	14.42
2.93	YES							
L0002460		0	0.13640E-05	439886.2	3758730.4	180.9	3.15	14.42
2.93	YES							
L0002461		0	0.13640E-05	439886.1	3758699.4	180.7	3.15	14.42

2.93	YES							
L0002462		0	0.13640E-05	439885.9	3758668.4	180.5	3.15	14.42
2.93	YES							
L0002463		0	0.13640E-05	439885.7	3758637.4	180.2	3.15	14.42
2.93	YES							
L0002464		0	0.13640E-05	439885.6	3758606.4	180.0	3.15	14.42
2.93	YES							
L0002465		0	0.13640E-05	439885.4	3758575.4	179.8	3.15	14.42
2.93	YES							
L0002466		0	0.13640E-05	439885.3	3758544.4	179.6	3.15	14.42
2.93	YES							
L0002467		0	0.13640E-05	439885.1	3758513.4	179.4	3.15	14.42
2.93	YES							
L0002468		0	0.13640E-05	439885.0	3758482.4	179.1	3.15	14.42
2.93	YES							
L0002469		0	0.13640E-05	439884.8	3758451.4	178.8	3.15	14.42
2.93	YES							
L0002470		0	0.13640E-05	439884.7	3758420.4	178.4	3.15	14.42
2.93	YES							
L0002471		0	0.13640E-05	439884.5	3758389.4	178.1	3.15	14.42
2.93	YES							
L0002472		0	0.13640E-05	439884.4	3758358.4	177.8	3.15	14.42
2.93	YES							
L0002473		0	0.13640E-05	439884.2	3758327.4	177.5	3.15	14.42
2.93	YES							
L0002474		0	0.13640E-05	439884.1	3758296.4	177.2	3.15	14.42
2.93	YES							
L0002475		0	0.13640E-05	439883.9	3758265.4	177.0	3.15	14.42
2.93	YES							
L0002476		0	0.13640E-05	439883.8	3758234.4	176.8	3.15	14.42
2.93	YES							
L0002477		0	0.13640E-05	439883.6	3758203.4	176.5	3.15	14.42
2.93	YES							
L0002478		0	0.13640E-05	439883.4	3758172.4	176.3	3.15	14.42
2.93	YES							
L0002479		0	0.13640E-05	439883.3	3758141.4	176.0	3.15	14.42
2.93	YES							
L0002480		0	0.13640E-05	439883.1	3758110.4	175.8	3.15	14.42
2.93	YES							
L0002481		0	0.13640E-05	439883.0	3758079.4	175.6	3.15	14.42
2.93	YES							
L0002482		0	0.22360E-05	439894.0	3760484.4	193.9	2.89	16.74
2.69	YES							
L0002483		0	0.22360E-05	439894.1	3760520.4	194.2	2.89	16.74
2.69	YES							
L0002484		0	0.22360E-05	439894.2	3760556.4	194.6	2.89	16.74

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\*\*\* AERMET - VERSION 16216 \*\*\*  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE		X	ELEV.	HEIGHT	SY
SZ	SOURCE	PART.	(GRAMS/SEC)		Y	(METERS)	(METERS)	(METERS)
ID		SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY					
L0002485		0	0.22360E-05		439894.3	3760592.4	194.9	16.74
2.69	YES							
L0002486		0	0.22360E-05		439894.4	3760628.4	195.2	16.74
2.69	YES							
L0002487		0	0.22360E-05		439894.5	3760664.4	195.5	16.74
2.69	YES							
L0002488		0	0.22360E-05		439894.6	3760700.4	195.8	16.74
2.69	YES							
L0002489		0	0.22360E-05		439894.7	3760736.4	196.2	16.74
2.69	YES							
L0002490		0	0.22360E-05		439894.8	3760772.4	196.6	16.74
2.69	YES							
L0002491		0	0.22360E-05		439894.9	3760808.4	197.1	16.74
2.69	YES							
L0002492		0	0.22360E-05		439895.0	3760844.4	197.6	16.74
2.69	YES							
L0002493		0	0.22360E-05		439895.1	3760880.4	198.1	16.74
2.69	YES							
L0002494		0	0.22360E-05		439895.2	3760916.4	198.6	16.74
2.69	YES							
L0002495		0	0.22360E-05		439895.3	3760952.4	199.0	16.74
2.69	YES							
L0002496		0	0.22360E-05		439895.4	3760988.4	199.5	16.74
2.69	YES							
L0002497		0	0.22360E-05		439895.5	3761024.4	199.9	16.74
2.69	YES							
L0002498		0	0.22360E-05		439895.6	3761060.4	200.4	16.74
2.69	YES							
L0002499		0	0.22360E-05		439895.7	3761096.4	200.7	16.74
2.69	YES							
L0002500		0	0.22360E-05		439895.8	3761132.4	201.1	16.74

2.69	YES							
L0002501		0	0.22360E-05	439895.9	3761168.4	201.5	2.89	16.74
2.69	YES							
L0002502		0	0.22360E-05	439896.0	3761204.4	201.8	2.89	16.74
2.69	YES							
L0002503		0	0.22360E-05	439896.1	3761240.4	202.1	2.89	16.74
2.69	YES							
L0002504		0	0.22360E-05	439896.2	3761276.4	202.4	2.89	16.74
2.69	YES							
L0002505		0	0.22360E-05	439896.3	3761312.4	202.8	2.89	16.74
2.69	YES							
L0002506		0	0.22360E-05	439896.4	3761348.4	203.2	2.89	16.74
2.69	YES							
L0002507		0	0.22360E-05	439896.5	3761384.4	203.6	2.89	16.74
2.69	YES							
L0002508		0	0.22360E-05	439896.6	3761420.4	204.1	2.89	16.74
2.69	YES							
L0002509		0	0.22360E-05	439896.7	3761456.4	204.5	2.89	16.74
2.69	YES							
L0002510		0	0.22360E-05	439896.8	3761492.4	204.9	2.89	16.74
2.69	YES							
L0002511		0	0.22360E-05	439896.9	3761528.4	205.3	2.89	16.74
2.69	YES							
L0002512		0	0.22360E-05	439897.0	3761564.4	205.7	2.89	16.74
2.69	YES							
L0002513		0	0.22360E-05	439897.1	3761600.4	206.1	2.89	16.74
2.69	YES							
L0002514		0	0.22360E-05	439897.2	3761636.4	206.4	2.89	16.74
2.69	YES							
L0002515		0	0.22360E-05	439897.3	3761672.4	206.7	2.89	16.74
2.69	YES							
L0002516		0	0.22360E-05	439897.4	3761708.4	207.0	2.89	16.74
2.69	YES							
L0002517		0	0.22360E-05	439897.5	3761744.4	207.3	2.89	16.74
2.69	YES							
L0002518		0	0.22360E-05	439897.6	3761780.4	207.6	2.89	16.74
2.69	YES							
L0002519		0	0.22360E-05	439897.7	3761816.4	207.9	2.89	16.74
2.69	YES							
L0002520		0	0.22360E-05	439897.8	3761852.4	208.2	2.89	16.74
2.69	YES							
L0002521		0	0.22360E-05	439897.9	3761888.4	208.5	2.89	16.74
2.69	YES							
L0002522		0	0.22360E-05	439898.0	3761924.4	208.9	2.89	16.74
2.69	YES							
L0002523		0	0.22360E-05	439898.1	3761960.4	209.2	2.89	16.74
2.69	YES							
L0002524		0	0.22360E-05	439898.2	3761996.4	209.5	2.89	16.74
2.69	YES							

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*  
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\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
ID		PART.	(GRAMS/SEC)	X	Y	(METERS)	(METERS)	(METERS)
(METERS)		SCALAR	VARY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
		CATS.	BY					
L0002525		0	0.22360E-05	439898.3	3762032.4	209.8	2.89	16.74
2.69	YES							
L0002526		0	0.22360E-05	439898.4	3762068.4	210.0	2.89	16.74
2.69	YES							
L0002527		0	0.22360E-05	439898.4	3762104.4	210.3	2.89	16.74
2.69	YES							
L0002528		0	0.22360E-05	439898.5	3762140.4	210.6	2.89	16.74
2.69	YES							
L0002529		0	0.22360E-05	439898.6	3762176.4	210.9	2.89	16.74
2.69	YES							
L0002530		0	0.22360E-05	439898.7	3762212.4	211.3	2.89	16.74
2.69	YES							
L0002531		0	0.22360E-05	439898.8	3762248.4	211.8	2.89	16.74
2.69	YES							
L0002532		0	0.22360E-05	439898.9	3762284.4	212.4	2.89	16.74
2.69	YES							
L0002533		0	0.22360E-05	439899.0	3762320.4	213.0	2.89	16.74
2.69	YES							
L0002534		0	0.22360E-05	439899.1	3762356.4	213.5	2.89	16.74
2.69	YES							
L0002535		0	0.22360E-05	439899.2	3762392.4	213.9	2.89	16.74
2.69	YES							
L0002536		0	0.22360E-05	439899.3	3762428.4	214.4	2.89	16.74
2.69	YES							
L0002537		0	0.22360E-05	439899.4	3762464.4	214.9	2.89	16.74
2.69	YES							
L0002538		0	0.22360E-05	439899.5	3762500.4	215.3	2.89	16.74
2.69	YES							
L0002539		0	0.22360E-05	439899.6	3762536.4	215.7	2.89	16.74

2.69	YES							
L0002540		0	0.22360E-05	439899.7	3762572.4	216.1	2.89	16.74
2.69	YES							
L0002541		0	0.22360E-05	439899.8	3762608.4	216.5	2.89	16.74
2.69	YES							
L0002542		0	0.22360E-05	439899.9	3762644.4	217.0	2.89	16.74
2.69	YES							
L0002543		0	0.22360E-05	439900.0	3762680.4	217.5	2.89	16.74
2.69	YES							
L0002544		0	0.22360E-05	439900.1	3762716.4	218.0	2.89	16.74
2.69	YES							
L0002545		0	0.22360E-05	439900.2	3762752.4	218.5	2.89	16.74
2.69	YES							
L0002546		0	0.22360E-05	439900.3	3762788.4	219.0	2.89	16.74
2.69	YES							
L0002547		0	0.22360E-05	439900.4	3762824.4	219.5	2.89	16.74
2.69	YES							
L0002548		0	0.22360E-05	439900.5	3762860.4	220.0	2.89	16.74
2.69	YES							
L0002549		0	0.22360E-05	439900.6	3762896.4	220.5	2.89	16.74
2.69	YES							
L0002550		0	0.22360E-05	439900.7	3762932.4	220.9	2.89	16.74
2.69	YES							
L0002551		0	0.22360E-05	439900.8	3762968.4	221.3	2.89	16.74
2.69	YES							
L0002552		0	0.22360E-05	439900.9	3763004.4	221.7	2.89	16.74
2.69	YES							
L0002553		0	0.22360E-05	439901.0	3763040.4	222.1	2.89	16.74
2.69	YES							
L0002554		0	0.22360E-05	439901.1	3763076.4	222.5	2.89	16.74
2.69	YES							
L0002555		0	0.22360E-05	439901.2	3763112.4	222.9	2.89	16.74
2.69	YES							
L0002556		0	0.22360E-05	439901.3	3763148.4	223.4	2.89	16.74
2.69	YES							
L0002557		0	0.22360E-05	439901.4	3763184.4	223.9	2.89	16.74
2.69	YES							
L0002558		0	0.22360E-05	439901.5	3763220.4	224.4	2.89	16.74
2.69	YES							
L0002559		0	0.22360E-05	439901.6	3763256.4	225.0	2.89	16.74
2.69	YES							
L0002560		0	0.22360E-05	439901.7	3763292.4	225.4	2.89	16.74
2.69	YES							
L0002561		0	0.22360E-05	439901.8	3763328.4	225.8	2.89	16.74
2.69	YES							
L0002562		0	0.22360E-05	439901.9	3763364.4	226.2	2.89	16.74
2.69	YES							
L0002563		0	0.22360E-05	439902.0	3763400.4	226.6	2.89	16.74
2.69	YES							

L0002564            0    0.22360E-05   439902.1 3763436.4   226.9        2.89       16.74  
 2.69        YES  
 \*\*\* AERMOD - VERSION 21112 \*\*\*        \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*                    08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*        \*\*\*  
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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.	
SZ	SOURCE	EMISSION	RATE		X	Y	ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY						
L0002565		0	0.22360E-05	439902.8	3763472.4	227.2	2.89	16.74	
2.69	YES								
L0002566		0	0.22360E-05	439905.5	3763508.3	227.6	2.89	16.74	
2.69	YES								
L0002567		0	0.22360E-05	439908.2	3763544.2	227.9	2.89	16.74	
2.69	YES								
L0002568		0	0.22360E-05	439911.0	3763580.1	228.2	2.89	16.74	
2.69	YES								
L0002569		0	0.22360E-05	439912.6	3763616.0	228.5	2.89	16.74	
2.69	YES								
L0002570		0	0.22360E-05	439912.6	3763652.0	228.8	2.89	16.74	
2.69	YES								
L0002571		0	0.22360E-05	439912.7	3763688.0	229.1	2.89	16.74	
2.69	YES								
L0002572		0	0.22360E-05	439912.7	3763724.0	229.4	2.89	16.74	
2.69	YES								
L0002573		0	0.22360E-05	439912.8	3763760.0	229.7	2.89	16.74	
2.69	YES								
L0002574		0	0.22360E-05	439912.8	3763796.0	229.9	2.89	16.74	
2.69	YES								
L0002575		0	0.22360E-05	439912.9	3763832.0	230.2	2.89	16.74	
2.69	YES								
L0002576		0	0.22360E-05	439912.9	3763868.0	230.5	2.89	16.74	
2.69	YES								
L0002577		0	0.22360E-05	439913.0	3763904.0	230.9	2.89	16.74	
2.69	YES								
L0002578		0	0.22360E-05	439913.0	3763940.0	231.4	2.89	16.74	

2.69	YES							
L0002579		0	0.22360E-05	439913.1	3763976.0	231.9	2.89	16.74
2.69	YES							
L0002580		0	0.22360E-05	439913.1	3764012.0	232.5	2.89	16.74
2.69	YES							
L0002581		0	0.22360E-05	439913.2	3764048.0	233.1	2.89	16.74
2.69	YES							
L0002582		0	0.22360E-05	439913.2	3764084.0	233.6	2.89	16.74
2.69	YES							
L0002583		0	0.22360E-05	439913.3	3764120.0	234.2	2.89	16.74
2.69	YES							
L0002584		0	0.22360E-05	439913.3	3764156.0	234.8	2.89	16.74
2.69	YES							
L0002585		0	0.22360E-05	439913.3	3764192.0	235.3	2.89	16.74
2.69	YES							
L0002586		0	0.22360E-05	439913.4	3764228.0	235.9	2.89	16.74
2.69	YES							
L0002587		0	0.22360E-05	439913.4	3764264.0	236.5	2.89	16.74
2.69	YES							
L0002588		0	0.22360E-05	439913.5	3764300.0	237.1	2.89	16.74
2.69	YES							
L0002589		0	0.22360E-05	439913.5	3764336.0	237.7	2.89	16.74
2.69	YES							
L0002590		0	0.22360E-05	439913.6	3764372.0	238.1	2.89	16.74
2.69	YES							
L0002591		0	0.22360E-05	439913.6	3764408.0	238.5	2.89	16.74
2.69	YES							
L0002592		0	0.22360E-05	439913.7	3764444.0	238.8	2.89	16.74
2.69	YES							
L0002593		0	0.22360E-05	439913.7	3764480.0	238.9	2.89	16.74
2.69	YES							
L0002594		0	0.22360E-05	439913.8	3764516.0	239.1	2.89	16.74
2.69	YES							
L0002595		0	0.22360E-05	439913.8	3764552.0	239.3	2.89	16.74
2.69	YES							
L0002596		0	0.22360E-05	439913.9	3764588.0	239.6	2.89	16.74
2.69	YES							
L0002597		0	0.22360E-05	439913.9	3764624.0	239.9	2.89	16.74
2.69	YES							
L0002598		0	0.22360E-05	439914.0	3764660.0	240.3	2.89	16.74
2.69	YES							
L0002599		0	0.22360E-05	439914.0	3764696.0	240.8	2.89	16.74
2.69	YES							
L0002600		0	0.22360E-05	439914.1	3764732.0	241.2	2.89	16.74
2.69	YES							
L0002601		0	0.22360E-05	439914.1	3764768.0	241.9	2.89	16.74
2.69	YES							
L0002602		0	0.22360E-05	439914.2	3764804.0	242.5	2.89	16.74
2.69	YES							

L0002603            0   0.22360E-05  439914.2 3764840.0   243.1       2.89       16.74  
 2.69       YES  
 L0002604            0   0.22360E-05  439914.3 3764876.0   243.7       2.89       16.74  
 2.69       YES

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\*\*\* MODELOPTs:    RegDFault   CONC   ELEV   URBAN   ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		X	Y	HEIGHT	SY
(METERS)	ID	SCALAR	(GRAMS/SEC)	VARY	(METERS)	(METERS)	(METERS)	(METERS)
		CATS.	BY					

L0002605	0	0.22360E-05	439914.3	3764912.0	244.2	2.89	16.74
2.69	YES						
L0002606	0	0.22360E-05	439914.4	3764948.0	244.7	2.89	16.74
2.69	YES						
L0002607	0	0.22360E-05	439914.4	3764984.0	245.2	2.89	16.74
2.69	YES						
L0002608	0	0.22360E-05	439914.5	3765020.0	245.8	2.89	16.74
2.69	YES						
L0002609	0	0.22360E-05	439914.5	3765056.0	246.1	2.89	16.74
2.69	YES						
L0002610	0	0.22360E-05	439914.6	3765092.0	246.4	2.89	16.74
2.69	YES						
L0002611	0	0.22360E-05	439914.6	3765128.0	246.7	2.89	16.74
2.69	YES						
L0002612	0	0.22360E-05	439914.7	3765164.0	247.0	2.89	16.74
2.69	YES						
L0002613	0	0.22360E-05	439914.7	3765200.0	247.3	2.89	16.74
2.69	YES						
L0002614	0	0.22360E-05	439914.8	3765236.0	247.8	2.89	16.74
2.69	YES						
L0002615	0	0.22360E-05	439914.8	3765272.0	248.4	2.89	16.74
2.69	YES						
L0002616	0	0.22360E-05	439914.9	3765308.0	249.0	2.89	16.74
2.69	YES						
L0002617	0	0.22360E-05	439914.9	3765344.0	249.6	2.89	16.74

2.69	YES							
L0002618		0	0.22360E-05	439915.0	3765380.0	250.2	2.89	16.74
2.69	YES							
L0002619		0	0.22360E-05	439915.0	3765416.0	250.8	2.89	16.74
2.69	YES							
L0002620		0	0.22360E-05	439915.1	3765452.0	251.4	2.89	16.74
2.69	YES							
L0002621		0	0.22360E-05	439915.1	3765488.0	251.8	2.89	16.74
2.69	YES							
L0002622		0	0.22360E-05	439915.2	3765524.0	252.1	2.89	16.74
2.69	YES							
L0002623		0	0.22360E-05	439915.2	3765560.0	252.6	2.89	16.74
2.69	YES							
L0002624		0	0.22360E-05	439915.3	3765596.0	252.9	2.89	16.74
2.69	YES							
L0002625		0	0.22360E-05	439915.3	3765632.0	253.2	2.89	16.74
2.69	YES							
L0002626		0	0.22360E-05	439915.3	3765668.0	253.6	2.89	16.74
2.69	YES							
L0002627		0	0.22360E-05	439915.4	3765704.0	254.1	2.89	16.74
2.69	YES							
L0002628		0	0.22360E-05	439915.4	3765740.0	254.5	2.89	16.74
2.69	YES							
L0002629		0	0.22360E-05	439915.5	3765776.0	254.8	2.89	16.74
2.69	YES							
L0002630		0	0.18960E-05	440788.1	3761118.6	201.6	3.15	12.09
2.93	YES							
L0002631		0	0.18960E-05	440788.3	3761092.6	201.4	3.15	12.09
2.93	YES							
L0002632		0	0.18960E-05	440788.5	3761066.6	201.1	3.15	12.09
2.93	YES							
L0002633		0	0.18960E-05	440788.7	3761040.6	200.9	3.15	12.09
2.93	YES							
L0002634		0	0.18960E-05	440788.9	3761014.6	200.7	3.15	12.09
2.93	YES							
L0002635		0	0.18960E-05	440789.1	3760988.6	200.5	3.15	12.09
2.93	YES							
L0002636		0	0.18960E-05	440789.3	3760962.6	200.3	3.15	12.09
2.93	YES							
L0002637		0	0.18960E-05	440789.5	3760936.6	200.1	3.15	12.09
2.93	YES							
L0002638		0	0.18960E-05	440789.7	3760910.6	199.9	3.15	12.09
2.93	YES							
L0002639		0	0.18960E-05	440789.9	3760884.6	199.7	3.15	12.09
2.93	YES							
L0002640		0	0.18960E-05	440790.1	3760858.6	199.6	3.15	12.09
2.93	YES							
L0002641		0	0.18960E-05	440790.3	3760832.6	199.5	3.15	12.09
2.93	YES							



L0002642	0	0.18960E-05	440790.5	3760806.6	199.5	3.15	12.09
2.93	YES						
L0002643	0	0.18960E-05	440790.7	3760780.6	199.3	3.15	12.09
2.93	YES						
L0002644	0	0.18960E-05	440790.9	3760754.6	199.0	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs:      RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.	
SZ	SOURCE	EMISSION	RATE		X	Y	ELEV.	HEIGHT	SY
(METERS)	ID	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
		CATS.	BY						

L0002645	0	0.18960E-05	440791.1	3760728.6	198.8	3.15	12.09
2.93	YES						
L0002646	0	0.18960E-05	440791.3	3760702.6	198.6	3.15	12.09
2.93	YES						
L0002647	0	0.18960E-05	440791.4	3760676.6	198.4	3.15	12.09
2.93	YES						
L0002648	0	0.18960E-05	440791.6	3760650.6	198.2	3.15	12.09
2.93	YES						
L0002649	0	0.18960E-05	440791.8	3760624.6	198.0	3.15	12.09
2.93	YES						
L0002650	0	0.18960E-05	440792.0	3760598.6	197.7	3.15	12.09
2.93	YES						
L0002651	0	0.18960E-05	440792.2	3760572.6	197.5	3.15	12.09
2.93	YES						
L0002652	0	0.18960E-05	440792.4	3760546.6	197.2	3.15	12.09
2.93	YES						
L0002653	0	0.18960E-05	440792.6	3760520.6	197.0	3.15	12.09
2.93	YES						
L0002654	0	0.18960E-05	440792.8	3760494.6	196.9	3.15	12.09
2.93	YES						
L0002655	0	0.13000E-05	440805.8	3760469.0	196.7	3.15	12.09
2.93	YES						
L0002656	0	0.13000E-05	440831.8	3760469.1	196.7	3.15	12.09

2.93	YES							
L0002657		0	0.13000E-05	440857.8	3760469.2	196.9	3.15	12.09
2.93	YES							
L0002658		0	0.13000E-05	440883.8	3760469.4	197.1	3.15	12.09
2.93	YES							
L0002659		0	0.13000E-05	440909.8	3760469.5	197.4	3.15	12.09
2.93	YES							
L0002660		0	0.13000E-05	440935.8	3760469.6	197.6	3.15	12.09
2.93	YES							
L0002661		0	0.13000E-05	440961.8	3760469.7	197.6	3.15	12.09
2.93	YES							
L0002662		0	0.13000E-05	440987.8	3760469.8	197.7	3.15	12.09
2.93	YES							
L0002663		0	0.13000E-05	441013.8	3760469.9	197.9	3.15	12.09
2.93	YES							
L0002664		0	0.13000E-05	441039.8	3760470.0	198.1	3.15	12.09
2.93	YES							
L0002665		0	0.13000E-05	441065.8	3760470.1	198.2	3.15	12.09
2.93	YES							
L0002666		0	0.13000E-05	441091.8	3760470.2	198.5	3.15	12.09
2.93	YES							
L0002667		0	0.13000E-05	441117.8	3760470.3	198.6	3.15	12.09
2.93	YES							
L0002668		0	0.13000E-05	441143.8	3760470.4	198.6	3.15	12.09
2.93	YES							
L0002669		0	0.13000E-05	441169.8	3760470.6	198.6	3.15	12.09
2.93	YES							
L0002670		0	0.13000E-05	441195.8	3760470.7	199.0	3.15	12.09
2.93	YES							
L0002671		0	0.13000E-05	441221.8	3760470.8	198.9	3.15	12.09
2.93	YES							
L0002672		0	0.13000E-05	441247.8	3760470.9	198.7	3.15	12.09
2.93	YES							
L0002673		0	0.13000E-05	441273.8	3760471.0	198.7	3.15	12.09
2.93	YES							
L0002674		0	0.13000E-05	441299.8	3760471.1	198.8	3.15	12.09
2.93	YES							
L0002675		0	0.13000E-05	441325.8	3760471.2	198.9	3.15	12.09
2.93	YES							
L0002676		0	0.13000E-05	441351.8	3760471.3	199.0	3.15	12.09
2.93	YES							
L0002677		0	0.13000E-05	441377.8	3760471.4	199.1	3.15	12.09
2.93	YES							
L0002678		0	0.13000E-05	441403.8	3760471.5	199.2	3.15	12.09
2.93	YES							
L0002679		0	0.13000E-05	441429.8	3760471.6	199.3	3.15	12.09
2.93	YES							
L0002680		0	0.13000E-05	441455.8	3760471.8	199.3	3.15	12.09
2.93	YES							

L0002681	0	0.13000E-05	441481.8	3760471.9	199.6	3.15	12.09
2.93	YES						
L0002682	0	0.13000E-05	441507.8	3760472.0	199.8	3.15	12.09
2.93	YES						
L0002683	0	0.13000E-05	441533.8	3760472.1	199.9	3.15	12.09
2.93	YES						
L0002684	0	0.13000E-05	441559.8	3760472.2	200.0	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE		ELEV.	HEIGHT	SY
SZ	SCALAR	PART.	(GRAMS/SEC)	X	Y		
ID	CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)
(METERS)							

L0002685	0	0.13000E-05	441585.8	3760472.3	200.0	3.15	12.09
2.93	YES						
L0002686	0	0.13000E-05	441611.8	3760472.4	200.1	3.15	12.09
2.93	YES						
L0002687	0	0.13000E-05	441637.8	3760472.5	200.2	3.15	12.09
2.93	YES						
L0002688	0	0.13000E-05	441663.8	3760472.6	200.2	3.15	12.09
2.93	YES						
L0002689	0	0.13000E-05	441689.8	3760472.7	200.2	3.15	12.09
2.93	YES						
L0002690	0	0.13000E-05	441715.8	3760472.8	200.2	3.15	12.09
2.93	YES						
L0002691	0	0.13000E-05	441741.8	3760472.9	200.1	3.15	12.09
2.93	YES						
L0002692	0	0.13000E-05	441767.8	3760473.1	200.1	3.15	12.09
2.93	YES						
L0002693	0	0.13000E-05	441793.8	3760473.2	200.1	3.15	12.09
2.93	YES						
L0002694	0	0.13000E-05	441819.8	3760473.3	200.1	3.15	12.09
2.93	YES						
L0002695	0	0.13000E-05	441845.8	3760473.4	200.1	3.15	12.09

2.93	YES							
L0002696		0	0.13000E-05	441871.8	3760473.5	200.1	3.15	12.09
2.93	YES							
L0002697		0	0.13000E-05	441897.8	3760473.6	200.2	3.15	12.09
2.93	YES							
L0002698		0	0.13000E-05	441923.8	3760473.7	200.2	3.15	12.09
2.93	YES							
L0002699		0	0.13000E-05	441949.8	3760473.8	200.3	3.15	12.09
2.93	YES							
L0002700		0	0.13000E-05	441975.8	3760473.9	200.1	3.15	12.09
2.93	YES							
L0002701		0	0.13000E-05	442001.8	3760474.0	199.9	3.15	12.09
2.93	YES							
L0002702		0	0.13000E-05	442027.8	3760474.1	200.4	3.15	12.09
2.93	YES							
L0002703		0	0.13000E-05	442053.8	3760474.3	200.4	3.15	12.09
2.93	YES							
L0002704		0	0.13000E-05	442079.8	3760474.4	200.4	3.15	12.09
2.93	YES							
L0002705		0	0.13000E-05	442105.8	3760474.5	200.4	3.15	12.09
2.93	YES							
L0002706		0	0.13000E-05	442131.8	3760474.6	200.4	3.15	12.09
2.93	YES							
L0002707		0	0.13000E-05	442157.8	3760474.7	200.4	3.15	12.09
2.93	YES							
L0002708		0	0.13000E-05	442183.8	3760474.8	200.4	3.15	12.09
2.93	YES							
L0002709		0	0.13000E-05	442209.8	3760474.9	200.4	3.15	12.09
2.93	YES							
L0002710		0	0.13000E-05	442235.8	3760475.0	200.4	3.15	12.09
2.93	YES							
L0002711		0	0.13000E-05	442261.8	3760475.1	200.6	3.15	12.09
2.93	YES							
L0002712		0	0.13000E-05	442287.8	3760475.2	200.7	3.15	12.09
2.93	YES							
L0002713		0	0.13000E-05	442313.8	3760475.3	200.8	3.15	12.09
2.93	YES							
L0002714		0	0.13000E-05	442339.8	3760475.5	201.0	3.15	12.09
2.93	YES							
L0002715		0	0.13000E-05	442365.8	3760475.6	201.1	3.15	12.09
2.93	YES							
L0002716		0	0.13000E-05	442391.8	3760475.7	201.1	3.15	12.09
2.93	YES							
L0002717		0	0.13000E-05	442417.8	3760475.8	201.1	3.15	12.09
2.93	YES							
L0002718		0	0.13000E-05	442443.8	3760475.9	201.1	3.15	12.09
2.93	YES							
L0002719		0	0.13000E-05	442469.8	3760476.0	201.1	3.15	12.09
2.93	YES							

L0002720	0	0.13000E-05	442495.8	3760476.1	201.1	3.15	12.09
2.93	YES						
L0002721	0	0.13000E-05	442521.8	3760476.2	201.1	3.15	12.09
2.93	YES						
L0002722	0	0.13000E-05	442547.8	3760476.3	201.0	3.15	12.09
2.93	YES						
L0002723	0	0.13000E-05	442573.8	3760476.4	201.0	3.15	12.09
2.93	YES						
L0002724	0	0.13000E-05	442599.8	3760476.5	200.9	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		X	Y	HEIGHT	SY
(METERS)	ID	SCALAR	(GRAMS/SEC)	VARY	(METERS)	(METERS)	(METERS)	(METERS)
		CATS.	BY					

L0002725	0	0.13000E-05	442625.8	3760476.7	200.7	3.15	12.09
2.93	YES						
L0002726	0	0.13000E-05	442651.8	3760476.8	200.6	3.15	12.09
2.93	YES						
L0002727	0	0.13000E-05	442677.8	3760476.9	200.6	3.15	12.09
2.93	YES						
L0002728	0	0.13000E-05	442703.8	3760477.0	200.6	3.15	12.09
2.93	YES						
L0002729	0	0.13000E-05	442729.8	3760477.1	200.7	3.15	12.09
2.93	YES						
L0002730	0	0.13000E-05	442755.8	3760477.2	200.9	3.15	12.09
2.93	YES						
L0002731	0	0.13000E-05	442781.8	3760477.3	200.8	3.15	12.09
2.93	YES						
L0002732	0	0.13000E-05	442807.8	3760477.4	200.8	3.15	12.09
2.93	YES						
L0002733	0	0.13000E-05	442833.8	3760477.5	200.8	3.15	12.09
2.93	YES						
L0002734	0	0.13000E-05	442859.8	3760477.6	201.0	3.15	12.09

2.93	YES							
L0002735		0	0.13000E-05	442885.8	3760477.7	201.1	3.15	12.09
2.93	YES							
L0002736		0	0.13000E-05	442911.8	3760477.9	201.1	3.15	12.09
2.93	YES							
L0002737		0	0.13000E-05	442937.8	3760478.0	201.2	3.15	12.09
2.93	YES							
L0002738		0	0.13000E-05	442963.8	3760478.1	201.3	3.15	12.09
2.93	YES							
L0002739		0	0.13000E-05	442989.8	3760478.2	201.7	3.15	12.09
2.93	YES							
L0002740		0	0.13000E-05	443015.8	3760478.3	201.9	3.15	12.09
2.93	YES							
L0002741		0	0.13000E-05	443041.8	3760478.4	201.7	3.15	12.09
2.93	YES							
L0002742		0	0.13000E-05	443067.8	3760478.5	201.6	3.15	12.09
2.93	YES							
L0002743		0	0.13000E-05	443093.8	3760478.6	201.6	3.15	12.09
2.93	YES							
L0002744		0	0.13000E-05	443119.8	3760478.7	201.7	3.15	12.09
2.93	YES							
L0002745		0	0.13000E-05	443145.8	3760478.8	201.8	3.15	12.09
2.93	YES							
L0002746		0	0.13000E-05	443171.8	3760478.9	202.1	3.15	12.09
2.93	YES							
L0002747		0	0.13000E-05	443197.8	3760479.0	202.8	3.15	12.09
2.93	YES							
L0002748		0	0.13000E-05	443223.8	3760479.2	203.1	3.15	12.09
2.93	YES							
L0002749		0	0.13000E-05	443249.8	3760479.3	203.1	3.15	12.09
2.93	YES							
L0002750		0	0.13000E-05	443275.8	3760479.4	203.2	3.15	12.09
2.93	YES							
L0002751		0	0.13000E-05	443301.8	3760479.5	203.2	3.15	12.09
2.93	YES							
L0002752		0	0.13000E-05	443327.8	3760479.6	203.3	3.15	12.09
2.93	YES							
L0002753		0	0.13000E-05	443353.8	3760479.7	203.2	3.15	12.09
2.93	YES							
L0002754		0	0.13000E-05	443379.8	3760479.8	203.3	3.15	12.09
2.93	YES							
L0002755		0	0.13000E-05	443405.8	3760479.9	203.4	3.15	12.09
2.93	YES							
L0002756		0	0.13000E-05	443431.8	3760480.0	203.4	3.15	12.09
2.93	YES							
L0002757		0	0.13000E-05	443457.8	3760480.1	203.4	3.15	12.09
2.93	YES							
L0002758		0	0.13000E-05	443483.8	3760480.2	203.4	3.15	12.09
2.93	YES							

L0002759	0	0.13000E-05	443509.8	3760480.4	203.3	3.15	12.09
2.93	YES						
L0002760	0	0.13000E-05	443535.8	3760480.5	203.3	3.15	12.09
2.93	YES						
L0002761	0	0.13000E-05	443561.8	3760480.6	203.2	3.15	12.09
2.93	YES						
L0002762	0	0.13000E-05	443587.8	3760480.7	203.2	3.15	12.09
2.93	YES						
L0002763	0	0.13000E-05	443613.8	3760480.8	203.5	3.15	12.09
2.93	YES						
L0002764	0	0.13000E-05	443639.8	3760480.9	203.5	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE		EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	SOURCE	SCALAR	VARY		X	Y		
ID		CATS.			(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		BY						
L0002765	0	0.13000E-05	443665.8	3760481.0	203.6	3.15	12.09	
2.93	YES							
L0002766	0	0.13000E-05	443691.8	3760481.1	203.7	3.15	12.09	
2.93	YES							
L0002767	0	0.13000E-05	443717.8	3760481.2	203.7	3.15	12.09	
2.93	YES							
L0002768	0	0.13000E-05	443743.8	3760481.3	203.8	3.15	12.09	
2.93	YES							
L0002769	0	0.13000E-05	443769.8	3760481.4	203.9	3.15	12.09	
2.93	YES							
L0002770	0	0.13000E-05	443795.8	3760481.6	204.0	3.15	12.09	
2.93	YES							
L0002771	0	0.13000E-05	443821.8	3760481.7	204.2	3.15	12.09	
2.93	YES							
L0002772	0	0.13000E-05	443847.8	3760481.8	204.2	3.15	12.09	
2.93	YES							
L0002773	0	0.13000E-05	443873.8	3760481.9	204.5	3.15	12.09	

2.93	YES							
L0002774		0	0.13000E-05	443899.8	3760482.0	204.0	3.15	12.09
2.93	YES							
L0002775		0	0.13000E-05	443925.8	3760482.1	204.1	3.15	12.09
2.93	YES							
L0002776		0	0.13000E-05	443951.8	3760482.2	204.6	3.15	12.09
2.93	YES							
L0002777		0	0.13000E-05	443977.2	3760478.6	204.4	3.15	12.09
2.93	YES							
L0002778		0	0.13000E-05	444001.7	3760470.0	203.9	3.15	12.09
2.93	YES							
L0002779		0	0.13000E-05	444026.2	3760461.3	203.4	3.15	12.09
2.93	YES							
L0002780		0	0.13000E-05	444050.7	3760452.7	203.3	3.15	12.09
2.93	YES							
L0002781		0	0.13000E-05	444075.3	3760444.0	203.0	3.15	12.09
2.93	YES							
L0002782		0	0.13000E-05	444099.8	3760435.4	202.7	3.15	12.09
2.93	YES							
L0002783		0	0.13000E-05	444124.3	3760426.7	202.6	3.15	12.09
2.93	YES							
L0002784		0	0.13000E-05	444148.8	3760418.0	202.4	3.15	12.09
2.93	YES							
L0002785		0	0.13000E-05	444174.6	3760416.8	202.2	3.15	12.09
2.93	YES							
L0002786		0	0.13000E-05	444200.6	3760416.6	202.2	3.15	12.09
2.93	YES							
L0002787		0	0.13000E-05	444226.6	3760416.5	202.1	3.15	12.09
2.93	YES							
L0002788		0	0.13000E-05	444252.6	3760416.3	202.1	3.15	12.09
2.93	YES							
L0002789		0	0.13000E-05	444278.6	3760416.1	202.1	3.15	12.09
2.93	YES							
L0002790		0	0.13000E-05	444304.6	3760415.9	202.1	3.15	12.09
2.93	YES							
L0002791		0	0.13000E-05	444330.6	3760415.7	202.1	3.15	12.09
2.93	YES							
L0002792		0	0.13000E-05	444356.6	3760415.6	202.1	3.15	12.09
2.93	YES							
L0002793		0	0.13000E-05	444382.6	3760415.4	202.1	3.15	12.09
2.93	YES							
L0002794		0	0.13000E-05	444408.6	3760415.2	201.9	3.15	12.09
2.93	YES							
L0002795		0	0.13000E-05	444434.6	3760415.0	201.8	3.15	12.09
2.93	YES							
L0002796		0	0.13000E-05	444460.6	3760414.8	201.9	3.15	12.09
2.93	YES							
L0002797		0	0.13000E-05	444486.6	3760414.6	201.9	3.15	12.09
2.93	YES							



L0002798	0	0.13000E-05	444512.6	3760414.5	202.0	3.15	12.09
2.93	YES						
L0002799	0	0.13000E-05	444538.6	3760414.3	202.1	3.15	12.09
2.93	YES						
L0002800	0	0.13000E-05	444564.6	3760414.1	202.2	3.15	12.09
2.93	YES						
L0002801	0	0.13000E-05	444590.6	3760413.9	202.1	3.15	12.09
2.93	YES						
L0002802	0	0.13000E-05	444616.6	3760413.7	198.4	3.15	12.09
2.93	YES						
L0002803	0	0.13000E-05	444642.6	3760413.6	197.6	3.15	12.09
2.93	YES						
L0002804	0	0.13000E-05	444668.6	3760413.4	201.8	3.15	12.09
2.93	YES						

^ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*  
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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	PART.	(GRAMS/SEC)	X	ELEV.	HEIGHT	SY
SZ	ID	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY					
L0002805	0	0.13000E-05	444694.6	3760413.2	202.2	3.15	12.09	
2.93	YES							
L0002806	0	0.13000E-05	444720.6	3760413.0	202.0	3.15	12.09	
2.93	YES							
L0002807	0	0.13000E-05	444746.6	3760412.8	201.8	3.15	12.09	
2.93	YES							
L0002808	0	0.13000E-05	444772.6	3760412.7	201.2	3.15	12.09	
2.93	YES							
L0002809	0	0.13000E-05	444798.6	3760412.5	200.7	3.15	12.09	
2.93	YES							
L0002810	0	0.13000E-05	444824.6	3760412.3	201.5	3.15	12.09	
2.93	YES							
L0002811	0	0.13000E-05	444850.6	3760412.1	201.4	3.15	12.09	
2.93	YES							
L0002812	0	0.13000E-05	444876.6	3760411.9	201.2	3.15	12.09	

2.93	YES							
L0002813		0	0.13000E-05	444902.6	3760411.8	201.2	3.15	12.09
2.93	YES							
L0002814		0	0.13000E-05	444928.6	3760411.6	201.5	3.15	12.09
2.93	YES							
L0002815		0	0.13000E-05	444954.6	3760411.4	201.8	3.15	12.09
2.93	YES							
L0002816		0	0.13000E-05	444980.6	3760411.2	201.9	3.15	12.09
2.93	YES							
L0002817		0	0.13000E-05	445006.6	3760411.0	201.8	3.15	12.09
2.93	YES							
L0002818		0	0.13000E-05	445032.6	3760410.8	201.8	3.15	12.09
2.93	YES							
L0002819		0	0.13000E-05	445058.6	3760410.7	201.8	3.15	12.09
2.93	YES							
L0002820		0	0.13000E-05	445084.6	3760410.5	201.7	3.15	12.09
2.93	YES							
L0002821		0	0.13000E-05	445110.6	3760410.3	201.8	3.15	12.09
2.93	YES							
L0002822		0	0.13000E-05	445136.6	3760410.1	201.9	3.15	12.09
2.93	YES							
L0002823		0	0.13000E-05	445162.6	3760409.9	201.8	3.15	12.09
2.93	YES							
L0002824		0	0.13000E-05	445188.6	3760409.8	201.4	3.15	12.09
2.93	YES							
L0002825		0	0.11340E-05	445197.1	3760445.4	201.6	3.15	12.09
2.93	YES							
L0002826		0	0.11340E-05	445197.2	3760471.4	201.8	3.15	12.09
2.93	YES							
L0002827		0	0.11340E-05	445197.3	3760497.4	201.9	3.15	12.09
2.93	YES							
L0002828		0	0.11340E-05	445197.4	3760523.4	202.1	3.15	12.09
2.93	YES							
L0002829		0	0.11340E-05	445197.5	3760549.4	202.3	3.15	12.09
2.93	YES							
L0002830		0	0.11340E-05	445197.6	3760575.4	202.4	3.15	12.09
2.93	YES							
L0002831		0	0.11340E-05	445197.7	3760601.4	202.6	3.15	12.09
2.93	YES							
L0002832		0	0.11340E-05	445197.8	3760627.4	202.9	3.15	12.09
2.93	YES							
L0002833		0	0.11340E-05	445197.9	3760653.4	203.1	3.15	12.09
2.93	YES							
L0002834		0	0.11340E-05	445198.0	3760679.4	203.3	3.15	12.09
2.93	YES							
L0002835		0	0.11340E-05	445198.1	3760705.4	203.6	3.15	12.09
2.93	YES							
L0002836		0	0.11340E-05	445198.2	3760731.4	203.8	3.15	12.09
2.93	YES							

L0002837	0	0.11340E-05	445198.3	3760757.4	204.1	3.15	12.09
2.93	YES						
L0002838	0	0.11340E-05	445198.4	3760783.4	204.3	3.15	12.09
2.93	YES						
L0002839	0	0.11340E-05	445198.5	3760809.4	204.6	3.15	12.09
2.93	YES						
L0002840	0	0.11340E-05	445198.6	3760835.4	204.8	3.15	12.09
2.93	YES						
L0002841	0	0.11340E-05	445198.7	3760861.4	205.1	3.15	12.09
2.93	YES						
L0002842	0	0.11340E-05	445198.8	3760887.4	205.4	3.15	12.09
2.93	YES						
L0002843	0	0.11340E-05	445198.9	3760913.4	205.6	3.15	12.09
2.93	YES						
L0002844	0	0.11340E-05	445199.0	3760939.4	205.8	3.15	12.09
2.93	YES						

^ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
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\*\*\* MODELOPTs:      RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE	BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	PART.	(GRAMS/SEC)	ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	VARY		(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY	(METERS)	(METERS)	(METERS)	(METERS)

L0002845	0	0.11340E-05	445199.1	3760965.4	206.1	3.15	12.09
2.93	YES						
L0002846	0	0.11340E-05	445199.2	3760991.4	206.4	3.15	12.09
2.93	YES						
L0002847	0	0.11340E-05	445199.4	3761017.4	206.6	3.15	12.09
2.93	YES						
L0002848	0	0.11340E-05	445199.5	3761043.4	206.8	3.15	12.09
2.93	YES						
L0002849	0	0.11340E-05	445199.6	3761069.4	207.1	3.15	12.09
2.93	YES						
L0002850	0	0.11340E-05	445199.7	3761095.4	207.3	3.15	12.09
2.93	YES						
L0002851	0	0.11340E-05	445199.8	3761121.4	207.6	3.15	12.09

2.93	YES							
L0002852		0	0.11340E-05	445199.9	3761147.4	207.8	3.15	12.09
2.93	YES							
L0002853		0	0.11340E-05	445200.0	3761173.4	208.0	3.15	12.09
2.93	YES							
L0002854		0	0.11340E-05	445200.1	3761199.4	208.3	3.15	12.09
2.93	YES							
L0002855		0	0.11340E-05	445200.2	3761225.4	208.7	3.15	12.09
2.93	YES							
L0002856		0	0.11340E-05	445200.3	3761251.4	209.1	3.15	12.09
2.93	YES							
L0002857		0	0.11340E-05	445200.4	3761277.4	209.4	3.15	12.09
2.93	YES							
L0002858		0	0.11340E-05	445200.5	3761303.4	209.7	3.15	12.09
2.93	YES							
L0002859		0	0.11340E-05	445200.6	3761329.4	210.0	3.15	12.09
2.93	YES							
L0002860		0	0.11340E-05	445200.7	3761355.4	210.2	3.15	12.09
2.93	YES							
L0002861		0	0.11340E-05	445200.8	3761381.4	210.4	3.15	12.09
2.93	YES							
L0002862		0	0.11340E-05	445200.9	3761407.4	210.6	3.15	12.09
2.93	YES							
L0002863		0	0.11340E-05	445201.0	3761433.4	210.8	3.15	12.09
2.93	YES							
L0002864		0	0.11340E-05	445201.1	3761459.4	210.9	3.15	12.09
2.93	YES							
L0002865		0	0.11340E-05	445201.2	3761485.4	211.1	3.15	12.09
2.93	YES							
L0002866		0	0.11340E-05	445201.3	3761511.4	211.4	3.15	12.09
2.93	YES							
L0002867		0	0.11340E-05	445201.4	3761537.4	211.5	3.15	12.09
2.93	YES							
L0002868		0	0.11340E-05	445201.5	3761563.4	211.7	3.15	12.09
2.93	YES							
L0002869		0	0.11340E-05	445201.6	3761589.4	211.9	3.15	12.09
2.93	YES							
L0002870		0	0.11340E-05	445201.8	3761615.4	212.1	3.15	12.09
2.93	YES							
L0002871		0	0.11340E-05	445201.9	3761641.4	212.3	3.15	12.09
2.93	YES							
L0002872		0	0.11340E-05	445202.0	3761667.4	212.5	3.15	12.09
2.93	YES							
L0002873		0	0.11340E-05	445202.1	3761693.4	212.6	3.15	12.09
2.93	YES							
L0002874		0	0.11340E-05	445202.2	3761719.4	212.8	3.15	12.09
2.93	YES							
L0002875		0	0.11340E-05	445202.3	3761745.4	213.0	3.15	12.09
2.93	YES							

L0002876	0	0.11340E-05	445202.4	3761771.4	213.3	3.15	12.09
2.93	YES						
L0002877	0	0.11340E-05	445202.5	3761797.4	213.6	3.15	12.09
2.93	YES						
L0002878	0	0.11340E-05	445202.6	3761823.4	213.9	3.15	12.09
2.93	YES						
L0002879	0	0.11340E-05	445202.7	3761849.4	214.1	3.15	12.09
2.93	YES						
L0002880	0	0.11340E-05	445202.8	3761875.4	214.4	3.15	12.09
2.93	YES						
L0002881	0	0.11340E-05	445202.9	3761901.4	214.7	3.15	12.09
2.93	YES						
L0002882	0	0.11340E-05	445203.0	3761927.4	215.0	3.15	12.09
2.93	YES						
L0002883	0	0.11340E-05	445203.1	3761953.4	215.3	3.15	12.09
2.93	YES						
L0002884	0	0.11340E-05	445203.2	3761979.4	215.6	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE	BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE		ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	(GRAMS/SEC)	X	Y	(METERS)	(METERS)
(METERS)		CATS.	VARY	(METERS)	(METERS)	(METERS)	(METERS)
		BY					

L0002885	0	0.11340E-05	445203.3	3762005.4	215.9	3.15	12.09
2.93	YES						
L0002886	0	0.90970E-06	445190.9	3760381.0	201.2	3.15	12.09
2.93	YES						
L0002887	0	0.90970E-06	445191.7	3760355.0	201.1	3.15	12.09
2.93	YES						
L0002888	0	0.90970E-06	445192.4	3760329.0	200.9	3.15	12.09
2.93	YES						
L0002889	0	0.90970E-06	445193.1	3760303.0	200.7	3.15	12.09
2.93	YES						
L0002890	0	0.90970E-06	445193.8	3760277.0	200.6	3.15	12.09

2.93	YES							
L0002891		0	0.90970E-06	445194.5	3760251.0	200.4	3.15	12.09
2.93	YES							
L0002892		0	0.90970E-06	445195.2	3760225.0	200.3	3.15	12.09
2.93	YES							
L0002893		0	0.90970E-06	445196.0	3760199.0	200.1	3.15	12.09
2.93	YES							
L0002894		0	0.90970E-06	445196.7	3760173.0	200.0	3.15	12.09
2.93	YES							
L0002895		0	0.90970E-06	445197.4	3760147.0	199.8	3.15	12.09
2.93	YES							
L0002896		0	0.90970E-06	445198.1	3760121.1	199.6	3.15	12.09
2.93	YES							
L0002897		0	0.90970E-06	445198.8	3760095.1	199.5	3.15	12.09
2.93	YES							
L0002898		0	0.90970E-06	445199.5	3760069.1	199.3	3.15	12.09
2.93	YES							
L0002899		0	0.90970E-06	445200.3	3760043.1	199.1	3.15	12.09
2.93	YES							
L0002900		0	0.90970E-06	445201.0	3760017.1	199.0	3.15	12.09
2.93	YES							
L0002901		0	0.90970E-06	445201.7	3759991.1	198.8	3.15	12.09
2.93	YES							
L0002902		0	0.90970E-06	445202.4	3759965.1	198.6	3.15	12.09
2.93	YES							
L0002903		0	0.90970E-06	445203.1	3759939.1	198.6	3.15	12.09
2.93	YES							
L0002904		0	0.90970E-06	445203.8	3759913.1	198.7	3.15	12.09
2.93	YES							
L0002905		0	0.90970E-06	445204.6	3759887.1	198.7	3.15	12.09
2.93	YES							
L0002906		0	0.90970E-06	445205.3	3759861.2	198.8	3.15	12.09
2.93	YES							
L0002907		0	0.90970E-06	445206.0	3759835.2	198.6	3.15	12.09
2.93	YES							
L0002908		0	0.90970E-06	445206.7	3759809.2	198.1	3.15	12.09
2.93	YES							
L0002909		0	0.90970E-06	445207.4	3759783.2	198.3	3.15	12.09
2.93	YES							
L0002910		0	0.90970E-06	445208.1	3759757.2	198.3	3.15	12.09
2.93	YES							
L0002911		0	0.90970E-06	445208.9	3759731.2	198.2	3.15	12.09
2.93	YES							
L0002912		0	0.90970E-06	445209.6	3759705.2	198.1	3.15	12.09
2.93	YES							
L0002913		0	0.90970E-06	445210.3	3759679.2	198.0	3.15	12.09
2.93	YES							
L0002914		0	0.90970E-06	445211.0	3759653.2	197.8	3.15	12.09
2.93	YES							

L0002915	0	0.90970E-06	445211.7	3759627.2	197.7	3.15	12.09
2.93	YES						
L0002916	0	0.90970E-06	445212.4	3759601.3	197.6	3.15	12.09
2.93	YES						
L0002917	0	0.92740E-06	445221.8	3759586.1	197.4	3.15	12.09
2.93	YES						
L0002918	0	0.92740E-06	445247.8	3759585.9	197.4	3.15	12.09
2.93	YES						
L0002919	0	0.92740E-06	445273.8	3759585.7	197.4	3.15	12.09
2.93	YES						
L0002920	0	0.92740E-06	445299.8	3759585.6	197.4	3.15	12.09
2.93	YES						
L0002921	0	0.92740E-06	445325.8	3759585.4	197.4	3.15	12.09
2.93	YES						
L0002922	0	0.92740E-06	445351.8	3759585.2	197.4	3.15	12.09
2.93	YES						
L0002923	0	0.92740E-06	445377.8	3759585.0	197.5	3.15	12.09
2.93	YES						
L0002924	0	0.92740E-06	445403.8	3759584.8	197.5	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	(GRAMS/SEC)	X	Y	(METERS)	(METERS)	(METERS)
(METERS)		CATS.	VARY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
		BY						

L0002925	0	0.92740E-06	445429.8	3759584.7	197.6	3.15	12.09
2.93	YES						
L0002926	0	0.92740E-06	445455.8	3759584.5	197.6	3.15	12.09
2.93	YES						
L0002927	0	0.92740E-06	445481.8	3759584.3	197.6	3.15	12.09
2.93	YES						
L0002928	0	0.92740E-06	445507.8	3759584.1	197.6	3.15	12.09
2.93	YES						
L0002929	0	0.92740E-06	445533.8	3759583.9	197.7	3.15	12.09

2.93	YES							
L0002930		0	0.92740E-06	445559.8	3759583.8	197.8	3.15	12.09
2.93	YES							
L0002931		0	0.92740E-06	445585.8	3759583.6	197.9	3.15	12.09
2.93	YES							
L0002932		0	0.92740E-06	445611.8	3759583.4	198.2	3.15	12.09
2.93	YES							
L0002933		0	0.92740E-06	445637.8	3759583.2	198.3	3.15	12.09
2.93	YES							
L0002934		0	0.92740E-06	445663.8	3759583.0	198.2	3.15	12.09
2.93	YES							
L0002935		0	0.92740E-06	445689.8	3759582.9	198.1	3.15	12.09
2.93	YES							
L0002936		0	0.92740E-06	445715.8	3759582.7	198.5	3.15	12.09
2.93	YES							
L0002937		0	0.92740E-06	445741.8	3759582.5	198.7	3.15	12.09
2.93	YES							
L0002938		0	0.92740E-06	445767.8	3759582.3	198.7	3.15	12.09
2.93	YES							
L0002939		0	0.92740E-06	445793.8	3759582.1	198.9	3.15	12.09
2.93	YES							
L0002940		0	0.92740E-06	445819.8	3759582.0	198.9	3.15	12.09
2.93	YES							
L0002941		0	0.92740E-06	445845.8	3759581.8	199.0	3.15	12.09
2.93	YES							
L0002942		0	0.92740E-06	445871.8	3759581.6	199.1	3.15	12.09
2.93	YES							
L0002943		0	0.92740E-06	445897.8	3759581.4	199.1	3.15	12.09
2.93	YES							
L0002944		0	0.92740E-06	445923.8	3759581.2	199.1	3.15	12.09
2.93	YES							
L0002945		0	0.92740E-06	445949.8	3759581.1	199.0	3.15	12.09
2.93	YES							
L0002946		0	0.92740E-06	445975.8	3759580.9	199.0	3.15	12.09
2.93	YES							
L0002947		0	0.92740E-06	446001.8	3759580.7	198.8	3.15	12.09
2.93	YES							
L0002948		0	0.92740E-06	446027.8	3759580.5	199.0	3.15	12.09
2.93	YES							
L0002949		0	0.92740E-06	446053.8	3759580.3	199.2	3.15	12.09
2.93	YES							
L0002950		0	0.92740E-06	446079.8	3759580.2	199.3	3.15	12.09
2.93	YES							
L0002951		0	0.92740E-06	446105.8	3759580.0	199.4	3.15	12.09
2.93	YES							
L0002952		0	0.92740E-06	446131.8	3759579.8	199.5	3.15	12.09
2.93	YES							
L0002953		0	0.92740E-06	446157.8	3759579.6	199.6	3.15	12.09
2.93	YES							



L0002954	0	0.92740E-06	446183.8	3759579.4	199.7	3.15	12.09
2.93	YES						
L0002955	0	0.92740E-06	446209.8	3759579.3	199.8	3.15	12.09
2.93	YES						
L0002956	0	0.92740E-06	446235.8	3759579.1	200.0	3.15	12.09
2.93	YES						
L0002957	0	0.92740E-06	446261.8	3759578.9	200.1	3.15	12.09
2.93	YES						
L0002958	0	0.92740E-06	446287.8	3759578.7	200.2	3.15	12.09
2.93	YES						
L0002959	0	0.92740E-06	446313.8	3759578.5	200.3	3.15	12.09
2.93	YES						
L0002960	0	0.92740E-06	446339.8	3759578.4	200.4	3.15	12.09
2.93	YES						
L0002961	0	0.92740E-06	446365.8	3759578.2	200.4	3.15	12.09
2.93	YES						
L0002962	0	0.92740E-06	446391.8	3759578.0	200.3	3.15	12.09
2.93	YES						
L0002963	0	0.92740E-06	446417.8	3759577.8	200.2	3.15	12.09
2.93	YES						
L0002964	0	0.92740E-06	446443.8	3759577.6	200.4	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE	BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE		ELEV.	HEIGHT	SY
SZ	SOURCE	PART.	(GRAMS/SEC)	X	Y	(METERS)	(METERS)
ID	SCALAR	VARY		(METERS)	(METERS)	(METERS)	(METERS)
(METERS)	CATS.	BY					

L0002965	0	0.92740E-06	446469.8	3759577.5	200.9	3.15	12.09
2.93	YES						
L0002966	0	0.92740E-06	446495.8	3759577.3	201.1	3.15	12.09
2.93	YES						
L0002967	0	0.92740E-06	446521.8	3759577.1	201.2	3.15	12.09
2.93	YES						
L0002968	0	0.92740E-06	446547.8	3759576.9	201.4	3.15	12.09

2.93	YES							
L0002969		0	0.92740E-06	446573.8	3759576.8	201.5	3.15	12.09
2.93	YES							
L0002970		0	0.92740E-06	446599.8	3759576.6	201.6	3.15	12.09
2.93	YES							
L0002971		0	0.92740E-06	446625.8	3759576.4	201.7	3.15	12.09
2.93	YES							
L0002972		0	0.92740E-06	446651.8	3759576.2	201.9	3.15	12.09
2.93	YES							
L0002973		0	0.92740E-06	446677.8	3759576.0	202.0	3.15	12.09
2.93	YES							
L0002974		0	0.92740E-06	446703.8	3759575.9	202.1	3.15	12.09
2.93	YES							
L0002975		0	0.92740E-06	446729.8	3759575.7	202.3	3.15	12.09
2.93	YES							
L0002976		0	0.92740E-06	446755.8	3759575.5	202.3	3.15	12.09
2.93	YES							
L0002977		0	0.92740E-06	446781.8	3759575.3	202.1	3.15	12.09
2.93	YES							
L0002978		0	0.92740E-06	446807.8	3759575.1	201.8	3.15	12.09
2.93	YES							
L0002979		0	0.92740E-06	446833.8	3759575.0	201.7	3.15	12.09
2.93	YES							
L0002980		0	0.92740E-06	446859.8	3759574.8	201.6	3.15	12.09
2.93	YES							
L0002981		0	0.92740E-06	446885.8	3759574.6	201.3	3.15	12.09
2.93	YES							
L0002982		0	0.92740E-06	446911.8	3759574.4	201.2	3.15	12.09
2.93	YES							
L0002983		0	0.92740E-06	446937.8	3759574.2	201.1	3.15	12.09
2.93	YES							
L0002984		0	0.92740E-06	446963.8	3759574.1	201.1	3.15	12.09
2.93	YES							
L0002985		0	0.92740E-06	446989.8	3759573.9	201.2	3.15	12.09
2.93	YES							
L0002986		0	0.92740E-06	447015.8	3759573.7	201.3	3.15	12.09
2.93	YES							
L0002987		0	0.92740E-06	447041.8	3759573.5	201.4	3.15	12.09
2.93	YES							
L0002988		0	0.92740E-06	447067.8	3759573.3	201.4	3.15	12.09
2.93	YES							
L0002989		0	0.92740E-06	447093.8	3759573.2	201.3	3.15	12.09
2.93	YES							
L0002990		0	0.92740E-06	447119.8	3759573.0	201.3	3.15	12.09
2.93	YES							
L0002991		0	0.92740E-06	447145.8	3759572.8	201.2	3.15	12.09
2.93	YES							
L0002992		0	0.92740E-06	447171.8	3759572.6	201.0	3.15	12.09
2.93	YES							

L0002993	0	0.92740E-06	447197.8	3759572.4	200.9	3.15	12.09
2.93	YES						
L0002994	0	0.92740E-06	447223.8	3759572.3	200.6	3.15	12.09
2.93	YES						
L0002995	0	0.92740E-06	447249.8	3759572.1	200.6	3.15	12.09
2.93	YES						
L0002996	0	0.92740E-06	447275.8	3759571.9	200.8	3.15	12.09
2.93	YES						
L0002997	0	0.92740E-06	447301.8	3759571.7	200.9	3.15	12.09
2.93	YES						
L0002998	0	0.92740E-06	447327.8	3759571.5	201.0	3.15	12.09
2.93	YES						
L0002999	0	0.92740E-06	447353.8	3759571.4	201.2	3.15	12.09
2.93	YES						
L0003000	0	0.92740E-06	447379.8	3759571.2	201.3	3.15	12.09
2.93	YES						
L0003001	0	0.92740E-06	447405.8	3759571.0	201.3	3.15	12.09
2.93	YES						
L0003002	0	0.92740E-06	447431.8	3759570.8	201.3	3.15	12.09
2.93	YES						
L0003003	0	0.92740E-06	447457.8	3759570.6	201.2	3.15	12.09
2.93	YES						
L0003004	0	0.92740E-06	447483.8	3759570.5	201.1	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	ID	SCALAR	PART.	(GRAMS/SEC)	X	Y	(METERS)	(METERS)
(METERS)		CATS.	VARY		(METERS)	(METERS)	(METERS)	(METERS)
		BY						

L0003005	0	0.92740E-06	447509.8	3759570.3	201.0	3.15	12.09
2.93	YES						
L0003006	0	0.92740E-06	447535.8	3759570.1	200.9	3.15	12.09
2.93	YES						
L0003007	0	0.92740E-06	447561.8	3759569.9	200.6	3.15	12.09

2.93	YES							
L0003008		0	0.92740E-06	447587.8	3759569.8	200.5	3.15	12.09
2.93	YES							
L0003009		0	0.92740E-06	447613.8	3759569.6	200.6	3.15	12.09
2.93	YES							
L0003010		0	0.92740E-06	447639.8	3759569.4	201.1	3.15	12.09
2.93	YES							
L0003011		0	0.92740E-06	447665.8	3759569.2	201.1	3.15	12.09
2.93	YES							
L0003012		0	0.92740E-06	447691.8	3759569.0	201.1	3.15	12.09
2.93	YES							
L0003013		0	0.92740E-06	447717.8	3759568.9	201.1	3.15	12.09
2.93	YES							
L0003014		0	0.92740E-06	447743.8	3759568.7	201.1	3.15	12.09
2.93	YES							
L0003015		0	0.92740E-06	447769.8	3759568.5	201.1	3.15	12.09
2.93	YES							
L0003016		0	0.92740E-06	447795.8	3759568.3	201.1	3.15	12.09
2.93	YES							
L0003017		0	0.92740E-06	447821.8	3759568.1	201.1	3.15	12.09
2.93	YES							
L0003018		0	0.92740E-06	447847.8	3759568.0	201.0	3.15	12.09
2.93	YES							
L0003019		0	0.92740E-06	447873.8	3759567.8	201.0	3.15	12.09
2.93	YES							
L0003020		0	0.92740E-06	447899.8	3759567.6	201.1	3.15	12.09
2.93	YES							
L0003021		0	0.92740E-06	447925.8	3759567.4	201.1	3.15	12.09
2.93	YES							
L0003022		0	0.92740E-06	447951.8	3759567.2	201.2	3.15	12.09
2.93	YES							
L0003023		0	0.92740E-06	447977.8	3759567.1	201.4	3.15	12.09
2.93	YES							
L0003024		0	0.92740E-06	448003.7	3759566.9	201.4	3.15	12.09
2.93	YES							
L0003025		0	0.92740E-06	448029.7	3759566.7	201.5	3.15	12.09
2.93	YES							
L0003026		0	0.92740E-06	448055.7	3759566.5	201.6	3.15	12.09
2.93	YES							
L0003027		0	0.92740E-06	448081.7	3759566.3	201.7	3.15	12.09
2.93	YES							
L0003028		0	0.92740E-06	448107.7	3759566.2	201.8	3.15	12.09
2.93	YES							
L0003029		0	0.92740E-06	448133.7	3759566.0	201.8	3.15	12.09
2.93	YES							
L0003030		0	0.92740E-06	448159.7	3759565.8	201.7	3.15	12.09
2.93	YES							
L0003031		0	0.92740E-06	448185.7	3759565.6	201.7	3.15	12.09
2.93	YES							

L0003032	0	0.92740E-06	448211.7	3759565.4	201.7	3.15	12.09
2.93	YES						
L0003033	0	0.92740E-06	448237.7	3759565.3	201.8	3.15	12.09
2.93	YES						
L0003034	0	0.92740E-06	448263.7	3759565.1	202.0	3.15	12.09
2.93	YES						
L0003035	0	0.92740E-06	448289.7	3759564.9	202.2	3.15	12.09
2.93	YES						
L0003036	0	0.92740E-06	448315.7	3759564.7	202.3	3.15	12.09
2.93	YES						
L0003037	0	0.92740E-06	448341.7	3759564.5	202.6	3.15	12.09
2.93	YES						
L0003038	0	0.92740E-06	448367.7	3759564.4	202.8	3.15	12.09
2.93	YES						
L0003039	0	0.92740E-06	448393.7	3759564.2	203.1	3.15	12.09
2.93	YES						
L0003040	0	0.92740E-06	448419.7	3759564.0	203.2	3.15	12.09
2.93	YES						
L0003041	0	0.47690E-06	448446.7	3759567.2	203.3	3.15	12.09
2.93	YES						
L0003042	0	0.47690E-06	448472.7	3759566.8	203.2	3.15	12.09
2.93	YES						
L0003043	0	0.47690E-06	448498.7	3759566.3	203.1	3.15	12.09
2.93	YES						
L0003044	0	0.47690E-06	448524.7	3759565.9	203.0	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs:      RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	ID	SCALAR	VARY		X	Y		
(METERS)		CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)

L0003045	0	0.47690E-06	448550.7	3759565.5	202.9	3.15	12.09
2.93	YES						
L0003046	0	0.47690E-06	448576.7	3759565.0	202.9	3.15	12.09

2.93	YES							
L0003047		0	0.47690E-06	448602.7	3759564.6	203.2	3.15	12.09
2.93	YES							
L0003048		0	0.47690E-06	448628.7	3759564.1	203.5	3.15	12.09
2.93	YES							
L0003049		0	0.47690E-06	448654.7	3759563.7	203.5	3.15	12.09
2.93	YES							
L0003050		0	0.47690E-06	448680.7	3759563.3	203.5	3.15	12.09
2.93	YES							
L0003051		0	0.47690E-06	448706.7	3759562.8	203.6	3.15	12.09
2.93	YES							
L0003052		0	0.47690E-06	448732.7	3759562.4	203.7	3.15	12.09
2.93	YES							
L0003053		0	0.47690E-06	448758.7	3759561.9	203.9	3.15	12.09
2.93	YES							
L0003054		0	0.47690E-06	448784.7	3759561.5	204.0	3.15	12.09
2.93	YES							
L0003055		0	0.47690E-06	448810.7	3759561.1	203.9	3.15	12.09
2.93	YES							
L0003056		0	0.47690E-06	448836.7	3759560.6	204.0	3.15	12.09
2.93	YES							
L0003057		0	0.47690E-06	448862.7	3759560.2	203.9	3.15	12.09
2.93	YES							
L0003058		0	0.47690E-06	448888.7	3759559.8	203.6	3.15	12.09
2.93	YES							
L0003059		0	0.47690E-06	448914.7	3759559.3	203.5	3.15	12.09
2.93	YES							
L0003060		0	0.47690E-06	448940.7	3759558.9	203.8	3.15	12.09
2.93	YES							
L0003061		0	0.47690E-06	448966.7	3759558.4	203.9	3.15	12.09
2.93	YES							
L0003062		0	0.47690E-06	448992.7	3759558.0	204.2	3.15	12.09
2.93	YES							
L0003063		0	0.47690E-06	449018.7	3759557.6	204.6	3.15	12.09
2.93	YES							
L0003064		0	0.47690E-06	449044.7	3759557.1	204.9	3.15	12.09
2.93	YES							
L0003065		0	0.47690E-06	449070.7	3759556.7	205.2	3.15	12.09
2.93	YES							
L0003066		0	0.47690E-06	449096.7	3759556.2	205.4	3.15	12.09
2.93	YES							
L0003067		0	0.47690E-06	449122.7	3759555.8	205.5	3.15	12.09
2.93	YES							
L0003068		0	0.47690E-06	449148.6	3759555.4	205.2	3.15	12.09
2.93	YES							
L0003069		0	0.47690E-06	449174.6	3759554.9	205.8	3.15	12.09
2.93	YES							
L0003070		0	0.47690E-06	449200.6	3759554.5	206.5	3.15	12.09
2.93	YES							

L0003071	0	0.47690E-06	449226.6	3759554.0	205.4	3.15	12.09
2.93	YES						
L0003072	0	0.47690E-06	449252.6	3759553.6	204.3	3.15	12.09
2.93	YES						
L0003073	0	0.47690E-06	449278.6	3759553.2	202.2	3.15	12.09
2.93	YES						
L0003074	0	0.47690E-06	449304.6	3759552.7	201.6	3.15	12.09
2.93	YES						
L0003075	0	0.47690E-06	449330.6	3759552.3	203.1	3.15	12.09
2.93	YES						
L0003076	0	0.47690E-06	449356.6	3759551.9	204.3	3.15	12.09
2.93	YES						
L0003077	0	0.47690E-06	449382.6	3759551.4	205.1	3.15	12.09
2.93	YES						
L0003078	0	0.47690E-06	449408.6	3759551.0	205.5	3.15	12.09
2.93	YES						
L0003079	0	0.47690E-06	449434.6	3759550.5	204.6	3.15	12.09
2.93	YES						
L0003080	0	0.72190E-06	445241.2	3762002.1	216.2	3.15	12.09
2.93	YES						
L0003081	0	0.72190E-06	445267.2	3762002.2	216.5	3.15	12.09
2.93	YES						
L0003082	0	0.72190E-06	445293.2	3762002.3	216.5	3.15	12.09
2.93	YES						
L0003083	0	0.72190E-06	445319.2	3762002.4	217.0	3.15	12.09
2.93	YES						
L0003084	0	0.72190E-06	445345.2	3762002.5	217.4	3.15	12.09
2.93	YES						

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	PART.	(GRAMS/SEC)	X	ELEV.	HEIGHT	SY
SZ	ID	SCALAR	VARY			(METERS)	(METERS)	(METERS)
(METERS)		CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)

L0003085	0	0.72190E-06	445371.2	3762002.7	217.6	3.15	12.09
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2.93	YES							
L0003086		0	0.72190E-06	445397.2	3762002.8	218.0	3.15	12.09
2.93	YES							
L0003087		0	0.72190E-06	445423.2	3762002.9	218.3	3.15	12.09
2.93	YES							
L0003088		0	0.72190E-06	445449.2	3762003.0	218.4	3.15	12.09
2.93	YES							
L0003089		0	0.72190E-06	445475.2	3762003.2	218.5	3.15	12.09
2.93	YES							
L0003090		0	0.72190E-06	445501.2	3762003.3	218.4	3.15	12.09
2.93	YES							
L0003091		0	0.72190E-06	445527.2	3762003.4	218.2	3.15	12.09
2.93	YES							
L0003092		0	0.72190E-06	445553.2	3762003.5	218.2	3.15	12.09
2.93	YES							
L0003093		0	0.72190E-06	445579.2	3762003.7	218.1	3.15	12.09
2.93	YES							
L0003094		0	0.72190E-06	445605.2	3762003.8	218.1	3.15	12.09
2.93	YES							
L0003095		0	0.72190E-06	445631.2	3762003.9	218.1	3.15	12.09
2.93	YES							
L0003096		0	0.72190E-06	445657.2	3762004.0	218.1	3.15	12.09
2.93	YES							
L0003097		0	0.72190E-06	445683.2	3762004.2	217.9	3.15	12.09
2.93	YES							
L0003098		0	0.72190E-06	445709.2	3762004.3	217.7	3.15	12.09
2.93	YES							
L0003099		0	0.72190E-06	445735.2	3762004.4	217.3	3.15	12.09
2.93	YES							
L0003100		0	0.72190E-06	445761.2	3762004.5	216.9	3.15	12.09
2.93	YES							
L0003101		0	0.72190E-06	445787.2	3762004.7	217.0	3.15	12.09
2.93	YES							
L0003102		0	0.72190E-06	445813.2	3762004.8	217.4	3.15	12.09
2.93	YES							
L0003103		0	0.72190E-06	445839.2	3762004.9	217.7	3.15	12.09
2.93	YES							
L0003104		0	0.72190E-06	445865.2	3762005.0	217.9	3.15	12.09
2.93	YES							
L0003105		0	0.72190E-06	445891.2	3762005.1	218.2	3.15	12.09
2.93	YES							
L0003106		0	0.72190E-06	445917.2	3762005.3	218.1	3.15	12.09
2.93	YES							
L0003107		0	0.72190E-06	445943.2	3762005.4	218.2	3.15	12.09
2.93	YES							
L0003108		0	0.72190E-06	445969.2	3762005.5	218.5	3.15	12.09
2.93	YES							
L0003109		0	0.72190E-06	445995.2	3762005.6	218.6	3.15	12.09
2.93	YES							



L0003110	0	0.72190E-06	446021.2	3762005.8	218.6	3.15	12.09
2.93	YES						
L0003111	0	0.72190E-06	446047.2	3762005.9	218.6	3.15	12.09
2.93	YES						
L0003112	0	0.88530E-06	446079.0	3762020.5	219.0	3.15	14.42
2.93	YES						
L0003113	0	0.88530E-06	446106.9	3762034.0	219.3	3.15	14.42
2.93	YES						
L0003114	0	0.88530E-06	446134.9	3762047.5	219.3	3.15	14.42
2.93	YES						
L0003115	0	0.88530E-06	446162.8	3762061.0	219.5	3.15	14.42
2.93	YES						
L0003116	0	0.88530E-06	446190.7	3762074.5	219.6	3.15	14.42
2.93	YES						
L0003117	0	0.88530E-06	446218.6	3762087.9	219.8	3.15	14.42
2.93	YES						
L0003118	0	0.88530E-06	446246.5	3762101.4	219.9	3.15	14.42
2.93	YES						
L0003119	0	0.88530E-06	446274.4	3762114.9	220.0	3.15	14.42
2.93	YES						
L0003120	0	0.88530E-06	446301.0	3762130.4	220.1	3.15	14.42
2.93	YES						
L0003121	0	0.88530E-06	446324.8	3762150.3	220.3	3.15	14.42
2.93	YES						
L0003122	0	0.88530E-06	446348.6	3762170.2	220.4	3.15	14.42
2.93	YES						
L0003123	0	0.88530E-06	446372.3	3762190.1	220.7	3.15	14.42
2.93	YES						
L0003124	0	0.88530E-06	446396.1	3762210.1	220.9	3.15	14.42
2.93	YES						

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\*\*\* MODELOPTs:      RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SOURCE	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	ID	SCALAR	VARY		X	Y	(METERS)	(METERS)
(METERS)		CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)

L0003125	0	0.88530E-06	446419.8	3762230.0	221.0	3.15	14.42
2.93	YES						
L0003126	0	0.88530E-06	446443.6	3762249.9	221.3	3.15	14.42
2.93	YES						
L0003127	0	0.88530E-06	446467.4	3762269.8	221.3	3.15	14.42
2.93	YES						
L0003128	0	0.88530E-06	446491.1	3762289.7	221.4	3.15	14.42
2.93	YES						
L0003129	0	0.88530E-06	446517.6	3762305.2	221.7	3.15	14.42
2.93	YES						
L0003130	0	0.88530E-06	446545.9	3762318.0	221.7	3.15	14.42
2.93	YES						
L0003131	0	0.88530E-06	446574.1	3762330.7	221.9	3.15	14.42
2.93	YES						
L0003132	0	0.88530E-06	446602.4	3762343.5	222.0	3.15	14.42
2.93	YES						
L0003133	0	0.88530E-06	446630.7	3762356.2	222.2	3.15	14.42
2.93	YES						
L0003134	0	0.88530E-06	446658.9	3762369.0	222.4	3.15	14.42
2.93	YES						
L0003135	0	0.88530E-06	446687.2	3762381.7	222.5	3.15	14.42
2.93	YES						
L0003136	0	0.88530E-06	446715.4	3762394.5	222.9	3.15	14.42
2.93	YES						
L0003137	0	0.88530E-06	446745.7	3762399.2	222.9	3.15	14.42
2.93	YES						
L0003138	0	0.88530E-06	446776.6	3762401.1	222.8	3.15	14.42
2.93	YES						
L0003139	0	0.88530E-06	446807.6	3762403.0	222.2	3.15	14.42
2.93	YES						
L0003140	0	0.88530E-06	446838.5	3762403.5	221.9	3.15	14.42
2.93	YES						
L0003141	0	0.88530E-06	446869.5	3762403.3	222.0	3.15	14.42
2.93	YES						
L0003142	0	0.88530E-06	446900.5	3762403.0	222.0	3.15	14.42
2.93	YES						
L0003143	0	0.88530E-06	446931.5	3762402.7	222.2	3.15	14.42
2.93	YES						
L0003144	0	0.88530E-06	446962.5	3762402.5	222.5	3.15	14.42
2.93	YES						
L0003145	0	0.88530E-06	446993.5	3762402.2	222.6	3.15	14.42
2.93	YES						
L0003146	0	0.88530E-06	447024.5	3762402.0	222.6	3.15	14.42
2.93	YES						
L0003147	0	0.88530E-06	447055.5	3762401.7	222.7	3.15	14.42
2.93	YES						
L0003148	0	0.88530E-06	447086.5	3762401.4	223.0	3.15	14.42
2.93	YES						

L0003149	0	0.88530E-06	447117.5	3762401.2	223.1	3.15	14.42
2.93	YES						
L0003150	0	0.88530E-06	447148.5	3762400.9	223.3	3.15	14.42
2.93	YES						
L0003151	0	0.88530E-06	447179.5	3762400.6	223.3	3.15	14.42
2.93	YES						
L0003152	0	0.88530E-06	447210.5	3762400.4	223.4	3.15	14.42
2.93	YES						
L0003153	0	0.88530E-06	447241.5	3762400.1	223.3	3.15	14.42
2.93	YES						
L0003154	0	0.88530E-06	447272.5	3762399.8	223.4	3.15	14.42
2.93	YES						
L0003155	0	0.88530E-06	447303.5	3762399.6	223.5	3.15	14.42
2.93	YES						
L0003156	0	0.88530E-06	447334.5	3762399.3	223.4	3.15	14.42
2.93	YES						
L0003157	0	0.88530E-06	447365.5	3762399.1	223.3	3.15	14.42
2.93	YES						
L0003158	0	0.88530E-06	447396.5	3762398.8	223.2	3.15	14.42
2.93	YES						
L0003159	0	0.88530E-06	447427.5	3762398.5	223.2	3.15	14.42
2.93	YES						
L0003160	0	0.88530E-06	447458.5	3762398.3	223.1	3.15	14.42
2.93	YES						
L0003161	0	0.88530E-06	447489.5	3762398.0	223.0	3.15	14.42
2.93	YES						
L0003162	0	0.88530E-06	447520.5	3762397.7	222.8	3.15	14.42
2.93	YES						
L0003163	0	0.88530E-06	447551.5	3762397.5	222.7	3.15	14.42
2.93	YES						
L0003164	0	0.88530E-06	447582.5	3762397.2	222.7	3.15	14.42
2.93	YES						

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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
ID	SOURCE	SCALAR	PART.	(GRAMS/SEC)	X	Y	(METERS)	(METERS)
(METERS)		CATS.	BY		(METERS)	(METERS)	(METERS)	(METERS)

L0003165	0	0.88530E-06	447613.5	3762397.0	222.5	3.15	14.42
2.93 YES							
L0003166	0	0.88530E-06	447644.5	3762396.7	222.4	3.15	14.42
2.93 YES							
L0003167	0	0.88530E-06	447675.5	3762396.4	222.5	3.15	14.42
2.93 YES							
L0003168	0	0.88530E-06	447706.5	3762396.2	222.6	3.15	14.42
2.93 YES							
L0003169	0	0.88530E-06	447737.5	3762395.9	222.8	3.15	14.42
2.93 YES							
L0003170	0	0.88530E-06	447768.5	3762395.6	222.9	3.15	14.42
2.93 YES							
L0003171	0	0.88530E-06	447799.5	3762395.4	223.1	3.15	14.42
2.93 YES							
L0003172	0	0.88530E-06	447830.5	3762395.1	223.2	3.15	14.42
2.93 YES							
L0003173	0	0.88530E-06	447861.5	3762394.8	223.3	3.15	14.42
2.93 YES							
L0003174	0	0.88530E-06	447892.5	3762394.6	223.4	3.15	14.42
2.93 YES							
L0003175	0	0.88530E-06	447923.5	3762394.3	223.5	3.15	14.42
2.93 YES							
L0003176	0	0.88530E-06	447954.5	3762394.1	223.7	3.15	14.42
2.93 YES							
L0003177	0	0.88530E-06	447985.5	3762393.8	223.8	3.15	14.42
2.93 YES							
L0003178	0	0.88530E-06	448016.5	3762393.5	223.9	3.15	14.42
2.93 YES							
L0003179	0	0.88530E-06	448047.5	3762393.3	224.0	3.15	14.42
2.93 YES							
L0003180	0	0.88530E-06	448078.5	3762393.0	224.1	3.15	14.42
2.93 YES							
L0003181	0	0.88530E-06	448109.5	3762392.7	224.3	3.15	14.42
2.93 YES							
L0003182	0	0.88530E-06	448140.5	3762392.5	224.4	3.15	14.42
2.93 YES							
L0003183	0	0.88530E-06	448171.5	3762392.2	224.6	3.15	14.42
2.93 YES							
L0003184	0	0.88530E-06	448202.5	3762391.9	224.8	3.15	14.42
2.93 YES							
L0003185	0	0.88530E-06	448233.5	3762391.7	224.9	3.15	14.42
2.93 YES							
L0003186	0	0.88530E-06	448264.5	3762391.4	225.1	3.15	14.42
2.93 YES							
L0003187	0	0.88530E-06	448295.5	3762391.2	225.2	3.15	14.42
2.93 YES							

L0003188	0	0.88530E-06	448326.5	3762390.9	225.3	3.15	14.42
2.93	YES						
L0003189	0	0.88530E-06	448357.5	3762390.6	225.4	3.15	14.42
2.93	YES						
L0003190	0	0.88530E-06	448388.5	3762390.4	225.4	3.15	14.42
2.93	YES						
L0003191	0	0.88530E-06	448419.5	3762390.1	225.4	3.15	14.42
2.93	YES						
L0003192	0	0.88530E-06	448450.5	3762390.4	225.3	3.15	14.42
2.93	YES						
L0003193	0	0.88530E-06	448481.4	3762392.4	225.2	3.15	14.42
2.93	YES						
L0003194	0	0.88530E-06	448512.3	3762394.3	225.0	3.15	14.42
2.93	YES						
L0003195	0	0.88530E-06	448543.3	3762396.2	224.9	3.15	14.42
2.93	YES						
L0003196	0	0.88530E-06	448574.2	3762398.1	224.8	3.15	14.42
2.93	YES						
L0003197	0	0.88530E-06	448605.2	3762400.0	224.7	3.15	14.42
2.93	YES						
L0003198	0	0.88530E-06	448636.1	3762401.9	224.5	3.15	14.42
2.93	YES						
L0003199	0	0.88530E-06	448667.0	3762403.8	224.4	3.15	14.42
2.93	YES						
L0003200	0	0.88530E-06	448698.0	3762405.7	224.4	3.15	14.42
2.93	YES						
L0003201	0	0.88530E-06	448728.9	3762407.7	224.7	3.15	14.42
2.93	YES						
L0003202	0	0.88530E-06	448759.9	3762409.6	225.6	3.15	14.42
2.93	YES						
L0003203	0	0.88530E-06	448790.8	3762411.5	225.9	3.15	14.42
2.93	YES						
L0003204	0	0.88530E-06	448820.0	3762421.7	225.7	3.15	14.42
2.93	YES						

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\*\*\* MODELOPTs:      RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* VOLUME SOURCE DATA \*\*\*

INIT.	URBAN	NUMBER EMISSION RATE			BASE	RELEASE	INIT.
SZ	SOURCE	EMISSION RATE			ELEV.	HEIGHT	SY
		PART. (GRAMS/SEC)	X	Y			
		SCALAR VARY					

ID (METERS)	CATS.	BY	(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
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L0003205	0	0.88530E-06	448849.1	3762432.3	226.7	3.15	14.42
2.93 YES							
L0003206	0	0.88530E-06	448878.3	3762442.9	227.7	3.15	14.42
2.93 YES							
L0003207	0	0.88530E-06	448907.4	3762453.5	228.1	3.15	14.42
2.93 YES							
L0003208	0	0.88530E-06	448936.5	3762464.2	229.3	3.15	14.42
2.93 YES							
L0003209	0	0.88530E-06	448965.6	3762474.8	229.7	3.15	14.42
2.93 YES							
L0003210	0	0.88530E-06	448994.8	3762485.4	230.3	3.15	14.42
2.93 YES							
L0003211	0	0.88530E-06	449023.9	3762496.0	233.1	3.15	14.42
2.93 YES							
L0003212	0	0.88530E-06	449053.0	3762506.6	234.8	3.15	14.42
2.93 YES							
L0003213	0	0.88530E-06	449082.1	3762517.3	235.0	3.15	14.42
2.93 YES							
L0003214	0	0.88530E-06	449111.3	3762527.9	232.4	3.15	14.42
2.93 YES							
L0003215	0	0.88530E-06	449140.4	3762538.5	227.4	3.15	14.42
2.93 YES							
L0003216	0	0.88530E-06	449169.5	3762549.1	226.9	3.15	14.42
2.93 YES							
L0003217	0	0.88530E-06	449198.6	3762559.8	227.0	3.15	14.42
2.93 YES							
L0003218	0	0.88530E-06	449227.8	3762570.4	228.0	3.15	14.42
2.93 YES							
L0003219	0	0.88530E-06	449256.9	3762581.0	232.2	3.15	14.42
2.93 YES							
L0003220	0	0.88530E-06	449286.0	3762591.6	233.1	3.15	14.42
2.93 YES							

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\*\*\* MODELOPTs:    RegDEFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID

SOURCE IDs

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ALL	L0002165	,	L0002166	,	L0002167	,	L0002168	,	L0002169	,
L0002170	, L0002171	,	, L0002172	,						
	L0002173	,	L0002174	,	L0002175	,	L0002176	,	L0002177	,
L0002178	, L0002179	,	, L0002180	,						
	L0002181	,	L0002182	,	L0002183	,	L0002184	,	L0002185	,
L0002186	, L0002187	,	, L0002188	,						
	L0002189	,	L0002190	,	L0002191	,	L0002192	,	L0002193	,
L0002194	, L0002195	,	, L0002196	,						
	L0002197	,	L0002198	,	L0002199	,	L0002200	,	L0002201	,
L0002202	, L0002203	,	, L0002204	,						
	L0002205	,	L0002206	,	L0002207	,	L0002208	,	L0002209	,
L0002210	, L0002211	,	, L0002212	,						
	L0002213	,	L0002214	,	L0002215	,	L0002216	,	L0002217	,
L0002218	, L0002219	,	, L0002220	,						
	L0002221	,	L0002222	,	L0002223	,	L0002224	,	L0002225	,
L0002226	, L0002227	,	, L0002228	,						
	L0002229	,	L0002230	,	L0002231	,	L0002232	,	L0002233	,
L0002234	, L0002235	,	, L0002236	,						
	L0002237	,	L0002238	,	L0002239	,	L0002240	,	L0002241	,
L0002242	, L0002243	,	, L0002244	,						
	L0002245	,	L0002246	,	L0002247	,	L0002248	,	L0002249	,
L0002250	, L0002251	,	, L0002252	,						
	L0002253	,	L0002254	,	L0002255	,	L0002256	,	L0002257	,
L0002258	, L0002259	,	, L0002260	,						
	L0002261	,	L0002262	,	L0002263	,	L0002264	,	L0002265	,
L0002266	, L0002267	,	, L0002268	,						
	L0002269	,	L0002270	,	L0002271	,	L0002272	,	L0002273	,
L0002274	, L0002275	,	, L0002276	,						
	L0002277	,	L0002278	,	L0002279	,	L0002280	,	L0002281	,
L0002282	, L0002283	,	, L0002284	,						
	L0002285	,	L0002286	,	L0002287	,	L0002288	,	L0002289	,

L0002290 , L0002291 , L0002292 ,  
 L0002298 , L0002299 , L0002300 ,  
 L0002306 , L0002307 , L0002308 ,  
 L0002314 , L0002315 , L0002316 ,  
 L0002322 , L0002323 , L0002324 ,

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID -----	SOURCE IDs -----
L0002330	L0002325 , L0002326 , L0002327 , L0002328 , L0002329 , , L0002331 , L0002332 ,
L0002338	L0002333 , L0002334 , L0002335 , L0002336 , L0002337 , , L0002339 , L0002340 ,
L0002346	L0002341 , L0002342 , L0002343 , L0002344 , L0002345 , , L0002347 , L0002348 ,
L0002354	L0002349 , L0002350 , L0002351 , L0002352 , L0002353 , , L0002355 , L0002356 ,
L0002362	L0002357 , L0002358 , L0002359 , L0002360 , L0002361 , , L0002363 , L0002364 ,
L0002370	L0002365 , L0002366 , L0002367 , L0002368 , L0002369 , , L0002371 , L0002372 ,
L0002378	L0002373 , L0002374 , L0002375 , L0002376 , L0002377 , , L0002379 , L0002380 ,



L0002386      L0002381    , L0002382    , L0002383    , L0002384    , L0002385    ,  
                   , L0002387    , L0002388    ,  
  
 L0002394      L0002389    , L0002390    , L0002391    , L0002392    , L0002393    ,  
                   , L0002395    , L0002396    ,  
  
 L0002402      L0002397    , L0002398    , L0002399    , L0002400    , L0002401    ,  
                   , L0002403    , L0002404    ,  
  
 L0002410      L0002405    , L0002406    , L0002407    , L0002408    , L0002409    ,  
                   , L0002411    , L0002412    ,  
  
 L0002418      L0002413    , L0002414    , L0002415    , L0002416    , L0002417    ,  
                   , L0002419    , L0002420    ,  
  
 L0002426      L0002421    , L0002422    , L0002423    , L0002424    , L0002425    ,  
                   , L0002427    , L0002428    ,  
  
 L0002434      L0002429    , L0002430    , L0002431    , L0002432    , L0002433    ,  
                   , L0002435    , L0002436    ,  
  
 L0002442      L0002437    , L0002438    , L0002439    , L0002440    , L0002441    ,  
                   , L0002443    , L0002444    ,  
  
 L0002450      L0002445    , L0002446    , L0002447    , L0002448    , L0002449    ,  
                   , L0002451    , L0002452    ,  
  
 L0002458      L0002453    , L0002454    , L0002455    , L0002456    , L0002457    ,  
                   , L0002459    , L0002460    ,  
  
 L0002466      L0002461    , L0002462    , L0002463    , L0002464    , L0002465    ,  
                   , L0002467    , L0002468    ,  
  
 L0002474      L0002469    , L0002470    , L0002471    , L0002472    , L0002473    ,  
                   , L0002475    , L0002476    ,  
  
 L0002482      L0002477    , L0002478    , L0002479    , L0002480    , L0002481    ,  
                   , L0002483    , L0002484    ,

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\*\*\* MODELOPTs:    RegDEFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID

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SOURCE IDs

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L0002490	L0002485 , L0002491	, L0002486 , L0002492	, L0002487 ,	, L0002488	, L0002489	,
L0002498	L0002493 , L0002499	, L0002494 , L0002500	, L0002495 ,	, L0002496	, L0002497	,
L0002506	L0002501 , L0002507	, L0002502 , L0002508	, L0002503 ,	, L0002504	, L0002505	,
L0002514	L0002509 , L0002515	, L0002510 , L0002516	, L0002511 ,	, L0002512	, L0002513	,
L0002522	L0002517 , L0002523	, L0002518 , L0002524	, L0002519 ,	, L0002520	, L0002521	,
L0002530	L0002525 , L0002531	, L0002526 , L0002532	, L0002527 ,	, L0002528	, L0002529	,
L0002538	L0002533 , L0002539	, L0002534 , L0002540	, L0002535 ,	, L0002536	, L0002537	,
L0002546	L0002541 , L0002547	, L0002542 , L0002548	, L0002543 ,	, L0002544	, L0002545	,
L0002554	L0002549 , L0002555	, L0002550 , L0002556	, L0002551 ,	, L0002552	, L0002553	,
L0002562	L0002557 , L0002563	, L0002558 , L0002564	, L0002559 ,	, L0002560	, L0002561	,
L0002570	L0002565 , L0002571	, L0002566 , L0002572	, L0002567 ,	, L0002568	, L0002569	,
L0002578	L0002573 , L0002579	, L0002574 , L0002580	, L0002575 ,	, L0002576	, L0002577	,
L0002586	L0002581 , L0002587	, L0002582 , L0002588	, L0002583 ,	, L0002584	, L0002585	,
L0002594	L0002589 , L0002595	, L0002590 , L0002596	, L0002591 ,	, L0002592	, L0002593	,
L0002602	L0002597 , L0002603	, L0002598 , L0002604	, L0002599 ,	, L0002600	, L0002601	,

L0002610      L0002605    , L0002606    , L0002607    , L0002608    , L0002609    ,  
                   , L0002611    , L0002612    ,  
  
 L0002618      L0002613    , L0002614    , L0002615    , L0002616    , L0002617    ,  
                   , L0002619    , L0002620    ,  
  
 L0002626      L0002621    , L0002622    , L0002623    , L0002624    , L0002625    ,  
                   , L0002627    , L0002628    ,  
  
 L0002634      L0002629    , L0002630    , L0002631    , L0002632    , L0002633    ,  
                   , L0002635    , L0002636    ,  
  
 L0002642      L0002637    , L0002638    , L0002639    , L0002640    , L0002641    ,  
                   , L0002643    , L0002644    ,

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\*\*\* MODELOPTs:      RegDEFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID	SOURCE IDs
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L0002650	L0002645 , L0002646 , L0002647 , L0002648 , L0002649 , , L0002651 , L0002652 ,
L0002658	L0002653 , L0002654 , L0002655 , L0002656 , L0002657 , , L0002659 , L0002660 ,
L0002666	L0002661 , L0002662 , L0002663 , L0002664 , L0002665 , , L0002667 , L0002668 ,
L0002674	L0002669 , L0002670 , L0002671 , L0002672 , L0002673 , , L0002675 , L0002676 ,
L0002682	L0002677 , L0002678 , L0002679 , L0002680 , L0002681 , , L0002683 , L0002684 ,
L0002690	L0002685 , L0002686 , L0002687 , L0002688 , L0002689 , , L0002691 , L0002692 ,
L0002698	L0002693 , L0002694 , L0002695 , L0002696 , L0002697 , , L0002699 , L0002700 ,

L0002706      L0002701      , L0002702      , L0002703      , L0002704      , L0002705      ,  
                  , L0002707      , L0002708      ,  
  
 L0002714      L0002709      , L0002710      , L0002711      , L0002712      , L0002713      ,  
                  , L0002715      , L0002716      ,  
  
 L0002722      L0002717      , L0002718      , L0002719      , L0002720      , L0002721      ,  
                  , L0002723      , L0002724      ,  
  
 L0002730      L0002725      , L0002726      , L0002727      , L0002728      , L0002729      ,  
                  , L0002731      , L0002732      ,  
  
 L0002738      L0002733      , L0002734      , L0002735      , L0002736      , L0002737      ,  
                  , L0002739      , L0002740      ,  
  
 L0002746      L0002741      , L0002742      , L0002743      , L0002744      , L0002745      ,  
                  , L0002747      , L0002748      ,  
  
 L0002754      L0002749      , L0002750      , L0002751      , L0002752      , L0002753      ,  
                  , L0002755      , L0002756      ,  
  
 L0002762      L0002757      , L0002758      , L0002759      , L0002760      , L0002761      ,  
                  , L0002763      , L0002764      ,  
  
 L0002770      L0002765      , L0002766      , L0002767      , L0002768      , L0002769      ,  
                  , L0002771      , L0002772      ,  
  
 L0002778      L0002773      , L0002774      , L0002775      , L0002776      , L0002777      ,  
                  , L0002779      , L0002780      ,  
  
 L0002786      L0002781      , L0002782      , L0002783      , L0002784      , L0002785      ,  
                  , L0002787      , L0002788      ,  
  
 L0002794      L0002789      , L0002790      , L0002791      , L0002792      , L0002793      ,  
                  , L0002795      , L0002796      ,  
  
 L0002802      L0002797      , L0002798      , L0002799      , L0002800      , L0002801      ,  
                  , L0002803      , L0002804      ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs:      RegDEFAULT      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID

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SOURCE IDs

-----

L0002810	L0002805 , L0002811	, L0002806 , L0002812	, L0002807 ,	, L0002808 ,	L0002809 ,
L0002818	L0002813 , L0002819	, L0002814 , L0002820	, L0002815 ,	, L0002816 ,	L0002817 ,
L0002826	L0002821 , L0002827	, L0002822 , L0002828	, L0002823 ,	, L0002824 ,	L0002825 ,
L0002834	L0002829 , L0002835	, L0002830 , L0002836	, L0002831 ,	, L0002832 ,	L0002833 ,
L0002842	L0002837 , L0002843	, L0002838 , L0002844	, L0002839 ,	, L0002840 ,	L0002841 ,
L0002850	L0002845 , L0002851	, L0002846 , L0002852	, L0002847 ,	, L0002848 ,	L0002849 ,
L0002858	L0002853 , L0002859	, L0002854 , L0002860	, L0002855 ,	, L0002856 ,	L0002857 ,
L0002866	L0002861 , L0002867	, L0002862 , L0002868	, L0002863 ,	, L0002864 ,	L0002865 ,
L0002874	L0002869 , L0002875	, L0002870 , L0002876	, L0002871 ,	, L0002872 ,	L0002873 ,
L0002882	L0002877 , L0002883	, L0002878 , L0002884	, L0002879 ,	, L0002880 ,	L0002881 ,
L0002890	L0002885 , L0002891	, L0002886 , L0002892	, L0002887 ,	, L0002888 ,	L0002889 ,
L0002898	L0002893 , L0002899	, L0002894 , L0002900	, L0002895 ,	, L0002896 ,	L0002897 ,
L0002906	L0002901 , L0002907	, L0002902 , L0002908	, L0002903 ,	, L0002904 ,	L0002905 ,
L0002914	L0002909 , L0002915	, L0002910 , L0002916	, L0002911 ,	, L0002912 ,	L0002913 ,
L0002922	L0002917 , L0002923	, L0002918 , L0002924	, L0002919 ,	, L0002920 ,	L0002921 ,

L0002930      L0002925      , L0002926      , L0002927      , L0002928      , L0002929      ,  
                   , L0002931      , L0002932      ,  
  
 L0002938      L0002933      , L0002934      , L0002935      , L0002936      , L0002937      ,  
                   , L0002939      , L0002940      ,  
  
 L0002946      L0002941      , L0002942      , L0002943      , L0002944      , L0002945      ,  
                   , L0002947      , L0002948      ,  
  
 L0002954      L0002949      , L0002950      , L0002951      , L0002952      , L0002953      ,  
                   , L0002955      , L0002956      ,  
  
 L0002962      L0002957      , L0002958      , L0002959      , L0002960      , L0002961      ,  
                   , L0002963      , L0002964      ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs:      RegDFault      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID	SOURCE IDs
-----	-----
L0002970	L0002965 , L0002966 , L0002967 , L0002968 , L0002969 , , L0002971 , L0002972 ,
L0002978	L0002973 , L0002974 , L0002975 , L0002976 , L0002977 , , L0002979 , L0002980 ,
L0002986	L0002981 , L0002982 , L0002983 , L0002984 , L0002985 , , L0002987 , L0002988 ,
L0002994	L0002989 , L0002990 , L0002991 , L0002992 , L0002993 , , L0002995 , L0002996 ,
L0003002	L0002997 , L0002998 , L0002999 , L0003000 , L0003001 , , L0003003 , L0003004 ,
L0003010	L0003005 , L0003006 , L0003007 , L0003008 , L0003009 , , L0003011 , L0003012 ,
	L0003013 , L0003014 , L0003015 , L0003016 , L0003017 ,

L0003018 , L0003019 , L0003020 ,  
 L0003026 , L0003021 , L0003022 , L0003023 , L0003024 , L0003025 ,  
 L0003027 , L0003028 ,  
 L0003034 , L0003029 , L0003030 , L0003031 , L0003032 , L0003033 ,  
 L0003035 , L0003036 ,  
 L0003042 , L0003037 , L0003038 , L0003039 , L0003040 , L0003041 ,  
 L0003043 , L0003044 ,  
 L0003050 , L0003045 , L0003046 , L0003047 , L0003048 , L0003049 ,  
 L0003051 , L0003052 ,  
 L0003058 , L0003053 , L0003054 , L0003055 , L0003056 , L0003057 ,  
 L0003059 , L0003060 ,  
 L0003066 , L0003061 , L0003062 , L0003063 , L0003064 , L0003065 ,  
 L0003067 , L0003068 ,  
 L0003074 , L0003069 , L0003070 , L0003071 , L0003072 , L0003073 ,  
 L0003075 , L0003076 ,  
 L0003082 , L0003077 , L0003078 , L0003079 , L0003080 , L0003081 ,  
 L0003083 , L0003084 ,  
 L0003090 , L0003085 , L0003086 , L0003087 , L0003088 , L0003089 ,  
 L0003091 , L0003092 ,  
 L0003098 , L0003093 , L0003094 , L0003095 , L0003096 , L0003097 ,  
 L0003099 , L0003100 ,  
 L0003106 , L0003101 , L0003102 , L0003103 , L0003104 , L0003105 ,  
 L0003107 , L0003108 ,  
 L0003114 , L0003109 , L0003110 , L0003111 , L0003112 , L0003113 ,  
 L0003115 , L0003116 ,  
 L0003122 , L0003117 , L0003118 , L0003119 , L0003120 , L0003121 ,  
 L0003123 , L0003124 ,

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 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*  
 \*\*\* 19:02:44

\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINING SOURCE GROUPS \*\*\*

SRCGROUP ID	SOURCE IDs					
-----	-----					
L0003130	L0003125	, L0003126	, L0003127	, L0003128	, L0003129	,
	, L0003131	, L0003132	,			
L0003138	L0003133	, L0003134	, L0003135	, L0003136	, L0003137	,
	, L0003139	, L0003140	,			
L0003146	L0003141	, L0003142	, L0003143	, L0003144	, L0003145	,
	, L0003147	, L0003148	,			
L0003154	L0003149	, L0003150	, L0003151	, L0003152	, L0003153	,
	, L0003155	, L0003156	,			
L0003162	L0003157	, L0003158	, L0003159	, L0003160	, L0003161	,
	, L0003163	, L0003164	,			
L0003170	L0003165	, L0003166	, L0003167	, L0003168	, L0003169	,
	, L0003171	, L0003172	,			
L0003178	L0003173	, L0003174	, L0003175	, L0003176	, L0003177	,
	, L0003179	, L0003180	,			
L0003186	L0003181	, L0003182	, L0003183	, L0003184	, L0003185	,
	, L0003187	, L0003188	,			
L0003194	L0003189	, L0003190	, L0003191	, L0003192	, L0003193	,
	, L0003195	, L0003196	,			
L0003202	L0003197	, L0003198	, L0003199	, L0003200	, L0003201	,
	, L0003203	, L0003204	,			
L0003210	L0003205	, L0003206	, L0003207	, L0003208	, L0003209	,
	, L0003211	, L0003212	,			
L0003218	L0003213	, L0003214	, L0003215	, L0003216	, L0003217	,
	, L0003219	, L0003220	,			

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
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 \*\*\* 19:02:44



\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID -----	URBAN POP -----	SOURCE IDs -----					
L0002169 L0002172	2035210. , L0002170 ,	L0002165 , L0002171 ,	L0002166 ,	L0002167 ,	L0002168 ,		
L0002178	L0002173 , L0002179 ,	L0002174 , L0002180 ,	L0002175 ,	L0002176 ,	L0002177 ,		
L0002186	L0002181 , L0002187 ,	L0002182 , L0002188 ,	L0002183 ,	L0002184 ,	L0002185 ,		
L0002194	L0002189 , L0002195 ,	L0002190 , L0002196 ,	L0002191 ,	L0002192 ,	L0002193 ,		
L0002202	L0002197 , L0002203 ,	L0002198 , L0002204 ,	L0002199 ,	L0002200 ,	L0002201 ,		
L0002210	L0002205 , L0002211 ,	L0002206 , L0002212 ,	L0002207 ,	L0002208 ,	L0002209 ,		
L0002218	L0002213 , L0002219 ,	L0002214 , L0002220 ,	L0002215 ,	L0002216 ,	L0002217 ,		
L0002226	L0002221 , L0002227 ,	L0002222 , L0002228 ,	L0002223 ,	L0002224 ,	L0002225 ,		
L0002234	L0002229 , L0002235 ,	L0002230 , L0002236 ,	L0002231 ,	L0002232 ,	L0002233 ,		
L0002242	L0002237 , L0002243 ,	L0002238 , L0002244 ,	L0002239 ,	L0002240 ,	L0002241 ,		
L0002250	L0002245 , L0002251 ,	L0002246 , L0002252 ,	L0002247 ,	L0002248 ,	L0002249 ,		
L0002258	L0002253 , L0002259 ,	L0002254 , L0002260 ,	L0002255 ,	L0002256 ,	L0002257 ,		
L0002266	L0002261 , L0002267 ,	L0002262 , L0002268 ,	L0002263 ,	L0002264 ,	L0002265 ,		
	L0002269 ,	L0002270 ,	L0002271 ,	L0002272 ,	L0002273 ,		

L0002274 , L0002275 , L0002276 ,  
 L0002282 , L0002283 , L0002284 ,  
 L0002290 , L0002291 , L0002292 ,  
 L0002298 , L0002299 , L0002300 ,  
 L0002306 , L0002307 , L0002308 ,  
 L0002314 , L0002315 , L0002316 ,  
 L0002322 , L0002323 , L0002324 ,  
 \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID	URBAN POP	SOURCE IDs
-----	-----	-----
L0002330	L0002325 , L0002331	L0002326 , L0002327 , L0002328 , L0002329 , L0002332
L0002338	L0002333 , L0002339	L0002334 , L0002335 , L0002336 , L0002337 , L0002340
L0002346	L0002341 , L0002347	L0002342 , L0002343 , L0002344 , L0002345 , L0002348
L0002354	L0002349 , L0002355	L0002350 , L0002351 , L0002352 , L0002353 , L0002356
L0002362	L0002357 , L0002363	L0002358 , L0002359 , L0002360 , L0002361 , L0002364

L0002370      L0002365      , L0002366      , L0002367      , L0002368      , L0002369      ,  
                   , L0002371      , L0002372      ,  
  
 L0002378      L0002373      , L0002374      , L0002375      , L0002376      , L0002377      ,  
                   , L0002379      , L0002380      ,  
  
 L0002386      L0002381      , L0002382      , L0002383      , L0002384      , L0002385      ,  
                   , L0002387      , L0002388      ,  
  
 L0002394      L0002389      , L0002390      , L0002391      , L0002392      , L0002393      ,  
                   , L0002395      , L0002396      ,  
  
 L0002402      L0002397      , L0002398      , L0002399      , L0002400      , L0002401      ,  
                   , L0002403      , L0002404      ,  
  
 L0002410      L0002405      , L0002406      , L0002407      , L0002408      , L0002409      ,  
                   , L0002411      , L0002412      ,  
  
 L0002418      L0002413      , L0002414      , L0002415      , L0002416      , L0002417      ,  
                   , L0002419      , L0002420      ,  
  
 L0002426      L0002421      , L0002422      , L0002423      , L0002424      , L0002425      ,  
                   , L0002427      , L0002428      ,  
  
 L0002434      L0002429      , L0002430      , L0002431      , L0002432      , L0002433      ,  
                   , L0002435      , L0002436      ,  
  
 L0002442      L0002437      , L0002438      , L0002439      , L0002440      , L0002441      ,  
                   , L0002443      , L0002444      ,  
  
 L0002450      L0002445      , L0002446      , L0002447      , L0002448      , L0002449      ,  
                   , L0002451      , L0002452      ,  
  
 L0002458      L0002453      , L0002454      , L0002455      , L0002456      , L0002457      ,  
                   , L0002459      , L0002460      ,  
  
 L0002466      L0002461      , L0002462      , L0002463      , L0002464      , L0002465      ,  
                   , L0002467      , L0002468      ,  
  
 L0002474      L0002469      , L0002470      , L0002471      , L0002472      , L0002473      ,  
                   , L0002475      , L0002476      ,  
  
 L0002482      L0002477      , L0002478      , L0002479      , L0002480      , L0002481      ,  
                   , L0002483      , L0002484      ,

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

\*\*\*

URBAN ID -----	URBAN POP -----	SOURCE IDs -----					
L0002490	L0002485 , L0002491	, L0002486 , L0002492	, L0002487 ,	, L0002488	, L0002489	,	
L0002498	L0002493 , L0002499	, L0002494 , L0002500	, L0002495 ,	, L0002496	, L0002497	,	
L0002506	L0002501 , L0002507	, L0002502 , L0002508	, L0002503 ,	, L0002504	, L0002505	,	
L0002514	L0002509 , L0002515	, L0002510 , L0002516	, L0002511 ,	, L0002512	, L0002513	,	
L0002522	L0002517 , L0002523	, L0002518 , L0002524	, L0002519 ,	, L0002520	, L0002521	,	
L0002530	L0002525 , L0002531	, L0002526 , L0002532	, L0002527 ,	, L0002528	, L0002529	,	
L0002538	L0002533 , L0002539	, L0002534 , L0002540	, L0002535 ,	, L0002536	, L0002537	,	
L0002546	L0002541 , L0002547	, L0002542 , L0002548	, L0002543 ,	, L0002544	, L0002545	,	
L0002554	L0002549 , L0002555	, L0002550 , L0002556	, L0002551 ,	, L0002552	, L0002553	,	
L0002562	L0002557 , L0002563	, L0002558 , L0002564	, L0002559 ,	, L0002560	, L0002561	,	
L0002570	L0002565 , L0002571	, L0002566 , L0002572	, L0002567 ,	, L0002568	, L0002569	,	
L0002578	L0002573 , L0002579	, L0002574 , L0002580	, L0002575 ,	, L0002576	, L0002577	,	
	L0002581	, L0002582	, L0002583	, L0002584	, L0002585	,	

L0002586 , L0002587 , L0002588 ,  
 L0002594 , L0002589 , L0002590 , L0002591 , L0002592 , L0002593 ,  
 L0002602 , L0002595 , L0002596 , L0002597 , L0002598 , L0002599 , L0002600 , L0002601 ,  
 L0002610 , L0002603 , L0002604 , L0002605 , L0002606 , L0002607 , L0002608 , L0002609 ,  
 L0002618 , L0002611 , L0002612 , L0002613 , L0002614 , L0002615 , L0002616 , L0002617 ,  
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 L0002642 , L0002635 , L0002636 , L0002637 , L0002638 , L0002639 , L0002640 , L0002641 ,  
 L0002643 , L0002644

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

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URBAN ID	URBAN POP	SOURCE IDs
-----	-----	-----
L0002650	L0002645 , L0002651	L0002646 , L0002647 , L0002648 , L0002649
L0002658	L0002653 , L0002659	L0002654 , L0002655 , L0002656 , L0002657
L0002666	L0002661 , L0002667	L0002662 , L0002663 , L0002664 , L0002665
L0002674	L0002669 , L0002675	L0002670 , L0002671 , L0002672 , L0002673

L0002682      L0002677      , L0002678      , L0002679      , L0002680      , L0002681      ,  
                  , L0002683      , L0002684      ,  
  
 L0002690      L0002685      , L0002686      , L0002687      , L0002688      , L0002689      ,  
                  , L0002691      , L0002692      ,  
  
 L0002698      L0002693      , L0002694      , L0002695      , L0002696      , L0002697      ,  
                  , L0002699      , L0002700      ,  
  
 L0002706      L0002701      , L0002702      , L0002703      , L0002704      , L0002705      ,  
                  , L0002707      , L0002708      ,  
  
 L0002714      L0002709      , L0002710      , L0002711      , L0002712      , L0002713      ,  
                  , L0002715      , L0002716      ,  
  
 L0002722      L0002717      , L0002718      , L0002719      , L0002720      , L0002721      ,  
                  , L0002723      , L0002724      ,  
  
 L0002730      L0002725      , L0002726      , L0002727      , L0002728      , L0002729      ,  
                  , L0002731      , L0002732      ,  
  
 L0002738      L0002733      , L0002734      , L0002735      , L0002736      , L0002737      ,  
                  , L0002739      , L0002740      ,  
  
 L0002746      L0002741      , L0002742      , L0002743      , L0002744      , L0002745      ,  
                  , L0002747      , L0002748      ,  
  
 L0002754      L0002749      , L0002750      , L0002751      , L0002752      , L0002753      ,  
                  , L0002755      , L0002756      ,  
  
 L0002762      L0002757      , L0002758      , L0002759      , L0002760      , L0002761      ,  
                  , L0002763      , L0002764      ,  
  
 L0002770      L0002765      , L0002766      , L0002767      , L0002768      , L0002769      ,  
                  , L0002771      , L0002772      ,  
  
 L0002778      L0002773      , L0002774      , L0002775      , L0002776      , L0002777      ,  
                  , L0002779      , L0002780      ,  
  
 L0002786      L0002781      , L0002782      , L0002783      , L0002784      , L0002785      ,  
                  , L0002787      , L0002788      ,  
  
 L0002794      L0002789      , L0002790      , L0002791      , L0002792      , L0002793      ,  
                  , L0002795      , L0002796      ,  
  
 L0002802      L0002797      , L0002798      , L0002799      , L0002800      , L0002801      ,  
                  , L0002803      , L0002804      ,

▲ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD

\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

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URBAN ID	URBAN POP	SOURCE IDs					
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L0002810	L0002805 , L0002811	L0002806 , L0002812	L0002807 ,	L0002808 ,	L0002809 ,		
L0002818	L0002813 , L0002819	L0002814 , L0002820	L0002815 ,	L0002816 ,	L0002817 ,		
L0002826	L0002821 , L0002827	L0002822 , L0002828	L0002823 ,	L0002824 ,	L0002825 ,		
L0002834	L0002829 , L0002835	L0002830 , L0002836	L0002831 ,	L0002832 ,	L0002833 ,		
L0002842	L0002837 , L0002843	L0002838 , L0002844	L0002839 ,	L0002840 ,	L0002841 ,		
L0002850	L0002845 , L0002851	L0002846 , L0002852	L0002847 ,	L0002848 ,	L0002849 ,		
L0002858	L0002853 , L0002859	L0002854 , L0002860	L0002855 ,	L0002856 ,	L0002857 ,		
L0002866	L0002861 , L0002867	L0002862 , L0002868	L0002863 ,	L0002864 ,	L0002865 ,		
L0002874	L0002869 , L0002875	L0002870 , L0002876	L0002871 ,	L0002872 ,	L0002873 ,		
L0002882	L0002877 , L0002883	L0002878 , L0002884	L0002879 ,	L0002880 ,	L0002881 ,		
L0002890	L0002885 , L0002891	L0002886 , L0002892	L0002887 ,	L0002888 ,	L0002889 ,		
	L0002893 ,	L0002894 ,	L0002895 ,	L0002896 ,	L0002897 ,		

L0002898 , L0002899 , L0002900 ,  
 L0002906 , L0002901 , L0002902 , L0002903 , L0002904 , L0002905 ,  
 L0002914 , L0002907 , L0002908 ,  
 L0002914 , L0002909 , L0002910 , L0002911 , L0002912 , L0002913 ,  
 L0002922 , L0002915 , L0002916 ,  
 L0002922 , L0002917 , L0002918 , L0002919 , L0002920 , L0002921 ,  
 L0002930 , L0002923 , L0002924 ,  
 L0002930 , L0002925 , L0002926 , L0002927 , L0002928 , L0002929 ,  
 L0002938 , L0002931 , L0002932 ,  
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 L0002946 , L0002939 , L0002940 ,  
 L0002946 , L0002941 , L0002942 , L0002943 , L0002944 , L0002945 ,  
 L0002954 , L0002947 , L0002948 ,  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

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URBAN ID	URBAN POP	SOURCE IDs
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L0002978	L0002973 , L0002979	L0002974 , L0002975 , L0002976 , L0002977 ,
L0002986	L0002981 , L0002987	L0002982 , L0002983 , L0002984 , L0002985 ,



L0002994	L0002989 , L0002995	, L0002990 , L0002996	, L0002991 ,	, L0002992	, L0002993	,
L0003002	L0002997 , L0003003	, L0002998 , L0003004	, L0002999 ,	, L0003000	, L0003001	,
L0003010	L0003005 , L0003011	, L0003006 , L0003012	, L0003007 ,	, L0003008	, L0003009	,
L0003018	L0003013 , L0003019	, L0003014 , L0003020	, L0003015 ,	, L0003016	, L0003017	,
L0003026	L0003021 , L0003027	, L0003022 , L0003028	, L0003023 ,	, L0003024	, L0003025	,
L0003034	L0003029 , L0003035	, L0003030 , L0003036	, L0003031 ,	, L0003032	, L0003033	,
L0003042	L0003037 , L0003043	, L0003038 , L0003044	, L0003039 ,	, L0003040	, L0003041	,
L0003050	L0003045 , L0003051	, L0003046 , L0003052	, L0003047 ,	, L0003048	, L0003049	,
L0003058	L0003053 , L0003059	, L0003054 , L0003060	, L0003055 ,	, L0003056	, L0003057	,
L0003066	L0003061 , L0003067	, L0003062 , L0003068	, L0003063 ,	, L0003064	, L0003065	,
L0003074	L0003069 , L0003075	, L0003070 , L0003076	, L0003071 ,	, L0003072	, L0003073	,
L0003082	L0003077 , L0003083	, L0003078 , L0003084	, L0003079 ,	, L0003080	, L0003081	,
L0003090	L0003085 , L0003091	, L0003086 , L0003092	, L0003087 ,	, L0003088	, L0003089	,
L0003098	L0003093 , L0003099	, L0003094 , L0003100	, L0003095 ,	, L0003096	, L0003097	,
L0003106	L0003101 , L0003107	, L0003102 , L0003108	, L0003103 ,	, L0003104	, L0003105	,
L0003114	L0003109 , L0003115	, L0003110 , L0003116	, L0003111 ,	, L0003112	, L0003113	,

L0003117 , L0003118 , L0003119 , L0003120 , L0003121 ,  
 L0003122 , L0003123 , L0003124 ,  
 \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* SOURCE IDs DEFINED AS URBAN SOURCES

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URBAN ID	URBAN POP	SOURCE IDs
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L0003146	L0003141 , L0003147	L0003142 , L0003148 , L0003143 , L0003144 , L0003145 ,
L0003154	L0003149 , L0003155	L0003150 , L0003156 , L0003151 , L0003152 , L0003153 ,
L0003162	L0003157 , L0003163	L0003158 , L0003164 , L0003159 , L0003160 , L0003161 ,
L0003170	L0003165 , L0003171	L0003166 , L0003172 , L0003167 , L0003168 , L0003169 ,
L0003178	L0003173 , L0003179	L0003174 , L0003180 , L0003175 , L0003176 , L0003177 ,
L0003186	L0003181 , L0003187	L0003182 , L0003188 , L0003183 , L0003184 , L0003185 ,
L0003194	L0003189 , L0003195	L0003190 , L0003196 , L0003191 , L0003192 , L0003193 ,
L0003202	L0003197 , L0003203	L0003198 , L0003204 , L0003199 , L0003200 , L0003201 ,
	L0003205	L0003206 , L0003207 , L0003208 , L0003209 ,

L0003210 , L0003211 , L0003212 ,  
L0003213 , L0003214 , L0003215 , L0003216 , L0003217 ,  
L0003218 , L0003219 , L0003220 ,

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

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▲ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

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^ *** AERMOD - VERSION 21112 *** *** C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U *** 08/24/21
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

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^ *** AERMOD - VERSION 21112 *** C:\Lakes\AERMOD
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

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^ *** AERMOD - VERSION 21112 *** *** C:\Lakes\AERMOD
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

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^ *** AERMOD - VERSION 21112 *** *** C:\Lakes\AERMOD
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*** AERMET - VERSION 16216 *** ***
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* DISCRETE CARTESIAN RECEPTORS \*\*\*  
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)  
(METERS)

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT  
 BE PERFORMED \*  
 LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR  
 FASTAREA/FASTALL

DISTANCE (METERS)	SOURCE		- - RECEPTOR LOCATION - -	
	ID	XR (METERS)	YR (METERS)	
-9.39	L0002384	440374.9	3760519.4	
-17.10	L0002405	439908.5	3760435.0	
	L0002485	439858.5	3760592.9	



-0.20	L0002488	439859.1	3760692.9
0.33	L0002489	439859.4	3760742.9
-0.07	L0002492	439860.0	3760842.9
-0.89	L0002493	439862.6	3760864.6
0.15	L0002494	439862.6	3760914.6
-3.34	L0002495	439862.6	3760964.6
-1.09	L0002497	439862.6	3761014.6
-1.67	L0002498	439862.6	3761064.6
-2.73	L0002501	439862.6	3761164.6
-2.49	L0002502	439862.6	3761214.6
-1.08	L0002504	439862.6	3761264.6
-0.40	L0002505	439862.6	3761314.6
-2.24	L0002508	439862.6	3761414.6
-1.53	L0002509	439862.6	3761464.6
-0.94	L0002511	439862.6	3761514.6
0.95	L0002512	439862.6	3761564.6
-1.62	L0002515	439862.6	3761664.6
-0.46	L0002516	439862.6	3761714.6
-0.68	L0002519	439862.6	3761814.6
-0.89	L0002521	439864.8	3761885.5
-2.80	L0002522	439864.8	3761935.5
-1.02	L0002524	439864.8	3761985.5
-0.90	L0002525	439864.8	3762035.5
-2.39	L0002528	439864.8	3762135.5
-1.89			



\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* UP TO THE FIRST 24 HOURS OF METEOROLOGICAL

DATA \*\*\*

Surface file: ..\KCNO\_V9\_ADJU\KCNO\_v9.SFC

Met Version: 16216

Profile file: ..\KCNO\_V9\_ADJU\KCNO\_v9.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 3179  
Name: UNKNOWN

Upper air station no.: 3190  
Name: UNKNOWN

Year: 2012

Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN
ALBEDO	REF	WS	WD	HT	REF	TA	HT							
12	01	01	1	01	-2.3	0.067	-9.000	-9.000	-999.	41.	11.2	0.09	0.74	
1.00	0.73	313.		7.9	279.2	2.0								
12	01	01	1	02	-2.7	0.070	-9.000	-9.000	-999.	44.	11.3	0.09	0.74	
1.00	0.80	342.		7.9	280.9	2.0								
12	01	01	1	03	-5.6	0.098	-9.000	-9.000	-999.	73.	14.7	0.09	0.74	
1.00	1.20	9.		7.9	281.4	2.0								
12	01	01	1	04	-3.5	0.078	-9.000	-9.000	-999.	52.	11.9	0.09	0.74	
1.00	0.94	21.		7.9	282.0	2.0								
12	01	01	1	05	-8.4	0.119	-9.000	-9.000	-999.	99.	18.1	0.09	0.74	
1.00	1.45	353.		7.9	279.9	2.0								
12	01	01	1	06	-7.6	0.113	-9.000	-9.000	-999.	91.	17.0	0.09	0.74	
1.00	1.38	325.		7.9	277.5	2.0								
12	01	01	1	07	-8.0	0.117	-9.000	-9.000	-999.	96.	17.7	0.09	0.74	
1.00	1.42	313.		7.9	281.4	2.0								
12	01	01	1	08	-5.2	0.101	-9.000	-9.000	-999.	77.	17.5	0.09	0.74	
0.53	1.23	19.		7.9	280.9	2.0								
12	01	01	1	09	23.2	0.117	0.267	0.012	29.	97.	-6.2	0.09	0.74	
0.31	0.96	318.		7.9	287.5	2.0								
12	01	01	1	10	65.2	0.101	0.531	0.014	82.	77.	-1.4	0.09	0.74	
0.24	0.63	244.		7.9	291.4	2.0								
12	01	01	1	11	95.5	0.162	0.778	0.008	176.	156.	-4.0	0.09	0.74	
0.21	1.23	91.		7.9	296.4	2.0								
12	01	01	1	12	110.8	0.197	1.018	0.005	338.	209.	-6.1	0.09	0.74	
0.20	1.60	90.		7.9	299.9	2.0								

12	01	01	1	13	110.5	0.229	1.184	0.005	534.	262.	-9.6	0.09	0.74
0.20	1.98	92.		7.9	302.0	2.0							
12	01	01	1	14	94.6	0.185	1.215	0.005	674.	191.	-5.9	0.09	0.74
0.21	1.50	73.		7.9	303.1	2.0							
12	01	01	1	15	68.6	0.187	1.184	0.005	858.	194.	-8.4	0.09	0.74
0.25	1.59	64.		7.9	303.1	2.0							
12	01	01	1	16	24.9	0.255	0.862	0.005	911.	308.	-58.8	0.09	0.74
0.34	2.61	92.		7.9	300.4	2.0							
12	01	01	1	17	-13.7	0.168	-9.000	-9.000	-999.	168.	31.1	0.09	0.74
0.62	1.98	107.		7.9	295.4	2.0							
12	01	01	1	18	-26.7	0.279	-9.000	-9.000	-999.	354.	85.6	0.09	0.74
1.00	3.22	134.		7.9	291.4	2.0							
12	01	01	1	19	-8.0	0.118	-9.000	-9.000	-999.	120.	18.2	0.09	0.74
1.00	1.43	37.		7.9	290.4	2.0							
12	01	01	1	20	-7.7	0.115	-9.000	-9.000	-999.	94.	17.6	0.09	0.74
1.00	1.40	49.		7.9	287.0	2.0							
12	01	01	1	21	-9.7	0.130	-9.000	-9.000	-999.	113.	20.2	0.09	0.74
1.00	1.57	26.		7.9	288.8	2.0							
12	01	01	1	22	-4.8	0.090	-9.000	-9.000	-999.	65.	13.6	0.09	0.74
1.00	1.11	56.		7.9	284.9	2.0							
12	01	01	1	23	-11.5	0.141	-9.000	-9.000	-999.	127.	21.9	0.09	0.74
1.00	1.69	36.		7.9	282.0	2.0							
12	01	01	1	24	-16.9	0.172	-9.000	-9.000	-999.	171.	32.4	0.09	0.74
1.00	2.03	33.		7.9	279.9	2.0							

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
12	01	01	01	7.9	1	313.	0.73	279.3	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

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 \*\*\* 19:02:44

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 , L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 , L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 , L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

Y-COORD (M)	X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
3761303.17	440566.09	3761307.70	0.00340	440753.96
3761298.60	440851.52	3761299.51	0.00311	440971.94
3761237.69	440893.94	3761226.53	0.00404	441213.06
3761481.34	441159.80	3761390.72	0.00179	441227.40
3761830.62	441082.11	3761541.41	0.00129	441232.16
3761247.30	441646.93	3761227.68	0.00156	441817.10
3761419.29	442031.98	3761370.48	0.00105	442031.98
3761508.71	442027.42	3761327.59	0.00108	441953.51
3761295.37	442028.70	3761572.71	0.00089	440323.58
3761497.04	440261.53	3761302.22	0.00254	440432.94
3762029.06	440427.03	3761600.65	0.00137	440485.55
3762034.96	440533.86	3762034.96	0.00081	440588.09
3762118.06	440657.35	3762052.07	0.00074	440598.04
3762037.11	440231.97	3762035.21	0.00108	440283.76
3761885.55	440897.05	3762038.37	0.00067	439514.80
3761885.55	439564.80	3761885.55	0.00085	439864.80
3761935.55	439514.80	3761935.55	0.00075	439564.80
3761985.55	439864.80	3761935.55	0.00266	439514.80
3761985.55	439564.80	3761985.55	0.00081	439864.80
3761985.55	439564.80	3761985.55	0.00261	

439514.80	3762035.55	0.00073	439564.80
3762035.55	0.00079		
439864.80	3762035.55	0.00256	439864.80
3762085.55	0.00337		
439514.80	3762135.55	0.00070	439564.80
3762135.55	0.00076		
439614.80	3762135.55	0.00084	439664.80
3762135.55	0.00094		
439714.80	3762135.55	0.00110	439764.80
3762135.55	0.00134		
439864.80	3762135.55	0.00251	439512.61
3760864.65	0.00116		
439562.61	3760864.65	0.00128	439612.61
3760864.65	0.00141		
439662.61	3760864.65	0.00159	439712.61
3760864.65	0.00182		
439762.61	3760864.65	0.00215	439812.61
3760864.65	0.00275		
439862.61	3760864.65	0.00368	439512.61
3760914.65	0.00115		
439562.61	3760914.65	0.00126	439612.61
3760914.65	0.00139		
439662.61	3760914.65	0.00156	439712.61
3760914.65	0.00179		
439762.61	3760914.65	0.00212	439812.61
3760914.65	0.00272		
439862.61	3760914.65	0.00354	439512.61
3760964.65	0.00114		
439562.61	3760964.65	0.00124	439612.61
3760964.65	0.00138		
439662.61	3760964.65	0.00155	439712.61
3760964.65	0.00177		
439762.61	3760964.65	0.00210	439812.61
3760964.65	0.00269		
439862.61	3760964.65	0.00359	439512.61
3761014.65	0.00112		
439562.61	3761014.65	0.00123	439612.61
3761014.65	0.00136		
439662.61	3761014.65	0.00152	439712.61
3761014.65	0.00175		
439762.61	3761014.65	0.00207	439812.61
3761014.65	0.00265		

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                                  \*\*\*    19:02:44

VALUES FOR SOURCE GROUP: ALL

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION \*\*\*

INCLUDING SOURCE(S): L0002165 , L0002166

, L0002167 , L0002168 , L0002169 ,

, L0002170 , L0002171 , L0002172 , L0002173 , L0002174

, L0002175 , L0002176 , L0002177 ,

, L0002178 , L0002179 , L0002180 , L0002181 , L0002182

, L0002183 , L0002184 , L0002185 ,

, L0002186 , L0002187 , L0002188 , L0002189 , L0002190

, L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
439862.61	3761014.65	0.00349	439512.61
3761064.65	0.00111		
439562.61	3761064.65	0.00121	439612.61
3761064.65	0.00134		
439662.61	3761064.65	0.00150	439712.61
3761064.65	0.00172		
439762.61	3761064.65	0.00204	439812.61
3761064.65	0.00261		
439862.61	3761064.65	0.00342	439512.61
3761114.65	0.00109		
439562.61	3761114.65	0.00120	439612.61
3761114.65	0.00132		
439662.61	3761114.65	0.00148	439712.61
3761114.65	0.00169		
439762.61	3761114.65	0.00200	439812.61
3761114.65	0.00257		
439862.61	3761114.65	0.00421	439512.61
3761164.65	0.00108		
439562.61	3761164.65	0.00117	439612.61
3761164.65	0.00130		
439662.61	3761164.65	0.00145	439712.61
3761164.65	0.00166		
439762.61	3761164.65	0.00197	439812.61
3761164.65	0.00252		
439862.61	3761164.65	0.00329	439512.61
3761214.65	0.00106		
439562.61	3761214.65	0.00115	439612.61

3761214.65	0.00127		
439662.61	3761214.65	0.00142	439712.61
3761214.65	0.00162		
439762.61	3761214.65	0.00192	439812.61
3761214.65	0.00247		
439862.61	3761214.65	0.00329	439512.61
3761264.65	0.00104		
439562.61	3761264.65	0.00114	439612.61
3761264.65	0.00125		
439662.61	3761264.65	0.00139	439712.61
3761264.65	0.00159		
439762.61	3761264.65	0.00188	439812.61
3761264.65	0.00242		
439862.61	3761264.65	0.00322	439512.61
3761314.65	0.00103		
439562.61	3761314.65	0.00111	439612.61
3761314.65	0.00121		
439662.61	3761314.65	0.00135	439712.61
3761314.65	0.00156		
439762.61	3761314.65	0.00184	439812.61
3761314.65	0.00236		
439862.61	3761314.65	0.00310	439512.61
3761364.65	0.00100		
439562.61	3761364.65	0.00109	439612.61
3761364.65	0.00119		
439662.61	3761364.65	0.00132	439712.61
3761364.65	0.00151		
439762.61	3761364.65	0.00179	439812.61
3761364.65	0.00232		
439862.61	3761364.65	0.00387	439512.61
3761414.65	0.00098		
439562.61	3761414.65	0.00106	439612.61
3761414.65	0.00116		
439662.61	3761414.65	0.00129	439712.61
3761414.65	0.00148		
439762.61	3761414.65	0.00175	439812.61
3761414.65	0.00227		
439862.61	3761414.65	0.00299	439512.61
3761464.65	0.00095		
439562.61	3761464.65	0.00103	439612.61
3761464.65	0.00114		
439662.61	3761464.65	0.00127	439712.61
3761464.65	0.00144		
439762.61	3761464.65	0.00172	439812.61
3761464.65	0.00222		
439862.61	3761464.65	0.00297	439512.61
3761514.65	0.00093		
439562.61	3761514.65	0.00101	439612.61
3761514.65	0.00111		



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      439662.61    3761514.65          0.00124          439712.61
3761514.65      0.00141
      439762.61    3761514.65          0.00168          439812.61
3761514.65      0.00218
^ *** AERMOD - VERSION 21112 ***      *** C:\Lakes\AERMOD
View\Ontario_ORBP\ORBP_Unmitigated_Operations\ORBP_U ***      08/24/21
*** AERMET - VERSION 16216 ***      ***
***                               ***      19:02:44

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

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*** THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP: ALL      ***
      INCLUDING SOURCE(S):      L0002165      , L0002166
, L0002167      , L0002168      , L0002169      ,
      L0002170      , L0002171      , L0002172      , L0002173      , L0002174
, L0002175      , L0002176      , L0002177      ,
      L0002178      , L0002179      , L0002180      , L0002181      , L0002182
, L0002183      , L0002184      , L0002185      ,
      L0002186      , L0002187      , L0002188      , L0002189      , L0002190
, L0002191      , L0002192      , . . .      ,

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\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M<sup>3</sup>

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
439862.61	3761514.65	0.00294	439512.61
3761564.65	0.00092		
439562.61	3761564.65	0.00099	439612.61
3761564.65	0.00109		
439662.61	3761564.65	0.00121	439712.61
3761564.65	0.00138		
439762.61	3761564.65	0.00163	439812.61
3761564.65	0.00212		
439862.61	3761564.65	0.00281	439512.61
3761614.65	0.00090		
439562.61	3761614.65	0.00097	439862.61
3761614.65	0.00355		
439512.61	3761664.65	0.00086	439562.61
3761664.65	0.00094		
439862.61	3761664.65	0.00273	439512.61
3761714.65	0.00085		

439562.61	3761714.65	0.00091	439862.61
3761714.65	0.00270		
439512.61	3761764.65	0.00083	439562.61
3761764.65	0.00089		
439862.61	3761764.65	0.00341	439512.61
3761814.65	0.00081		
439562.61	3761814.65	0.00087	439862.61
3761814.65	0.00260		
439512.61	3761864.65	0.00079	439562.61
3761864.65	0.00085		
439862.61	3761864.65	0.00334	439947.85
3760913.55	0.00454		
439947.57	3760863.55	0.00459	439947.28
3760813.55	0.00463		
439947.00	3760763.55	0.00467	439946.72
3760713.55	0.00472		
439946.44	3760663.55	0.00479	439946.16
3760613.56	0.00489		
439945.87	3760563.56	0.00512	439945.59
3760513.56	0.00595		
439840.54	3760412.27	0.00334	439840.25
3760362.27	0.00311		
439839.97	3760312.27	0.00294	439839.69
3760262.27	0.00280		
439839.41	3760212.27	0.00269	439839.13
3760162.27	0.00260		
439838.84	3760112.27	0.00252	439838.56
3760062.27	0.00245		
439838.28	3760012.27	0.00239	439838.00
3759962.28	0.00233		
439837.72	3759912.28	0.00228	439837.43
3759862.28	0.00223		
439837.15	3759812.28	0.00219	439827.57
3758112.30	0.00130		
439927.52	3758104.25	0.00197	439937.11
3759804.22	0.00298		
439937.39	3759854.22	0.00303	439937.67
3759904.22	0.00309		
439937.95	3759954.22	0.00314	439938.24
3760004.22	0.00320		
439938.52	3760054.22	0.00328	439938.80
3760104.22	0.00336		
439939.08	3760154.22	0.00347	439939.36
3760204.22	0.00360		
439939.65	3760254.22	0.00375	439939.93
3760304.22	0.00397		
439940.21	3760354.21	0.00433	439940.49
3760404.21	0.00517		
439857.97	3760492.88	0.00456	439858.26

3760542.88	0.00451			
439858.54	3760592.88	0.00367		439858.82
3760642.88	0.00439			
439859.10	3760692.88	0.00361		439859.38
3760742.88	0.00360			
439859.67	3760792.88	0.00433		439859.95
3760842.88	0.00353			
439908.55	3760435.04	0.00593		439949.66
3760417.49	0.00554			
439999.66	3760417.71	0.00532		440049.66
3760417.93	0.00535			
440099.66	3760418.15	0.00545		440149.66
3760418.37	0.00560			
440199.66	3760418.59	0.00579		440249.66
3760418.81	0.00600			

^ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*    08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*  
                                  \*\*\*            19:02:44

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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL            INCLUDING SOURCE(S):    L0002165    , L0002166  
 , L0002167    , L0002168    , L0002169    ,  
                                  L0002170    , L0002171    , L0002172    , L0002173    , L0002174  
 , L0002175    , L0002176    , L0002177    ,  
                                  L0002178    , L0002179    , L0002180    , L0002181    , L0002182  
 , L0002183    , L0002184    , L0002185    ,  
                                  L0002186    , L0002187    , L0002188    , L0002189    , L0002190  
 , L0002191    , L0002192    , . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10    IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
440299.66	3760419.03	0.00622	440349.66
3760419.25	0.00634		
440399.66	3760419.46	0.00600	440799.65
3760421.22	0.00527		
440849.65	3760421.44	0.00527	440899.65

3760421.66	0.00508		
440949.65	3760421.88	0.00488	440999.65
3760422.10	0.00469		
441049.65	3760422.32	0.00452	441099.65
3760422.54	0.00436		
441149.65	3760422.76	0.00422	441199.65
3760422.98	0.00410		
441249.65	3760423.20	0.00399	441299.65
3760423.42	0.00389		
441349.65	3760423.64	0.00381	441399.65
3760423.86	0.00375		
441449.65	3760424.07	0.00366	441499.65
3760424.29	0.00359		
441549.65	3760424.51	0.00353	441599.64
3760424.73	0.00348		
441649.64	3760424.95	0.00342	441699.64
3760425.17	0.00337		
441749.64	3760425.39	0.00333	441799.64
3760425.61	0.00330		
441849.64	3760425.83	0.00326	441899.64
3760426.05	0.00322		
441949.64	3760426.27	0.00319	441999.64
3760426.49	0.00315		
442049.64	3760426.71	0.00313	442099.64
3760426.93	0.00310		
442149.64	3760427.15	0.00307	442199.64
3760427.37	0.00306		
442249.64	3760427.59	0.00303	442299.64
3760427.81	0.00301		
442349.64	3760428.03	0.00299	442399.64
3760428.25	0.00298		
442449.64	3760428.47	0.00299	442499.64
3760428.69	0.00298		
442549.64	3760428.90	0.00296	442599.64
3760429.12	0.00292		
442649.63	3760429.34	0.00291	442699.63
3760429.56	0.00291		
442749.63	3760429.78	0.00290	442799.63
3760430.00	0.00289		
442849.63	3760430.22	0.00289	442899.63
3760430.44	0.00287		
442949.63	3760430.66	0.00287	442999.63
3760430.88	0.00285		
443049.63	3760431.10	0.00284	443099.63
3760431.32	0.00283		
443149.63	3760431.54	0.00282	443199.63
3760431.76	0.00281		
443249.63	3760431.98	0.00279	443299.63
3760432.20	0.00278		

443349.63	3760432.42	0.00278	443399.63
3760432.64	0.00278		
443449.63	3760432.86	0.00278	443499.63
3760433.08	0.00277		
443549.63	3760433.30	0.00277	443599.63
3760433.51	0.00278		
443649.63	3760433.73	0.00279	443699.62
3760433.95	0.00277		
443749.62	3760434.17	0.00276	443799.62
3760434.39	0.00276		
443849.62	3760434.61	0.00277	443899.62
3760434.83	0.00281		
443957.56	3760448.00	0.00359	444003.78
3760428.92	0.00310		
444049.99	3760409.83	0.00289	444096.20
3760390.74	0.00272		
444142.42	3760371.65	0.00247	444191.79
3760367.99	0.00253		
444241.79	3760367.35	0.00258	444291.78
3760366.71	0.00260		
444341.78	3760366.07	0.00261	444391.77
3760365.44	0.00261		
444441.77	3760364.80	0.00261	444491.77
3760364.16	0.00261		
444541.76	3760363.52	0.00260	444591.76
3760362.88	0.00259		

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*                    08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*  
                                          \*\*\*                    19:02:44

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\*\*\* MODELOPTs:    RegDEFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL                    INCLUDING SOURCE(S):            L0002165            , L0002166  
 , L0002167            , L0002168            , L0002169            ,  
                                          L0002170            , L0002171            , L0002172            , L0002173            , L0002174  
 , L0002175            , L0002176            , L0002177            ,  
                                          L0002178            , L0002179            , L0002180            , L0002181            , L0002182  
 , L0002183            , L0002184            , L0002185            ,  
                                          L0002186            , L0002187            , L0002188            , L0002189            , L0002190  
 , L0002191            , L0002192            , . . .            ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10            IN MICROGRAMS/M\*\*3

\*\*

Y-COORD (M)	X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
	444641.75	3760362.25	0.00250	444691.75
3760361.61		0.00260		
	444741.75	3760360.97	0.00261	444791.74
3760360.33		0.00261		
	444841.74	3760359.69	0.00262	444891.73
3760359.05		0.00264		
	444941.73	3760358.42	0.00265	444991.73
3760357.78		0.00268		
	445041.72	3760357.14	0.00274	445091.72
3760356.50		0.00283		
	445141.71	3760355.86	0.00313	445191.71
3760355.22		0.00247		
	445166.91	3760455.55	0.00412	445116.92
3760456.19		0.00338		
	445066.92	3760456.83	0.00319	445016.93
3760457.46		0.00310		
	444966.93	3760458.10	0.00303	444916.93
3760458.74		0.00298		
	444866.94	3760459.38	0.00295	444816.94
3760460.02		0.00290		
	444766.95	3760460.66	0.00287	444716.95
3760461.29		0.00285		
	444666.95	3760461.93	0.00281	444616.96
3760462.57		0.00272		
	444566.96	3760463.21	0.00279	444516.97
3760463.85		0.00280		
	444466.97	3760464.48	0.00278	444416.97
3760465.12		0.00277		
	444366.98	3760465.76	0.00276	444316.98
3760466.40		0.00275		
	444266.99	3760467.04	0.00276	444216.99
3760467.68		0.00279		
	444167.26	3760469.59	0.00292	444121.04
3760488.68		0.00271		
	444074.83	3760507.76	0.00261	444028.62
3760526.85		0.00247		
	443982.40	3760545.94	0.00222	443933.78
3760552.72		0.00216		
	443874.89	3760534.72	0.00266	443824.89
3760534.50		0.00267		
	443774.89	3760534.29	0.00268	443724.89
3760534.07		0.00268		
	443674.89	3760533.85	0.00269	443624.89

3760533.63	0.00269			
443574.89	3760533.41	0.00270		443524.89
3760533.19	0.00270			
443474.89	3760532.97	0.00271		443424.90
3760532.75	0.00271			
443374.90	3760532.53	0.00272		443324.90
3760532.31	0.00273			
443274.90	3760532.09	0.00274		443224.90
3760531.87	0.00274			
443174.90	3760531.65	0.00274		443124.90
3760531.43	0.00275			
443074.90	3760531.21	0.00276		443024.90
3760530.99	0.00277			
442974.90	3760530.77	0.00278		442924.90
3760530.55	0.00279			
442874.90	3760530.33	0.00280		442824.90
3760530.11	0.00281			
442774.90	3760529.89	0.00282		442724.90
3760529.68	0.00277			
442674.90	3760529.46	0.00273		442624.90
3760529.24	0.00279			
442574.90	3760529.02	0.00288		442524.90
3760528.80	0.00290			
442474.90	3760528.58	0.00291		442424.91
3760528.36	0.00293			
442374.91	3760528.14	0.00295		442324.91
3760527.92	0.00297			
442274.91	3760527.70	0.00300		442224.91
3760527.48	0.00302			
442174.91	3760527.26	0.00304		442124.91
3760527.04	0.00307			
442074.91	3760526.82	0.00310		442024.91
3760526.60	0.00313			
441974.91	3760526.38	0.00317		441924.91
3760526.16	0.00321			
441874.91	3760525.94	0.00324		441824.91
3760525.72	0.00329			

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*      \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*      08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*      \*\*\*  
                                  \*\*\*      19:02:44

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\*\*\* MODELOPTs:      RegDFault      CONC      ELEV      URBAN      ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL      INCLUDING SOURCE(S):      L0002165      ,      L0002166  
 ,      L0002167      ,      L0002168      ,      L0002169      ,

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, L0002175      , L0002170      , L0002171      , L0002172      , L0002173      , L0002174
, L0002176      , L0002177      , L0002178      , L0002179      , L0002180      , L0002181      , L0002182
, L0002183      , L0002184      , L0002185      , L0002186      , L0002187      , L0002188      , L0002189      , L0002190
, L0002191      , L0002192      , . . .

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\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
441774.91	3760525.50	0.00334	441724.91
3760525.28	0.00339		
441674.91	3760525.06	0.00345	441624.91
3760524.85	0.00351		
441574.91	3760524.63	0.00357	441524.91
3760524.41	0.00365		
441474.91	3760524.19	0.00375	441424.91
3760523.97	0.00384		
441374.92	3760523.75	0.00395	441324.92
3760523.53	0.00408		
441274.92	3760523.31	0.00422	441224.92
3760523.09	0.00439		
441174.92	3760522.87	0.00459	441124.92
3760522.65	0.00481		
441074.92	3760522.43	0.00509	441024.92
3760522.21	0.00543		
440974.92	3760521.99	0.00588	440924.92
3760521.77	0.00649		
440874.92	3760521.55	0.00746	440824.92
3760521.33	0.00984		
440374.92	3760519.36	0.01018	440324.93
3760519.14	0.00819		
440274.93	3760518.92	0.00706	440224.93
3760518.70	0.00640		
440174.93	3760518.48	0.00597	440124.93
3760518.26	0.00566		
440074.93	3760518.04	0.00543	440024.93
3760517.82	0.00530		
439974.93	3760517.60	0.00539	439933.82
3760535.15	0.00589		
445138.86	3760315.71	0.00245	445165.09
3759616.20	0.00166		



445166.97	3759566.24	0.00137	445208.34
3759556.77	0.00192		
445258.34	3759556.14	0.00242	445308.34
3759555.51	0.00253		
449408.01	3759503.78	0.00082	449423.82
3759603.59	0.00078		
445238.82	3760499.17	0.00333	445239.41
3760549.16	0.00317		
449255.91	3762522.00	0.00122	449232.19
3762619.67	0.00113		
445265.82	3762064.86	0.00126	445215.82
3762064.86	0.00114		
445165.82	3762064.86	0.00095	445156.70
3762023.50	0.00125		
445139.69	3760573.60	0.00228	445139.10
3760523.60	0.00251		
441152.00	3762046.59	0.00062	441564.94
3762050.09	0.00058		
439944.18	3762179.79	0.00356	439944.37
3762229.79	0.00353		
439944.57	3762279.79	0.00351	439944.77
3762329.79	0.00349		
439944.96	3762379.79	0.00346	439945.16
3762429.79	0.00345		
439945.36	3762479.79	0.00344	439945.55
3762529.79	0.00343		
439945.75	3762579.79	0.00343	439945.94
3762629.79	0.00341		
439946.14	3762679.79	0.00340	439946.34
3762729.79	0.00339		
439958.30	3765779.77	0.00217	439846.49
3762769.33	0.00231		
439846.29	3762719.33	0.00231	439846.10
3762669.33	0.00232		
439845.90	3762619.33	0.00232	439845.71
3762569.33	0.00233		
439845.51	3762519.33	0.00233	439845.31
3762469.33	0.00235		
439845.12	3762419.33	0.00236	439844.92
3762369.33	0.00237		
439844.73	3762319.33	0.00238	439844.53
3762269.33	0.00239		
439844.33	3762219.33	0.00241	446702.53
3762334.08	0.00173		
446751.23	3762345.44	0.00164	446708.40
3762438.13	0.00142		
439319.73	3759944.08	0.00072	439369.73
3759944.08	0.00076		

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION

VALUES FOR SOURCE GROUP: ALL

\*\*\*

INCLUDING SOURCE(S): L0002165 , L0002166

, L0002167 , L0002168 , L0002169 ,

, L0002170 , L0002171 , L0002172 , L0002173 , L0002174

, L0002175 , L0002176 , L0002177 ,

, L0002178 , L0002179 , L0002180 , L0002181 , L0002182

, L0002183 , L0002184 , L0002185 ,

, L0002186 , L0002187 , L0002188 , L0002189 , L0002190

, L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
439419.73	3759944.08	0.00081	439469.73
3759944.08	0.00086		
439519.73	3759944.08	0.00092	439569.73
3759944.08	0.00099		
439619.73	3759944.08	0.00108	439669.73
3759944.08	0.00119		
439719.73	3759944.08	0.00134	439319.73
3759994.08	0.00073		
439369.73	3759994.08	0.00078	439419.73
3759994.08	0.00083		
439469.73	3759994.08	0.00088	439519.73
3759994.08	0.00095		
439569.73	3759994.08	0.00102	439619.73
3759994.08	0.00111		
439669.73	3759994.08	0.00122	439719.73
3759994.08	0.00138		
439319.73	3760044.08	0.00075	439369.73
3760044.08	0.00079		
439419.73	3760044.08	0.00084	439469.73
3760044.08	0.00090		
439519.73	3760044.08	0.00097	439569.73

3760044.08	0.00105		
439619.73	3760044.08	0.00114	439669.73
3760044.08	0.00126		
439719.73	3760044.08	0.00142	439319.73
3760094.08	0.00076		
439369.73	3760094.08	0.00081	439419.73
3760094.08	0.00086		
439469.73	3760094.08	0.00092	439519.73
3760094.08	0.00099		
439569.73	3760094.08	0.00108	439619.73
3760094.08	0.00118		
439669.73	3760094.08	0.00130	439719.73
3760094.08	0.00147		
439319.73	3760144.08	0.00077	439369.73
3760144.08	0.00082		
439419.73	3760144.08	0.00088	439469.73
3760144.08	0.00094		
439519.73	3760144.08	0.00102	439569.73
3760144.08	0.00111		
439619.73	3760144.08	0.00121	439669.73
3760144.08	0.00134		
439719.73	3760144.08	0.00151	439319.73
3760194.08	0.00079		
439369.73	3760194.08	0.00084	439419.73
3760194.08	0.00090		
439469.73	3760194.08	0.00097	439519.73
3760194.08	0.00104		
439569.73	3760194.08	0.00113	439619.73
3760194.08	0.00124		
439669.73	3760194.08	0.00138	439719.73
3760194.08	0.00157		
439319.73	3760244.08	0.00080	439369.73
3760244.08	0.00085		
439419.73	3760244.08	0.00092	439469.73
3760244.08	0.00099		
439519.73	3760244.08	0.00107	439569.73
3760244.08	0.00116		
439619.73	3760244.08	0.00128	439669.73
3760244.08	0.00143		
439719.73	3760244.08	0.00162	439319.73
3760294.08	0.00081		
439369.73	3760294.08	0.00087	439419.73
3760294.08	0.00093		
439469.73	3760294.08	0.00100	439519.73
3760294.08	0.00109		
439569.73	3760294.08	0.00119	439619.73
3760294.08	0.00132		
439669.73	3760294.08	0.00147	439719.73
3760294.08	0.00168		

439319.73	3760344.08	0.00082	439369.73
3760344.08	0.00088		
439419.73	3760344.08	0.00095	439469.73
3760344.08	0.00102		
439519.73	3760344.08	0.00111	439569.73
3760344.08	0.00122		
439619.73	3760344.08	0.00135	439669.73
3760344.08	0.00152		
439719.73	3760344.08	0.00174	439319.73
3760394.08	0.00083		

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 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE PERIOD ( 43848 HRS) AVERAGE CONCENTRATION  
 \*\*\*  
 VALUES FOR SOURCE GROUP: ALL INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 , L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 , L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 , L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)
Y-COORD (M)	CONC		
439369.73	3760394.08	0.00089	439419.73
3760394.08	0.00096		
439469.73	3760394.08	0.00104	439519.73
3760394.08	0.00113		
439569.73	3760394.08	0.00124	439619.73
3760394.08	0.00138		
439669.73	3760394.08	0.00156	439719.73
3760394.08	0.00180		
439874.21	3765787.45	0.00139	438730.25
3763176.04	0.00025		

439155.52 3762752.44 0.00038 438236.34  
3763973.00 0.00016

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\*\*\* AERMET - VERSION 16216 \*\*\*  
\*\*\* 19:02:44

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
VALUES FOR SOURCE GROUP: ALL \*\*\*  
INCLUDING SOURCE(S): L0002165 , L0002166  
, L0002167 , L0002168 , L0002169 ,  
L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
, L0002175 , L0002176 , L0002177 ,  
L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
, L0002183 , L0002184 , L0002185 ,  
L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
, L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
440566.09	3761307.70	0.02418	(14021808)	440753.96
3761303.17	0.02568	(14062406)		
440851.52	3761299.51	0.02270	(13110717)	440971.94
3761298.60	0.01926	(16102717)		
440893.94	3761226.53	0.02356	(13063020)	441213.06
3761237.69	0.01426	(15091221)		
441159.80	3761390.72	0.01487	(15072106)	441227.40
3761481.34	0.01439	(16073024)		
441082.11	3761541.41	0.01558	(16072322)	441232.16
3761830.62	0.01249	(15081424)		
441646.93	3761227.68	0.01006	(15082520)	441817.10
3761247.30	0.00898	(14073024)		
442031.98	3761370.48	0.00812	(12082001)	442031.98
3761419.29	0.00815	(15071921)		
442027.42	3761327.59	0.00809	(14073022)	441953.51
3761508.71	0.00867	(12102717)		
442028.70	3761572.71	0.00816	(12102717)	440323.58
3761295.37	0.02196	(13030120)		

440261.53	3761302.22	0.02005	(16102019)	440432.94
3761497.04	0.01841 (15032207)			
440427.03	3761600.65	0.01699	(16091906)	440485.55
3762029.06	0.01297 (15090822)			
440533.86	3762034.96	0.01283	(14091501)	440588.09
3762034.96	0.01283 (14091501)			
440657.35	3762052.07	0.01272	(16072803)	440598.04
3762118.06	0.01227 (16062624)			
440231.97	3762035.21	0.01255	(13082703)	440283.76
3762037.11	0.01271 (15081301)			
440897.05	3762038.37	0.01297	(12082922)	439514.80
3761885.55	0.00943 (15102306)			
439564.80	3761885.55	0.00991	(16040703)	439864.80
3761885.55	0.01599 (15100522)			
439514.80	3761935.55	0.00985	(15013007)	439564.80
3761935.55	0.01010 (15092402)			
439864.80	3761935.55	0.01547	(12010219)	439514.80
3761985.55	0.00961 (15092402)			
439564.80	3761985.55	0.00998	(15092402)	439864.80
3761985.55	0.01644 (14091524)			
439514.80	3762035.55	0.00963	(15092402)	439564.80
3762035.55	0.00996 (13111320)			
439864.80	3762035.55	0.01581	(14091524)	439864.80
3762085.55	0.01728 (14091524)			
439514.80	3762135.55	0.00951	(16102018)	439564.80
3762135.55	0.00986 (16072323)			
439614.80	3762135.55	0.01017	(15090205)	439664.80
3762135.55	0.01085 (15031421)			
439714.80	3762135.55	0.01156	(15031421)	439764.80
3762135.55	0.01239 (12010219)			
439864.80	3762135.55	0.01581	(14091524)	439512.61
3760864.65	0.00973 (16122920)			
439562.61	3760864.65	0.01023	(16122920)	439612.61
3760864.65	0.01079 (16122920)			
439662.61	3760864.65	0.01144	(16122920)	439712.61
3760864.65	0.01223 (15051306)			
439762.61	3760864.65	0.01325	(15051306)	439812.61
3760864.65	0.01471 (15051306)			
439862.61	3760864.65	0.01520	(15051306)	439512.61
3760914.65	0.00974 (15051306)			
439562.61	3760914.65	0.01023	(15051306)	439612.61
3760914.65	0.01080 (15051306)			
439662.61	3760914.65	0.01146	(15051306)	439712.61
3760914.65	0.01224 (15051306)			
439762.61	3760914.65	0.01324	(15051306)	439812.61
3760914.65	0.01469 (15051306)			
439862.61	3760914.65	0.01437	(15051306)	439512.61
3760964.65	0.00973 (16022406)			
439562.61	3760964.65	0.01024	(13122517)	439612.61

3760964.65 0.01084 (13122517)  
 439662.61 3760964.65 0.01152 (13122517) 439712.61  
 3760964.65 0.01232 (13122517)  
 439762.61 3760964.65 0.01331 (13122517) 439812.61  
 3760964.65 0.01472 (13122517)  
 439862.61 3760964.65 0.01448 (16110920) 439512.61  
 3761014.65 0.00976 (13122517)  
 439562.61 3761014.65 0.01027 (15110717) 439612.61  
 3761014.65 0.01085 (15110717)  
 439662.61 3761014.65 0.01149 (15110717) 439712.61  
 3761014.65 0.01226 (15110717)  
 439762.61 3761014.65 0.01319 (15110717) 439812.61  
 3761014.65 0.01459 (13122517)

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)
439862.61	3761014.65	0.01492 (15063019)	439512.61
3761064.65	0.00969 (15110717)		
439562.61	3761064.65	0.01020 (15031224)	439612.61
3761064.65	0.01078 (15031224)		
439662.61	3761064.65	0.01143 (15031224)	439712.61
3761064.65	0.01220 (15063019)		
439762.61	3761064.65	0.01327 (15063019)	439812.61

3761064.65	0.01474	(15063019)			
439862.61	3761064.65		0.01437	(15063019)	439512.61
3761114.65	0.00967	(15031224)			
439562.61	3761114.65		0.01015	(15063019)	439612.61
3761114.65	0.01079	(15063019)			
439662.61	3761114.65		0.01150	(15063019)	439712.61
3761114.65	0.01232	(15063019)			
439762.61	3761114.65		0.01333	(15063019)	439812.61
3761114.65	0.01472	(15063019)			
439862.61	3761114.65		0.01708	(15020708)	439512.61
3761164.65	0.00969	(15063019)			
439562.61	3761164.65		0.01022	(15063019)	439612.61
3761164.65	0.01079	(15063019)			
439662.61	3761164.65		0.01142	(15063019)	439712.61
3761164.65	0.01216	(15063019)			
439762.61	3761164.65		0.01309	(15063019)	439812.61
3761164.65	0.01433	(15063019)			
439862.61	3761164.65		0.01472	(15090919)	439512.61
3761214.65	0.00961	(15063019)			
439562.61	3761214.65		0.01005	(15063019)	439612.61
3761214.65	0.01055	(15063019)			
439662.61	3761214.65		0.01108	(15063019)	439712.61
3761214.65	0.01183	(15112017)			
439762.61	3761214.65		0.01290	(15090919)	439812.61
3761214.65	0.01435	(15090919)			
439862.61	3761214.65		0.01410	(15072001)	439512.61
3761264.65	0.00931	(15063019)			
439562.61	3761264.65		0.00970	(15112017)	439612.61
3761264.65	0.01028	(15112017)			
439662.61	3761264.65		0.01098	(15090919)	439712.61
3761264.65	0.01177	(15090919)			
439762.61	3761264.65		0.01277	(15090919)	439812.61
3761264.65	0.01412	(15072001)			
439862.61	3761264.65		0.01540	(15072001)	439512.61
3761314.65	0.00913	(15112017)			
439562.61	3761314.65		0.00966	(15090919)	439612.61
3761314.65	0.01039	(15090919)			
439662.61	3761314.65		0.01095	(15090919)	439712.61
3761314.65	0.01149	(15090919)			
439762.61	3761314.65		0.01255	(15072001)	439812.61
3761314.65	0.01425	(15072001)			
439862.61	3761314.65		0.01503	(15101220)	439512.61
3761364.65	0.00910	(15090919)			
439562.61	3761364.65		0.00955	(15090919)	439612.61
3761364.65	0.01012	(15090919)			
439662.61	3761364.65		0.01094	(15072001)	439712.61
3761364.65	0.01164	(15072001)			
439762.61	3761364.65		0.01269	(15031221)	439812.61
3761364.65	0.01404	(15010620)			



3761414.65	439862.61	3761364.65	0.01713	(15101220)	439512.61
		0.00898 (15090919)			
3761414.65	439562.61	3761414.65	0.00938	(16122818)	439612.61
		0.00997 (16122818)			
3761414.65	439662.61	3761414.65	0.01082	(15031221)	439712.61
		0.01168 (15031221)			
3761414.65	439762.61	3761414.65	0.01258	(12020718)	439812.61
		0.01399 (14030901)			
3761414.65	439862.61	3761414.65	0.01552	(13101421)	439512.61
		0.00924 (15072001)			
3761464.65	439562.61	3761464.65	0.00954	(15031221)	439612.61
		0.01013 (15031221)			
3761464.65	439662.61	3761464.65	0.01077	(15031221)	439712.61
		0.01147 (12020718)			
3761464.65	439762.61	3761464.65	0.01250	(15120219)	439812.61
		0.01391 (13101421)			
3761464.65	439862.61	3761464.65	0.01483	(15102306)	439512.61
		0.00906 (15031221)			
3761514.65	439562.61	3761514.65	0.00954	(15031221)	439612.61
		0.01002 (15031221)			
3761514.65	439662.61	3761514.65	0.01061	(12020718)	439712.61
		0.01143 (15120219)			
3761514.65	439762.61	3761514.65	0.01267	(13101421)	439812.61
		0.01409 (16102418)			

^ \*\*\* AERMOD - VERSION 21112 \*\*\* \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\* \*\*\*  
 \*\*\* 19:02:44

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

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Y-COORD (M)	X-COORD (M)	Y-COORD (M) CONC	(YYMMDDHH)	CONC	(YYMMDDHH)	X-COORD (M)
3761564.65	439862.61	3761514.65	(15031221)	0.01642	(16040703)	439512.61
3761564.65	439562.61	3761564.65	(12020718)	0.00937	(15031221)	439612.61
3761564.65	439662.61	3761564.65	(13101421)	0.01065	(15120219)	439712.61
3761564.65	439762.61	3761564.65	(15102306)	0.01294	(13101421)	439812.61
3761614.65	439862.61	3761564.65	(12020718)	0.01630	(15070104)	439512.61
3761614.65	439562.61	3761614.65	(13111320)	0.00931	(15120219)	439862.61
3761614.65	439512.61	3761664.65	(15120219)	0.00943	(14030901)	439562.61
3761614.65	439862.61	3761664.65	(13111320)	0.01666	(13111320)	439512.61
3761714.65	439562.61	3761714.65	(15090205)	0.00987	(13101421)	439862.61
3761714.65	439512.61	3761764.65	(15102306)	0.00910	(13101421)	439562.61
3761764.65	439862.61	3761764.65	(15090205)	0.01767	(15090205)	439512.61
3761814.65	439562.61	3761814.65	(15102306)	0.00988	(15102306)	439862.61
3761814.65	439512.61	3761864.65	(16040703)	0.00915	(15102306)	439562.61
3761864.65	439862.61	3761864.65	(15051306)	0.01729	(15031421)	439947.85
3760913.55	439947.57	3760863.55	(15051306)	0.01434	(15051306)	439947.28
3760813.55	439947.00	3760763.55	(14011717)	0.01425	(15051306)	439946.72
3760713.55	439946.44	3760663.55	(15100918)	0.01405	(15100918)	439946.16
3760613.56	439945.87	3760563.56	(12100607)	0.01394	(16061924)	439945.59
3760513.56	439840.54	3760412.27	(16101918)	0.01777	(15031321)	439840.25
3760362.27	439839.97	3760312.27	(14011519)	0.01566	(16101918)	439839.69
3760262.27	439839.41	3760212.27	(16101919)	0.01424	(16101919)	439839.13
3760162.27	439838.84	3760112.27	(15031304)	0.01327	(15031304)	439838.56
3760062.27	439838.28	3760012.27	(16102317)	0.01237	(16102317)	439838.00

3759962.28	0.01194	(14091603)			
439837.72	3759912.28		0.01172	(14091603)	439837.43
3759862.28	0.01143	(13112508)			
439837.15	3759812.28		0.01116	(13112508)	439827.57
3758112.30	0.00672	(16092606)			
439927.52	3758104.25		0.00567	(14100307)	439937.11
3759804.22	0.00911	(15060906)			
439937.39	3759854.22		0.00928	(15060906)	439937.67
3759904.22	0.00968	(13112508)			
439937.95	3759954.22		0.01013	(13112508)	439938.24
3760004.22	0.01050	(14091603)			
439938.52	3760054.22		0.01089	(14091603)	439938.80
3760104.22	0.01149	(16102317)			
439939.08	3760154.22		0.01202	(15031304)	439939.36
3760204.22	0.01274	(15031304)			
439939.65	3760254.22		0.01354	(16101919)	439939.93
3760304.22	0.01433	(16101919)			
439940.21	3760354.21		0.01566	(13050219)	439940.49
3760404.21	0.01777	(16101918)			
439857.97	3760492.88		0.01756	(16061924)	439858.26
3760542.88	0.01641	(16061924)			
439858.54	3760592.88		0.01377	(16061924)	439858.82
3760642.88	0.01638	(15100918)			
439859.10	3760692.88		0.01401	(14011717)	439859.38
3760742.88	0.01411	(14011717)			
439859.67	3760792.88		0.01686	(15051306)	439859.95
3760842.88	0.01435	(15051306)			
439908.55	3760435.04		0.02074	(12100121)	439949.66
3760417.49	0.01882	(15060824)			
439999.66	3760417.71		0.01952	(16101918)	440049.66
3760417.93	0.02034	(13050219)			
440099.66	3760418.15		0.02123	(13050219)	440149.66
3760418.37	0.02248	(16101919)			
440199.66	3760418.59		0.02378	(16101919)	440249.66
3760418.81	0.02533	(16102317)			

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 \*\*\* AERMET - VERSION 16216 \*\*\*  
 \*\*\* 19:02:44

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\*\*\* MODELOPTs: RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,

, L0002183 , L0002184 , L0002185 , L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
440299.66	3760419.03	0.02729	(13112508)	440349.66
3760419.25	0.02870	(13101517)		
440399.66	3760419.46	0.02465	(16020708)	440799.65
3760421.22	0.02665	(15012217)		
440849.65	3760421.44	0.02788	(12012517)	440899.65
3760421.66	0.02548	(13012317)		
440949.65	3760421.88	0.02351	(15081621)	440999.65
3760422.10	0.02181	(15070806)		
441049.65	3760422.32	0.02037	(15070806)	441099.65
3760422.54	0.01900	(15080521)		
441149.65	3760422.76	0.01802	(15091122)	441199.65
3760422.98	0.01722	(15091122)		
441249.65	3760423.20	0.01645	(12081121)	441299.65
3760423.42	0.01582	(12081121)		
441349.65	3760423.64	0.01526	(12080921)	441399.65
3760423.86	0.01480	(12080921)		
441449.65	3760424.07	0.01430	(12051906)	441499.65
3760424.29	0.01390	(12051906)		
441549.65	3760424.51	0.01352	(12051906)	441599.64
3760424.73	0.01318	(16061206)		
441649.64	3760424.95	0.01284	(13061906)	441699.64
3760425.17	0.01256	(13061906)		
441749.64	3760425.39	0.01229	(13061906)	441799.64
3760425.61	0.01203	(13061906)		
441849.64	3760425.83	0.01178	(13061906)	441899.64
3760426.05	0.01152	(15103017)		
441949.64	3760426.27	0.01130	(13090521)	441999.64
3760426.49	0.01108	(13090521)		
442049.64	3760426.71	0.01094	(13090521)	442099.64
3760426.93	0.01075	(13090521)		
442149.64	3760427.15	0.01060	(15051806)	442199.64
3760427.37	0.01049	(15051806)		
442249.64	3760427.59	0.01036	(15051806)	442299.64
3760427.81	0.01023	(15051806)		

442349.64	3760428.03	0.01010	(15051806)	442399.64
3760428.25	0.01001	(15051806)		
442449.64	3760428.47	0.00995	(15051806)	442499.64
3760428.69	0.00983	(15051806)		
442549.64	3760428.90	0.00971	(15051806)	442599.64
3760429.12	0.00949	(15051806)		
442649.63	3760429.34	0.00939	(15051806)	442699.63
3760429.56	0.00931	(15051806)		
442749.63	3760429.78	0.00924	(13090621)	442799.63
3760430.00	0.00918	(13090621)		
442849.63	3760430.22	0.00914	(13090621)	442899.63
3760430.44	0.00904	(13090621)		
442949.63	3760430.66	0.00899	(13090621)	442999.63
3760430.88	0.00891	(13090621)		
443049.63	3760431.10	0.00884	(13090621)	443099.63
3760431.32	0.00876	(13090621)		
443149.63	3760431.54	0.00871	(12092607)	443199.63
3760431.76	0.00878	(12092607)		
443249.63	3760431.98	0.00872	(12092607)	443299.63
3760432.20	0.00865	(12092607)		
443349.63	3760432.42	0.00866	(12092607)	443399.63
3760432.64	0.00865	(12092607)		
443449.63	3760432.86	0.00863	(12092607)	443499.63
3760433.08	0.00856	(12092607)		
443549.63	3760433.30	0.00854	(12092607)	443599.63
3760433.51	0.00863	(12092607)		
443649.63	3760433.73	0.00864	(12092607)	443699.62
3760433.95	0.00855	(12092607)		
443749.62	3760434.17	0.00845	(12092607)	443799.62
3760434.39	0.00843	(12092607)		
443849.62	3760434.61	0.00847	(16012617)	443899.62
3760434.83	0.00858	(16012617)		
443957.56	3760448.00	0.01000	(16012617)	444003.78
3760428.92	0.00841	(13072606)		
444049.99	3760409.83	0.00757	(13072606)	444096.20
3760390.74	0.00699	(12100607)		
444142.42	3760371.65	0.00639	(12092607)	444191.79
3760367.99	0.00667	(12072306)		
444241.79	3760367.35	0.00714	(12072306)	444291.78
3760366.71	0.00739	(12072306)		
444341.78	3760366.07	0.00748	(12072306)	444391.77
3760365.44	0.00751	(12092607)		
444441.77	3760364.80	0.00754	(12092607)	444491.77
3760364.16	0.00754	(12092607)		
444541.76	3760363.52	0.00751	(12092607)	444591.76
3760362.88	0.00747	(12092607)		

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*

08/24/21

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*

INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 , L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 , L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 , L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
444641.75	3760362.25	0.00714	(12092607)	444691.75
3760361.61	0.00744	(12092607)		
444741.75	3760360.97	0.00742	(12092607)	444791.74
3760360.33	0.00738	(12092607)		
444841.74	3760359.69	0.00736	(12092607)	444891.73
3760359.05	0.00736	(12092607)		
444941.73	3760358.42	0.00735	(12092607)	444991.73
3760357.78	0.00735	(12092607)		
445041.72	3760357.14	0.00737	(12092607)	445091.72
3760356.50	0.00740	(12092607)		
445141.71	3760355.86	0.00817	(12100607)	445191.71
3760355.22	0.00709	(12092607)		
445166.91	3760455.55	0.01055	(12100607)	445116.92
3760456.19	0.00827	(12100607)		
445066.92	3760456.83	0.00771	(12100607)	445016.93
3760457.46	0.00743	(12100607)		
444966.93	3760458.10	0.00724	(12100607)	444916.93
3760458.74	0.00712	(13041207)		
444866.94	3760459.38	0.00710	(13041207)	444816.94
3760460.02	0.00701	(13041207)		
444766.95	3760460.66	0.00695	(13041207)	444716.95
3760461.29	0.00702	(13041207)		
444666.95	3760461.93	0.00680	(14012017)	444616.96

3760462.57	0.00658	(12100607)			
444566.96	3760463.21	0.00700	(13083103)	444516.97	
3760463.85	0.00701	(13083103)			
444466.97	3760464.48	0.00700	(13083103)	444416.97	
3760465.12	0.00705	(13083103)			
444366.98	3760465.76	0.00709	(13083103)	444316.98	
3760466.40	0.00719	(16012617)			
444266.99	3760467.04	0.00743	(16012617)	444216.99	
3760467.68	0.00786	(16012617)			
444167.26	3760469.59	0.00849	(16012617)	444121.04	
3760488.68	0.00807	(16012617)			
444074.83	3760507.76	0.00783	(12071223)	444028.62	
3760526.85	0.00724	(12071223)			
443982.40	3760545.94	0.00667	(13083103)	443933.78	
3760552.72	0.00668	(13083103)			
443874.89	3760534.72	0.00740	(13083103)	443824.89	
3760534.50	0.00737	(13083103)			
443774.89	3760534.29	0.00734	(13083103)	443724.89	
3760534.07	0.00733	(13083103)			
443674.89	3760533.85	0.00735	(13083103)	443624.89	
3760533.63	0.00733	(13083103)			
443574.89	3760533.41	0.00729	(13083103)	443524.89	
3760533.19	0.00742	(13083103)			
443474.89	3760532.97	0.00746	(13083103)	443424.90	
3760532.75	0.00757	(13083103)			
443374.90	3760532.53	0.00749	(13083103)	443324.90	
3760532.31	0.00755	(13083103)			
443274.90	3760532.09	0.00760	(13083103)	443224.90	
3760531.87	0.00761	(13083103)			
443174.90	3760531.65	0.00750	(13083103)	443124.90	
3760531.43	0.00750	(13083103)			
443074.90	3760531.21	0.00747	(13083103)	443024.90	
3760530.99	0.00752	(13083103)			
442974.90	3760530.77	0.00718	(12071223)	442924.90	
3760530.55	0.00717	(16012617)			
442874.90	3760530.33	0.00722	(16012617)	442824.90	
3760530.11	0.00728	(16012617)			
442774.90	3760529.89	0.00733	(16012617)	442724.90	
3760529.68	0.00723	(16012617)			
442674.90	3760529.46	0.00718	(16012617)	442624.90	
3760529.24	0.00733	(16012617)			
442574.90	3760529.02	0.00760	(16012617)	442524.90	
3760528.80	0.00767	(16012617)			
442474.90	3760528.58	0.00775	(16012617)	442424.91	
3760528.36	0.00782	(16012617)			
442374.91	3760528.14	0.00791	(16012617)	442324.91	
3760527.92	0.00798	(16012617)			
442274.91	3760527.70	0.00805	(16012617)	442224.91	
3760527.48	0.00813	(16012617)			

442174.91	3760527.26	0.00821	(16012617)	442124.91
3760527.04	0.00830	(16012617)		
442074.91	3760526.82	0.00841	(16012617)	442024.91
3760526.60	0.00851	(16012617)		
441974.91	3760526.38	0.00862	(16012617)	441924.91
3760526.16	0.00871	(16012617)		
441874.91	3760525.94	0.00883	(14091619)	441824.91
3760525.72	0.00898	(14091619)		

^ \*\*\* AERMOD - VERSION 21112 \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
 \*\*\* AERMET - VERSION 16216 \*\*\*  
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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
441774.91	3760525.50	0.00915	(14091619)	441724.91
3760525.28	0.00935	(13090621)		
441674.91	3760525.06	0.00957	(15051806)	441624.91
3760524.85	0.00984	(15051806)		
441574.91	3760524.63	0.01013	(15051806)	441524.91
3760524.41	0.01045	(13090521)		
441474.91	3760524.19	0.01083	(13090521)	441424.91
3760523.97	0.01126	(15103017)		
441374.92	3760523.75	0.01178	(13061906)	441324.92
3760523.53	0.01236	(13061906)		
441274.92	3760523.31	0.01301	(16061206)	441224.92
3760523.09	0.01378	(16061206)		



441174.92	3760522.87	0.01469	(12051906)	441124.92
3760522.65	0.01582 (12080921)			
441074.92	3760522.43	0.01719	(12081121)	441024.92
3760522.21	0.01890 (12081121)			
440974.92	3760521.99	0.02110	(15091122)	440924.92
3760521.77	0.02385 (15080521)			
440874.92	3760521.55	0.02781	(15070806)	440824.92
3760521.33	0.03380 (16070906)			
440374.92	3760519.36	0.03470	(15060906)	440324.93
3760519.14	0.02900 (16101919)			
440274.93	3760518.92	0.02461	(16101919)	440224.93
3760518.70	0.02145 (14011517)			
440174.93	3760518.48	0.01909	(16101918)	440124.93
3760518.26	0.01751 (12100121)			
440074.93	3760518.04	0.01628	(12100121)	440024.93
3760517.82	0.01528 (12100121)			
439974.93	3760517.60	0.01482	(12100607)	439933.82
3760535.15	0.01576 (12100607)			
445138.86	3760315.71	0.00655	(12100607)	445165.09
3759616.20	0.00628 (15051306)			
445166.97	3759566.24	0.00526	(14011717)	445208.34
3759556.77	0.00702 (14100307)			
445258.34	3759556.14	0.00798	(12012917)	445308.34
3759555.51	0.00755 (12012917)			
449408.01	3759503.78	0.00357	(12092607)	449423.82
3759603.59	0.00273 (16012617)			
445238.82	3760499.17	0.00962	(13041207)	445239.41
3760549.16	0.00850 (13041207)			
449255.91	3762522.00	0.00483	(15090923)	449232.19
3762619.67	0.00421 (14112717)			
445265.82	3762064.86	0.00598	(14091620)	445215.82
3762064.86	0.00682 (15090106)			
445165.82	3762064.86	0.00541	(14021808)	445156.70
3762023.50	0.00574 (15072402)			
445139.69	3760573.60	0.00611	(12100607)	445139.10
3760523.60	0.00654 (12100607)			
441152.00	3762046.59	0.01193	(16090806)	441564.94
3762050.09	0.00988 (13100303)			
439944.18	3762179.79	0.01524	(12081106)	439944.37
3762229.79	0.01503 (12081106)			
439944.57	3762279.79	0.01505	(12081106)	439944.77
3762329.79	0.01480 (12081106)			
439944.96	3762379.79	0.01456	(13082824)	439945.16
3762429.79	0.01462 (16083104)			
439945.36	3762479.79	0.01465	(16083104)	439945.55
3762529.79	0.01458 (16083104)			
439945.75	3762579.79	0.01453	(12071824)	439945.94
3762629.79	0.01452 (12071824)			
439946.14	3762679.79	0.01450	(14070601)	439946.34

3762729.79	0.01440	(14070601)			
439958.30	3765779.77		0.01021	(15070705)	439846.49
3762769.33	0.01374	(13071104)			
439846.29	3762719.33		0.01386	(15070102)	439846.10
3762669.33	0.01400	(15070102)			
439845.90	3762619.33		0.01407	(15070102)	439845.71
3762569.33	0.01411	(15070102)			
439845.51	3762519.33		0.01419	(15100921)	439845.31
3762469.33	0.01436	(15100921)			
439845.12	3762419.33		0.01446	(15100921)	439844.92
3762369.33	0.01446	(12091522)			
439844.73	3762319.33		0.01459	(12091522)	439844.53
3762269.33	0.01458	(15062206)			
439844.33	3762219.33		0.01480	(13090904)	446702.53
3762334.08	0.00568	(13083104)			
446751.23	3762345.44		0.00545	(13083104)	446708.40
3762438.13	0.00563	(15072402)			
439319.73	3759944.08		0.00676	(13101522)	439369.73
3759944.08	0.00707	(13101522)			

\*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*                    08/24/21  
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\*\*\* MODELOPTs:    RegDFault CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL                    \*\*\*  
                                          INCLUDING SOURCE(S):    L0002165    , L0002166  
 , L0002167    , L0002168    , L0002169    ,  
                                          L0002170    , L0002171    , L0002172    , L0002173    , L0002174  
 , L0002175    , L0002176    , L0002177    ,  
                                          L0002178    , L0002179    , L0002180    , L0002181    , L0002182  
 , L0002183    , L0002184    , L0002185    ,  
                                          L0002186    , L0002187    , L0002188    , L0002189    , L0002190  
 , L0002191    , L0002192    , . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10    IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YMMDDHH)		
439419.73	3759944.08	0.00735	(13101522)	439469.73

3759944.08	0.00765	(14043002)			
439519.73	3759944.08		0.00792	(14043002)	439569.73
3759944.08	0.00832	(14042901)			
439619.73	3759944.08		0.00873	(14042901)	439669.73
3759944.08	0.00910	(16020619)			
439719.73	3759944.08		0.00961	(16021419)	439319.73
3759994.08	0.00699	(16101918)			
439369.73	3759994.08		0.00721	(16101918)	439419.73
3759994.08	0.00752	(13101522)			
439469.73	3759994.08		0.00785	(13101522)	439519.73
3759994.08	0.00819	(14043002)			
439569.73	3759994.08		0.00854	(14043002)	439619.73
3759994.08	0.00894	(14042901)			
439669.73	3759994.08		0.00944	(14042901)	439719.73
3759994.08	0.00993	(16020619)			
439319.73	3760044.08		0.00712	(16101918)	439369.73
3760044.08	0.00744	(16101918)			
439419.73	3760044.08		0.00772	(16101918)	439469.73
3760044.08	0.00799	(13101522)			
439519.73	3760044.08		0.00841	(13101522)	439569.73
3760044.08	0.00878	(14043002)			
439619.73	3760044.08		0.00918	(14043002)	439669.73
3760044.08	0.00969	(14042901)			
439719.73	3760044.08		0.01032	(14042901)	439319.73
3760094.08	0.00718	(13100622)			
439369.73	3760094.08		0.00751	(16101918)	439419.73
3760094.08	0.00792	(16101918)			
439469.73	3760094.08		0.00829	(16101918)	439519.73
3760094.08	0.00863	(16101918)			
439569.73	3760094.08		0.00905	(13101522)	439619.73
3760094.08	0.00951	(13101522)			
439669.73	3760094.08		0.01004	(14043002)	439719.73
3760094.08	0.01059	(14042901)			
439319.73	3760144.08		0.00740	(14051322)	439369.73
3760144.08	0.00766	(14051322)			
439419.73	3760144.08		0.00798	(13100622)	439469.73
3760144.08	0.00842	(16101918)			
439519.73	3760144.08		0.00891	(16101918)	439569.73
3760144.08	0.00935	(16101918)			
439619.73	3760144.08		0.00976	(13101522)	439669.73
3760144.08	0.01040	(13101522)			
439719.73	3760144.08		0.01100	(14043002)	439319.73
3760194.08	0.00750	(14051322)			
439369.73	3760194.08		0.00786	(14051322)	439419.73
3760194.08	0.00825	(14051322)			
439469.73	3760194.08		0.00858	(14051322)	439519.73
3760194.08	0.00895	(13100622)			
439569.73	3760194.08		0.00956	(16101918)	439619.73
3760194.08	0.01016	(16101918)			

439669.73	3760194.08	0.01073	(16101918)	439719.73
3760194.08	0.01142 (13101522)			
439319.73	3760244.08	0.00757	(15031321)	439369.73
3760244.08	0.00791 (15031321)			
439419.73	3760244.08	0.00835	(14051322)	439469.73
3760244.08	0.00879 (14051322)			
439519.73	3760244.08	0.00928	(14051322)	439569.73
3760244.08	0.00975 (14051322)			
439619.73	3760244.08	0.01026	(16101918)	439669.73
3760244.08	0.01112 (16101918)			
439719.73	3760244.08	0.01193	(16101918)	439319.73
3760294.08	0.00768 (15071824)			
439369.73	3760294.08	0.00801	(16092601)	439419.73
3760294.08	0.00840 (15031321)			
439469.73	3760294.08	0.00885	(15031321)	439519.73
3760294.08	0.00935 (14051322)			
439569.73	3760294.08	0.00998	(14051322)	439619.73
3760294.08	0.01062 (14051322)			
439669.73	3760294.08	0.01132	(14051322)	439719.73
3760294.08	0.01224 (16101918)			
439319.73	3760344.08	0.00784	(14051419)	439369.73
3760344.08	0.00817 (14051419)			
439419.73	3760344.08	0.00851	(14051419)	439469.73
3760344.08	0.00894 (16092601)			
439519.73	3760344.08	0.00942	(16092601)	439569.73
3760344.08	0.01001 (15031321)			
439619.73	3760344.08	0.01073	(15031321)	439669.73
3760344.08	0.01162 (14051322)			
439719.73	3760344.08	0.01270	(14051322)	439319.73
3760394.08	0.00790 (14051419)			

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\*\*\* MODELOPTs:      RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL      \*\*\*  
                                  INCLUDING SOURCE(S):      L0002165      , L0002166  
 , L0002167      , L0002168      , L0002169      ,  
                                  L0002170      , L0002171      , L0002172      , L0002173      , L0002174  
 , L0002175      , L0002176      , L0002177      ,  
                                  L0002178      , L0002179      , L0002180      , L0002181      , L0002182  
 , L0002183      , L0002184      , L0002185      ,  
                                  L0002186      , L0002187      , L0002188      , L0002189      , L0002190  
 , L0002191      , L0002192      , . . .      ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
439369.73	3760394.08	0.00827	(14051419)	439419.73
3760394.08	0.00868	(14051419)		
439469.73	3760394.08	0.00911	(14051419)	439519.73
3760394.08	0.00959	(14051419)		
439569.73	3760394.08	0.01014	(14051419)	439619.73
3760394.08	0.01080	(14051419)		
439669.73	3760394.08	0.01167	(16092601)	439719.73
3760394.08	0.01280	(15031321)		
439874.21	3765787.45	0.01088	(13071004)	438730.25
3763176.04	0.00681	(12080924)		
439155.52	3762752.44	0.00804	(13082623)	438236.34
3763973.00	0.00572	(13082623)		

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 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\* 08/24/21  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 , L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 , L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 , L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		

440566.09	3761307.70	0.00713c (14020124)	440753.96
3761303.17	0.00764 (16101624)		
440851.52	3761299.51	0.00801m (16031424)	440971.94
3761298.60	0.00746m (16031424)		
440893.94	3761226.53	0.00993m (16031424)	441213.06
3761237.69	0.00635 (12120224)		
441159.80	3761390.72	0.00534m (16031424)	441227.40
3761481.34	0.00456 (13102424)		
441082.11	3761541.41	0.00433 (13102424)	441232.16
3761830.62	0.00285 (13102424)		
441646.93	3761227.68	0.00365 (13020524)	441817.10
3761247.30	0.00323 (13020524)		
442031.98	3761370.48	0.00270 (13020524)	442031.98
3761419.29	0.00262 (13020524)		
442027.42	3761327.59	0.00274 (13020524)	441953.51
3761508.71	0.00270 (12120224)		
442028.70	3761572.71	0.00251 (12120224)	440323.58
3761295.37	0.00702 (13112324)		
440261.53	3761302.22	0.00636 (12020424)	440432.94
3761497.04	0.00432m (14021824)		
440427.03	3761600.65	0.00358m (14021824)	440485.55
3762029.06	0.00217m (16031424)		
440533.86	3762034.96	0.00221c (12120424)	440588.09
3762034.96	0.00226c (12120424)		
440657.35	3762052.07	0.00225c (12120424)	440598.04
3762118.06	0.00212c (12120424)		
440231.97	3762035.21	0.00241 (12120624)	440283.76
3762037.11	0.00240 (12120624)		
440897.05	3762038.37	0.00193 (14120424)	439514.80
3761885.55	0.00310 (12020424)		
439564.80	3761885.55	0.00320 (12020424)	439864.80
3761885.55	0.00570 (12120624)		
439514.80	3761935.55	0.00301 (12020424)	439564.80
3761935.55	0.00305 (12020424)		
439864.80	3761935.55	0.00569 (12120624)	439514.80
3761985.55	0.00285 (12020424)		
439564.80	3761985.55	0.00287 (12020424)	439864.80
3761985.55	0.00569m (15011124)		
439514.80	3762035.55	0.00268 (12020424)	439564.80
3762035.55	0.00269 (12020424)		
439864.80	3762035.55	0.00546 (12120624)	439864.80
3762085.55	0.00691 (12120624)		
439514.80	3762135.55	0.00233 (12020424)	439564.80
3762135.55	0.00231 (12020424)		
439614.80	3762135.55	0.00248 (13112324)	439664.80
3762135.55	0.00272 (13112324)		
439714.80	3762135.55	0.00302 (13112324)	439764.80

3762135.55	0.00346	(13112324)			
439864.80	3762135.55	0.00533m	(15011124)	439512.61	
3760864.65	0.00349	(12122024)			
439562.61	3760864.65	0.00379	(12122024)	439612.61	
3760864.65	0.00414	(12122024)			
439662.61	3760864.65	0.00457	(12122024)	439712.61	
3760864.65	0.00510	(12122024)			
439762.61	3760864.65	0.00584	(12122024)	439812.61	
3760864.65	0.00700	(12122024)			
439862.61	3760864.65	0.00795	(12122024)	439512.61	
3760914.65	0.00358	(12122024)			
439562.61	3760914.65	0.00387	(12122024)	439612.61	
3760914.65	0.00423	(12122024)			
439662.61	3760914.65	0.00465	(12122024)	439712.61	
3760914.65	0.00519	(12122024)			
439762.61	3760914.65	0.00592	(12122024)	439812.61	
3760914.65	0.00707	(12122024)			
439862.61	3760914.65	0.00753	(12122024)	439512.61	
3760964.65	0.00365	(12122024)			
439562.61	3760964.65	0.00395	(12122024)	439612.61	
3760964.65	0.00430	(12122024)			
439662.61	3760964.65	0.00472	(12122024)	439712.61	
3760964.65	0.00525	(12122024)			
439762.61	3760964.65	0.00597	(12122024)	439812.61	
3760964.65	0.00711	(12122024)			
439862.61	3760964.65	0.00765	(12122024)	439512.61	
3761014.65	0.00370	(12122024)			
439562.61	3761014.65	0.00400	(12122024)	439612.61	
3761014.65	0.00434	(12122024)			
439662.61	3761014.65	0.00476	(12122024)	439712.61	
3761014.65	0.00528	(12122024)			
439762.61	3761014.65	0.00598	(12122024)	439812.61	
3761014.65	0.00710	(12122024)			

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\*\*\* MODELOPTs:    RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL                    \*\*\*  
                                          INCLUDING SOURCE(S):    L0002165    , L0002166  
 , L0002167    , L0002168    , L0002169    ,  
                                          L0002170    , L0002171    , L0002172    , L0002173    , L0002174  
 , L0002175    , L0002176    , L0002177    ,  
                                          L0002178    , L0002179    , L0002180    , L0002181    , L0002182  
 , L0002183    , L0002184    , L0002185    ,

L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M) Y-COORD (M)	Y-COORD (M) CONC (YYMMDDHH)	CONC (YYMMDDHH)	(YYMMDDHH)	X-COORD (M)
439862.61	3761014.65	0.00774	(12122024)	439512.61
3761064.65	0.00373 (12122024)			
439562.61	3761064.65	0.00401	(12122024)	439612.61
3761064.65	0.00435 (12122024)			
439662.61	3761064.65	0.00475	(12122024)	439712.61
3761064.65	0.00525 (12122024)			
439762.61	3761064.65	0.00594	(12122024)	439812.61
3761064.65	0.00704 (12122024)			
439862.61	3761064.65	0.00739	(12122024)	439512.61
3761114.65	0.00372 (12122024)			
439562.61	3761114.65	0.00399	(12122024)	439612.61
3761114.65	0.00431 (12122024)			
439662.61	3761114.65	0.00470	(12122024)	439712.61
3761114.65	0.00518 (12122024)			
439762.61	3761114.65	0.00584	(12122024)	439812.61
3761114.65	0.00690 (12122024)			
439862.61	3761114.65	0.00926	(12122024)	439512.61
3761164.65	0.00367 (12122024)			
439562.61	3761164.65	0.00393	(12122024)	439612.61
3761164.65	0.00423 (12122024)			
439662.61	3761164.65	0.00458	(12122024)	439712.61
3761164.65	0.00504 (12122024)			
439762.61	3761164.65	0.00568	(12122024)	439812.61
3761164.65	0.00669 (12122024)			
439862.61	3761164.65	0.00703	(12122024)	439512.61
3761214.65	0.00359 (12122024)			
439562.61	3761214.65	0.00382	(12122024)	439612.61
3761214.65	0.00410 (12122024)			
439662.61	3761214.65	0.00443	(12122024)	439712.61
3761214.65	0.00485 (12122024)			
439762.61	3761214.65	0.00544	(12122024)	439812.61
3761214.65	0.00640 (12122024)			
439862.61	3761214.65	0.00668	(12122024)	439512.61
3761264.65	0.00347 (12122024)			
439562.61	3761264.65	0.00368	(12122024)	439612.61
3761264.65	0.00393 (12122024)			



439662.61	3761264.65	0.00423	(12122024)	439712.61
3761264.65	0.00461	(12122024)		
439762.61	3761264.65	0.00519	(12011324)	439812.61
3761264.65	0.00610	(12011324)		
439862.61	3761264.65	0.00689	(12020424)	439512.61
3761314.65	0.00332	(12122024)		
439562.61	3761314.65	0.00351	(12122024)	439612.61
3761314.65	0.00385	(12011324)		
439662.61	3761314.65	0.00418	(12011324)	439712.61
3761314.65	0.00452	(12011324)		
439762.61	3761314.65	0.00512	(12011324)	439812.61
3761314.65	0.00599	(12020424)		
439862.61	3761314.65	0.00677	(12020424)	439512.61
3761364.65	0.00324	(12011324)		
439562.61	3761364.65	0.00349	(12011324)	439612.61
3761364.65	0.00383	(12011324)		
439662.61	3761364.65	0.00415	(12011324)	439712.61
3761364.65	0.00450	(12011324)		
439762.61	3761364.65	0.00502	(12020424)	439812.61
3761364.65	0.00605	(12020424)		
439862.61	3761364.65	0.00826	(12020424)	439512.61
3761414.65	0.00328	(12011324)		
439562.61	3761414.65	0.00348	(12011324)	439612.61
3761414.65	0.00372	(12011324)		
439662.61	3761414.65	0.00401	(12011324)	439712.61
3761414.65	0.00443	(12020424)		
439762.61	3761414.65	0.00509	(12020424)	439812.61
3761414.65	0.00607	(12020424)		
439862.61	3761414.65	0.00688	(12020424)	439512.61
3761464.65	0.00328	(12011324)		
439562.61	3761464.65	0.00343	(12011324)	439612.61
3761464.65	0.00362	(12011324)		
439662.61	3761464.65	0.00399	(12020424)	439712.61
3761464.65	0.00448	(12020424)		
439762.61	3761464.65	0.00510	(12020424)	439812.61
3761464.65	0.00601	(12020424)		
439862.61	3761464.65	0.00656	(12020424)	439512.61
3761514.65	0.00315	(12011324)		
439562.61	3761514.65	0.00332	(12020424)	439612.61
3761514.65	0.00366	(12020424)		
439662.61	3761514.65	0.00404	(12020424)	439712.61
3761514.65	0.00449	(12020424)		
439762.61	3761514.65	0.00510	(12020424)	439812.61
3761514.65	0.00596	(12020424)		

▲ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
 View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\ORBP\_U \*\*\*  
 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*

08/24/21

\*\*\* 19:02:44

\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 , L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 , L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 , L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM<sub>10</sub> IN MICROGRAMS/M\*\*3

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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
439862.61	3761514.65	0.00685	(12020424)	439512.61
3761564.65	0.00310	(12020424)		
439562.61	3761564.65	0.00339	(12020424)	439612.61
3761564.65	0.00371	(12020424)		
439662.61	3761564.65	0.00406	(12020424)	439712.61
3761564.65	0.00450	(12020424)		
439762.61	3761564.65	0.00507	(12020424)	439812.61
3761564.65	0.00593	(12020424)		
439862.61	3761564.65	0.00643	(12020424)	439512.61
3761614.65	0.00316	(12020424)		
439562.61	3761614.65	0.00342	(12020424)	439862.61
3761614.65	0.00750	(12020424)		
439512.61	3761664.65	0.00326	(12020424)	439562.61
3761664.65	0.00350	(12020424)		
439862.61	3761664.65	0.00601	(12020424)	439512.61
3761714.65	0.00326	(12020424)		
439562.61	3761714.65	0.00349	(12020424)	439862.61
3761714.65	0.00580	(12120624)		
439512.61	3761764.65	0.00321	(12020424)	439562.61
3761764.65	0.00344	(12020424)		
439862.61	3761764.65	0.00712	(12120624)	439512.61
3761814.65	0.00318	(12020424)		
439562.61	3761814.65	0.00336	(12020424)	439862.61
3761814.65	0.00567	(12120624)		
439512.61	3761864.65	0.00310	(12020424)	439562.61

3761864.65	0.00324 (12020424)		
439862.61	3761864.65	0.00702 (12120624)	439947.85
3760913.55	0.00761c (12122924)		
439947.57	3760863.55	0.00772c (12122924)	439947.28
3760813.55	0.00781c (12122924)		
439947.00	3760763.55	0.00790c (12122924)	439946.72
3760713.55	0.00795c (12122924)		
439946.44	3760663.55	0.00799c (12122924)	439946.16
3760613.56	0.00805c (12122924)		
439945.87	3760563.56	0.00833c (12122924)	439945.59
3760513.56	0.00965c (12122924)		
439840.54	3760412.27	0.00864 (16122724)	439840.25
3760362.27	0.00801 (16122724)		
439839.97	3760312.27	0.00742 (16122724)	439839.69
3760262.27	0.00692 (16122724)		
439839.41	3760212.27	0.00649 (16122724)	439839.13
3760162.27	0.00609 (16122724)		
439838.84	3760112.27	0.00572 (16122724)	439838.56
3760062.27	0.00537 (16122724)		
439838.28	3760012.27	0.00521 (16122924)	439838.00
3759962.28	0.00506 (16122924)		
439837.72	3759912.28	0.00491 (16122924)	439837.43
3759862.28	0.00475 (15011524)		
439837.15	3759812.28	0.00464 (15011524)	439827.57
3758112.30	0.00297m (13010324)		
439927.52	3758104.25	0.00321c (14012124)	439937.11
3759804.22	0.00480c (14012124)		
439937.39	3759854.22	0.00488c (14012124)	439937.67
3759904.22	0.00498c (14012124)		
439937.95	3759954.22	0.00507c (14012124)	439938.24
3760004.22	0.00519c (12112224)		
439938.52	3760054.22	0.00535c (12112224)	439938.80
3760104.22	0.00552c (12112224)		
439939.08	3760154.22	0.00572c (12112224)	439939.36
3760204.22	0.00595c (12112224)		
439939.65	3760254.22	0.00622c (12112224)	439939.93
3760304.22	0.00673 (13010424)		
439940.21	3760354.21	0.00745 (13010424)	439940.49
3760404.21	0.00914m (13010324)		
439857.97	3760492.88	0.01042 (12020624)	439858.26
3760542.88	0.00983 (12020624)		
439858.54	3760592.88	0.00767 (12020624)	439858.82
3760642.88	0.00948 (12020624)		
439859.10	3760692.88	0.00756 (12020624)	439859.38
3760742.88	0.00754 (12020624)		
439859.67	3760792.88	0.00934 (12020624)	439859.95
3760842.88	0.00739 (12122024)		
439908.55	3760435.04	0.01127m (13010324)	439949.66
3760417.49	0.00990m (13010324)		

439999.66	3760417.71	0.00974	(14122624)	440049.66
3760417.93	0.01001	(14122624)		
440099.66	3760418.15	0.01028	(14122624)	440149.66
3760418.37	0.01056	(14122624)		
440199.66	3760418.59	0.01094	(15011524)	440249.66
3760418.81	0.01174	(15011524)		

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 \*\*\* 19:02:44

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

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\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

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X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
440299.66	3760419.03	0.01253	(15011524)	440349.66
3760419.25	0.01290m	(13010324)		
440399.66	3760419.46	0.01252m	(13010324)	440799.65
3760421.22	0.01173	(12010924)		
440849.65	3760421.44	0.01128	(12010924)	440899.65
3760421.66	0.01034	(14110424)		
440949.65	3760421.88	0.00947	(14110424)	440999.65
3760422.10	0.00868	(14110424)		
441049.65	3760422.32	0.00799	(14110424)	441099.65
3760422.54	0.00740	(14110424)		
441149.65	3760422.76	0.00696	(13011624)	441199.65
3760422.98	0.00671	(12112524)		
441249.65	3760423.20	0.00655	(12112524)	441299.65
3760423.42	0.00640	(12112524)		

441349.65	3760423.64	0.00626	(12112524)	441399.65
3760423.86	0.00615	(12112524)		
441449.65	3760424.07	0.00601	(12112524)	441499.65
3760424.29	0.00588	(12112524)		
441549.65	3760424.51	0.00577	(12112524)	441599.64
3760424.73	0.00567	(12112524)		
441649.64	3760424.95	0.00556	(12112524)	441699.64
3760425.17	0.00548c	(13112024)		
441749.64	3760425.39	0.00542c	(13112024)	441799.64
3760425.61	0.00537c	(13112024)		
441849.64	3760425.83	0.00532c	(13112024)	441899.64
3760426.05	0.00527c	(13112024)		
441949.64	3760426.27	0.00522c	(13112024)	441999.64
3760426.49	0.00515c	(13112024)		
442049.64	3760426.71	0.00511c	(13112024)	442099.64
3760426.93	0.00506c	(13112024)		
442149.64	3760427.15	0.00502c	(13112024)	442199.64
3760427.37	0.00499c	(13112024)		
442249.64	3760427.59	0.00495c	(13112024)	442299.64
3760427.81	0.00490c	(13112024)		
442349.64	3760428.03	0.00487c	(13112024)	442399.64
3760428.25	0.00485c	(13112024)		
442449.64	3760428.47	0.00486c	(13112024)	442499.64
3760428.69	0.00483c	(13112024)		
442549.64	3760428.90	0.00479c	(13112024)	442599.64
3760429.12	0.00471c	(13112024)		
442649.63	3760429.34	0.00469c	(13112024)	442699.63
3760429.56	0.00468c	(13112024)		
442749.63	3760429.78	0.00466c	(13112024)	442799.63
3760430.00	0.00464c	(13112024)		
442849.63	3760430.22	0.00463c	(13112024)	442899.63
3760430.44	0.00459c	(13112024)		
442949.63	3760430.66	0.00458c	(13112024)	442999.63
3760430.88	0.00455c	(13112024)		
443049.63	3760431.10	0.00453c	(13112024)	443099.63
3760431.32	0.00451c	(13112024)		
443149.63	3760431.54	0.00449c	(13112024)	443199.63
3760431.76	0.00448c	(13112024)		
443249.63	3760431.98	0.00445c	(13112024)	443299.63
3760432.20	0.00442c	(13112024)		
443349.63	3760432.42	0.00442c	(13112024)	443399.63
3760432.64	0.00441c	(13112024)		
443449.63	3760432.86	0.00440c	(13112024)	443499.63
3760433.08	0.00439c	(13112024)		
443549.63	3760433.30	0.00438c	(13112024)	443599.63
3760433.51	0.00440c	(13112024)		
443649.63	3760433.73	0.00440c	(13112024)	443699.62
3760433.95	0.00437c	(13112024)		
443749.62	3760434.17	0.00434c	(13112024)	443799.62

3760434.39	0.00435c (12122924)		
443849.62	3760434.61	0.00438c (12122924)	443899.62
3760434.83	0.00447c (12122924)		
443957.56	3760448.00	0.00587c (12122924)	444003.78
3760428.92	0.00522c (12122924)		
444049.99	3760409.83	0.00494c (12122924)	444096.20
3760390.74	0.00465c (12122924)		
444142.42	3760371.65	0.00412m (13010324)	444191.79
3760367.99	0.00417c (12122924)		
444241.79	3760367.35	0.00420c (12122924)	444291.78
3760366.71	0.00419c (12122924)		
444341.78	3760366.07	0.00418c (12122924)	444391.77
3760365.44	0.00416c (12122924)		
444441.77	3760364.80	0.00415c (12122924)	444491.77
3760364.16	0.00414c (12122924)		
444541.76	3760363.52	0.00412c (12122924)	444591.76
3760362.88	0.00409c (12122924)		

^ \*\*\* AERMOD - VERSION 21112 \*\*\*    \*\*\* C:\Lakes\AERMOD  
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 \*\*\* AERMET - VERSION 16216 \*\*\*    \*\*\*  
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\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL                    \*\*\*  
                                          INCLUDING SOURCE(S):    L0002165    , L0002166  
 , L0002167    , L0002168    , L0002169    ,  
                                          L0002170    , L0002171    , L0002172    , L0002173    , L0002174  
 , L0002175    , L0002176    , L0002177    ,  
                                          L0002178    , L0002179    , L0002180    , L0002181    , L0002182  
 , L0002183    , L0002184    , L0002185    ,  
                                          L0002186    , L0002187    , L0002188    , L0002189    , L0002190  
 , L0002191    , L0002192    , . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10    IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
444641.75	3760362.25	0.00398c (12122924)		444691.75
3760361.61	0.00409c (12122924)			
444741.75	3760360.97	0.00409c (12122924)		444791.74

3760360.33	0.00410c (12122924)		
444841.74	3760359.69	0.00411m (13010324)	444891.73
3760359.05	0.00415m (13010324)		
444941.73	3760358.42	0.00419m (13010324)	444991.73
3760357.78	0.00426m (13010324)		
445041.72	3760357.14	0.00438m (13010324)	445091.72
3760356.50	0.00456m (13010324)		
445141.71	3760355.86	0.00509c (14012124)	445191.71
3760355.22	0.00425c (14012124)		
445166.91	3760455.55	0.00658 (12120624)	445116.92
3760456.19	0.00521 (12120624)		
445066.92	3760456.83	0.00487 (12120624)	445016.93
3760457.46	0.00469 (12120624)		
444966.93	3760458.10	0.00457 (12120624)	444916.93
3760458.74	0.00448 (12120624)		
444866.94	3760459.38	0.00441 (12120624)	444816.94
3760460.02	0.00434 (12120624)		
444766.95	3760460.66	0.00429 (12120624)	444716.95
3760461.29	0.00425 (12120624)		
444666.95	3760461.93	0.00418 (12120624)	444616.96
3760462.57	0.00410 (12120624)		
444566.96	3760463.21	0.00416 (12120624)	444516.97
3760463.85	0.00413 (12120624)		
444466.97	3760464.48	0.00410 (12120624)	444416.97
3760465.12	0.00408 (12120624)		
444366.98	3760465.76	0.00406 (12120624)	444316.98
3760466.40	0.00405 (12120624)		
444266.99	3760467.04	0.00404 (12120624)	444216.99
3760467.68	0.00408 (12120624)		
444167.26	3760469.59	0.00429 (13111924)	444121.04
3760488.68	0.00409 (13111924)		
444074.83	3760507.76	0.00403 (13111924)	444028.62
3760526.85	0.00384 (13111924)		
443982.40	3760545.94	0.00346 (13111924)	443933.78
3760552.72	0.00339 (13111924)		
443874.89	3760534.72	0.00400 (13111924)	443824.89
3760534.50	0.00401 (13111924)		
443774.89	3760534.29	0.00400 (13111924)	443724.89
3760534.07	0.00401 (13111924)		
443674.89	3760533.85	0.00401 (13111924)	443624.89
3760533.63	0.00401 (13111924)		
443574.89	3760533.41	0.00401 (13111924)	443524.89
3760533.19	0.00404 (13111924)		
443474.89	3760532.97	0.00405 (13111924)	443424.90
3760532.75	0.00407 (13111924)		
443374.90	3760532.53	0.00407 (13111924)	443324.90
3760532.31	0.00408 (13111924)		
443274.90	3760532.09	0.00410 (13111924)	443224.90
3760531.87	0.00410 (13111924)		

443174.90	3760531.65	0.00409	(13111924)	443124.90
3760531.43	0.00409	(13111924)		
443074.90	3760531.21	0.00409	(13111924)	443024.90
3760530.99	0.00411	(13111924)		
442974.90	3760530.77	0.00405	(13111924)	442924.90
3760530.55	0.00405	(13111924)		
442874.90	3760530.33	0.00407	(13111924)	442824.90
3760530.11	0.00409	(13111924)		
442774.90	3760529.89	0.00410	(13111924)	442724.90
3760529.68	0.00403c	(13112024)		
442674.90	3760529.46	0.00399c	(13112024)	442624.90
3760529.24	0.00407c	(13112024)		
442574.90	3760529.02	0.00422c	(13112024)	442524.90
3760528.80	0.00425c	(13112024)		
442474.90	3760528.58	0.00429c	(13112024)	442424.91
3760528.36	0.00434c	(13112024)		
442374.91	3760528.14	0.00438c	(13112024)	442324.91
3760527.92	0.00443c	(13112024)		
442274.91	3760527.70	0.00447c	(13112024)	442224.91
3760527.48	0.00452c	(13112024)		
442174.91	3760527.26	0.00457c	(13112024)	442124.91
3760527.04	0.00463c	(13112024)		
442074.91	3760526.82	0.00469c	(13112024)	442024.91
3760526.60	0.00475c	(13112024)		
441974.91	3760526.38	0.00482c	(13112024)	441924.91
3760526.16	0.00489c	(13112024)		
441874.91	3760525.94	0.00496c	(13112024)	441824.91
3760525.72	0.00504c	(13112024)		

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\*\*\* MODELOPTs:    RegDFault    CONC    ELEV    URBAN    ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL                    \*\*\*  
                                          INCLUDING SOURCE(S):    L0002165    , L0002166  
 , L0002167    , L0002168    , L0002169    ,  
                                          L0002170    , L0002171    , L0002172    , L0002173    , L0002174  
 , L0002175    , L0002176    , L0002177    ,  
                                          L0002178    , L0002179    , L0002180    , L0002181    , L0002182  
 , L0002183    , L0002184    , L0002185    ,  
                                          L0002186    , L0002187    , L0002188    , L0002189    , L0002190  
 , L0002191    , L0002192    , . . .    ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*



\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

Y-COORD (M)	X-COORD (M)	Y-COORD (M) CONC	CONC (YYMMDDHH)	X-COORD (M)
3760525.28	441774.91	3760525.50	0.00513c (13112024)	441724.91
3760524.85	441674.91	3760525.06	0.00532c (13112024)	441624.91
3760524.41	441574.91	3760524.63	0.00553c (13112024)	441524.91
3760523.97	441474.91	3760524.19	0.00581c (13112024)	441424.91
3760523.53	441374.92	3760523.75	0.00614c (13112024)	441324.92
3760523.09	441274.92	3760523.31	0.00658c (13112024)	441224.92
3760522.65	441174.92	3760522.87	0.00719c (13112024)	441124.92
3760522.21	441074.92	3760522.43	0.00806c (13112024)	441024.92
3760521.77	440974.92	3760521.99	0.00934c (13112024)	440924.92
3760521.33	440874.92	3760521.55	0.01292 (14110424)	440824.92
3760519.14	440374.92	3760519.36	0.01881 (15011524)	440324.93
3760518.70	440274.93	3760518.92	0.01305 (16122724)	440224.93
3760518.26	440174.93	3760518.48	0.01065 (16122724)	440124.93
3760517.82	440074.93	3760518.04	0.00915 (16122724)	440024.93
3760535.15	439974.93	3760517.60	0.00880c (12122924)	439933.82
3759616.20	445138.86	3760315.71	0.00414m (13010324)	445165.09
3759556.77	445166.97	3759566.24	0.00275m (13010324)	445208.34
3759555.51	445258.34	3759556.14	0.00453c (14012124)	445308.34
3759603.59	449408.01	3759503.78	0.00149 (13050124)	449423.82
3760549.16	445238.82	3760499.17	0.00485c (12121724)	445239.41
	449255.91	3762522.00	0.00201m (12050224)	449232.19

3762619.67	0.00208	(12120224)		
445265.82	3762064.86		0.00242c	(12120424)
3762064.86	0.00231c	(12120424)		445215.82
445165.82	3762064.86		0.00188c	(12120424)
3762023.50	0.00245	(13012524)		445156.70
445139.69	3760573.60		0.00384	(12121624)
3760523.60	0.00409	(12121624)		445139.10
441152.00	3762046.59		0.00190m	(16031424)
3762050.09	0.00256	(13102424)		441564.94
439944.18	3762179.79		0.00560	(12120624)
3762229.79	0.00553	(12120624)		439944.37
439944.57	3762279.79		0.00547	(12120624)
3762329.79	0.00541	(12120624)		439944.77
439944.96	3762379.79		0.00535	(12120624)
3762429.79	0.00532	(12120624)		439945.16
439945.36	3762479.79		0.00528	(12120624)
3762529.79	0.00526	(12120624)		439945.55
439945.75	3762579.79		0.00523	(12120624)
3762629.79	0.00521	(12120624)		439945.94
439946.14	3762679.79		0.00519	(12120624)
3762729.79	0.00517	(12120624)		439946.34
439958.30	3765779.77		0.00377m	(16031424)
3762769.33	0.00459	(12120624)		439846.49
439846.29	3762719.33		0.00460	(12120624)
3762669.33	0.00461	(12120624)		439846.10
439845.90	3762619.33		0.00462	(12120624)
3762569.33	0.00465	(12120624)		439845.71
439845.51	3762519.33		0.00468	(13112324)
3762469.33	0.00474	(13112324)		439845.31
439845.12	3762419.33		0.00482m	(15011124)
3762369.33	0.00490m	(15011124)		439844.92
439844.73	3762319.33		0.00498m	(15011124)
3762269.33	0.00505m	(15011124)		439844.53
439844.33	3762219.33		0.00512m	(15011124)
3762334.08	0.00252c	(12011024)		446702.53
446751.23	3762345.44		0.00241c	(12112224)
3762438.13	0.00252	(12120224)		446708.40
439319.73	3759944.08		0.00245	(16122724)
3759944.08	0.00256	(16122724)		439369.73

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\*\*\* MODELOPTs:    RegDFAULT    CONC    ELEV    URBAN    ADJ\_U\*

                                         \*\*\* THE    1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL                    \*\*\*

INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
Y-COORD (M)	CONC	(YYMMDDHH)		
439419.73	3759944.08	0.00268	(16122724)	439469.73
3759944.08	0.00280	(16122724)		
439519.73	3759944.08	0.00291	(16122724)	439569.73
3759944.08	0.00302	(16122724)		
439619.73	3759944.08	0.00314	(16122724)	439669.73
3759944.08	0.00327	(16122724)		
439719.73	3759944.08	0.00345	(15031324)	439319.73
3759994.08	0.00249	(16122724)		
439369.73	3759994.08	0.00263	(16122724)	439419.73
3759994.08	0.00276	(16122724)		
439469.73	3759994.08	0.00290	(16122724)	439519.73
3759994.08	0.00304	(16122724)		
439569.73	3759994.08	0.00318	(16122724)	439619.73
3759994.08	0.00332	(16122724)		
439669.73	3759994.08	0.00348	(16122724)	439719.73
3759994.08	0.00368	(16122724)		
439319.73	3760044.08	0.00253	(16122724)	439369.73
3760044.08	0.00268	(16122724)		
439419.73	3760044.08	0.00283	(16122724)	439469.73
3760044.08	0.00299	(16122724)		
439519.73	3760044.08	0.00316	(16122724)	439569.73
3760044.08	0.00333	(16122724)		
439619.73	3760044.08	0.00350	(16122724)	439669.73
3760044.08	0.00370	(16122724)		
439719.73	3760044.08	0.00393	(16122724)	439319.73
3760094.08	0.00255	(16122724)		
439369.73	3760094.08	0.00271	(16122724)	439419.73
3760094.08	0.00289	(16122724)		
439469.73	3760094.08	0.00307	(16122724)	439519.73
3760094.08	0.00326	(16122724)		

439569.73	3760094.08	0.00346	(16122724)	439619.73
3760094.08	0.00367	(16122724)		
439669.73	3760094.08	0.00391	(16122724)	439719.73
3760094.08	0.00418	(16122724)		
439319.73	3760144.08	0.00260	(14122624)	439369.73
3760144.08	0.00275	(14122624)		
439419.73	3760144.08	0.00293	(16122724)	439469.73
3760144.08	0.00313	(16122724)		
439519.73	3760144.08	0.00335	(16122724)	439569.73
3760144.08	0.00358	(16122724)		
439619.73	3760144.08	0.00383	(16122724)	439669.73
3760144.08	0.00411	(16122724)		
439719.73	3760144.08	0.00443	(16122724)	439319.73
3760194.08	0.00262	(14122624)		
439369.73	3760194.08	0.00279	(14122624)	439419.73
3760194.08	0.00297	(14122624)		
439469.73	3760194.08	0.00317	(16122724)	439519.73
3760194.08	0.00341	(16122724)		
439569.73	3760194.08	0.00368	(16122724)	439619.73
3760194.08	0.00397	(16122724)		
439669.73	3760194.08	0.00430	(16122724)	439719.73
3760194.08	0.00467	(16122724)		
439319.73	3760244.08	0.00262	(14122624)	439369.73
3760244.08	0.00279	(14122624)		
439419.73	3760244.08	0.00300	(14122624)	439469.73
3760244.08	0.00321	(14122624)		
439519.73	3760244.08	0.00346	(16122724)	439569.73
3760244.08	0.00375	(16122724)		
439619.73	3760244.08	0.00408	(16122724)	439669.73
3760244.08	0.00446	(16122724)		
439719.73	3760244.08	0.00491	(16122724)	439319.73
3760294.08	0.00259	(14122624)		
439369.73	3760294.08	0.00278	(14122624)	439419.73
3760294.08	0.00298	(14122624)		
439469.73	3760294.08	0.00321	(14122624)	439519.73
3760294.08	0.00348	(14122624)		
439569.73	3760294.08	0.00379	(16122724)	439619.73
3760294.08	0.00415	(16122724)		
439669.73	3760294.08	0.00459	(16122724)	439719.73
3760294.08	0.00512	(16122724)		
439319.73	3760344.08	0.00253	(14122624)	439369.73
3760344.08	0.00272	(14122624)		
439419.73	3760344.08	0.00294	(14122624)	439469.73
3760344.08	0.00318	(14122624)		
439519.73	3760344.08	0.00346	(16122724)	439569.73
3760344.08	0.00379	(16122724)		
439619.73	3760344.08	0.00419	(16122724)	439669.73
3760344.08	0.00467	(16122724)		
439719.73	3760344.08	0.00528	(16122724)	439319.73

3760394.08 0.00249 (16122724)  
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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION  
 VALUES FOR SOURCE GROUP: ALL \*\*\*  
 INCLUDING SOURCE(S): L0002165 , L0002166  
 , L0002167 , L0002168 , L0002169 ,  
 L0002170 , L0002171 , L0002172 , L0002173 , L0002174  
 , L0002175 , L0002176 , L0002177 ,  
 L0002178 , L0002179 , L0002180 , L0002181 , L0002182  
 , L0002183 , L0002184 , L0002185 ,  
 L0002186 , L0002187 , L0002188 , L0002189 , L0002190  
 , L0002191 , L0002192 , . . . ,

\*\*\* DISCRETE CARTESIAN RECEPTOR POINTS

\*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

Y-COORD (M)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)
3760394.08	439369.73	3760394.08	0.00268	(16122724)	439419.73
3760394.08	439469.73	3760394.08	0.00314	(16122724)	439519.73
3760394.08	439569.73	3760394.08	0.00377	(16122724)	439619.73
3760394.08	439669.73	3760394.08	0.00469	(16122724)	439719.73
3763176.04	439874.21	3765787.45	0.00318	(14122524)	438730.25
3763973.00	439155.52	3762752.44	0.00137	(13112324)	438236.34

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE SUMMARY OF MAXIMUM PERIOD ( 43848

HRS) RESULTS \*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

GROUP ID	NETWORK	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV,
ZHILL, ZFLAG)	OF TYPE GRID-ID		
ALL	1ST HIGHEST VALUE IS	0.01018 AT (	440374.92, 3760519.36, 195.42,
195.42,	0.00) DC		
	2ND HIGHEST VALUE IS	0.00984 AT (	440824.92, 3760521.33, 196.81,
196.81,	0.00) DC		
	3RD HIGHEST VALUE IS	0.00819 AT (	440324.93, 3760519.14, 194.81,
194.81,	0.00) DC		
	4TH HIGHEST VALUE IS	0.00746 AT (	440874.92, 3760521.55, 197.55,
197.55,	0.00) DC		
	5TH HIGHEST VALUE IS	0.00706 AT (	440274.93, 3760518.92, 194.53,
194.53,	0.00) DC		
	6TH HIGHEST VALUE IS	0.00649 AT (	440924.92, 3760521.77, 198.06,
198.06,	0.00) DC		
	7TH HIGHEST VALUE IS	0.00640 AT (	440224.93, 3760518.70, 193.84,
193.84,	0.00) DC		
	8TH HIGHEST VALUE IS	0.00634 AT (	440349.66, 3760419.25, 194.36,
194.36,	0.00) DC		
	9TH HIGHEST VALUE IS	0.00622 AT (	440299.66, 3760419.03, 194.14,
194.14,	0.00) DC		
	10TH HIGHEST VALUE IS	0.00600 AT (	440249.66, 3760418.81, 194.03,
194.03,	0.00) DC		

\*\*\* RECEPTOR TYPES: GC = GRIDCART  
 GP = GRIDPOLR  
 DC = DISCCART  
 DP = DISCPOLR

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE SUMMARY OF HIGHEST 1-HR

RESULTS \*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

GROUP ID (XR, YR, ZELEV, ZHILL, ZFLAG)	AVERAGE CONC OF TYPE	NETWORK GRID-ID	DATE (YYMMDDHH)	RECEPTOR
ALL HIGH 1ST HIGH VALUE IS 3760519.36, 195.42, 195.42,	0.03470 0.00)	DC	ON 15060906: AT (	440374.92,

\*\*\* RECEPTOR TYPES: GC = GRIDCART  
 GP = GRIDPOLR  
 DC = DISCCART  
 DP = DISCPOLR

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\*\*\* MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* THE SUMMARY OF HIGHEST 24-HR

RESULTS \*\*\*

\*\* CONC OF PM\_10 IN MICROGRAMS/M\*\*3

\*\*

GROUP ID (XR, YR, ZELEV, ZHILL, ZFLAG)	AVERAGE CONC OF TYPE	NETWORK GRID-ID	DATE (YYMMDDHH)	RECEPTOR
ALL HIGH 1ST HIGH VALUE IS 3760519.36, 195.42, 195.42,	0.01881 0.00)	DC	ON 15011524: AT (	440374.92,

\*\*\* RECEPTOR TYPES: GC = GRIDCART

GP = GRIDPOLR  
DC = DISCCART  
DP = DISCPOLR

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\*\*\* MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ\_U\*

\*\*\* Message Summary : AERMOD Model Execution \*\*\*

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)  
A Total of 2 Warning Message(s)  
A Total of 1279 Informational Message(s)  
  
A Total of 43848 Hours Were Processed  
  
A Total of 917 Calm Hours Identified  
  
A Total of 362 Missing Hours Identified ( 0.83 Percent)

\*\*\*\*\* FATAL ERROR MESSAGES \*\*\*\*\*  
\*\*\* NONE \*\*\*

\*\*\*\*\* WARNING MESSAGES \*\*\*\*\*  
ME W186 2591 MEOPEN: THRESH\_1MIN 1-min ASOS wind speed threshold used  
0.50  
ME W187 2591 MEOPEN: ADJ\_U\* Option for Stable Low Winds used in AERMET

\*\*\*\*\*  
\*\*\* AERMOD Finishes Successfully \*\*\*  
\*\*\*\*\*



\*HARP - HRACalc v19044 8/26/2021 9:09:06 AM - Cancer Risk - Input File: C:\Lakes\AERMOD View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\RAST\ORBP\_Unmitigated\_Operations\_ResidentHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	RISK_SUM	SCENARIO	DETAILS	INH_RISK
1			9901	DieselExhPM	0.54834		4.74E-04 30YrCancerDerived_*		4.74E-04
2			107028	Acrolein	0		0.00E+00 30YrCancerDerived_*		0.00E+00

\*HARP - HRACalc v19044 8/26/2021 9:09:06 AM - Chronic Risk - Input File: C:\Lakes\AERMOD View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\RAST\ORBP\_Unmitigated\_Operations\_ResidentHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE RESP
1			9901	DieselExhPM	0.54834	NonCancerChronicDerived_Inh		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00 1.10E-01
2			107028	Acrolein	0	NonCancerChronicDerived_Inh		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00 0.00E+00

\*HARP - HRACalc v19044 8/26/2021 9:09:06 AM - Acute Risk - Input File: C:\Lakes\AERMOD View\Ontario\_ORBP\ORBP\_Unmitigated\_Operations\RAST\ORBP\_Unmitigated\_Operations\_ResidentHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE RESP
1			9901	DieselExhPM	0	NonCancerAcute		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00 0.00E+00
2			107028	Acrolein	4.05102	NonCancerAcute		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00 1.62E+00

\*HARP - HRACalc v19044 8/25/2021 9:44:58 AM - Cancer Risk - Input File: C:\Lakes\AERMOD View\Ontario\_ORBP\ORBP\_Mitigated\_Operations\RAST\ORBP\_Mitigated\_Operations\_residenceHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	RISK_SUM	SCENARIO	DETAILS	INH_RISK
1			9901	DieselExhPM	0.0034		2.94E-06 30YrCancerDerived_*		2.94E-06
2			107028	Acrolein	0		0 30YrCancerDerived_*		0

\*HARP - HRACalc v19044 8/25/2021 9:44:58 AM - Chronic Risk - Input File: C:\Lakes\AERMOD View\Ontario\_ORBP\ORBP\_Mitigated\_Operations\RAST\ORBP\_Mitigated\_Operations\_residenceHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE RESP
1			9901	DieselExhPM	0.0034	NonCancerChronicDerived_Inh		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00 6.80E-04
2			107028	Acrolein	0	NonCancerChronicDerived_Inh		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00 0.00E+00

\*HARP - HRACalc v19044 8/25/2021 9:44:58 AM - Acute Risk - Input File: C:\Lakes\AERMOD View\Ontario\_ORBP\ORBP\_Mitigated\_Operations\RAST\ORBP\_Mitigated\_Operations\_residenceHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE RESP
1			9901	DieselExhPM	0	NonCancerAcute		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00 0.00E+00
2			107028	Acrolein	0.02418	NonCancerAcute		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00 9.67E-03

**APPENDIX B3**  
**GREENHOUSE GAS EMISSIONS MODEL DATA**

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Ontario Ranch Business Park - Unmitigated**

**San Bernardino-South Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Office Park	227.95	1000sqft	5.23	227,950.00	0
Refrigerated Warehouse-No Rail	179.13	1000sqft	4.11	179,135.00	0
Unrefrigerated Warehouse-No Rail	913.05	1000sqft	20.96	913,053.00	0
Unrefrigerated Warehouse-No Rail	320.55	1000sqft	7.36	320,551.00	0
Other Asphalt Surfaces	491.00	1000sqft	11.27	491,000.00	0
Parking Lot	1,144.52	1000sqft	26.27	1,144,515.00	0
City Park	4.75	Acre	4.75	206,910.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	32
<b>Climate Zone</b>	10			<b>Operational Year</b>	2024
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MWhr)</b>	390.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Land uses based on TIA, landscaping shown as City Park, Parking Lot includes drive aisles, parking spaces, and docks. Off-site improvements modeled as Other Asphalt Surfaces

Construction Phase - Anticipated construction schedule

Off-road Equipment - Crushing

Trips and VMT - demo crushed onsite and reused

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Demolition - demo = 10,200 sf, crushed on site reused as base. crushing calcs done outside model

Grading - site is balanced

Vehicle Trips - based on TIA, passenger cars shown under Office Park, trucks shown under refrigerated warehouse. cars: 2908/227.951= 12.75712762830608  
trucks: 748/179.135= 4.175621737795517

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Construction Off-road Equipment Mitigation - incorporate RULE 403

Water Mitigation - comply with building code

Operational Off-Road Equipment - assume 1 yard truck per building, 6 total. Assume 0.03 forklifts per 1000 sf of warehouse rounded up to 50

Fleet Mix - Fleet Mix based on TIA

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	110.00	109.00
tblConstructionPhase	NumDays	1,550.00	425.00
tblConstructionPhase	NumDays	100.00	33.00
tblConstructionPhase	NumDays	155.00	55.00
tblConstructionPhase	NumDays	110.00	165.00
tblConstructionPhase	NumDays	60.00	33.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	HHD	0.02	0.65
tblFleetMix	LDA	0.54	1.00
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LDT2	0.17	0.00

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	7.1040e-003	0.00
tblFleetMix	LHD2	7.1040e-003	0.19
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MH	4.8300e-003	0.00
tblFleetMix	MH	4.8300e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.16
tblFleetMix	OBUS	5.5400e-004	0.00
tblFleetMix	OBUS	5.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	UBUS	2.5100e-004	0.00
tblFleetMix	UBUS	2.5100e-004	0.00
tblLandUse	LandUseSquareFeet	179,130.00	179,135.00
tblLandUse	LandUseSquareFeet	320,550.00	320,551.00
tblLandUse	LandUseSquareFeet	913,050.00	913,053.00
tblLandUse	LandUseSquareFeet	1,144,520.00	1,144,515.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	50.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblTripsAndVMT	HaulingTripNumber	46.00	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	6.90	40.00

## Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	41.00	100.00
tblVehicleTrips	CW_TTP	33.00	100.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	15.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	82.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	1.64	12.76
tblVehicleTrips	ST_TR	2.12	4.18
tblVehicleTrips	ST_TR	1.74	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.76	12.76
tblVehicleTrips	SU_TR	2.12	4.18
tblVehicleTrips	SU_TR	1.74	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	11.07	12.76
tblVehicleTrips	WD_TR	2.12	4.18
tblVehicleTrips	WD_TR	1.74	0.00

**2.0 Emissions Summary**

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.1 Overall Construction**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.6537	4.6348	5.7988	0.0181	1.6615	0.1606	1.8221	0.5591	0.1498	0.7088	0.0000	1,675.538 2	1,675.538 2	0.1488	0.1048	1,710.476 3
2023	5.7885	6.0063	10.9184	0.0370	2.6369	0.1659	2.8028	0.7111	0.1554	0.8666	0.0000	3,462.424 6	3,462.424 6	0.2038	0.2371	3,538.187 4
2024	3.3722	1.0870	2.1083	7.6900e-003	0.6027	0.0247	0.6274	0.1624	0.0234	0.1857	0.0000	724.2773	724.2773	0.0317	0.0498	739.8993
<b>Maximum</b>	<b>5.7885</b>	<b>6.0063</b>	<b>10.9184</b>	<b>0.0370</b>	<b>2.6369</b>	<b>0.1659</b>	<b>2.8028</b>	<b>0.7111</b>	<b>0.1554</b>	<b>0.8666</b>	<b>0.0000</b>	<b>3,462.424 6</b>	<b>3,462.424 6</b>	<b>0.2038</b>	<b>0.2371</b>	<b>3,538.187 4</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.6537	4.6348	5.7988	0.0181	1.2248	0.1606	1.3855	0.3757	0.1498	0.5254	0.0000	1,675.537 7	1,675.537 7	0.1488	0.1048	1,710.475 9
2023	5.7885	6.0063	10.9184	0.0370	2.4379	0.1659	2.6038	0.6623	0.1554	0.8177	0.0000	3,462.424 1	3,462.424 1	0.2038	0.2371	3,538.186 8
2024	3.3722	1.0870	2.1083	7.6900e-003	0.5571	0.0247	0.5818	0.1512	0.0234	0.1745	0.0000	724.2772	724.2772	0.0317	0.0498	739.8992
<b>Maximum</b>	<b>5.7885</b>	<b>6.0063</b>	<b>10.9184</b>	<b>0.0370</b>	<b>2.4379</b>	<b>0.1659</b>	<b>2.6038</b>	<b>0.6623</b>	<b>0.1554</b>	<b>0.8177</b>	<b>0.0000</b>	<b>3,462.424 1</b>	<b>3,462.424 1</b>	<b>0.2038</b>	<b>0.2371</b>	<b>3,538.186 8</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	13.90	0.00	12.97	16.99	0.00	13.82	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-1-2022	8-31-2022	2.4070	2.4070
2	9-1-2022	11-30-2022	2.2136	2.2136
3	12-1-2022	2-28-2023	1.5875	1.5875
4	3-1-2023	5-31-2023	1.6445	1.6445
5	6-1-2023	8-31-2023	1.8925	1.8925
6	9-1-2023	11-30-2023	5.0972	5.0972
7	12-1-2023	2-29-2024	6.3194	6.3194
8	3-1-2024	5-31-2024	0.2415	0.2415
		Highest	6.3194	6.3194



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.8234	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.0814	0.0814	2.1000e-004	0.0000	0.0867
Energy	0.0669	0.6081	0.5108	3.6500e-003		0.0462	0.0462		0.0462	0.0462	0.0000	2,893.5229	2,893.5229	0.2010	0.0350	2,908.9688
Mobile	1.0615	24.6209	19.1141	0.1738	11.3249	0.2731	11.5980	3.0828	0.2602	3.3430	0.0000	16,804.3265	16,804.3265	0.4894	1.9243	17,389.9905
Offroad	1.4038	11.7061	13.9551	0.0284		0.5968	0.5968		0.5491	0.5491	0.0000	2,497.2635	2,497.2635	0.8077	0.0000	2,517.4551
Waste						0.0000	0.0000		0.0000	0.0000	312.6792	0.0000	312.6792	18.4788	0.0000	774.6494
Water						0.0000	0.0000		0.0000	0.0000	116.4982	908.0398	1,024.5380	12.0421	0.2918	1,412.5538
<b>Total</b>	<b>9.3556</b>	<b>36.9355</b>	<b>33.6219</b>	<b>0.2059</b>	<b>11.3249</b>	<b>0.9162</b>	<b>12.2411</b>	<b>3.0828</b>	<b>0.8556</b>	<b>3.9384</b>	<b>429.1774</b>	<b>23,103.2340</b>	<b>23,532.4114</b>	<b>32.0193</b>	<b>2.2511</b>	<b>25,003.7044</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.8234	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.0814	0.0814	2.1000e-004	0.0000	0.0867
Energy	0.0669	0.6081	0.5108	3.6500e-003		0.0462	0.0462		0.0462	0.0462	0.0000	2,893.5229	2,893.5229	0.2010	0.0350	2,908.9688
Mobile	1.0615	24.6209	19.1141	0.1738	11.3249	0.2731	11.5980	3.0828	0.2602	3.3430	0.0000	16,804.3265	16,804.3265	0.4894	1.9243	17,389.9905
Offroad	1.4038	11.7061	13.9551	0.0284		0.5968	0.5968		0.5491	0.5491	0.0000	2,497.2635	2,497.2635	0.8077	0.0000	2,517.4551
Waste						0.0000	0.0000		0.0000	0.0000	312.6792	0.0000	312.6792	18.4788	0.0000	774.6494
Water						0.0000	0.0000		0.0000	0.0000	93.1986	734.7825	827.9811	9.6344	0.2335	1,138.4368
<b>Total</b>	<b>9.3556</b>	<b>36.9355</b>	<b>33.6219</b>	<b>0.2059</b>	<b>11.3249</b>	<b>0.9162</b>	<b>12.2411</b>	<b>3.0828</b>	<b>0.8556</b>	<b>3.9384</b>	<b>405.8777</b>	<b>22,929.9767</b>	<b>23,335.8545</b>	<b>29.6115</b>	<b>2.1928</b>	<b>24,729.5874</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>5.43</b>	<b>0.75</b>	<b>0.84</b>	<b>7.52</b>	<b>2.59</b>	<b>1.10</b>

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2022	7/15/2022	5	33	
2	Site Preparation	Site Preparation	6/1/2022	7/15/2022	5	33	

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

3	Grading	Grading	7/16/2022	9/30/2022	5	55
4	Building Construction	Building Construction	8/1/2022	3/15/2024	5	425
5	Paving	Paving	5/1/2023	12/15/2023	5	165
6	Architectural Coating	Architectural Coating	10/1/2023	2/29/2024	5	109

**Acres of Grading (Site Preparation Phase): 49.5**

**Acres of Grading (Grading Phase): 165**

**Acres of Paving: 37.54**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,461,034; Non-Residential Outdoor: 820,345; Striped Parking Area: 98,131 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,440.00	571.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	288.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.0200e-003	0.0000	5.0200e-003	7.6000e-004	0.0000	7.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0515	0.4776	0.4113	7.6000e-004		0.0235	0.0235		0.0220	0.0220	0.0000	66.0309	66.0309	0.0164	0.0000	66.4410
<b>Total</b>	<b>0.0515</b>	<b>0.4776</b>	<b>0.4113</b>	<b>7.6000e-004</b>	<b>5.0200e-003</b>	<b>0.0235</b>	<b>0.0285</b>	<b>7.6000e-004</b>	<b>0.0220</b>	<b>0.0228</b>	<b>0.0000</b>	<b>66.0309</b>	<b>66.0309</b>	<b>0.0164</b>	<b>0.0000</b>	<b>66.4410</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1200e-003	8.8000e-004	0.0105	3.0000e-005	3.2600e-003	2.0000e-005	3.2700e-003	8.6000e-004	2.0000e-005	8.8000e-004	0.0000	2.6122	2.6122	7.0000e-005	8.0000e-005	2.6364
<b>Total</b>	<b>1.1200e-003</b>	<b>8.8000e-004</b>	<b>0.0105</b>	<b>3.0000e-005</b>	<b>3.2600e-003</b>	<b>2.0000e-005</b>	<b>3.2700e-003</b>	<b>8.6000e-004</b>	<b>2.0000e-005</b>	<b>8.8000e-004</b>	<b>0.0000</b>	<b>2.6122</b>	<b>2.6122</b>	<b>7.0000e-005</b>	<b>8.0000e-005</b>	<b>2.6364</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9600e-003	0.0000	1.9600e-003	3.0000e-004	0.0000	3.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0515	0.4776	0.4113	7.6000e-004		0.0235	0.0235		0.0220	0.0220	0.0000	66.0309	66.0309	0.0164	0.0000	66.4409
<b>Total</b>	<b>0.0515</b>	<b>0.4776</b>	<b>0.4113</b>	<b>7.6000e-004</b>	<b>1.9600e-003</b>	<b>0.0235</b>	<b>0.0254</b>	<b>3.0000e-004</b>	<b>0.0220</b>	<b>0.0223</b>	<b>0.0000</b>	<b>66.0309</b>	<b>66.0309</b>	<b>0.0164</b>	<b>0.0000</b>	<b>66.4409</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1200e-003	8.8000e-004	0.0105	3.0000e-005	3.0000e-003	2.0000e-005	3.0200e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.6122	2.6122	7.0000e-005	8.0000e-005	2.6364
<b>Total</b>	<b>1.1200e-003</b>	<b>8.8000e-004</b>	<b>0.0105</b>	<b>3.0000e-005</b>	<b>3.0000e-003</b>	<b>2.0000e-005</b>	<b>3.0200e-003</b>	<b>8.0000e-004</b>	<b>2.0000e-005</b>	<b>8.2000e-004</b>	<b>0.0000</b>	<b>2.6122</b>	<b>2.6122</b>	<b>7.0000e-005</b>	<b>8.0000e-005</b>	<b>2.6364</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Site Preparation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3243	0.0000	0.3243	0.1667	0.0000	0.1667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0523	0.5459	0.3250	6.3000e-004		0.0266	0.0266		0.0245	0.0245	0.0000	55.1750	55.1750	0.0178	0.0000	55.6211
<b>Total</b>	<b>0.0523</b>	<b>0.5459</b>	<b>0.3250</b>	<b>6.3000e-004</b>	<b>0.3243</b>	<b>0.0266</b>	<b>0.3510</b>	<b>0.1667</b>	<b>0.0245</b>	<b>0.1912</b>	<b>0.0000</b>	<b>55.1750</b>	<b>55.1750</b>	<b>0.0178</b>	<b>0.0000</b>	<b>55.6211</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1200e-003	8.8000e-004	0.0105	3.0000e-005	3.2600e-003	2.0000e-005	3.2700e-003	8.6000e-004	2.0000e-005	8.8000e-004	0.0000	2.6122	2.6122	7.0000e-005	8.0000e-005	2.6364
<b>Total</b>	<b>1.1200e-003</b>	<b>8.8000e-004</b>	<b>0.0105</b>	<b>3.0000e-005</b>	<b>3.2600e-003</b>	<b>2.0000e-005</b>	<b>3.2700e-003</b>	<b>8.6000e-004</b>	<b>2.0000e-005</b>	<b>8.8000e-004</b>	<b>0.0000</b>	<b>2.6122</b>	<b>2.6122</b>	<b>7.0000e-005</b>	<b>8.0000e-005</b>	<b>2.6364</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Site Preparation - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1265	0.0000	0.1265	0.0650	0.0000	0.0650	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0523	0.5459	0.3250	6.3000e-004		0.0266	0.0266		0.0245	0.0245	0.0000	55.1749	55.1749	0.0178	0.0000	55.6211
<b>Total</b>	<b>0.0523</b>	<b>0.5459</b>	<b>0.3250</b>	<b>6.3000e-004</b>	<b>0.1265</b>	<b>0.0266</b>	<b>0.1531</b>	<b>0.0650</b>	<b>0.0245</b>	<b>0.0895</b>	<b>0.0000</b>	<b>55.1749</b>	<b>55.1749</b>	<b>0.0178</b>	<b>0.0000</b>	<b>55.6211</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1200e-003	8.8000e-004	0.0105	3.0000e-005	3.0000e-003	2.0000e-005	3.0200e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.6122	2.6122	7.0000e-005	8.0000e-005	2.6364
<b>Total</b>	<b>1.1200e-003</b>	<b>8.8000e-004</b>	<b>0.0105</b>	<b>3.0000e-005</b>	<b>3.0000e-003</b>	<b>2.0000e-005</b>	<b>3.0200e-003</b>	<b>8.0000e-004</b>	<b>2.0000e-005</b>	<b>8.2000e-004</b>	<b>0.0000</b>	<b>2.6122</b>	<b>2.6122</b>	<b>7.0000e-005</b>	<b>8.0000e-005</b>	<b>2.6364</b>



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Grading - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2531	0.0000	0.2531	0.1005	0.0000	0.1005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0997	1.0682	0.7986	1.7100e-003		0.0450	0.0450		0.0414	0.0414	0.0000	149.9702	149.9702	0.0485	0.0000	151.1827
<b>Total</b>	<b>0.0997</b>	<b>1.0682</b>	<b>0.7986</b>	<b>1.7100e-003</b>	<b>0.2531</b>	<b>0.0450</b>	<b>0.2981</b>	<b>0.1005</b>	<b>0.0414</b>	<b>0.1418</b>	<b>0.0000</b>	<b>149.9702</b>	<b>149.9702</b>	<b>0.0485</b>	<b>0.0000</b>	<b>151.1827</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0700e-003	1.6300e-003	0.0195	5.0000e-005	6.0300e-003	3.0000e-005	6.0600e-003	1.6000e-003	3.0000e-005	1.6300e-003	0.0000	4.8374	4.8374	1.4000e-004	1.4000e-004	4.8823
<b>Total</b>	<b>2.0700e-003</b>	<b>1.6300e-003</b>	<b>0.0195</b>	<b>5.0000e-005</b>	<b>6.0300e-003</b>	<b>3.0000e-005</b>	<b>6.0600e-003</b>	<b>1.6000e-003</b>	<b>3.0000e-005</b>	<b>1.6300e-003</b>	<b>0.0000</b>	<b>4.8374</b>	<b>4.8374</b>	<b>1.4000e-004</b>	<b>1.4000e-004</b>	<b>4.8823</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.4 Grading - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0987	0.0000	0.0987	0.0392	0.0000	0.0392	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0997	1.0682	0.7986	1.7100e-003		0.0450	0.0450		0.0414	0.0414	0.0000	149.9700	149.9700	0.0485	0.0000	151.1826
<b>Total</b>	<b>0.0997</b>	<b>1.0682</b>	<b>0.7986</b>	<b>1.7100e-003</b>	<b>0.0987</b>	<b>0.0450</b>	<b>0.1437</b>	<b>0.0392</b>	<b>0.0414</b>	<b>0.0806</b>	<b>0.0000</b>	<b>149.9700</b>	<b>149.9700</b>	<b>0.0485</b>	<b>0.0000</b>	<b>151.1826</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0700e-003	1.6300e-003	0.0195	5.0000e-005	5.5600e-003	3.0000e-005	5.5900e-003	1.4900e-003	3.0000e-005	1.5200e-003	0.0000	4.8374	4.8374	1.4000e-004	1.4000e-004	4.8823
<b>Total</b>	<b>2.0700e-003</b>	<b>1.6300e-003</b>	<b>0.0195</b>	<b>5.0000e-005</b>	<b>5.5600e-003</b>	<b>3.0000e-005</b>	<b>5.5900e-003</b>	<b>1.4900e-003</b>	<b>3.0000e-005</b>	<b>1.5200e-003</b>	<b>0.0000</b>	<b>4.8374</b>	<b>4.8374</b>	<b>1.4000e-004</b>	<b>1.4000e-004</b>	<b>4.8823</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0938	0.8589	0.9000	1.4800e-003		0.0445	0.0445		0.0419	0.0419	0.0000	127.4489	127.4489	0.0305	0.0000	128.2122
<b>Total</b>	<b>0.0938</b>	<b>0.8589</b>	<b>0.9000</b>	<b>1.4800e-003</b>		<b>0.0445</b>	<b>0.0445</b>		<b>0.0419</b>	<b>0.0419</b>	<b>0.0000</b>	<b>127.4489</b>	<b>127.4489</b>	<b>0.0305</b>	<b>0.0000</b>	<b>128.2122</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0535	1.4466	0.5129	5.8600e-003	0.1981	0.0164	0.2145	0.0572	0.0157	0.0728	0.0000	570.2641	570.2641	0.0154	0.0845	595.8155
Worker	0.2986	0.2343	2.8104	7.5500e-003	0.8684	4.6500e-003	0.8731	0.2306	4.2800e-003	0.2349	0.0000	696.5873	696.5873	0.0199	0.0200	703.0487
<b>Total</b>	<b>0.3521</b>	<b>1.6809</b>	<b>3.3233</b>	<b>0.0134</b>	<b>1.0665</b>	<b>0.0210</b>	<b>1.0875</b>	<b>0.2878</b>	<b>0.0200</b>	<b>0.3078</b>	<b>0.0000</b>	<b>1,266.8514</b>	<b>1,266.8514</b>	<b>0.0352</b>	<b>0.1045</b>	<b>1,298.8642</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2022**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0938	0.8589	0.9000	1.4800e-003		0.0445	0.0445		0.0419	0.0419	0.0000	127.4487	127.4487	0.0305	0.0000	128.2121
<b>Total</b>	<b>0.0938</b>	<b>0.8589</b>	<b>0.9000</b>	<b>1.4800e-003</b>		<b>0.0445</b>	<b>0.0445</b>		<b>0.0419</b>	<b>0.0419</b>	<b>0.0000</b>	<b>127.4487</b>	<b>127.4487</b>	<b>0.0305</b>	<b>0.0000</b>	<b>128.2121</b>

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0535	1.4466	0.5129	5.8600e-003	0.1855	0.0164	0.2018	0.0541	0.0157	0.0698	0.0000	570.2641	570.2641	0.0154	0.0845	595.8155
Worker	0.2986	0.2343	2.8104	7.5500e-003	0.8007	4.6500e-003	0.8053	0.2140	4.2800e-003	0.2183	0.0000	696.5873	696.5873	0.0199	0.0200	703.0487
<b>Total</b>	<b>0.3521</b>	<b>1.6809</b>	<b>3.3233</b>	<b>0.0134</b>	<b>0.9861</b>	<b>0.0210</b>	<b>1.0071</b>	<b>0.2681</b>	<b>0.0200</b>	<b>0.2880</b>	<b>0.0000</b>	<b>1,266.8514</b>	<b>1,266.8514</b>	<b>0.0352</b>	<b>0.1045</b>	<b>1,298.8642</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
<b>Total</b>	<b>0.2045</b>	<b>1.8700</b>	<b>2.1117</b>	<b>3.5000e-003</b>		<b>0.0910</b>	<b>0.0910</b>		<b>0.0856</b>	<b>0.0856</b>	<b>0.0000</b>	<b>301.3462</b>	<b>301.3462</b>	<b>0.0717</b>	<b>0.0000</b>	<b>303.1383</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0837	2.7387	1.1087	0.0133	0.4682	0.0196	0.4878	0.1351	0.0188	0.1539	0.0000	1,293.7028	1,293.7028	0.0337	0.1912	1,351.5181
Worker	0.6523	0.4869	6.0911	0.0173	2.0526	0.0103	2.0629	0.5451	9.5200e-003	0.5547	0.0000	1,603.1034	1,603.1034	0.0421	0.0435	1,617.1170
<b>Total</b>	<b>0.7360</b>	<b>3.2256</b>	<b>7.1998</b>	<b>0.0306</b>	<b>2.5207</b>	<b>0.0299</b>	<b>2.5507</b>	<b>0.6803</b>	<b>0.0283</b>	<b>0.7085</b>	<b>0.0000</b>	<b>2,896.8061</b>	<b>2,896.8061</b>	<b>0.0758</b>	<b>0.2347</b>	<b>2,968.6351</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
<b>Total</b>	<b>0.2045</b>	<b>1.8700</b>	<b>2.1117</b>	<b>3.5000e-003</b>		<b>0.0910</b>	<b>0.0910</b>		<b>0.0856</b>	<b>0.0856</b>	<b>0.0000</b>	<b>301.3458</b>	<b>301.3458</b>	<b>0.0717</b>	<b>0.0000</b>	<b>303.1380</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0837	2.7387	1.1087	0.0133	0.4384	0.0196	0.4580	0.1278	0.0188	0.1466	0.0000	1,293.7028	1,293.7028	0.0337	0.1912	1,351.5181
Worker	0.6523	0.4869	6.0911	0.0173	1.8925	0.0103	1.9028	0.5058	9.5200e-003	0.5154	0.0000	1,603.1034	1,603.1034	0.0421	0.0435	1,617.1170
<b>Total</b>	<b>0.7360</b>	<b>3.2256</b>	<b>7.1998</b>	<b>0.0306</b>	<b>2.3308</b>	<b>0.0299</b>	<b>2.3607</b>	<b>0.6336</b>	<b>0.0283</b>	<b>0.6619</b>	<b>0.0000</b>	<b>2,896.8061</b>	<b>2,896.8061</b>	<b>0.0758</b>	<b>0.2347</b>	<b>2,968.6351</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0405	0.3697	0.4446	7.4000e-004		0.0169	0.0169		0.0159	0.0159	0.0000	63.7585	63.7585	0.0151	0.0000	64.1354
<b>Total</b>	<b>0.0405</b>	<b>0.3697</b>	<b>0.4446</b>	<b>7.4000e-004</b>		<b>0.0169</b>	<b>0.0169</b>		<b>0.0159</b>	<b>0.0159</b>	<b>0.0000</b>	<b>63.7585</b>	<b>63.7585</b>	<b>0.0151</b>	<b>0.0000</b>	<b>64.1354</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0173	0.5845	0.2307	2.7700e-003	0.0990	4.0800e-003	0.1031	0.0286	3.9000e-003	0.0325	0.0000	269.9001	269.9001	6.9100e-003	0.0399	281.9566
Worker	0.1283	0.0914	1.2011	3.5500e-003	0.4342	2.1000e-003	0.4363	0.1153	1.9300e-003	0.1173	0.0000	331.8979	331.8979	8.0700e-003	8.5200e-003	334.6398
<b>Total</b>	<b>0.1456</b>	<b>0.6759</b>	<b>1.4318</b>	<b>6.3200e-003</b>	<b>0.5332</b>	<b>6.1800e-003</b>	<b>0.5394</b>	<b>0.1439</b>	<b>5.8300e-003</b>	<b>0.1497</b>	<b>0.0000</b>	<b>601.7980</b>	<b>601.7980</b>	<b>0.0150</b>	<b>0.0484</b>	<b>616.5965</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0405	0.3697	0.4446	7.4000e-004		0.0169	0.0169		0.0159	0.0159	0.0000	63.7584	63.7584	0.0151	0.0000	64.1354
<b>Total</b>	<b>0.0405</b>	<b>0.3697</b>	<b>0.4446</b>	<b>7.4000e-004</b>		<b>0.0169</b>	<b>0.0169</b>		<b>0.0159</b>	<b>0.0159</b>	<b>0.0000</b>	<b>63.7584</b>	<b>63.7584</b>	<b>0.0151</b>	<b>0.0000</b>	<b>64.1354</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0173	0.5845	0.2307	2.7700e-003	0.0927	4.0800e-003	0.0968	0.0270	3.9000e-003	0.0309	0.0000	269.9001	269.9001	6.9100e-003	0.0399	281.9566
Worker	0.1283	0.0914	1.2011	3.5500e-003	0.4003	2.1000e-003	0.4024	0.1070	1.9300e-003	0.1089	0.0000	331.8979	331.8979	8.0700e-003	8.5200e-003	334.6398
<b>Total</b>	<b>0.1456</b>	<b>0.6759</b>	<b>1.4318</b>	<b>6.3200e-003</b>	<b>0.4931</b>	<b>6.1800e-003</b>	<b>0.4992</b>	<b>0.1340</b>	<b>5.8300e-003</b>	<b>0.1399</b>	<b>0.0000</b>	<b>601.7980</b>	<b>601.7980</b>	<b>0.0150</b>	<b>0.0484</b>	<b>616.5965</b>



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.6 Paving - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0852	0.8408	1.2032	1.8800e-003		0.0421	0.0421		0.0387	0.0387	0.0000	165.2217	165.2217	0.0534	0.0000	166.5576
Paving	0.0492					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1344</b>	<b>0.8408</b>	<b>1.2032</b>	<b>1.8800e-003</b>		<b>0.0421</b>	<b>0.0421</b>		<b>0.0387</b>	<b>0.0387</b>	<b>0.0000</b>	<b>165.2217</b>	<b>165.2217</b>	<b>0.0534</b>	<b>0.0000</b>	<b>166.5576</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3100e-003	3.2200e-003	0.0403	1.1000e-004	0.0136	7.0000e-005	0.0136	3.6000e-003	6.0000e-005	3.6700e-003	0.0000	10.5974	10.5974	2.8000e-004	2.9000e-004	10.6901
<b>Total</b>	<b>4.3100e-003</b>	<b>3.2200e-003</b>	<b>0.0403</b>	<b>1.1000e-004</b>	<b>0.0136</b>	<b>7.0000e-005</b>	<b>0.0136</b>	<b>3.6000e-003</b>	<b>6.0000e-005</b>	<b>3.6700e-003</b>	<b>0.0000</b>	<b>10.5974</b>	<b>10.5974</b>	<b>2.8000e-004</b>	<b>2.9000e-004</b>	<b>10.6901</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.6 Paving - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0852	0.8408	1.2032	1.8800e-003		0.0421	0.0421		0.0387	0.0387	0.0000	165.2215	165.2215	0.0534	0.0000	166.5574
Paving	0.0492					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1344</b>	<b>0.8408</b>	<b>1.2032</b>	<b>1.8800e-003</b>		<b>0.0421</b>	<b>0.0421</b>		<b>0.0387</b>	<b>0.0387</b>	<b>0.0000</b>	<b>165.2215</b>	<b>165.2215</b>	<b>0.0534</b>	<b>0.0000</b>	<b>166.5574</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3100e-003	3.2200e-003	0.0403	1.1000e-004	0.0125	7.0000e-005	0.0126	3.3400e-003	6.0000e-005	3.4100e-003	0.0000	10.5974	10.5974	2.8000e-004	2.9000e-004	10.6901
<b>Total</b>	<b>4.3100e-003</b>	<b>3.2200e-003</b>	<b>0.0403</b>	<b>1.1000e-004</b>	<b>0.0125</b>	<b>7.0000e-005</b>	<b>0.0126</b>	<b>3.3400e-003</b>	<b>6.0000e-005</b>	<b>3.4100e-003</b>	<b>0.0000</b>	<b>10.5974</b>	<b>10.5974</b>	<b>2.8000e-004</b>	<b>2.9000e-004</b>	<b>10.6901</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.6705					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2300e-003	0.0424	0.0589	1.0000e-004		2.3000e-003	2.3000e-003		2.3000e-003	2.3000e-003	0.0000	8.2981	8.2981	5.0000e-004	0.0000	8.3105
<b>Total</b>	<b>4.6767</b>	<b>0.0424</b>	<b>0.0589</b>	<b>1.0000e-004</b>		<b>2.3000e-003</b>	<b>2.3000e-003</b>		<b>2.3000e-003</b>	<b>2.3000e-003</b>	<b>0.0000</b>	<b>8.2981</b>	<b>8.2981</b>	<b>5.0000e-004</b>	<b>0.0000</b>	<b>8.3105</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0326	0.0243	0.3046	8.6000e-004	0.1026	5.2000e-004	0.1032	0.0273	4.8000e-004	0.0277	0.0000	80.1552	80.1552	2.1000e-003	2.1700e-003	80.8559
<b>Total</b>	<b>0.0326</b>	<b>0.0243</b>	<b>0.3046</b>	<b>8.6000e-004</b>	<b>0.1026</b>	<b>5.2000e-004</b>	<b>0.1032</b>	<b>0.0273</b>	<b>4.8000e-004</b>	<b>0.0277</b>	<b>0.0000</b>	<b>80.1552</b>	<b>80.1552</b>	<b>2.1000e-003</b>	<b>2.1700e-003</b>	<b>80.8559</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.6705					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2300e-003	0.0424	0.0589	1.0000e-004		2.3000e-003	2.3000e-003		2.3000e-003	2.3000e-003	0.0000	8.2981	8.2981	5.0000e-004	0.0000	8.3105
<b>Total</b>	<b>4.6767</b>	<b>0.0424</b>	<b>0.0589</b>	<b>1.0000e-004</b>		<b>2.3000e-003</b>	<b>2.3000e-003</b>		<b>2.3000e-003</b>	<b>2.3000e-003</b>	<b>0.0000</b>	<b>8.2981</b>	<b>8.2981</b>	<b>5.0000e-004</b>	<b>0.0000</b>	<b>8.3105</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0326	0.0243	0.3046	8.6000e-004	0.0946	5.2000e-004	0.0951	0.0253	4.8000e-004	0.0258	0.0000	80.1552	80.1552	2.1000e-003	2.1700e-003	80.8559
<b>Total</b>	<b>0.0326</b>	<b>0.0243</b>	<b>0.3046</b>	<b>8.6000e-004</b>	<b>0.0946</b>	<b>5.2000e-004</b>	<b>0.0951</b>	<b>0.0253</b>	<b>4.8000e-004</b>	<b>0.0258</b>	<b>0.0000</b>	<b>80.1552</b>	<b>80.1552</b>	<b>2.1000e-003</b>	<b>2.1700e-003</b>	<b>80.8559</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.1616					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9800e-003	0.0268	0.0398	7.0000e-005		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	5.6172	5.6172	3.2000e-004	0.0000	5.6251
<b>Total</b>	<b>3.1655</b>	<b>0.0268</b>	<b>0.0398</b>	<b>7.0000e-005</b>		<b>1.3400e-003</b>	<b>1.3400e-003</b>		<b>1.3400e-003</b>	<b>1.3400e-003</b>	<b>0.0000</b>	<b>5.6172</b>	<b>5.6172</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>5.6251</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0205	0.0146	0.1922	5.7000e-004	0.0695	3.4000e-004	0.0698	0.0185	3.1000e-004	0.0188	0.0000	53.1037	53.1037	1.2900e-003	1.3600e-003	53.5424
<b>Total</b>	<b>0.0205</b>	<b>0.0146</b>	<b>0.1922</b>	<b>5.7000e-004</b>	<b>0.0695</b>	<b>3.4000e-004</b>	<b>0.0698</b>	<b>0.0185</b>	<b>3.1000e-004</b>	<b>0.0188</b>	<b>0.0000</b>	<b>53.1037</b>	<b>53.1037</b>	<b>1.2900e-003</b>	<b>1.3600e-003</b>	<b>53.5424</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.1616					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9800e-003	0.0268	0.0398	7.0000e-005		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	5.6172	5.6172	3.2000e-004	0.0000	5.6251
<b>Total</b>	<b>3.1655</b>	<b>0.0268</b>	<b>0.0398</b>	<b>7.0000e-005</b>		<b>1.3400e-003</b>	<b>1.3400e-003</b>		<b>1.3400e-003</b>	<b>1.3400e-003</b>	<b>0.0000</b>	<b>5.6172</b>	<b>5.6172</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>5.6251</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0205	0.0146	0.1922	5.7000e-004	0.0641	3.4000e-004	0.0644	0.0171	3.1000e-004	0.0174	0.0000	53.1037	53.1037	1.2900e-003	1.3600e-003	53.5424
<b>Total</b>	<b>0.0205</b>	<b>0.0146</b>	<b>0.1922</b>	<b>5.7000e-004</b>	<b>0.0641</b>	<b>3.4000e-004</b>	<b>0.0644</b>	<b>0.0171</b>	<b>3.1000e-004</b>	<b>0.0174</b>	<b>0.0000</b>	<b>53.1037</b>	<b>53.1037</b>	<b>1.2900e-003</b>	<b>1.3600e-003</b>	<b>53.5424</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0615	24.6209	19.1141	0.1738	11.3249	0.2731	11.5980	3.0828	0.2602	3.3430	0.0000	16,804.3265	16,804.3265	0.4894	1.9243	17,389.9905
Unmitigated	1.0615	24.6209	19.1141	0.1738	11.3249	0.2731	11.5980	3.0828	0.2602	3.3430	0.0000	16,804.3265	16,804.3265	0.4894	1.9243	17,389.9905

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Office Park	2,907.99	2,907.99	2907.99	17,571,222	17,571,222
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	747.98	747.98	747.98	10,890,576	10,890,576
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
<b>Total</b>	<b>3,655.97</b>	<b>3,655.97</b>	<b>3,655.97</b>	<b>28,461,798</b>	<b>28,461,798</b>

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6

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Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Office Park	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.60	8.40	40.00	0.00	0.00	100.00	100	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Office Park	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Parking Lot	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.000000	0.190000	0.160000	0.650000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**



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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,231.5463	2,231.5463	0.1884	0.0228	2,243.0584
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,231.5463	2,231.5463	0.1884	0.0228	2,243.0584
Natural Gas Mitigated	0.0669	0.6081	0.5108	3.6500e-003		0.0462	0.0462		0.0462	0.0462	0.0000	661.9766	661.9766	0.0127	0.0121	665.9104
Natural Gas Unmitigated	0.0669	0.6081	0.5108	3.6500e-003		0.0462	0.0462		0.0462	0.0462	0.0000	661.9766	661.9766	0.0127	0.0121	665.9104

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.2 Energy by Land Use - NaturalGas**

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	658776	3.5500e-003	0.0323	0.0271	1.9000e-004		2.4500e-003	2.4500e-003		2.4500e-003	2.4500e-003	0.0000	35.1548	35.1548	6.7000e-004	6.4000e-004	35.3637
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	9.26665e+006	0.0500	0.4543	0.3816	2.7300e-003		0.0345	0.0345		0.0345	0.0345	0.0000	494.5039	494.5039	9.4800e-003	9.0700e-003	497.4425
Unrefrigerated Warehouse-No Rail	1.83524e+006	9.9000e-003	0.0900	0.0756	5.4000e-004		6.8400e-003	6.8400e-003		6.8400e-003	6.8400e-003	0.0000	97.9352	97.9352	1.8800e-003	1.8000e-003	98.5172
Unrefrigerated Warehouse-No Rail	644308	3.4700e-003	0.0316	0.0265	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003	0.0000	34.3827	34.3827	6.6000e-004	6.3000e-004	34.5870
<b>Total</b>		<b>0.0669</b>	<b>0.6081</b>	<b>0.5108</b>	<b>3.6500e-003</b>		<b>0.0462</b>	<b>0.0462</b>		<b>0.0462</b>	<b>0.0462</b>	<b>0.0000</b>	<b>661.9766</b>	<b>661.9766</b>	<b>0.0127</b>	<b>0.0121</b>	<b>665.9104</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	658776	3.5500e-003	0.0323	0.0271	1.9000e-004		2.4500e-003	2.4500e-003		2.4500e-003	2.4500e-003	0.0000	35.1548	35.1548	6.7000e-004	6.4000e-004	35.3637
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	9.26665e+006	0.0500	0.4543	0.3816	2.7300e-003		0.0345	0.0345		0.0345	0.0345	0.0000	494.5039	494.5039	9.4800e-003	9.0700e-003	497.4425
Unrefrigerated Warehouse-No Rail	1.83524e+006	9.9000e-003	0.0900	0.0756	5.4000e-004		6.8400e-003	6.8400e-003		6.8400e-003	6.8400e-003	0.0000	97.9352	97.9352	1.8800e-003	1.8000e-003	98.5172
Unrefrigerated Warehouse-No Rail	644308	3.4700e-003	0.0316	0.0265	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003	0.0000	34.3827	34.3827	6.6000e-004	6.3000e-004	34.5870
<b>Total</b>		<b>0.0669</b>	<b>0.6081</b>	<b>0.5108</b>	<b>3.6500e-003</b>		<b>0.0462</b>	<b>0.0462</b>		<b>0.0462</b>	<b>0.0462</b>	<b>0.0000</b>	<b>661.9766</b>	<b>661.9766</b>	<b>0.0127</b>	<b>0.0121</b>	<b>665.9104</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Office Park	2.18376e+006	387.2803	0.0327	3.9600e-003	389.2782
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	400580	71.0411	6.0000e-003	7.3000e-004	71.4076
Refrigerated Warehouse-No Rail	7.13674e+006	1,265.6688	0.1068	0.0130	1,272.1981
Unrefrigerated Warehouse-No Rail	2.11828e+006	375.6681	0.0317	3.8400e-003	377.6061
Unrefrigerated Warehouse-No Rail	743678	131.8880	0.0111	1.3500e-003	132.5684
<b>Total</b>		<b>2,231.5463</b>	<b>0.1884</b>	<b>0.0228</b>	<b>2,243.0584</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.3 Energy by Land Use - Electricity**

**Mitigated**

Land Use	Electricity Use kWh/yr	Total CO2 MT/yr	CH4 MT/yr	N2O MT/yr	CO2e MT/yr
City Park	0	0.0000	0.0000	0.0000	0.0000
Office Park	2.18376e+006	387.2803	0.0327	3.9600e-003	389.2782
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	400580	71.0411	6.0000e-003	7.3000e-004	71.4076
Refrigerated Warehouse-No Rail	7.13674e+006	1,265.6688	0.1068	0.0130	1,272.1981
Unrefrigerated Warehouse-No Rail	2.11828e+006	375.6681	0.0317	3.8400e-003	377.6061
Unrefrigerated Warehouse-No Rail	743678	131.8880	0.0111	1.3500e-003	132.5684
<b>Total</b>		<b>2,231.5463</b>	<b>0.1884</b>	<b>0.0228</b>	<b>2,243.0584</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.8234	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.0814	0.0814	2.1000e-004	0.0000	0.0867
Unmitigated	6.8234	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.0814	0.0814	2.1000e-004	0.0000	0.0867

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.7832					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.0363					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.8600e-003	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.0814	0.0814	2.1000e-004	0.0000	0.0867
<b>Total</b>	<b>6.8234</b>	<b>3.8000e-004</b>	<b>0.0418</b>	<b>0.0000</b>		<b>1.5000e-004</b>	<b>1.5000e-004</b>		<b>1.5000e-004</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>0.0814</b>	<b>0.0814</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>0.0867</b>

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**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.7832					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.0363					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.8600e-003	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.0814	0.0814	2.1000e-004	0.0000	0.0867
<b>Total</b>	<b>6.8234</b>	<b>3.8000e-004</b>	<b>0.0418</b>	<b>0.0000</b>		<b>1.5000e-004</b>	<b>1.5000e-004</b>		<b>1.5000e-004</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>0.0814</b>	<b>0.0814</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>0.0867</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	827.9811	9.6344	0.2335	1,138.4368
Unmitigated	1,024.5380	12.0421	0.2918	1,412.5538



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**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 5.65954	11.1510	9.4000e-004	1.1000e-004	11.2086
Office Park	40.5144 / 24.8314	155.3354	1.3322	0.0326	198.3638
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	41.4238 / 0	108.7984	1.3579	0.0329	152.5345
Unrefrigerated Warehouse-No Rail	285.27 / 0	749.2532	9.3511	0.2262	1,050.4470
<b>Total</b>		<b>1,024.5381</b>	<b>12.0421</b>	<b>0.2918</b>	<b>1,412.5538</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**7.2 Water by Land Use**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 5.3143	10.4708	8.8000e-004	1.1000e-004	10.5248
Office Park	32.4115 / 23.3167	131.0690	1.0663	0.0262	165.5268
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	33.139 / 0	87.0387	1.0863	0.0263	122.0276
Unrefrigerated Warehouse-No Rail	228.216 / 0	599.4025	7.4809	0.1810	840.3576
<b>Total</b>		<b>827.9811</b>	<b>9.6344</b>	<b>0.2335</b>	<b>1,138.4368</b>

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	312.6792	18.4788	0.0000	774.6494
Unmitigated	312.6792	18.4788	0.0000	774.6494

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.41	0.0832	4.9200e-003	0.0000	0.2062
Office Park	211.99	43.0321	2.5431	0.0000	106.6101
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	168.38	34.1796	2.0200	0.0000	84.6786
Unrefrigerated Warehouse-No Rail	1159.58	235.3843	13.9108	0.0000	583.1545
<b>Total</b>		<b>312.6792</b>	<b>18.4788</b>	<b>0.0000</b>	<b>774.6494</b>

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.2 Waste by Land Use**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.41	0.0832	4.9200e-003	0.0000	0.2062
Office Park	211.99	43.0321	2.5431	0.0000	106.6101
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	168.38	34.1796	2.0200	0.0000	84.6786
Unrefrigerated Warehouse-No Rail	1159.58	235.3843	13.9108	0.0000	583.1545
<b>Total</b>		<b>312.6792</b>	<b>18.4788</b>	<b>0.0000</b>	<b>774.6494</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	50	8.00	365	89	0.20	Diesel
Off-Highway Trucks	6	8.00	365	402	0.38	Diesel

Ontario Ranch Business Park - Unmitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**UnMitigated/Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Forklifts	0.8596	8.0621	10.3961	0.0140		0.4656	0.4656		0.4283	0.4283	0.0000	1,225.4068	1,225.4068	0.3963	0.0000	1,235.3148
Off-Highway Trucks	0.5442	3.6440	3.5590	0.0145		0.1312	0.1312		0.1207	0.1207	0.0000	1,271.8567	1,271.8567	0.4113	0.0000	1,282.1403
<b>Total</b>	<b>1.4038</b>	<b>11.7061</b>	<b>13.9551</b>	<b>0.0284</b>		<b>0.5968</b>	<b>0.5968</b>		<b>0.5491</b>	<b>0.5491</b>	<b>0.0000</b>	<b>2,497.2635</b>	<b>2,497.2635</b>	<b>0.8077</b>	<b>0.0000</b>	<b>2,517.4551</b>

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Ontario Ranch Business Park - Mitigated  
San Bernardino-South Coast County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Office Park	227.95	1000sqft	5.23	227,950.00	0
Refrigerated Warehouse-No Rail	179.13	1000sqft	4.11	179,135.00	0
Unrefrigerated Warehouse-No Rail	913.05	1000sqft	20.96	913,053.00	0
Unrefrigerated Warehouse-No Rail	320.55	1000sqft	7.36	320,551.00	0
Other Asphalt Surfaces	491.00	1000sqft	11.27	491,000.00	0
Parking Lot	1,144.52	1000sqft	26.27	1,144,515.00	0
City Park	4.75	Acre	4.75	206,910.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	32
<b>Climate Zone</b>	10			<b>Operational Year</b>	2024
<b>Utility Company</b>	Southern California Edison				
<b>CO2 Intensity (lb/MW hr)</b>	390.98	<b>CH4 Intensity (lb/MW hr)</b>	0.033	<b>N2O Intensity (lb/MW hr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Land uses based on TIA, landscaping shown as City Park, Parking Lot includes drive aisles, parking spaces, and docks. Off-site improvements modeled as Other Asphalt Surfaces

Construction Phase - Anticipated construction schedule

Off-road Equipment - includes crushing equipment

Trips and VMT - demo crushed onsite and reused

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Demolition - demo = 10,200 sf, crushed on site reused as base. crushing calcs done outside model

Grading - site is balanced

Vehicle Trips - based on TIA, passenger cars shown under Office Park, trucks shown under refrigerated warehouse. cars: 2908/227.951= 12.75712762830608  
trucks: 748/179.135= 4.175621737795517

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Construction Off-road Equipment Mitigation - incorporate RULE 403, Mitigation: Require Tier 4 equipment

Mobile Commute Mitigation - Require TDM Program

Area Mitigation - Require "Super Compliant" Low VOC Paint 10 g/L

Water Mitigation - comply with building code

Operational Off-Road Equipment - assume 1 yard truck per building, 6 total. Assume 0.03 forklifts per 1000 sf of warehouse rounded up to 50 - MITIGATION:  
Require electrical cargo handling equipment

Fleet Mix - Fleet Mix based on TIA

Architectural Coating - Super Compliant VOC paint

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	10.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	10.00
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	10
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	10
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00



Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	110.00	109.00
tblConstructionPhase	NumDays	1,550.00	425.00
tblConstructionPhase	NumDays	100.00	33.00
tblConstructionPhase	NumDays	155.00	55.00
tblConstructionPhase	NumDays	110.00	165.00
tblConstructionPhase	NumDays	60.00	33.00
tblFleetMix	HHD	0.02	0.00

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblFleetMix	HHD	0.02	0.65
tblFleetMix	LDA	0.54	1.00
tblFleetMix	LDA	0.54	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT1	0.06	0.00
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LDT2	0.17	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	7.1040e-003	0.00
tblFleetMix	LHD2	7.1040e-003	0.19
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MCY	0.03	0.00
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MDV	0.14	0.00
tblFleetMix	MH	4.8300e-003	0.00
tblFleetMix	MH	4.8300e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	MHD	0.01	0.16
tblFleetMix	OBUS	5.5400e-004	0.00
tblFleetMix	OBUS	5.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	UBUS	2.5100e-004	0.00
tblFleetMix	UBUS	2.5100e-004	0.00
tblLandUse	LandUseSquareFeet	179,130.00	179,135.00
tblLandUse	LandUseSquareFeet	320,550.00	320,551.00
tblLandUse	LandUseSquareFeet	913,050.00	913,053.00
tblLandUse	LandUseSquareFeet	1,144,520.00	1,144,515.00

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperFuelType	Diesel	Electrical
tblOperationalOffRoadEquipment	OperFuelType	Diesel	Electrical
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	50.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	6.00
tblTripsAndVMT	HaulingTripNumber	46.00	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	6.90	40.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	41.00	100.00
tblVehicleTrips	CW_TTP	33.00	100.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	15.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	82.00	100.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	1.64	12.76
tblVehicleTrips	ST_TR	2.12	4.18
tblVehicleTrips	ST_TR	1.74	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	0.76	12.76
tblVehicleTrips	SU_TR	2.12	4.18
tblVehicleTrips	SU_TR	1.74	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	11.07	12.76

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblVehicleTrips	WD_TR	2.12	4.18
tblVehicleTrips	WD_TR	1.74	0.00

**2.0 Emissions Summary**

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Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.1 Overall Construction**

**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.6537	4.6348	5.7988	0.0181	1.6615	0.1606	1.8221	0.5591	0.1498	0.7088	0.0000	1,675.538 2	1,675.538 2	0.1488	0.1048	1,710.476 3
2023	1.7071	6.0063	10.9184	0.0370	2.6369	0.1659	2.8028	0.7111	0.1554	0.8666	0.0000	3,462.424 6	3,462.424 6	0.2038	0.2371	3,538.187 4
2024	0.6094	1.0870	2.1083	7.6900e-003	0.6027	0.0247	0.6274	0.1624	0.0234	0.1857	0.0000	724.2773	724.2773	0.0317	0.0498	739.8993
<b>Maximum</b>	<b>1.7071</b>	<b>6.0063</b>	<b>10.9184</b>	<b>0.0370</b>	<b>2.6369</b>	<b>0.1659</b>	<b>2.8028</b>	<b>0.7111</b>	<b>0.1554</b>	<b>0.8666</b>	<b>0.0000</b>	<b>3,462.424 6</b>	<b>3,462.424 6</b>	<b>0.2038</b>	<b>0.2371</b>	<b>3,538.187 4</b>

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.4186	2.0175	6.0316	0.0181	1.2248	0.0312	1.2560	0.3757	0.0301	0.4057	0.0000	1,675.537 7	1,675.537 7	0.1488	0.1048	1,710.475 9
2023	1.4780	3.6481	11.3009	0.0370	2.4379	0.0390	2.4770	0.6623	0.0373	0.6996	0.0000	3,462.424 1	3,462.424 1	0.2038	0.2371	3,538.186 8
2024	0.5746	0.7548	2.1444	7.6900e-003	0.5571	7.7300e-003	0.5648	0.1512	7.3600e-003	0.1585	0.0000	724.2772	724.2772	0.0317	0.0498	739.8992
<b>Maximum</b>	<b>1.4780</b>	<b>3.6481</b>	<b>11.3009</b>	<b>0.0370</b>	<b>2.4379</b>	<b>0.0390</b>	<b>2.4770</b>	<b>0.6623</b>	<b>0.0373</b>	<b>0.6996</b>	<b>0.0000</b>	<b>3,462.424 1</b>	<b>3,462.424 1</b>	<b>0.2038</b>	<b>0.2371</b>	<b>3,538.186 8</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	16.80	45.26	-3.46	0.00	13.90	77.82	18.17	16.99	77.25	28.23	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-1-2022	8-31-2022	2.4070	0.6401
2	9-1-2022	11-30-2022	2.2136	1.3224
3	12-1-2022	2-28-2023	1.5875	1.1418
4	3-1-2023	5-31-2023	1.6445	1.0967
5	6-1-2023	8-31-2023	1.8925	1.1327
6	9-1-2023	11-30-2023	2.3614	1.5808
7	12-1-2023	2-29-2024	2.2381	1.7316
8	3-1-2024	5-31-2024	0.2415	0.1753
		Highest	2.4070	1.7316

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.8234	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.0814	0.0814	2.1000e-004	0.0000	0.0867
Energy	0.0669	0.6081	0.5108	3.6500e-003		0.0462	0.0462		0.0462	0.0462	0.0000	2,893.5229	2,893.5229	0.2010	0.0350	2,908.9688
Mobile	1.0615	24.6209	19.1141	0.1738	11.3249	0.2731	11.5980	3.0828	0.2602	3.3430	0.0000	16,804.3265	16,804.3265	0.4894	1.9243	17,389.9905
Offroad	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	312.6792	0.0000	312.6792	18.4788	0.0000	774.6494
Water						0.0000	0.0000		0.0000	0.0000	116.4982	908.0398	1,024.5380	12.0421	0.2918	1,412.5538
<b>Total</b>	<b>7.9518</b>	<b>25.2294</b>	<b>19.6667</b>	<b>0.1775</b>	<b>11.3249</b>	<b>0.3194</b>	<b>11.6444</b>	<b>3.0828</b>	<b>0.3065</b>	<b>3.3893</b>	<b>429.1774</b>	<b>20,605.9706</b>	<b>21,035.1479</b>	<b>31.2116</b>	<b>2.2511</b>	<b>22,486.2493</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.1389	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.0814	0.0814	2.1000e-004	0.0000	0.0867
Energy	0.0669	0.6081	0.5108	3.6500e-003		0.0462	0.0462		0.0462	0.0462	0.0000	2,893.5229	2,893.5229	0.2010	0.0350	2,908.9688
Mobile	1.0543	24.5896	18.5327	0.1713	10.9788	0.2717	11.2505	2.9909	0.2589	3.2498	0.0000	16,571.0217	16,571.0217	0.4876	1.9204	17,155.4966
Offroad	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	312.6792	0.0000	312.6792	18.4788	0.0000	774.6494
Water						0.0000	0.0000		0.0000	0.0000	93.1986	734.7825	827.9811	9.6344	0.2335	1,138.4368
<b>Total</b>	<b>7.2601</b>	<b>25.1981</b>	<b>19.0853</b>	<b>0.1750</b>	<b>10.9788</b>	<b>0.3180</b>	<b>11.2969</b>	<b>2.9909</b>	<b>0.3053</b>	<b>3.2962</b>	<b>405.8777</b>	<b>20,199.4085</b>	<b>20,605.2862</b>	<b>28.8021</b>	<b>2.1889</b>	<b>21,977.6383</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>8.70</b>	<b>0.12</b>	<b>2.96</b>	<b>1.40</b>	<b>3.06</b>	<b>0.43</b>	<b>2.98</b>	<b>2.98</b>	<b>0.41</b>	<b>2.75</b>	<b>5.43</b>	<b>1.97</b>	<b>2.04</b>	<b>7.72</b>	<b>2.76</b>	<b>2.26</b>

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2022	7/15/2022	5	33	
2	Site Preparation	Site Preparation	6/1/2022	7/15/2022	5	33	



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3	Grading	Grading	7/16/2022	9/30/2022	5	55
4	Building Construction	Building Construction	8/1/2022	3/15/2024	5	425
5	Paving	Paving	5/1/2023	12/15/2023	5	165
6	Architectural Coating	Architectural Coating	10/1/2023	2/29/2024	5	109

**Acres of Grading (Site Preparation Phase): 49.5**

**Acres of Grading (Grading Phase): 165**

**Acres of Paving: 37.54**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,461,034; Non-Residential Outdoor: 820,345; Striped Parking Area: 98,131 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45

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Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,440.00	571.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	288.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demolition - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.0200e-003	0.0000	5.0200e-003	7.6000e-004	0.0000	7.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0515	0.4776	0.4113	7.6000e-004		0.0235	0.0235		0.0220	0.0220	0.0000	66.0309	66.0309	0.0164	0.0000	66.4410
<b>Total</b>	<b>0.0515</b>	<b>0.4776</b>	<b>0.4113</b>	<b>7.6000e-004</b>	<b>5.0200e-003</b>	<b>0.0235</b>	<b>0.0285</b>	<b>7.6000e-004</b>	<b>0.0220</b>	<b>0.0228</b>	<b>0.0000</b>	<b>66.0309</b>	<b>66.0309</b>	<b>0.0164</b>	<b>0.0000</b>	<b>66.4410</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1200e-003	8.8000e-004	0.0105	3.0000e-005	3.2600e-003	2.0000e-005	3.2700e-003	8.6000e-004	2.0000e-005	8.8000e-004	0.0000	2.6122	2.6122	7.0000e-005	8.0000e-005	2.6364
<b>Total</b>	<b>1.1200e-003</b>	<b>8.8000e-004</b>	<b>0.0105</b>	<b>3.0000e-005</b>	<b>3.2600e-003</b>	<b>2.0000e-005</b>	<b>3.2700e-003</b>	<b>8.6000e-004</b>	<b>2.0000e-005</b>	<b>8.8000e-004</b>	<b>0.0000</b>	<b>2.6122</b>	<b>2.6122</b>	<b>7.0000e-005</b>	<b>8.0000e-005</b>	<b>2.6364</b>

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**3.2 Demolition - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9600e-003	0.0000	1.9600e-003	3.0000e-004	0.0000	3.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0155	0.0863	0.4556	7.6000e-004		3.9900e-003	3.9900e-003		3.9900e-003	3.9900e-003	0.0000	66.0309	66.0309	0.0164	0.0000	66.4409
<b>Total</b>	<b>0.0155</b>	<b>0.0863</b>	<b>0.4556</b>	<b>7.6000e-004</b>	<b>1.9600e-003</b>	<b>3.9900e-003</b>	<b>5.9500e-003</b>	<b>3.0000e-004</b>	<b>3.9900e-003</b>	<b>4.2900e-003</b>	<b>0.0000</b>	<b>66.0309</b>	<b>66.0309</b>	<b>0.0164</b>	<b>0.0000</b>	<b>66.4409</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1200e-003	8.8000e-004	0.0105	3.0000e-005	3.0000e-003	2.0000e-005	3.0200e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.6122	2.6122	7.0000e-005	8.0000e-005	2.6364
<b>Total</b>	<b>1.1200e-003</b>	<b>8.8000e-004</b>	<b>0.0105</b>	<b>3.0000e-005</b>	<b>3.0000e-003</b>	<b>2.0000e-005</b>	<b>3.0200e-003</b>	<b>8.0000e-004</b>	<b>2.0000e-005</b>	<b>8.2000e-004</b>	<b>0.0000</b>	<b>2.6122</b>	<b>2.6122</b>	<b>7.0000e-005</b>	<b>8.0000e-005</b>	<b>2.6364</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.3 Site Preparation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3243	0.0000	0.3243	0.1667	0.0000	0.1667	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0523	0.5459	0.3250	6.3000e-004		0.0266	0.0266		0.0245	0.0245	0.0000	55.1750	55.1750	0.0178	0.0000	55.6211
<b>Total</b>	<b>0.0523</b>	<b>0.5459</b>	<b>0.3250</b>	<b>6.3000e-004</b>	<b>0.3243</b>	<b>0.0266</b>	<b>0.3510</b>	<b>0.1667</b>	<b>0.0245</b>	<b>0.1912</b>	<b>0.0000</b>	<b>55.1750</b>	<b>55.1750</b>	<b>0.0178</b>	<b>0.0000</b>	<b>55.6211</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1200e-003	8.8000e-004	0.0105	3.0000e-005	3.2600e-003	2.0000e-005	3.2700e-003	8.6000e-004	2.0000e-005	8.8000e-004	0.0000	2.6122	2.6122	7.0000e-005	8.0000e-005	2.6364
<b>Total</b>	<b>1.1200e-003</b>	<b>8.8000e-004</b>	<b>0.0105</b>	<b>3.0000e-005</b>	<b>3.2600e-003</b>	<b>2.0000e-005</b>	<b>3.2700e-003</b>	<b>8.6000e-004</b>	<b>2.0000e-005</b>	<b>8.8000e-004</b>	<b>0.0000</b>	<b>2.6122</b>	<b>2.6122</b>	<b>7.0000e-005</b>	<b>8.0000e-005</b>	<b>2.6364</b>

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**3.3 Site Preparation - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1265	0.0000	0.1265	0.0650	0.0000	0.0650	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.6800e-003	0.0333	0.3443	6.3000e-004		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	55.1749	55.1749	0.0178	0.0000	55.6211
<b>Total</b>	<b>7.6800e-003</b>	<b>0.0333</b>	<b>0.3443</b>	<b>6.3000e-004</b>	<b>0.1265</b>	<b>1.0200e-003</b>	<b>0.1275</b>	<b>0.0650</b>	<b>1.0200e-003</b>	<b>0.0660</b>	<b>0.0000</b>	<b>55.1749</b>	<b>55.1749</b>	<b>0.0178</b>	<b>0.0000</b>	<b>55.6211</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1200e-003	8.8000e-004	0.0105	3.0000e-005	3.0000e-003	2.0000e-005	3.0200e-003	8.0000e-004	2.0000e-005	8.2000e-004	0.0000	2.6122	2.6122	7.0000e-005	8.0000e-005	2.6364
<b>Total</b>	<b>1.1200e-003</b>	<b>8.8000e-004</b>	<b>0.0105</b>	<b>3.0000e-005</b>	<b>3.0000e-003</b>	<b>2.0000e-005</b>	<b>3.0200e-003</b>	<b>8.0000e-004</b>	<b>2.0000e-005</b>	<b>8.2000e-004</b>	<b>0.0000</b>	<b>2.6122</b>	<b>2.6122</b>	<b>7.0000e-005</b>	<b>8.0000e-005</b>	<b>2.6364</b>

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**3.4 Grading - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2531	0.0000	0.2531	0.1005	0.0000	0.1005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0997	1.0682	0.7986	1.7100e-003		0.0450	0.0450		0.0414	0.0414	0.0000	149.9702	149.9702	0.0485	0.0000	151.1827
<b>Total</b>	<b>0.0997</b>	<b>1.0682</b>	<b>0.7986</b>	<b>1.7100e-003</b>	<b>0.2531</b>	<b>0.0450</b>	<b>0.2981</b>	<b>0.1005</b>	<b>0.0414</b>	<b>0.1418</b>	<b>0.0000</b>	<b>149.9702</b>	<b>149.9702</b>	<b>0.0485</b>	<b>0.0000</b>	<b>151.1827</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0700e-003	1.6300e-003	0.0195	5.0000e-005	6.0300e-003	3.0000e-005	6.0600e-003	1.6000e-003	3.0000e-005	1.6300e-003	0.0000	4.8374	4.8374	1.4000e-004	1.4000e-004	4.8823
<b>Total</b>	<b>2.0700e-003</b>	<b>1.6300e-003</b>	<b>0.0195</b>	<b>5.0000e-005</b>	<b>6.0300e-003</b>	<b>3.0000e-005</b>	<b>6.0600e-003</b>	<b>1.6000e-003</b>	<b>3.0000e-005</b>	<b>1.6300e-003</b>	<b>0.0000</b>	<b>4.8374</b>	<b>4.8374</b>	<b>1.4000e-004</b>	<b>1.4000e-004</b>	<b>4.8823</b>

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**3.4 Grading - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0987	0.0000	0.0987	0.0392	0.0000	0.0392	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0209	0.0908	0.9075	1.7100e-003		2.7900e-003	2.7900e-003		2.7900e-003	2.7900e-003	0.0000	149.9700	149.9700	0.0485	0.0000	151.1826
<b>Total</b>	<b>0.0209</b>	<b>0.0908</b>	<b>0.9075</b>	<b>1.7100e-003</b>	<b>0.0987</b>	<b>2.7900e-003</b>	<b>0.1015</b>	<b>0.0392</b>	<b>2.7900e-003</b>	<b>0.0420</b>	<b>0.0000</b>	<b>149.9700</b>	<b>149.9700</b>	<b>0.0485</b>	<b>0.0000</b>	<b>151.1826</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0700e-003	1.6300e-003	0.0195	5.0000e-005	5.5600e-003	3.0000e-005	5.5900e-003	1.4900e-003	3.0000e-005	1.5200e-003	0.0000	4.8374	4.8374	1.4000e-004	1.4000e-004	4.8823
<b>Total</b>	<b>2.0700e-003</b>	<b>1.6300e-003</b>	<b>0.0195</b>	<b>5.0000e-005</b>	<b>5.5600e-003</b>	<b>3.0000e-005</b>	<b>5.5900e-003</b>	<b>1.4900e-003</b>	<b>3.0000e-005</b>	<b>1.5200e-003</b>	<b>0.0000</b>	<b>4.8374</b>	<b>4.8374</b>	<b>1.4000e-004</b>	<b>1.4000e-004</b>	<b>4.8823</b>



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**3.5 Building Construction - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0938	0.8589	0.9000	1.4800e-003		0.0445	0.0445		0.0419	0.0419	0.0000	127.4489	127.4489	0.0305	0.0000	128.2122
<b>Total</b>	<b>0.0938</b>	<b>0.8589</b>	<b>0.9000</b>	<b>1.4800e-003</b>		<b>0.0445</b>	<b>0.0445</b>		<b>0.0419</b>	<b>0.0419</b>	<b>0.0000</b>	<b>127.4489</b>	<b>127.4489</b>	<b>0.0305</b>	<b>0.0000</b>	<b>128.2122</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0535	1.4466	0.5129	5.8600e-003	0.1981	0.0164	0.2145	0.0572	0.0157	0.0728	0.0000	570.2641	570.2641	0.0154	0.0845	595.8155
Worker	0.2986	0.2343	2.8104	7.5500e-003	0.8684	4.6500e-003	0.8731	0.2306	4.2800e-003	0.2349	0.0000	696.5873	696.5873	0.0199	0.0200	703.0487
<b>Total</b>	<b>0.3521</b>	<b>1.6809</b>	<b>3.3233</b>	<b>0.0134</b>	<b>1.0665</b>	<b>0.0210</b>	<b>1.0875</b>	<b>0.2878</b>	<b>0.0200</b>	<b>0.3078</b>	<b>0.0000</b>	<b>1,266.8514</b>	<b>1,266.8514</b>	<b>0.0352</b>	<b>0.1045</b>	<b>1,298.8642</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0180	0.1229	0.9603	1.4800e-003		2.2400e-003	2.2400e-003		2.2400e-003	2.2400e-003	0.0000	127.4487	127.4487	0.0305	0.0000	128.2121
<b>Total</b>	<b>0.0180</b>	<b>0.1229</b>	<b>0.9603</b>	<b>1.4800e-003</b>		<b>2.2400e-003</b>	<b>2.2400e-003</b>		<b>2.2400e-003</b>	<b>2.2400e-003</b>	<b>0.0000</b>	<b>127.4487</b>	<b>127.4487</b>	<b>0.0305</b>	<b>0.0000</b>	<b>128.2121</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0535	1.4466	0.5129	5.8600e-003	0.1855	0.0164	0.2018	0.0541	0.0157	0.0698	0.0000	570.2641	570.2641	0.0154	0.0845	595.8155
Worker	0.2986	0.2343	2.8104	7.5500e-003	0.8007	4.6500e-003	0.8053	0.2140	4.2800e-003	0.2183	0.0000	696.5873	696.5873	0.0199	0.0200	703.0487
<b>Total</b>	<b>0.3521</b>	<b>1.6809</b>	<b>3.3233</b>	<b>0.0134</b>	<b>0.9861</b>	<b>0.0210</b>	<b>1.0071</b>	<b>0.2681</b>	<b>0.0200</b>	<b>0.2880</b>	<b>0.0000</b>	<b>1,266.8514</b>	<b>1,266.8514</b>	<b>0.0352</b>	<b>0.1045</b>	<b>1,298.8642</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
<b>Total</b>	<b>0.2045</b>	<b>1.8700</b>	<b>2.1117</b>	<b>3.5000e-003</b>		<b>0.0910</b>	<b>0.0910</b>		<b>0.0856</b>	<b>0.0856</b>	<b>0.0000</b>	<b>301.3462</b>	<b>301.3462</b>	<b>0.0717</b>	<b>0.0000</b>	<b>303.1383</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0837	2.7387	1.1087	0.0133	0.4682	0.0196	0.4878	0.1351	0.0188	0.1539	0.0000	1,293.7028	1,293.7028	0.0337	0.1912	1,351.5181
Worker	0.6523	0.4869	6.0911	0.0173	2.0526	0.0103	2.0629	0.5451	9.5200e-003	0.5547	0.0000	1,603.1034	1,603.1034	0.0421	0.0435	1,617.1170
<b>Total</b>	<b>0.7360</b>	<b>3.2256</b>	<b>7.1998</b>	<b>0.0306</b>	<b>2.5207</b>	<b>0.0299</b>	<b>2.5507</b>	<b>0.6803</b>	<b>0.0283</b>	<b>0.7085</b>	<b>0.0000</b>	<b>2,896.8061</b>	<b>2,896.8061</b>	<b>0.0758</b>	<b>0.2347</b>	<b>2,968.6351</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0426	0.2905	2.2698	3.5000e-003		5.3000e-003	5.3000e-003		5.3000e-003	5.3000e-003	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
<b>Total</b>	<b>0.0426</b>	<b>0.2905</b>	<b>2.2698</b>	<b>3.5000e-003</b>		<b>5.3000e-003</b>	<b>5.3000e-003</b>		<b>5.3000e-003</b>	<b>5.3000e-003</b>	<b>0.0000</b>	<b>301.3458</b>	<b>301.3458</b>	<b>0.0717</b>	<b>0.0000</b>	<b>303.1380</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0837	2.7387	1.1087	0.0133	0.4384	0.0196	0.4580	0.1278	0.0188	0.1466	0.0000	1,293.7028	1,293.7028	0.0337	0.1912	1,351.5181
Worker	0.6523	0.4869	6.0911	0.0173	1.8925	0.0103	1.9028	0.5058	9.5200e-003	0.5154	0.0000	1,603.1034	1,603.1034	0.0421	0.0435	1,617.1170
<b>Total</b>	<b>0.7360</b>	<b>3.2256</b>	<b>7.1998</b>	<b>0.0306</b>	<b>2.3308</b>	<b>0.0299</b>	<b>2.3607</b>	<b>0.6336</b>	<b>0.0283</b>	<b>0.6619</b>	<b>0.0000</b>	<b>2,896.8061</b>	<b>2,896.8061</b>	<b>0.0758</b>	<b>0.2347</b>	<b>2,968.6351</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0405	0.3697	0.4446	7.4000e-004		0.0169	0.0169		0.0159	0.0159	0.0000	63.7585	63.7585	0.0151	0.0000	64.1354
<b>Total</b>	<b>0.0405</b>	<b>0.3697</b>	<b>0.4446</b>	<b>7.4000e-004</b>		<b>0.0169</b>	<b>0.0169</b>		<b>0.0159</b>	<b>0.0159</b>	<b>0.0000</b>	<b>63.7585</b>	<b>63.7585</b>	<b>0.0151</b>	<b>0.0000</b>	<b>64.1354</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0173	0.5845	0.2307	2.7700e-003	0.0990	4.0800e-003	0.1031	0.0286	3.9000e-003	0.0325	0.0000	269.9001	269.9001	6.9100e-003	0.0399	281.9566
Worker	0.1283	0.0914	1.2011	3.5500e-003	0.4342	2.1000e-003	0.4363	0.1153	1.9300e-003	0.1173	0.0000	331.8979	331.8979	8.0700e-003	8.5200e-003	334.6398
<b>Total</b>	<b>0.1456</b>	<b>0.6759</b>	<b>1.4318</b>	<b>6.3200e-003</b>	<b>0.5332</b>	<b>6.1800e-003</b>	<b>0.5394</b>	<b>0.1439</b>	<b>5.8300e-003</b>	<b>0.1497</b>	<b>0.0000</b>	<b>601.7980</b>	<b>601.7980</b>	<b>0.0150</b>	<b>0.0484</b>	<b>616.5965</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.5 Building Construction - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.0200e-003	0.0615	0.4802	7.4000e-004		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	63.7584	63.7584	0.0151	0.0000	64.1354
<b>Total</b>	<b>9.0200e-003</b>	<b>0.0615</b>	<b>0.4802</b>	<b>7.4000e-004</b>		<b>1.1200e-003</b>	<b>1.1200e-003</b>		<b>1.1200e-003</b>	<b>1.1200e-003</b>	<b>0.0000</b>	<b>63.7584</b>	<b>63.7584</b>	<b>0.0151</b>	<b>0.0000</b>	<b>64.1354</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0173	0.5845	0.2307	2.7700e-003	0.0927	4.0800e-003	0.0968	0.0270	3.9000e-003	0.0309	0.0000	269.9001	269.9001	6.9100e-003	0.0399	281.9566
Worker	0.1283	0.0914	1.2011	3.5500e-003	0.4003	2.1000e-003	0.4024	0.1070	1.9300e-003	0.1089	0.0000	331.8979	331.8979	8.0700e-003	8.5200e-003	334.6398
<b>Total</b>	<b>0.1456</b>	<b>0.6759</b>	<b>1.4318</b>	<b>6.3200e-003</b>	<b>0.4931</b>	<b>6.1800e-003</b>	<b>0.4992</b>	<b>0.1340</b>	<b>5.8300e-003</b>	<b>0.1399</b>	<b>0.0000</b>	<b>601.7980</b>	<b>601.7980</b>	<b>0.0150</b>	<b>0.0484</b>	<b>616.5965</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.6 Paving - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0852	0.8408	1.2032	1.8800e-003		0.0421	0.0421		0.0387	0.0387	0.0000	165.2217	165.2217	0.0534	0.0000	166.5576
Paving	0.0492					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.1344</b>	<b>0.8408</b>	<b>1.2032</b>	<b>1.8800e-003</b>		<b>0.0421</b>	<b>0.0421</b>		<b>0.0387</b>	<b>0.0387</b>	<b>0.0000</b>	<b>165.2217</b>	<b>165.2217</b>	<b>0.0534</b>	<b>0.0000</b>	<b>166.5576</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3100e-003	3.2200e-003	0.0403	1.1000e-004	0.0136	7.0000e-005	0.0136	3.6000e-003	6.0000e-005	3.6700e-003	0.0000	10.5974	10.5974	2.8000e-004	2.9000e-004	10.6901
<b>Total</b>	<b>4.3100e-003</b>	<b>3.2200e-003</b>	<b>0.0403</b>	<b>1.1000e-004</b>	<b>0.0136</b>	<b>7.0000e-005</b>	<b>0.0136</b>	<b>3.6000e-003</b>	<b>6.0000e-005</b>	<b>3.6700e-003</b>	<b>0.0000</b>	<b>10.5974</b>	<b>10.5974</b>	<b>2.8000e-004</b>	<b>2.9000e-004</b>	<b>10.6901</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.6 Paving - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0231	0.1003	1.4269	1.8800e-003		3.0900e-003	3.0900e-003		3.0900e-003	3.0900e-003	0.0000	165.2215	165.2215	0.0534	0.0000	166.5574
Paving	0.0492					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0723</b>	<b>0.1003</b>	<b>1.4269</b>	<b>1.8800e-003</b>		<b>3.0900e-003</b>	<b>3.0900e-003</b>		<b>3.0900e-003</b>	<b>3.0900e-003</b>	<b>0.0000</b>	<b>165.2215</b>	<b>165.2215</b>	<b>0.0534</b>	<b>0.0000</b>	<b>166.5574</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3100e-003	3.2200e-003	0.0403	1.1000e-004	0.0125	7.0000e-005	0.0126	3.3400e-003	6.0000e-005	3.4100e-003	0.0000	10.5974	10.5974	2.8000e-004	2.9000e-004	10.6901
<b>Total</b>	<b>4.3100e-003</b>	<b>3.2200e-003</b>	<b>0.0403</b>	<b>1.1000e-004</b>	<b>0.0125</b>	<b>7.0000e-005</b>	<b>0.0126</b>	<b>3.3400e-003</b>	<b>6.0000e-005</b>	<b>3.4100e-003</b>	<b>0.0000</b>	<b>10.5974</b>	<b>10.5974</b>	<b>2.8000e-004</b>	<b>2.9000e-004</b>	<b>10.6901</b>



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5891					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2300e-003	0.0424	0.0589	1.0000e-004		2.3000e-003	2.3000e-003		2.3000e-003	2.3000e-003	0.0000	8.2981	8.2981	5.0000e-004	0.0000	8.3105
<b>Total</b>	<b>0.5953</b>	<b>0.0424</b>	<b>0.0589</b>	<b>1.0000e-004</b>		<b>2.3000e-003</b>	<b>2.3000e-003</b>		<b>2.3000e-003</b>	<b>2.3000e-003</b>	<b>0.0000</b>	<b>8.2981</b>	<b>8.2981</b>	<b>5.0000e-004</b>	<b>0.0000</b>	<b>8.3105</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0326	0.0243	0.3046	8.6000e-004	0.1026	5.2000e-004	0.1032	0.0273	4.8000e-004	0.0277	0.0000	80.1552	80.1552	2.1000e-003	2.1700e-003	80.8559
<b>Total</b>	<b>0.0326</b>	<b>0.0243</b>	<b>0.3046</b>	<b>8.6000e-004</b>	<b>0.1026</b>	<b>5.2000e-004</b>	<b>0.1032</b>	<b>0.0273</b>	<b>4.8000e-004</b>	<b>0.0277</b>	<b>0.0000</b>	<b>80.1552</b>	<b>80.1552</b>	<b>2.1000e-003</b>	<b>2.1700e-003</b>	<b>80.8559</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2023**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5891					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.7000e-004	4.1800e-003	0.0596	1.0000e-004		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	8.2981	8.2981	5.0000e-004	0.0000	8.3105
<b>Total</b>	<b>0.5901</b>	<b>4.1800e-003</b>	<b>0.0596</b>	<b>1.0000e-004</b>		<b>1.3000e-004</b>	<b>1.3000e-004</b>		<b>1.3000e-004</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>8.2981</b>	<b>8.2981</b>	<b>5.0000e-004</b>	<b>0.0000</b>	<b>8.3105</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0326	0.0243	0.3046	8.6000e-004	0.0946	5.2000e-004	0.0951	0.0253	4.8000e-004	0.0258	0.0000	80.1552	80.1552	2.1000e-003	2.1700e-003	80.8559
<b>Total</b>	<b>0.0326</b>	<b>0.0243</b>	<b>0.3046</b>	<b>8.6000e-004</b>	<b>0.0946</b>	<b>5.2000e-004</b>	<b>0.0951</b>	<b>0.0253</b>	<b>4.8000e-004</b>	<b>0.0258</b>	<b>0.0000</b>	<b>80.1552</b>	<b>80.1552</b>	<b>2.1000e-003</b>	<b>2.1700e-003</b>	<b>80.8559</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2024**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3988					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9800e-003	0.0268	0.0398	7.0000e-005		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	5.6172	5.6172	3.2000e-004	0.0000	5.6251
<b>Total</b>	<b>0.4028</b>	<b>0.0268</b>	<b>0.0398</b>	<b>7.0000e-005</b>		<b>1.3400e-003</b>	<b>1.3400e-003</b>		<b>1.3400e-003</b>	<b>1.3400e-003</b>	<b>0.0000</b>	<b>5.6172</b>	<b>5.6172</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>5.6251</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0205	0.0146	0.1922	5.7000e-004	0.0695	3.4000e-004	0.0698	0.0185	3.1000e-004	0.0188	0.0000	53.1037	53.1037	1.2900e-003	1.3600e-003	53.5424
<b>Total</b>	<b>0.0205</b>	<b>0.0146</b>	<b>0.1922</b>	<b>5.7000e-004</b>	<b>0.0695</b>	<b>3.4000e-004</b>	<b>0.0698</b>	<b>0.0185</b>	<b>3.1000e-004</b>	<b>0.0188</b>	<b>0.0000</b>	<b>53.1037</b>	<b>53.1037</b>	<b>1.2900e-003</b>	<b>1.3600e-003</b>	<b>53.5424</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.7 Architectural Coating - 2024**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3988					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5000e-004	2.8300e-003	0.0403	7.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	5.6172	5.6172	3.2000e-004	0.0000	5.6251
<b>Total</b>	<b>0.3994</b>	<b>2.8300e-003</b>	<b>0.0403</b>	<b>7.0000e-005</b>		<b>9.0000e-005</b>	<b>9.0000e-005</b>		<b>9.0000e-005</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>5.6172</b>	<b>5.6172</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>5.6251</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0205	0.0146	0.1922	5.7000e-004	0.0641	3.4000e-004	0.0644	0.0171	3.1000e-004	0.0174	0.0000	53.1037	53.1037	1.2900e-003	1.3600e-003	53.5424
<b>Total</b>	<b>0.0205</b>	<b>0.0146</b>	<b>0.1922</b>	<b>5.7000e-004</b>	<b>0.0641</b>	<b>3.4000e-004</b>	<b>0.0644</b>	<b>0.0171</b>	<b>3.1000e-004</b>	<b>0.0174</b>	<b>0.0000</b>	<b>53.1037</b>	<b>53.1037</b>	<b>1.2900e-003</b>	<b>1.3600e-003</b>	<b>53.5424</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

- Implement Trip Reduction Program
- Market Commute Trip Reduction Option
- Employee Vanpool/Shuttle
- Provide Riade Sharing Program

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0543	24.5896	18.5327	0.1713	10.9788	0.2717	11.2505	2.9909	0.2589	3.2498	0.0000	16,571.02 17	16,571.02 17	0.4876	1.9204	17,155.49 66
Unmitigated	1.0615	24.6209	19.1141	0.1738	11.3249	0.2731	11.5980	3.0828	0.2602	3.3430	0.0000	16,804.32 65	16,804.32 65	0.4894	1.9243	17,389.99 05

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Office Park	2,907.99	2,907.99	2907.99	17,571,222	16,642,337
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	747.98	747.98	747.98	10,890,576	10,890,576
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	0.00	0.00	0.00		
<b>Total</b>	<b>3,655.97</b>	<b>3,655.97</b>	<b>3,655.97</b>	<b>28,461,798</b>	<b>27,532,913</b>

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Office Park	16.60	8.40	6.90	100.00	0.00	0.00	100	0	0
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.60	8.40	40.00	0.00	0.00	100.00	100	0	0
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Unrefrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Office Park	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Other Asphalt Surfaces	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Parking Lot	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830
Refrigerated Warehouse-No Rail	0.000000	0.000000	0.000000	0.000000	0.000000	0.190000	0.160000	0.650000	0.000000	0.000000	0.000000	0.000000	0.000000
Unrefrigerated Warehouse-No Rail	0.540566	0.056059	0.172680	0.136494	0.026304	0.007104	0.011680	0.017449	0.000554	0.000251	0.025076	0.000954	0.004830

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,231.5463	2,231.5463	0.1884	0.0228	2,243.0584
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,231.5463	2,231.5463	0.1884	0.0228	2,243.0584
Natural Gas Mitigated	0.0669	0.6081	0.5108	3.6500e-003		0.0462	0.0462		0.0462	0.0462	0.0000	661.9766	661.9766	0.0127	0.0121	665.9104
Natural Gas Unmitigated	0.0669	0.6081	0.5108	3.6500e-003		0.0462	0.0462		0.0462	0.0462	0.0000	661.9766	661.9766	0.0127	0.0121	665.9104

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**5.2 Energy by Land Use - NaturalGas**

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	658776	3.5500e-003	0.0323	0.0271	1.9000e-004		2.4500e-003	2.4500e-003		2.4500e-003	2.4500e-003	0.0000	35.1548	35.1548	6.7000e-004	6.4000e-004	35.3637
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	9.26665e+006	0.0500	0.4543	0.3816	2.7300e-003		0.0345	0.0345		0.0345	0.0345	0.0000	494.5039	494.5039	9.4800e-003	9.0700e-003	497.4425
Unrefrigerated Warehouse-No Rail	1.83524e+006	9.9000e-003	0.0900	0.0756	5.4000e-004		6.8400e-003	6.8400e-003		6.8400e-003	6.8400e-003	0.0000	97.9352	97.9352	1.8800e-003	1.8000e-003	98.5172
Unrefrigerated Warehouse-No Rail	644308	3.4700e-003	0.0316	0.0265	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003	0.0000	34.3827	34.3827	6.6000e-004	6.3000e-004	34.5870
<b>Total</b>		<b>0.0669</b>	<b>0.6081</b>	<b>0.5108</b>	<b>3.6500e-003</b>		<b>0.0462</b>	<b>0.0462</b>		<b>0.0462</b>	<b>0.0462</b>	<b>0.0000</b>	<b>661.9766</b>	<b>661.9766</b>	<b>0.0127</b>	<b>0.0121</b>	<b>665.9104</b>



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**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Office Park	658776	3.5500e-003	0.0323	0.0271	1.9000e-004		2.4500e-003	2.4500e-003		2.4500e-003	2.4500e-003	0.0000	35.1548	35.1548	6.7000e-004	6.4000e-004	35.3637
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	9.26665e+006	0.0500	0.4543	0.3816	2.7300e-003		0.0345	0.0345		0.0345	0.0345	0.0000	494.5039	494.5039	9.4800e-003	9.0700e-003	497.4425
Unrefrigerated Warehouse-No Rail	1.83524e+006	9.9000e-003	0.0900	0.0756	5.4000e-004		6.8400e-003	6.8400e-003		6.8400e-003	6.8400e-003	0.0000	97.9352	97.9352	1.8800e-003	1.8000e-003	98.5172
Unrefrigerated Warehouse-No Rail	644308	3.4700e-003	0.0316	0.0265	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003	0.0000	34.3827	34.3827	6.6000e-004	6.3000e-004	34.5870
<b>Total</b>		<b>0.0669</b>	<b>0.6081</b>	<b>0.5108</b>	<b>3.6500e-003</b>		<b>0.0462</b>	<b>0.0462</b>		<b>0.0462</b>	<b>0.0462</b>	<b>0.0000</b>	<b>661.9766</b>	<b>661.9766</b>	<b>0.0127</b>	<b>0.0121</b>	<b>665.9104</b>

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**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Office Park	2.18376e+006	387.2803	0.0327	3.9600e-003	389.2782
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	400580	71.0411	6.0000e-003	7.3000e-004	71.4076
Refrigerated Warehouse-No Rail	7.13674e+006	1,265.6688	0.1068	0.0130	1,272.1981
Unrefrigerated Warehouse-No Rail	2.11828e+006	375.6681	0.0317	3.8400e-003	377.6061
Unrefrigerated Warehouse-No Rail	743678	131.8880	0.0111	1.3500e-003	132.5684
<b>Total</b>		<b>2,231.5463</b>	<b>0.1884</b>	<b>0.0228</b>	<b>2,243.0584</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**5.3 Energy by Land Use - Electricity**

**Mitigated**

Land Use	Electricity Use kWh/yr	Total CO2 MT/yr	CH4 MT/yr	N2O MT/yr	CO2e MT/yr
City Park	0	0.0000	0.0000	0.0000	0.0000
Office Park	2.18376e+006	387.2803	0.0327	3.9600e-003	389.2782
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	400580	71.0411	6.0000e-003	7.3000e-004	71.4076
Refrigerated Warehouse-No Rail	7.13674e+006	1,265.6688	0.1068	0.0130	1,272.1981
Unrefrigerated Warehouse-No Rail	2.11828e+006	375.6681	0.0317	3.8400e-003	377.6061
Unrefrigerated Warehouse-No Rail	743678	131.8880	0.0111	1.3500e-003	132.5684
<b>Total</b>		<b>2,231.5463</b>	<b>0.1884</b>	<b>0.0228</b>	<b>2,243.0584</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.1389	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.0814	0.0814	2.1000e-004	0.0000	0.0867
Unmitigated	6.8234	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.0814	0.0814	2.1000e-004	0.0000	0.0867

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.7832					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.0363					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.8600e-003	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.0814	0.0814	2.1000e-004	0.0000	0.0867
<b>Total</b>	<b>6.8234</b>	<b>3.8000e-004</b>	<b>0.0418</b>	<b>0.0000</b>		<b>1.5000e-004</b>	<b>1.5000e-004</b>		<b>1.5000e-004</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>0.0814</b>	<b>0.0814</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>0.0867</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0988					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.0363					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.8600e-003	3.8000e-004	0.0418	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.0814	0.0814	2.1000e-004	0.0000	0.0867
<b>Total</b>	<b>6.1390</b>	<b>3.8000e-004</b>	<b>0.0418</b>	<b>0.0000</b>		<b>1.5000e-004</b>	<b>1.5000e-004</b>		<b>1.5000e-004</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>0.0814</b>	<b>0.0814</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>0.0867</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	827.9811	9.6344	0.2335	1,138.4368
Unmitigated	1,024.5380	12.0421	0.2918	1,412.5538

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 5.65954	11.1510	9.4000e-004	1.1000e-004	11.2086
Office Park	40.5144 / 24.8314	155.3354	1.3322	0.0326	198.3638
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	41.4238 / 0	108.7984	1.3579	0.0329	152.5345
Unrefrigerated Warehouse-No Rail	285.27 / 0	749.2532	9.3511	0.2262	1,050.4470
<b>Total</b>		<b>1,024.5381</b>	<b>12.0421</b>	<b>0.2918</b>	<b>1,412.5538</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**7.2 Water by Land Use**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 5.3143	10.4708	8.8000e-004	1.1000e-004	10.5248
Office Park	32.4115 / 23.3167	131.0690	1.0663	0.0262	165.5268
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	33.139 / 0	87.0387	1.0863	0.0263	122.0276
Unrefrigerated Warehouse-No Rail	228.216 / 0	599.4025	7.4809	0.1810	840.3576
<b>Total</b>		<b>827.9811</b>	<b>9.6344</b>	<b>0.2335</b>	<b>1,138.4368</b>

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**



Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	312.6792	18.4788	0.0000	774.6494
Unmitigated	312.6792	18.4788	0.0000	774.6494

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.41	0.0832	4.9200e-003	0.0000	0.2062
Office Park	211.99	43.0321	2.5431	0.0000	106.6101
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	168.38	34.1796	2.0200	0.0000	84.6786
Unrefrigerated Warehouse-No Rail	1159.58	235.3843	13.9108	0.0000	583.1545
<b>Total</b>		<b>312.6792</b>	<b>18.4788</b>	<b>0.0000</b>	<b>774.6494</b>

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**8.2 Waste by Land Use**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0.41	0.0832	4.9200e-003	0.0000	0.2062
Office Park	211.99	43.0321	2.5431	0.0000	106.6101
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	168.38	34.1796	2.0200	0.0000	84.6786
Unrefrigerated Warehouse-No Rail	1159.58	235.3843	13.9108	0.0000	583.1545
<b>Total</b>		<b>312.6792</b>	<b>18.4788</b>	<b>0.0000</b>	<b>774.6494</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	50	8.00	365	89	0.20	Electrical
Off-Highway Trucks	6	8.00	365	402	0.38	Electrical

Ontario Ranch Business Park - Mitigated - San Bernardino-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**UnMitigated/Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Forklifts	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Highway Trucks	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

**APPENDIX B4**  
**ENERGY CALCULATIONS**

**Operational Fuel**

Vehicle Type	Percent <sup>1</sup>	Annual VMT <sup>2</sup>	MPG <sup>3</sup>	Annual Fuel (Gallons)	Fuel Type	Riverside Gallons <sup>4</sup>	Riverside Percent	
Passenger Cars	0.50	14,230,899	21.6	658,838	Gas	359,438,862	0.1833%	1,805,990
Light/Medium Trucks	0.18	4,980,815	17.2	289,582	Diesel	443,644,794	0.0653%	0.00439%
Heavy Trucks/Other	0.33	9,250,084	6.1	1,516,407	Diesel	226,159,388	0.6705%	0.0487%
Total	1.00	28,461,798		2,464,827		1,029,243,044	0.2696%	

Land Use	LDA	LDT1	LDT2	MCY	MDV	LHD1	LHD2	MHD	OBUS	UBUS	SBUS	MH	HHD
Office Park	1	0	0	0	0	0	0	0	0	0	0	0	0
Refrigerated Warehouse	0	0	0	0	0	0	0.19	0.16	0	0	0	0	0.65
	<b>0.5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.095</b>	<b>0.08</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.325</b>

Notes:

- <sup>1</sup> Percent of vehicle trip distribution based on fleet mix from CalEEMod (4.4 Fleet Mix).
- <sup>2</sup> Total annual operational VMT based on mitigated annual VMT from CalEEMod (4.2 Trip Summary Information).
- <sup>3</sup> Average fuel economy derived from Department of Transportation.
- <sup>4</sup> Total annual county fuel per EMFAC 2017 model of projected operational fuel usage.

**APPENDIX C**  
**BIOLOGICAL RESOURCES REPORTS**

**APPENDIX C1**  
**GENERAL HABITAT ASSESSMENT**





## ***General Habitat Assessment***

### ***±80.0-acre Ontario Ranch Business Park Phase 2***

***Site Location:***

City of Ontario  
San Bernardino County, California  
Prado Dam 7.5-minute Quadrangle Map  
Township 2 South, Range 7 West

***Prepared for:***

Jeff Johnston  
Real Estate Development Associates (REDA)  
4450 MacArthur Boulevard, Ste. 100  
Newport Beach, CA 92660

***Prepared by:***

Scott Cameron  
Ecological Sciences, Inc.  
24307 Magic Mountain Parkway #538  
Valencia, CA 91355  
scameron@ecosciencesinc.com

***Surveys Conducted by:***

Scott D. Cameron

***Surveys Conducted On:***

April 25, 2020  
May 11, 2020  
June 15, 2020  
July 5, 2020

***Report Date:***

March 27, 2021



March 27, 2021

Jeff Johnston  
Real Estate Development Associates (REDA)  
4450 MacArthur Boulevard, Ste. 100  
Newport Beach, CA 92660

**SUBJECT:     *Results of a General Habitat Assessment; ±80-acre Ontario Ranch Business Park  
Phase 2, City of Ontario, San Bernardino County, California***

Dear Jeff:

This letter report presents findings of field surveys conducted to generally evaluate the suitability of a ±80-acre project site to support sensitive biological resources. Results of this habitat assessment are intended to provide the applicant and resource agencies with preliminary biological information required for planning and permitting decisions concerning the proposed project.

### ***Introduction***

The project site (ORBP Phase 2) is located in San Bernardino County, California (***Plate 1***). Specifically, the site is located in the City of Ontario north of Merrill Avenue, south of Eucalyptus Avenue, east of Sultana Avenue, and west of Bon View Avenue. The site occurs on the "Prado Dam" California USGS 7.5-minute quadrangle map, Township 2 South, Range 7 West (***Plate 2***).

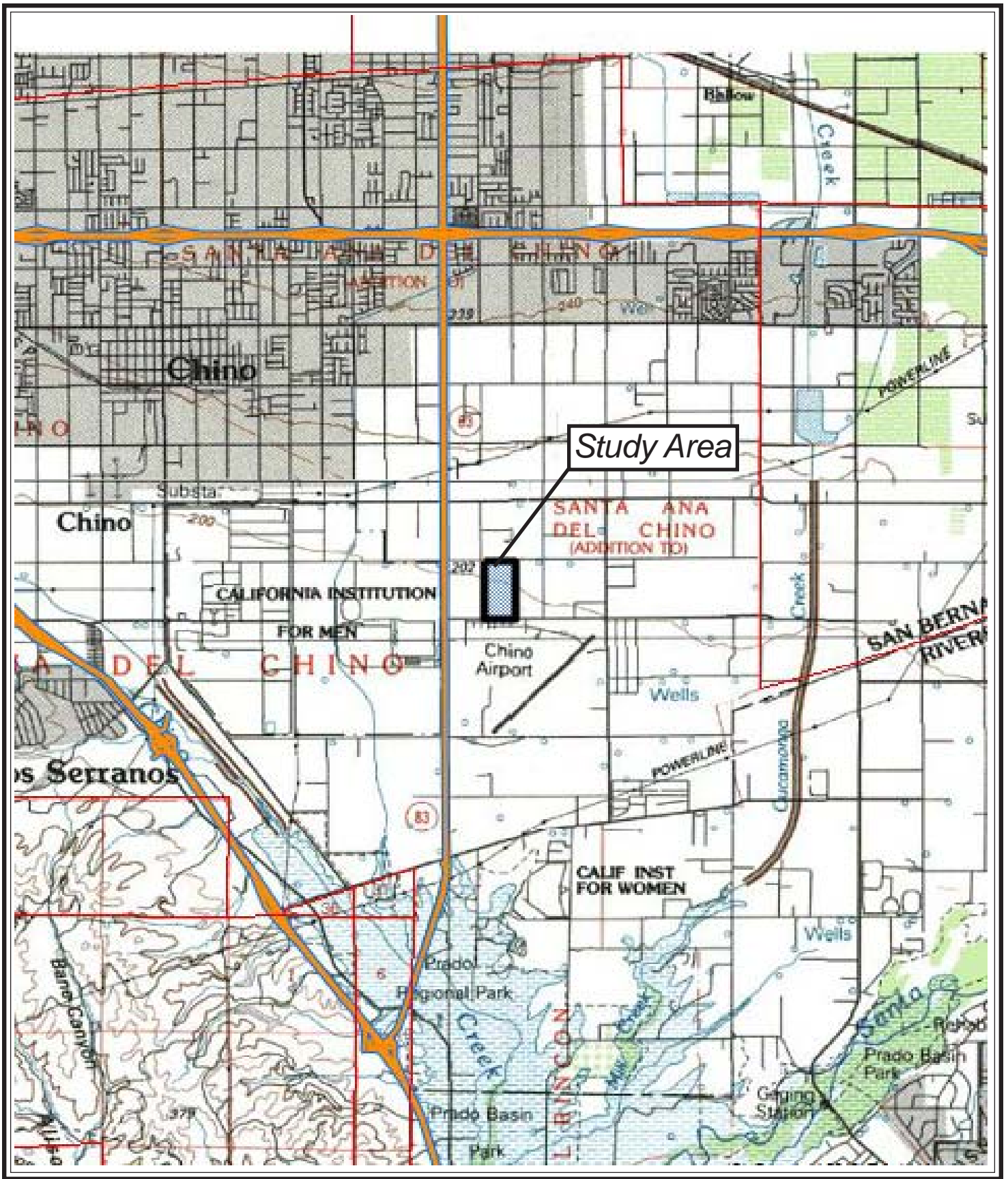
Projects proposed in this area that contain potentially suitable habitat to support sensitive biological resources must demonstrate to reviewing agencies that potential project-related impacts to sensitive biological resources are adequately addressed and mitigated pursuant to the California Environmental Quality Act (CEQA) California Endangered Species Act (CESA), and the federal Endangered Species Act (Act) of 1973, as amended. Biological resources within the project site may fall under the jurisdiction of several federal and state agencies, including, but not necessarily limited to, California Department of Fish and Wildlife (CDFW/CDFG), U.S. Fish and Wildlife Service (FWS), County of San Bernardino (County), City of Ontario (City), Regional Water Quality Control Board (RWQCB), and U.S. Army Corps of Engineers (USACE).

Due to the inherent limitations of unseasonal or habitat-based data, definitive conclusions regarding the actual presence or absence of certain sensitive biological resources cannot necessarily be made in this report. Therefore, conclusions relative to potential presence or absence of selected sensitive biological resources are based solely on the nature of habitat present. This general analysis of biological resources is based on information compiled through field reconnaissance, literature review, and by applicable reference materials. No focused surveys were conducted as part of this analysis.

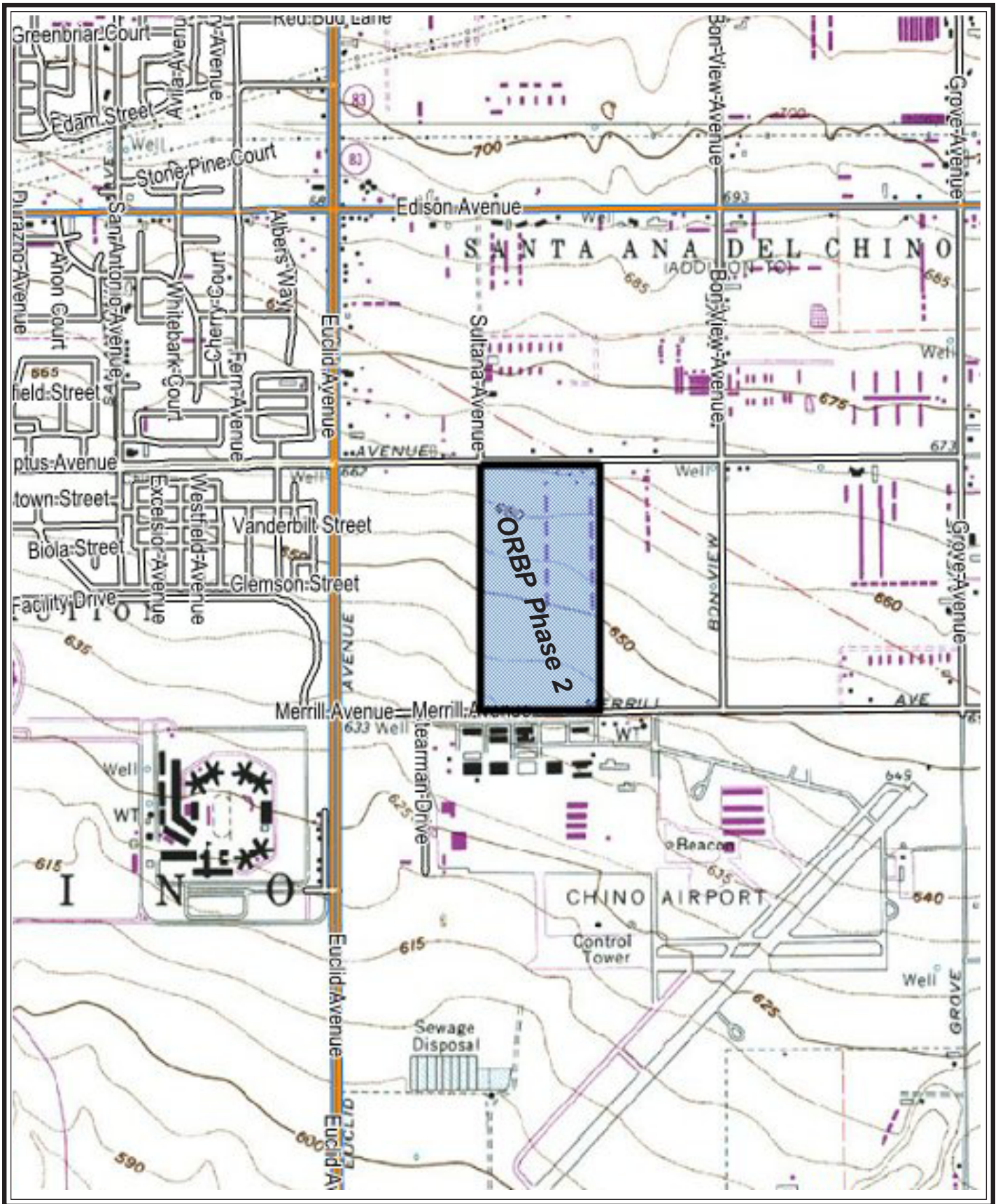
### ***Investigative Methods***

#### ***Information Review***

Documentation pertinent to the biological resources in the vicinity of the site was reviewed and analyzed. Primary data sources reviewed to evaluate the occurrence potential of special-status resources on the subject site, included, but were not necessarily limited to: (1) California Natural Diversity Data Base







(CNDDB 2020) and (2) California Native Plant Society (CNPS 2021) online inventory for the "Prado Dam and surrounding California USGS 7.5-minute quadrangle maps covering ±5 miles or more from the project site; (3) available literature pertaining to habitat requirements of special-status species potentially occurring in the project site; (4) 2020 FWS Information, Planning, and Conservation System Database (IPaC); and (5) historic distributional data contained in Hall (1981); Grinnell and Miller (1944); Garrett and Dunn (1981); Holland (1986); Stebbins (1985); Hickman (1993); and CNPS (2001).

### **2021 Reconnaissance-Level Field Surveys**

Ecological Sciences Principal Biologist, Scott D. Cameron, conducted reconnaissance-level field surveys on April 25, May 11, June 15, and July 5, 2020, to characterize on-site habitats and to evaluate their potential to support sensitive biological resources. Plant species and vegetation communities were primarily identified by walking transects throughout the site. All direct observations of wildlife were recorded, as was wildlife sign. In addition to species actually detected, expected use of the site by other wildlife was evaluated from habitat analysis of the site, combined with known habitat preferences of locally occurring wildlife species. The site was also evaluated for the potential presence of plant, animal, or habitats considered rare, threatened, sensitive, endangered, or otherwise unique by regulatory or resource agencies. Weather conditions during the April 25, survey were clear, breezes between 1-9 mph, and air temperatures of approximately 75-89 °F. Weather conditions during the May 11 survey were hazy to clear with 1-7 mph breeze and air temperatures of approximately - 68-80 °F. Weather conditions during the June 15 survey were mostly clear to hazy, 1-6 mph winds, and air temperatures of approximately 70-84 °F. Weather conditions during the July 5 survey were mostly clear skies, 0-3 breezes, and air temperatures of approximately 75-94 °F.

### **2020 Focused BUOW Surveys**

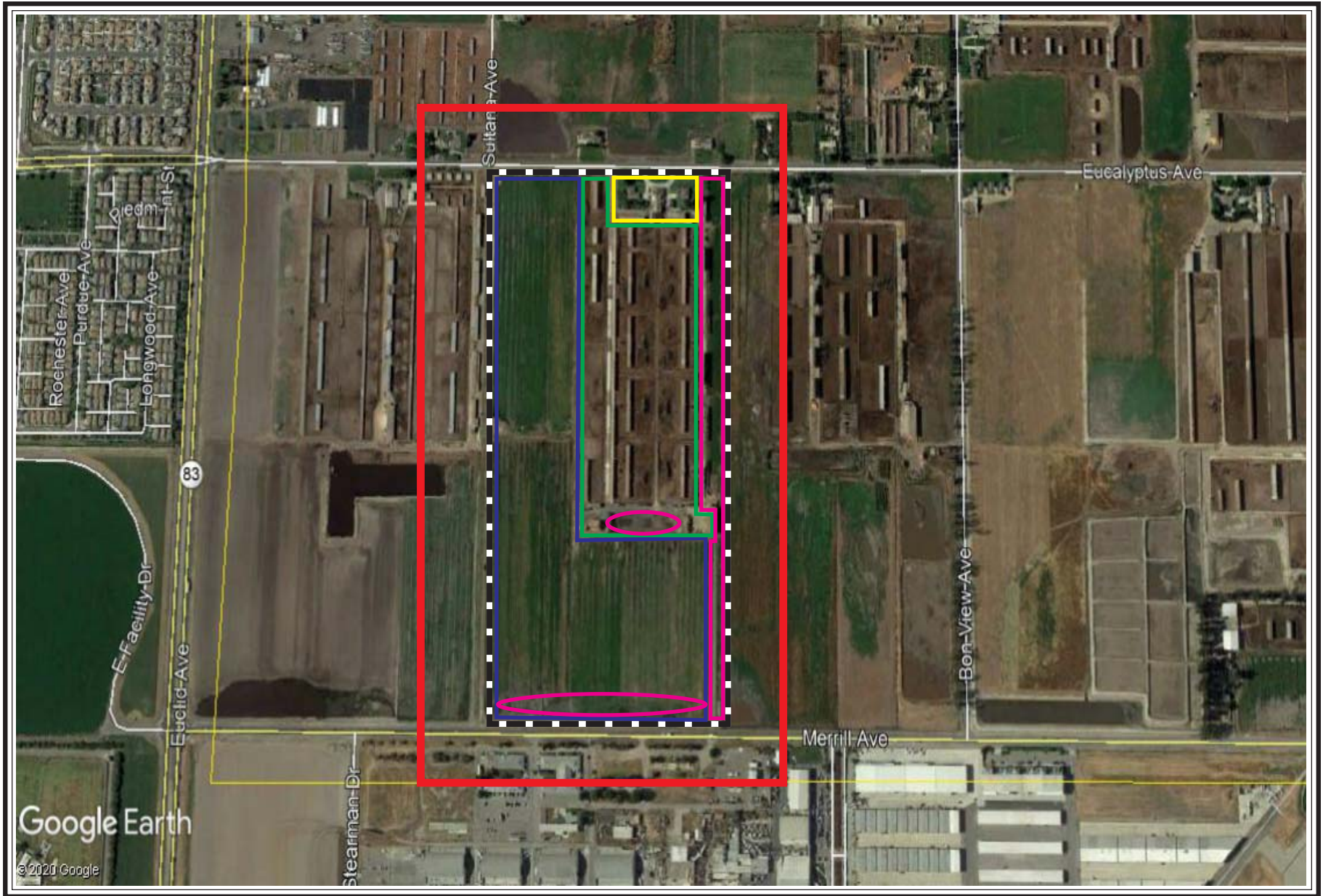
BUOW surveys were previously conducted in accordance with the March 7, 2012 CDFG Staff Report on Burrowing Owl Mitigation (Ecological Sciences, Inc. 2020). These guidelines include searches for BUOW, burrows (natural and artificial), and BUOW sign by walking parallel transects (where feasible) through suitable habitat over the entire survey area [i.e., the project site and within a 150 meter (500 feet) buffer area where feasible or at least by visual means]. Upon arrival at the survey area and prior to initiating the walking surveys, the biologist used binoculars and/or spotting scope to scan suitable habitat. Ecological Sciences' Principal Biologist, Scott Cameron, initiated the first of four total focused breeding season BUOW surveys on April 12, 2020. Subsequent surveys were conducted on May 17, June 14, and July 11, 2020. Mr. Cameron has extensive experience conducting habitat assessments and focused burrowing owl surveys over the past 25 years, and has recorded numerous BUOW over the course of 100+ surveys throughout southern California. Mr. Cameron has also conducted passive relocation activities, used burrow probes, and conducted burrow closing procedures for multiple projects.

### **Existing Biological Environment**

The subject site is characterized primarily as an active dairy operation. The site contains a single-family residence, multiple dairy-related structures (sheds, corrals, etc.), concrete feeding preparation areas, waste ponds/basins, cultivated/discarded areas, manure spreading areas, and debris dumping areas. The ruderal/disturbed areas support mostly invasive, non-native annual species. Manure, associated with the ongoing dairy operation, is present throughout most of the site. Cattle feeding areas were barren ground covered in manure and mud. The entire developed portion of the site has been disturbed by agricultural use and no native habitat was present on site. The agricultural fields are disturbed and dominated by non-native plants used for cattle grazing. The project site also contains three areas of stock/retention basins. The eastern basins are artificial and appear to be fed by wells. The basins obviously appear highly polluted and supported very little vegetation except for the eastern basin complex where dense mats of vegetation was present at the time of the survey. Surrounding land uses include agricultural areas similar to the subject site and the Chino Airport is located to the south. **Plate 3** aerially illustrates site features. **Plates 4a-4b** illustrate existing conditions.







March 2021

- = Study Area
- = 500' Survey Buffer (where feasible)
- = Cultivated fields
- = Residential
- = Feeding area/corrals
- = Retention/detention basins

*plate 3*

## **Aerial Schematic of Site Features**

Ontario Ranch Business Park Phase 2



View to north



View to east





View to west



View to south





Source: Natural Resources Conservation Service (NRCS-website accessed April 2020)



March 2021

- - - - = Site Boundary
- = Extent of Soil Analysis

*plate 5*

## **Project Area Soils**

Ontario Ranch Business Park Phase 2

## Vegetation

Typical of active dairy sites in the region, plants recorded included various non-native and native weedy/grass species such as foxtail chess (*Bromus madritensis* spp. *rubens*), ripgut grass (*Bromus diandrus*), Mediterranean grass (*Schismus barbatus*), Russian thistle (*Salsola tragus*), milk thistle (*Silybum marianum*), black mustard (*Brassica nigra*), cheeseweed (*Malva parviflora*), pigweed (*Amaranthus albus*), Bermuda grass (*Cynodon dactylon*), common sunflower (*Helianthus annuus*), telegraph weed (*Heterotheca grandiflora*), tree tobacco (*Nicotiana glauca*), Lamb's quarters (*Chenopodium album*), Mediterranean grass (*Schismus barbatus*), alfalfa (*Medicago sativa*), and puncture vine (*Tribulus terrestris*), and blue gum (*Eucalyptus globulus*).

## Wildlife

Reptile species recorded on site included western fence lizard (*Sceloporus occidentalis*). Birds observed included those species that are accustomed to nearby human presence such as turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), western kingbird (*Tyrannus verticalis*), Brewer's blackbird (*Euphagus cyanocephalus*), European starling (*Sturnus vulgaris*), rock dove (*Columba livia*), mourning dove (*Zenaidura macroura*), Eurasian collard dove (*Streptopelia decaocto*), barn swallow (*Hirundo rustica*), house finch (*Carpodacus mexicanus*), and house sparrow (*Passer domesticus*). Common small mammals observed, or of which sign was detected, included California ground squirrel (*Spermophilus beecheyi*) and desert cottontail (*Sylvilagus auduboni*).

## General Soils Analysis / Soil Conservation Map Review

A review of soil maps prepared for the area by the Natural Resource Conservation Service (NRCS 2021) indicate that the subject site is located within an area mapped as containing only Chino silt loam (Db). **Plate 5** illustrates mapped soils (previous page).

## Sensitive Biological Resources Evaluation

Discussed in this section are plant and wildlife species potentially present in the study area that have been afforded special recognition by federal or state agencies. The focus of this discussion is on those species that would potentially pose considerable constraints on the proposed project because of their high sensitivity status (listed or proposed for listing as rare, threatened, or endangered) with state and/or federal resource agencies. In addition, plants included on Lists 1, 2, 3, or 4 of the CNPS inventory are also considered of special-status. Vegetation communities that are unique, of relatively limited distribution, or of particular value to wildlife and considered sensitive by state and/or federal resource agencies are also generally discussed.

In general, those species presented in **Tables 1 and 2** that are “not expected” or that have a “low occurrence potential” generally correspond to “less than significant” under CEQA. The occurrence potential of special-status plant and wildlife species is primarily based on habitat types present, occurrence records of sensitive species from the site vicinity, and results of the on-site reconnaissance surveys. No focused wildlife or botanical surveys were conducted.

## Special-Status Plant Species

No special-status plant species were detected on site during the reconnaissance survey and none are expected due to lack of suitable habitat. Special-status plant species known from the region that potentially occur within the project site are summarized below in **Table 1**.

Table 1

Special-Status Plant Species Potentially Occurring in the Site Vicinity<sup>1</sup>

Common Name Scientific Name	Status		Habitat Requirements	Occurrence Potential
	Federal	State		
Paniculate tarplant <i>Deinandra paniculata</i>	--	--	4 Valley grassland	<b>Low Potentially:</b> marginally suitable habitat present
Coulter's saltbush <i>Atriplex coulteri</i>	--	--	1B Coastal bluff scrub, coastal dunes, coastal scrub, and valley and foothill grassland; sometimes associated with alkaline low places and clay soil.	<b>Not Expected:</b> suitable habitat not present
South Coast salscale <i>Atriplex pacifica</i>	FSC	--	1B Coastal bluff scrub, playas, chenopod scrub	<b>Not Expected:</b> suitable habitat not present
Long-spined spineflower <i>Chorizanthe polygonoides</i> var. <i>longispina</i>	FSC	--	1B Chaparral, sage scrub, grasslands, often with clay soils	<b>Not Expected:</b> suitable habitat not present
California spineflower <i>Mucrona californica</i>	--	--	4 Chaparral, cismontane woodland, coastal dunes, coastal scrub, grasslands with sandy soils	<b>Not Expected:</b> suitable habitat not present
Palmer's grapplinghook <i>Harpagonella palmeri</i>	FSC	--	2 Chaparral, grasslands, sage scrub with clay soils	<b>Not Expected:</b> suitable habitat not present
Round-leaved filaree <i>Erodium macrophyllum</i>	--	--	2 Cismontane woodland, valley and foothill grassland with clay soils	<b>Not Expected:</b> suitable habitat not present
California muhly <i>Muhlenbergia californica</i>	--	--	4 Chaparral, coastal scrub, lower montane coniferous forest; moist conditions	<b>Not Expected:</b> suitable habitat not present
Plummer's mariposa lily <i>Calochortus plummeræ</i>	FSC	--	1B Chaparral, cismontane woodlands, coastal scrub. Lower coniferous forests, and grasslands; associated with granitic soils.	<b>Not Expected:</b> suitable habitat not present
Intermediate mariposa lily <i>Calochortus weedii</i> var. <i>intermedius</i>	FSC	--	1B Chaparral, coastal scrub, grasslands; often associated with dry, rocky, open slopes.	<b>Not Expected:</b> suitable habitat not present
Parry's spineflower <i>Chorizanthe parryi</i> ssp. <i>parryi</i>	FSC	--	3 Chaparral and coastal scrub; associated with sandy or rocky openings.	<b>Not Expected:</b> suitable habitat not present
Many-stemmed dudleya <i>Dudleya multifida</i>	FSC	--	1B Chaparral, coastal scrub, and grasslands; often associated with clay soils.	<b>Not Expected:</b> suitable habitat not present
Santa Ana River woollystar <i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	FE	CE	1B Coastal scrub, chaparral, and alluvial scrub; associated with sandy soil in river floodplains or terraced fluvial deposits.	<b>Not Expected:</b> suitable habitat not present
Smooth tarplant <i>Centromadia pungens</i> ssp. <i>laevis</i>	FSC	--	1B Chenopod scrub, meadows, playas, riparian woodland, and valley and foothill grasslands; associated with alkaline areas.	<b>Not Expected:</b> suitable habitat not present
San Diego ambrosia <i>Ambrosia pumila</i>	FE	--	1B Chaparral, coastal scrub, grasslands, vernal pools with sandy loam or clay soils (20-4-15M)	<b>Not Expected:</b> suitable habitat not present
Slender-horned spineflower <i>Dodecahema leptoceras</i>	FE	CE	1B Chaparral, alluvial fan sage scrub; terraces and washes	<b>Not Expected:</b> suitable habitat not present
Many-stemmed dudleya <i>Dudleya multifida</i>	--	--	1B Chaparral, coastal scrub, valley and foothill grassland/ often clay soils	<b>Not Expected:</b> suitable habitat not present
Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	FSC	--	1B Playas, vernal pools	<b>Not Expected:</b> suitable habitat not present



Table 1-continued

Special-Status Plant Species Potentially Occurring in the Site Vicinity<sup>1</sup>

Common Name Scientific Name	Status		Habitat Requirements	Occurrence Potential
	Federal	State		
Heart-leaved pitcher sage <i>Lepechinia cardiophylla</i>	--	--	1B Closed cone coniferous forest, chaparral, cismontane woodland	<b>Not Expected:</b> suitable habitat not present
Payson's jewel-flower <i>Caulanthus similans</i>	--	--	4 Chaparral, coastal sage; burned areas; streambed; rocky slopes	<b>Not Expected:</b> suitable habitat not present
California saw-grass <i>Cladium californicum</i>	--	--	2 Freshwater and alkali marshes; seeps	<b>Not Expected:</b> suitable habitat not present
Mesa horkelia <i>Horkelia cuneata</i> ssp. <i>puberula</i>	--	--	1B Chaparral, cismontane woodland, coastal scrub; sandy or gravelly	<b>Not Expected:</b> suitable habitat not present
Prostrate vernal pool navarretia <i>Navarretia prostrata</i>	--	--	1B Valley and foothill grassland, coastal scrub, vernal pools	<b>Not Expected:</b> suitable habitat not present
Santiago Peak phacelia <i>Phacelia suaveolens</i> ssp. <i>keckii</i>	--	--	1B Closed cone coniferous forests and chaparral; sometimes along creeks	<b>Not Expected:</b> suitable habitat not present
San Bernardino aster <i>Symphotrichum defoliatum</i>	--	--	1B Meadows and seeps, marshes and swamps; coastal scrub, woodlands; mesic grassland; ditches	<b>Not Expected:</b> suitable habitat not present
Robinson's pepper-grass <i>Lepidium virginicum</i> var. <i>robinsonii</i>	--	--	1B Chaparral and coastal scrub; associated with dry soils; known to occur on roadsides.	<b>Not Expected:</b> suitable habitat not present
Chaparral sand verbena <i>Abronia villosa</i> var. <i>aurita</i>	--	--	1B Chaparral, coastal scrub with sandy soils	<b>Not Expected:</b> suitable habitat not present
Salt spring checkerbloom <i>Sidalcea neomexicana</i>	--	--	2 Chaparral, coastal scrub, lower montane coniferous forest, Mohavean desert scrub, coastal brackish marsh, and alkali playas, seeps, and marshes; associated with moist, alkaline soils.	<b>Not Expected:</b> suitable habitat not present
Vernal barley <i>Hordeum intercedans</i>	--	--	3 Coastal dunes, coastal scrub, grasslands (saline flats and depressions)	<b>Not Expected:</b> suitable habitat not present
Southern California black walnut <i>Juglans californica</i> var. <i>californica</i>	--	--	4 Chaparral, cismontane woodland, coastal sage scrub	<b>Not Expected:</b> suitable habitat not present
Tecate cypress <i>Cupressus forbesii</i>	--	--	1B Closed-cone coniferous forest, chaparral	<b>Not Expected:</b> suitable habitat not present

**TABLE 1 KEY:** <sup>1</sup>Based primarily on review of 2020 CNDDDB, 2020 CNPS online database, and 2021 FWS IPaC; additional locality information derived from internal unpublished data, technical reports from the region, and other informal grey literature

**Status**

**Federal-USFWS**

- FE: Federally Endangered
- FT: Federally Threatened Species
- FPE: Federally Proposed Endangered
- FPT: Federally Proposed Threatened
- FC: Federal Candidate Species (USFWS 1996)

**State-CDFW**

- CE: State Endangered
- CT: State Threatened
- CR: State Rare

**CNPS-California Native Plant Society**

- List 1A: Plants presumed extinct in California.
- List 1B: Plants rare and endangered in California and elsewhere
- List 2: Plants rare and endangered in California, but more common elsewhere
- List 3: Taxa about which more information is needed
- List 4: Plants of limited distribution



### Special-Status Wildlife Species

No special-status wildlife species were directly observed on site. However, several species not observed during the survey may have a moderate or moderate-high occurrence potential (primarily as foragers). Most remaining potentially occurring sensitive wildlife species are not expected to occur on site due to lack of suitable habitat. Sensitive wildlife species potentially occurring on the project site are summarized below in **Table 2**.

**Table 2**

**Special-Status Wildlife Species Potentially Occurring in the Site Vicinity<sup>1</sup>**

Common Name Scientific Name	Status		Habitat Requirements	Occurrence Potential
	Federal	State		
<b>INVERTEBRATES</b>				
Delhi Sands flower-loving fly <i>Rhaphiomidas terminatus abdominalis</i>	FE	--	Open, sandy (Delhi) dune areas commonly supporting buckwheat, croton, telegraph weed, <i>Carissonia</i> and <i>Oenothera</i>	<b>Not Expected:</b> no suitable habitat present
Riverside fairy shrimp <i>Streptocephalus wootoni</i>	FE	--	Swales, vernal pools, and basins within grasslands and sage scrub habitats	<b>Not Expected;</b> suitable habitat not present
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT	--	Vernal pools or alkali vernal pools	<b>Not Expected;</b> suitable habitat not present
California linderiella <i>Linderiella occidentalis</i>	--	--	Vernal pools	<b>Not Expected;</b> suitable habitat not present
<b>FISHES</b>				
Santa Ana sucker <i>Catostomus santaanae</i>	FT	CSC	Small to medium-sized perennial streams	<b>Not Expected:</b> suitable habitat not present
Arroyo chub <i>Gila orcutti</i>	FSC	CSC	Slow moving or backwater sections of streams with sandy or mud substrates	<b>Not Expected:</b> suitable habitat not present
Santa Ana speckled dace <i>Rhinichthys osculus</i> spp. 3	--	CSC	Headwaters of Santa Ana and San Gabriel rivers with permanent flowing streams	<b>Not Expected:</b> suitable habitat not present
<b>REPTILES AND AMPHIBIANS</b>				
Arroyo toad <i>Anaxyrus californicus</i>	FE	CSC	Rivers with sandy banks and loose gravelly areas, open canopy	<b>Not Expected:</b> suitable habitat not present
Western spadefoot toad <i>Spea hammondi</i>	--	CSC	Relatively open grasslands, scrublands, and woodlands with fine, loose soil	<b>Not Expected:</b> suitable habitat not present
San Diego banded gecko <i>Coleonyx variegatus abbotti</i>	--	--	Coastal and cismontane southern California; granite or rocky outcrops in coastal scrub and chaparral	<b>Not Expected:</b> suitable habitat not present
San Diego horned lizard <i>Phrynosoma coronatum blainvillii</i>	FSC	CSC	Relatively open grasslands, scrublands, and woodlands with fine, loose soil.	<b>Not Expected:</b> suitable habitat not present
Coast horned lizard <i>Phrynosoma blainvillii</i>	--	CSC	Lowlands along sandy washes; scattered low shrubs; loose soil; abundant supply of ants	<b>Not Expected:</b> suitable habitat not present
Silvery legless lizard <i>Anniella pulchra pulchra</i>	FSC	CSC	Stabilized dunes, beaches, dry washes, pine, oak, and riparian woodlands, and chaparral; associated with sparse vegetation with sandy or loose, loamy soils.	<b>Not Expected:</b> suitable habitat present
Orange-throated whiptail <i>Aspidoscelis hyperythrus</i>	--	--	Relatively open grasslands, scrublands, and woodlands with fine, loose soil	<b>Not Expected:</b> suitable habitat not present
Coastal western whiptail <i>Aspidoscelis tigris multiscutatus</i>	--	◆	Sage scrub, chaparral, grassland	<b>Not Expected:</b> suitable habitat not present
Northern red diamond rattlesnake <i>Crotalus ruber ruber</i>	--	CSC	Sage scrub, chaparral, grasslands	<b>Not Expected:</b> suitable habitat not present
Southwestern pond turtle <i>Clemmys marmorata pallida</i>	--	CSC	Permanent or nearly permanent bodies of water with basking sites	<b>Not Expected:</b> suitable habitat not present

Table 2-continued

Special-Status Wildlife Species Potentially Occurring in the Site Vicinity<sup>1</sup>

Common Name Scientific Name	Status		Habitat Requirements	Occurrence Potential
	Federal	State		
San Diego mountain kingsnake <i>Lampropeltis zonata pulchra</i>	FSC	CSC	Forests and shrublands	<b>Not Expected:</b> suitable habitat not present
Two-striped garter snake <i>Thamnophis hammondi</i>	--	CSC	Highly aquatic, near permanent fresh water; streams with rocky beds, riparian	<b>Not Expected:</b> suitable habitat not present
San Bernardino ringneck snake <i>Diadophis punctatus modestus</i>	FSC	--	Woodlands, grassland, chaparral, and scrub habitats; often found in mesic areas under rocks, logs, and debris.	<b>Not Expected:</b> no suitable habitat present
<b>BIRDS</b>				
White-tailed kite <i>Elanus leucurus</i>	MNBMC	CFP	Open vegetation and uses dense woodlands for cover.	<b>Low Potential:</b> possibly forages over the site; no suitable nesting habitat present
Northern harrier <i>Circus cyaneus</i>	--	CSC	Coastal salt marsh, freshwater marsh, grasslands, and agricultural fields.	<b>Low-Moderate Potential:</b> possibly forages over the site; no suitable nesting habitat present
Sharp-shinned hawk <i>Accipiter striatus</i>	--	CSC	Woodlands and forages over dense chaparral and scrublands.	<b>Low Potential:</b> possibly forages over the site as seasonal winter migrant; no suitable nesting habitat present
Cooper's hawk <i>Accipiter cooperi</i>	--	CSC	Dense stands of live oaks and riparian woodlands.	<b>Low-Moderate Potential:</b> possibly forages over the site; no suitable nesting habitat present
Ferruginous hawk <i>Buteo regalis</i>	FSC, MNBMC	CSC	Grasslands, agricultural fields, and open scrublands.	<b>Low-Moderate Potential:</b> possibly forages over the site as seasonal migrant; does not breed in area
Golden eagle <i>Aquila chrysaetos</i>	--	CSC, CFP	Mountains, deserts, and open country.	<b>Low Potential:</b> species known from project vicinity and may forage over the site; no suitable nesting habitat present
Prairie falcon <i>Falco mexicanus</i>	--	CSC	Grasslands, savannas, rangeland, agricultural fields, and desert scrub; requires sheltered cliff faces for shelter.	<b>Low-Moderate Potential:</b> may forage over the site in winter; no suitable nesting habitat present
Western burrowing owl <i>Athene cucularia hypuga</i>	FSC, MNBMC	CSC	Grasslands and open scrub.	<b>Moderate Potential:</b> potentially suitable habitat present; not recorded on site during 2020 protocol surveys
California horned lark <i>Eremophila alpestris actia</i>	--	CSC	Grasslands, disturbed areas, agriculture fields, and beach areas.	<b>Moderate-High Potential:</b> potentially suitable foraging habitat present
Loggerhead shrike <i>Lanius ludovicianus</i>	FSC, MNBMC	CSC	Grasslands with scattered shrubs, trees, fences or other perches.	<b>Moderate-High Potential:</b> suitable habitat present
California coastal gnatcatcher <i>Polioptila californica</i>	FT	CSC	Coastal sage scrub in areas of flat or gently sloping terrain	<b>Not Expected:</b> suitable habitat not present
Least Bell's vireo <i>Vireo bellii pusillus</i>	FE	CE	Willow dominated riparian habitat with dense understorey	<b>Not expected;</b> suitable habitat not present
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	FE	--	Riparian habitats along rivers, streams, or other wetlands usually with standing water	<b>Not expected;</b> suitable habitat not present

Table 2-continued

Special-Status Wildlife Species Potentially Occurring in the Site Vicinity<sup>1</sup>

Common Name Scientific Name	Status		Habitat Requirements	Occurrence Potential
	Federal	State		
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	--	CE	Riparian forest nester, lower flood-bottoms of larger river systems	<b>Not Expected:</b> suitable habitat not present
Yellow warbler <i>Dendroica petechia</i>	--	CSC	Riparian thickets and woodlands	<b>Not Expected:</b> suitable habitat not present
Yellow-breasted chat <i>Icteria virens</i>	--	CSC	Riparian thickets and riparian woodlands with dense understorey	<b>Not Expected:</b> suitable habitat not present
Mountain plover <i>Charadrius montanus</i>	PT	CSC	Agricultural areas, fallow fields, grasslands, prairies	<b>Not Expected:</b> suitable habitat not present
Coastal cactus wren <i>Campylorhynchus brunneicapillus couesi</i>	--	CSC	Desert succulent scrub, desert wash, scrub and chaparral habitats with cactus	<b>Not Expected:</b> suitable habitat not present
S. California rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>	--	CSC	Coastal sage scrub, grasslands	<b>Not Expected:</b> suitable habitat not present
Grasshopper sparrow <i>Ammodramus savannarum</i>	MNBMC	--	Coastal sage scrub, grassland	<b>Not Expected:</b> suitable habitat not present
Bell's sage sparrow <i>Amphispiza belli belli</i>	MNBMC	CSC	Coastal sage scrub, chaparral	<b>Not Expected:</b> suitable habitat not present
Tricolored blackbird <i>Agelaius tricolor</i>	--	CSC, CCE	Marshes for nesting; forages in fields and scrub habitats	<b>Low Potential:</b> marginally suitable foraging habitat present
<b>MAMMALS</b>				
Long-eared myotis <i>Myotis evotis</i>	FSC	--	Found in nearly all brush, woodland, and forest habitats from sea level to at least 9,000 ft.	<b>Low Potential:</b> limited foraging and roosting habitat present
Small-footed myotis <i>Myotis ciliolabrum</i>	FSC	--	Arid wooded and brushy uplands near water from sea level to at least 9,000 ft.	<b>Low Potential:</b> limited foraging and roosting habitat present
Fringed myotis <i>Myotis thysanodes</i>	FSC	--	Utilizes open habitats and early successional stages, streams, lakes, and ponds from sea level to at least 9,350 ft.	<b>Low Potential:</b> limited foraging and roosting habitat present
Long-legged myotis <i>Myotis volans</i>	FSC	--	Found in nearly all brush, woodland, and forested habitats from sea level to around 9,000 ft.; a bat primarily of coniferous forests	<b>Low Potential:</b> limited foraging and roosting habitat present
Yuma myotis <i>Myotis yumanensis</i>	FSC	CSC	Found in a variety of habitats; optimal habitats are open forests and woodlands with sources of water over within to feed	<b>Low Potential:</b> limited foraging and roosting habitat present
Spotted bat <i>Euderma maculata</i>	FSC	CSC	Deserts, scrublands, chaparral, and coniferous woodlands; highly associated with prominent rock features	<b>Low Potential:</b> limited foraging and roosting habitat present
Pale big-eared bat <i>Corynorhinus townsendii pallascens</i>	FSC Full Species	CSC Full Sp.	Utilizes a variety of communities, including conifer and oak woodlands and forests, arid grasslands and deserts, and high-elevation forests and meadows	<b>Low Potential:</b> limited foraging and roosting habitat present
Pallid bat <i>Antrozous pallidus</i>	--	CSC	Arid habitats, including grasslands, shrublands, woodlands, and forests; prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging	<b>Low Potential:</b> limited foraging and roosting habitat present
Western mastiff bat <i>Eumops perotis</i>	FSC (ssp. <i>californicus</i> )	CSC	Primarily arid lowlands and coastal basins with rugged, rocky terrain, along with suitable crevices for day-roosts; primarily a cliff-dweller	<b>Low Potential:</b> limited foraging and roosting habitat present

Table 2-continued

Special-Status Wildlife Species Potentially Occurring in the Site Vicinity<sup>1</sup>

Common Name Scientific Name	Status		Habitat Requirements	Occurrence Potential
	Federal	State		
Pocketed free-tailed bat <i>Nyctinomops femorosaccus</i>	--	CSC	Pine juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian; rocky areas with high cliffs	<b>Not Expected:</b> suitable habitat not present
Big free-tailed bat <i>Nyctinomops macrotis</i>	--	--	Low lying arid areas in California; needs high cliffs or rocky outcrops for roosting	<b>Not Expected:</b> suitable habitat not present
Western yellow bat <i>Lasurus xanthinius</i>	--	CSC	Valley foothill riparian, desert riparian, palm oasis	<b>Not Expected:</b> suitable habitat not present
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	--	CSC	Moderate to dense sage scrub; rocky outcrops	<b>Not Expected:</b> suitable habitat not present
San Diego black-tailed jackrabbit <i>Lepus californicus bennettii</i>	FSC	CSC	Chaparral, coastal scrub, grasslands	<b>Low Potential:</b> marginally suitable habitat present
Northwestern San Diego pocket mouse <i>Chaetodipus fallax fallax</i>	--	CSC	Open shrublands, sandy areas	<b>Not Expected:</b> suitable habitat not present
Los Angeles pocket mouse <i>Perognathus longimembris brevinasus</i>	FSC	CSC	Grasslands and coastal sage scrub; prefers lower elevational areas with open ground and sandy soils.	<b>Not Expected:</b> suitable habitat not present
San Bernardino kangaroo rat <i>Dipodomys merriami parvus</i>	FE	CSC	Coastal sage scrub; prefers lower elevational areas with open ground and sandy soils.	<b>Not Expected:</b> suitable habitat not present
Stephens' kangaroo rat <i>Dipodomys stephensi</i>	FE	CE	Grasslands, open sage scrub	<b>Not Expected:</b> no suitable habitat present

TABLE 2 KEY: <sup>1</sup>Based primarily on review of 2020 CNDDDB and 2020 FWS IPaC; additional locality information derived from internal unpublished data, technical reports from the region, and other informal grey literature regarding species accounts

Status:

Federal-USFWS

FE: Federally Endangered  
 FT: Federally Threatened  
 FPE: Federally Proposed Endangered  
 FPT: Federally Proposed Threatened  
 FC: Federal Candidate for listing as threatened or endangered  
 FSC: Federal Species of Concern- no formal protection is granted to this designation-former federal candidate species USFWS (1996)  
 MNBMC: Migratory Nongame Birds of Management Concern

State-CDFW

CE: California Endangered  
 CT: California Threatened  
 CCE: California Candidate (Endangered)  
 CCT: California Candidate (Threatened)  
 CFP: California Fully Protected  
 CP: California Fully Protected  
 CSC: California Species of Special Concern  
 ♦: CDFG Special Animal

**Special-Status Habitats**

Special-status habitat types are vegetation communities that support concentrations of sensitive plant or wildlife species, are of relatively limited distribution, or are of particular value to wildlife. Although sensitive habitats are not necessarily afforded legal protection unless they support protected species, potential impacts to them may increase concerns and mitigation suggestions by resources agencies. Sensitive habitat types known from the site vicinity (mostly associated with Prado Dam and the Santa Ana River) include Riversidean Alluvial Fan Sage Scrub, Southern California Arroyo Chub/Santa Ana





Sucker Stream, Southern Coast Live Oak Forest, Southern Cottonwood Willow Riparian Forest, Southern Interior Cypress Forest, Southern Riparian Forest, Southern Sycamore Alder Riparian Woodland, and Southern Willow Scrub. None of these native or special-status habitats were recorded on site.

### ***Sensitive Habitats in the Project Vicinity***

The project site is surrounded by agriculture and development. The nearest known habitats (as mentioned above) that would support sensitive biological resources would be the Santa Ana River and Prado Dam areas located approximately ±3.0 miles south of the site. The species associated with these sensitive biological resource areas would not be expected to occur on site due to lack of suitable habitat.

### ***Jurisdictional Resources***

Based on the field investigation conducted by Ecological Sciences, USACE “waters of the United States” per Sections 401 and 404 of the Federal Clean Water Act and “streambeds” per Section 1600-1603 of the CDFW Code were not observed on the property.

The on-site detention basins on the southern border were listed in the FWS National Wetlands Inventory (IPaC 2021) as freshwater ponds. However, these basins would not be subject to federal wetland regulatory requirements and would not be considered freshwater ponds. The artificial basins are not connected to a natural stream, nor do they divert natural flow from any river, stream or lake. Since the source of the water for these artificial features are not part of a natural stream, river, or lake, the stock ponds are not considered jurisdictional under the CDFW Lake and Streambed Alteration Program. The program states: “An entity shall not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake...”. Therefore, the stock ponds/basins on the project site are not a “natural flow” of a stream, river, or lake, and would not be considered jurisdictional by CDFW. Further, the artificial basins are not adjacent to and are not considered Waters of the United States. The stock ponds/basins are isolated features that are not tributary to, nor do they have a significant nexus (biological, chemical, or physical connection) to traditional navigable waters of the United States. Therefore, the artificial basins on the project site would not be considered federally jurisdictional under the Clean Water Act.

### ***Wildlife Movement Corridors***

The project site is essentially surrounded by various forms of existing development, and therefore, it is highly unlikely that the subject site occupies an important location relative to regional wildlife movement. As such, project implementation would not be expected to have any substantial effect on local or regional wildlife movement.

### ***Discussion***

The level of constraint that a sensitive biological resource would pose to potential development typically depends on the following criteria: (1) the relative value of that resource; (2) the amount or degree of impact to the resource; (3) whether or not impacts to the resource would be in violation of state and/or federal regulations or laws; (4) whether or not impacts to the resource would require permitting by resource agencies; and (5) the degree to which impacts on the resource would otherwise be considered “significant” under CEQA. On-site habitats have been assigned a relatively low biological constraint rating based on the degree in which expected impacts to on-site resources would meet the criteria discussed above. This designation is primarily due to the generally high level of site disturbances (associated with recurring and historic anthropogenic dairy/agricultural disturbances) resulting in low biological diversity (i.e., replacement and exclusion of many native species with fewer non-native species) and an overall low potential for special-status species to utilize or reside within areas proposed for development (due to absence of suitable habitat).

No **special-status plant species** are expected on site due to lack of suitable habitat. The intent of the botanical survey was to generally evaluate the potential of the site to support sensitive plant species based on existing site conditions and habitat types present. Long-standing use of the site for agricultural uses and other anthropogenic disturbances have likely altered soil chemistry and other substrate characteristics such that on-site soils are not likely capable of supporting those sensitive plant species known from the site vicinity. Site development would not eliminate significant amounts of habitat for potentially occurring special-status plant species, nor reduce population size of sensitive plant species below self-sustaining levels on a local or regional basis (if present). No CEQA significant impacts are expected.

No **special-status wildlife species** were directly recorded on site, however, the California horned lark and loggerhead shrike have moderate-high occurrence potential because they are well known to utilize agricultural areas. However, these species were deemed by FWS to be too widespread and common to warrant listing as threatened or endangered, and as such, were removed from formal sensitive species status. Impacts to agricultural-related habitats could amount to an incremental reduction of potential foraging habitat for certain species that may be considered locally adverse. However, site development would not eliminate significant amounts of habitat for these species, nor reduce population size below self-sustaining levels on a local or regional basis. No CEQA significant impacts to these species would be expected.

No direct observations or **western burrowing owl (BUOW)** sign (feathers, pellets, fecal material, prey remains, etc.) were recorded during the 2020 focused surveys or habitat-based surveys. However, several California ground squirrel burrows potentially suitable to accommodate BUOW were recorded on site. None of the potential burrows inspected during the surveys were determined to be currently occupied or recently used by BUOW based on the lack of owl observations and absence of sign around burrow entrances. Despite that fact that the site has been exposed to long-standing disturbances, the BUOW (Low-Moderate occurrence potential) often occur in less than optimal and/or disturbed conditions. While this species is not protected by state or federal endangered species acts, burrowing owls (and other native avian species) are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-714) and CDFW Code sections 3503, 3503.5, and 3800 which prohibits take, possession, or destruction of birds, their nests or eggs (in particular raptor species such as BUOW). If it were later determined that active nests of BUOW (or other native species) would be lost as a result of site-preparation, it could result in CEQA significant adverse impacts and would be in conflict with these regulations.

Specific burrowing owl survey protocol and mitigation guidelines were developed and described in the 2012 CDFG Staff Report on Burrowing Owl Mitigation in order to reduce project-related impacts to burrowing owls. If site preparation activities occur within potential BUOW habitat, a **pre-construction burrowing owl / Initial Take Avoidance Survey** conducted no less than 14 days prior to initiating ground disturbance activities using the recommended methods described in the 2012 Staff Report is required by CDFG to determine if active nests of species protected by the MBTA and/or CDFG codes are present in the construction zone for CEQA compliance and to subsequently evaluate appropriate measures that may reduce potential adverse project-related impacts.

Implementation of avoidance and minimization measures would be triggered by positive BUOW presence on the site where project activities would occur. The development of avoidance and minimization approaches would be developed by monitoring the BUOW. BUOW may re-colonize a site after only a few days. Time lapses (i.e. construction delays) between project activities would trigger subsequent take avoidance surveys including but not limited to a final survey conducted within 24 hours prior to ground disturbance (CDFG 2012). Should eggs or fledglings be discovered in any owl burrow or native nest, these resources cannot be disturbed (pursuant to CDFG guidelines) until the young have hatched and fledged (matured to a stage that they can leave the nest on their own). Take of active nests should always be avoided. If owls must be moved away from the disturbance area, *passive* relocation techniques (where applicable outside of the breeding season before breeding behavior is exhibited and

after the burrow is confirmed empty by site surveillance) should be used rather than trapping (2012 CDFG Staff Report). If burrow exclusion and/or burrow closure is implemented, BUOWs should not be excluded from burrows unless or until: (1) a Burrowing Owl Exclusion Plan is developed and approved by the applicable local CDFW office; and (2) permanent loss of occupied burrow(s) and habitat is mitigated in accordance with the Mitigating Impacts (CDFG 2012).

Development of the proposed project would remove disturbed/ruderal, cultivated, and disced fields potentially suitable for foraging by several species of **special-status raptors** during winter or migration periods. Because most potentially occurring raptor species are very widespread and roam over large areas of foraging territory, these losses would amount to an incremental reduction of seasonal foraging habitat and occasionally use areas that could be considered locally adverse. Impacts to raptors that may forage occasionally onsite would be incremental in nature, related to the cumulative regional loss of foraging habitat. The contribution of the proposed project in this regard would be not significant. However, site development would not likely eliminate significant amounts of foraging habitat for these special-status species, nor reduce population size below self-sustaining levels on a regional basis.

No nesting birds were incidentally observed during surveys conducted on the subject site in 2020. Although many **native bird species** are not protected by state or federal/state endangered species acts, most are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711) and CDFG Code sections 3503, 3503.5, and 3800 which prohibits take, possession, or destruction of birds, their nests or eggs. If it were later determined that active nests of any of special-status or native species would be lost or indirectly impacted as a result of site-preparation, it could result in adverse impacts and would be in conflict with these regulations. If construction activities (e.g., site disturbances) are proposed during the nesting season, a nesting bird survey(s) may be required prior to development. Development activities performed outside of the avian breeding season (generally September 1 to December 31) usually eliminates the need to conduct pre-activity nesting surveys for most native species known from the site vicinity, and ensure that there were no constraints to construction relative to the MBTA/CDFG code. Compliance with the MBTA and CDFG codes would be necessary prior to development; however no special permit or approval is typically required in most instances where owls are not present. Development activities performed outside of the avian breeding season would generally eliminate the need to conduct pre-activity nesting surveys for most common native species (other than BUOW) known from the site vicinity, and likely ensure that there were no constraints to construction relative to the MBTA/CDFG codes.

Although not expected on site due to absence of preferred nesting habitat, the **tricolored blackbird** would need to be considered under CESA due to its current status as endangered. According to Grinnell and Miller (1944), tricolored blackbird habitat in the nesting season was found in the “vicinity of fresh water, especially marshy areas. The most favored sites for colonies are heavy growths of cattails and tules, but even when these are available, other vegetation may be resorted to for nesting: sedges, nettles, willows, thistles, mustard, blackberry, wild rose, foxtail grass, barley, etc.” Meese *et al.* 2014 summarized tricolored blackbird breeding habitat requirements as a nesting substrate that is relatively impenetrable or is flooded, is adjacent to water, and is within a few kilometers of foraging areas such as rangeland, alfalfa or cut hay, or irrigated pasture, with adequate insect prey. Meese *et al.* (2014) wrote that the tricolored blackbird’s preferred winter roosting sites included “cattail and bulrush marshes near suitable foraging areas in pasturelands, recently cultivated croplands, and livestock feedstores” (in Report to the Fish and Game Commission, Evaluation of the Petition from the Center for Biological Diversity to List Tricolored Blackbird (*Agelaius tricolor*), CDFW March 2015).

Hamilton (2003) stated that “Tricolored blackbird colony sites require nesting substrates offering protection from predation. These include emergent marsh vegetation (cattails, *Typha latifolia*, less frequently *T. angustifolia*), bulrushes (*Schoenoplectus californicus*, *S. acutus*) and Himalayan blackberries (*Rubus discolor*) thickets, thistle, and nettles. Tricolored blackbirds do not settle in grain, hay, silage, or cut-feed fields before grain forms seed awns or spiny or prickly weeds develop in them. We assume that



grain fields are identified as spiny vegetation by tricolors” (in CDFW 2015). Based on this general habitat analysis, absence of breeding habitat, and that no known colony sites are present in the site vicinity, no significant impacts are expected either to potential breeding or foraging habitat under CESA or CEQA.

Because many North American **bat species** tend to congregate at preferred roosting sites or at isolated water sources, several field methods are available to identify species and broad habitat associations (e.g., tree cavities, exfoliating bark, bark fissures, crevices, cliff faces, and/or dense foliage). Acoustic surveys convert the ultrasonic echolocation signals of bats into audible electronic signals, which can be recorded and processed to assist in identification of the species. If construction activities (e.g., tree removal) are proposed during the breeding season, acoustic bat surveys may be required prior to development to determine current roosting status and species present. The breeding season of native bat species in California is generally from April 1 through August 31. CDFW shall be notified of any active maternity roosts within the construction zone. If non-maternity day roosts or hibernacula are found in trees scheduled to be removed, in crevices or man-made structures within the grading footprint, the individuals will be safely evicted following approved CDFW guidelines developed specifically for the species and location. No special-status bat species are expected to occur on site due to absence of preferred habitat. Results of pre-construction bats surveys would determine specific measures if applicable.

Habitat present within the project site does not represent critical optimal habitat for sensitive plant or wildlife species, and the site does not occupy an important or strategic position as a wildlife corridor. At this time, the losses resulting from the project could be, for the most part, important on a local rather than regional level. When viewed individually, it may be possible for projects in the site vicinity (which contribute to the cumulative loss of habitat) to mitigate potential project-specific significant impacts through the implementation of appropriate mitigation.

## **Conclusion**

Results of the general habitat assessment (April to July 2020) and focused breeding season BUOW survey results (April to June 2020), indicate that habitats located within the ±80-acre site generally represent low biological resource values based on the degree in which expected impacts to on-site resources would meet CEQA criteria discussed above and the context in which they occur (e.g., highly disturbed site conditions present in a predominantly degraded and isolated environment). The existing degraded condition of the site is the direct consequence of long-standing and historic dairy/agricultural uses resulting in low biological diversity (e.g., dominance of non-native species), absence of special-status plant communities, and overall low potential for most special-status species to utilize or reside on site. Construction activities would not be expected to directly impact federal- or state-listed threatened or endangered species, jeopardize the continued existence of listed species (or special-status species), nor directly impact designated critical habitat. Site development would also not be expected to substantially alter the diversity of plants or wildlife in the area because of current degraded site conditions. The loss of these habitats would not be expected to substantially affect special-status resources or cause a population of sensitive plant or wildlife species to drop below self-sustaining levels.

Although no native habitat types are present, and no listed species (currently protected by state or federal endangered species acts) are expected to occur due to absence of suitable habitat, the potential presence of certain special-status species (e.g., nesting birds/roosting bats/burrowing owl) may impose some degree of constraint to development depending upon the nature of both direct and indirect impacts on these resources, as well as on the particular species and seasonal timing of construction activities. During permitting procedures, certain measures (detailed above) to avoid or further reduce project-related impacts to potentially occurring sensitive biological resources would be necessary pursuant to CEQA.

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I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological survey, and that the facts, statements, and information presented herein are true and correct to the best of my knowledge and belief.

Sincerely,

Ecological Sciences, Inc.



Scott D. Cameron  
Principal Biologist



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**APPENDIX C2**  
**FOCUSED BURROWING OWL SURVEYS**





## ***Focused Burrowing Owl Surveys***

***±80.0-acre Ontario Ranch Business Park Phase 2 Site***

***Site Location:***

City of Ontario  
San Bernardino County, California  
Prado Dam 7.5-minute Quadrangle Map  
Township 2 South, Range 7 West

***Prepared for:***

Jeff Johnston  
Real Estate Development Associates (REDA)  
4450 MacArthur Boulevard, Ste. 100  
Newport Beach, CA 92660  
949.954.3087

***Prepared by:***

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December 27, 2020



December 27, 2020

Jeff Johnston  
Real Estate Development Associates (REDA)  
4100 MacArthur Boulevard, Ste. 120  
Newport Beach, CA 92660

**SUBJECT: Results of a Focused Burrowing Owl Surveys, ±80-acre Ontario Ranch Business Park Phase 2 Site, City of Ontario, San Bernardino County, California**

Dear Jeff:

This letter report presents results of focused surveys conducted to evaluate the presence/absence of the special-status burrowing owl (*Athene cunicularia*-BUOW) on a ±80-acre site.

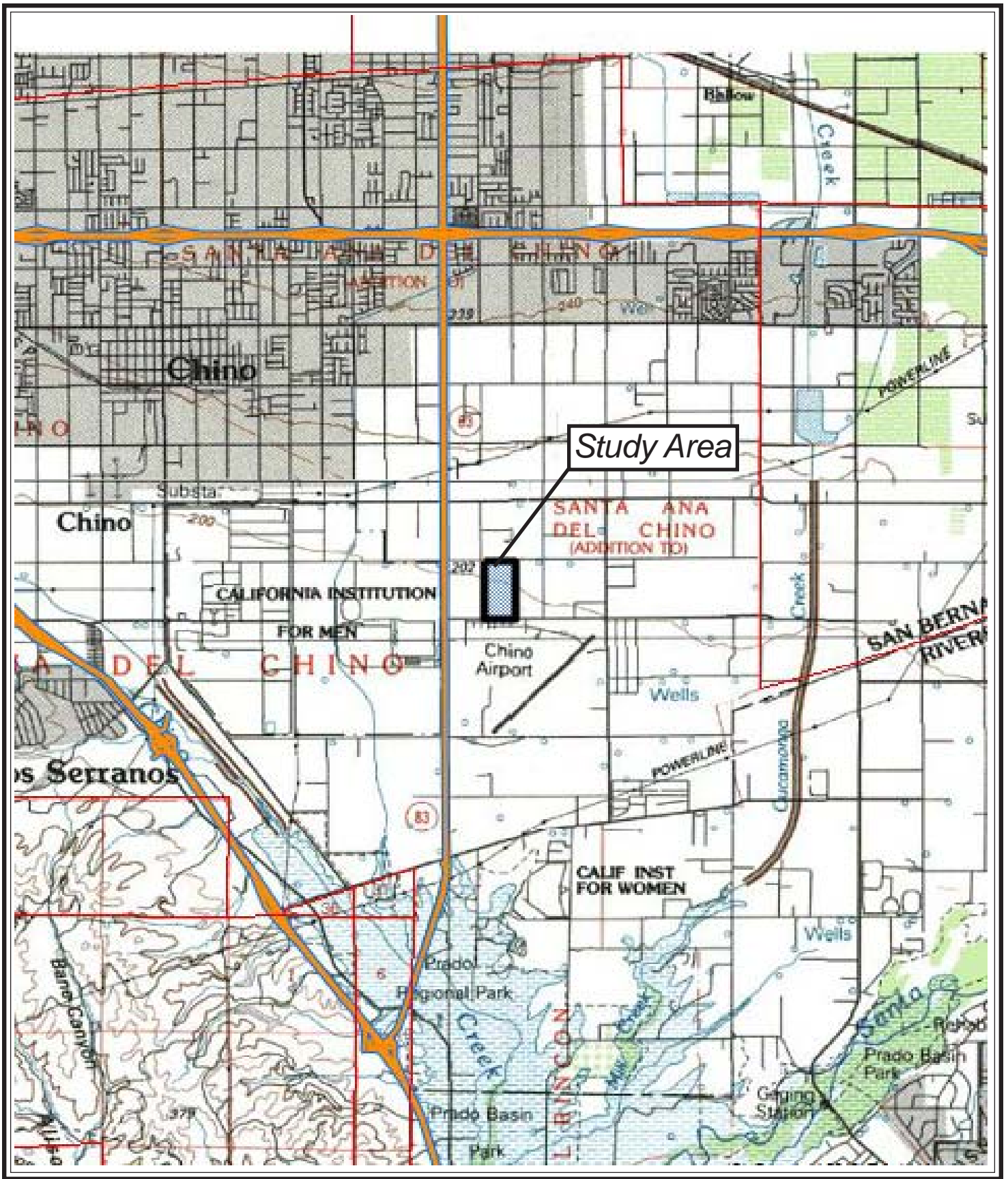
### **Introduction**

The project site (ORBP Phase 2) is located in San Bernardino County, California (**Plate 1**). Specifically, the site is located in the City of Ontario north of Merrill Avenue, south of Eucalyptus Avenue, east of Sultana Avenue, and west of Bon View Avenue. The site occurs on the "Prado Dam" California USGS 7.5-minute quadrangle map, Township 2 South, Range 7 West (**Plate 2**).

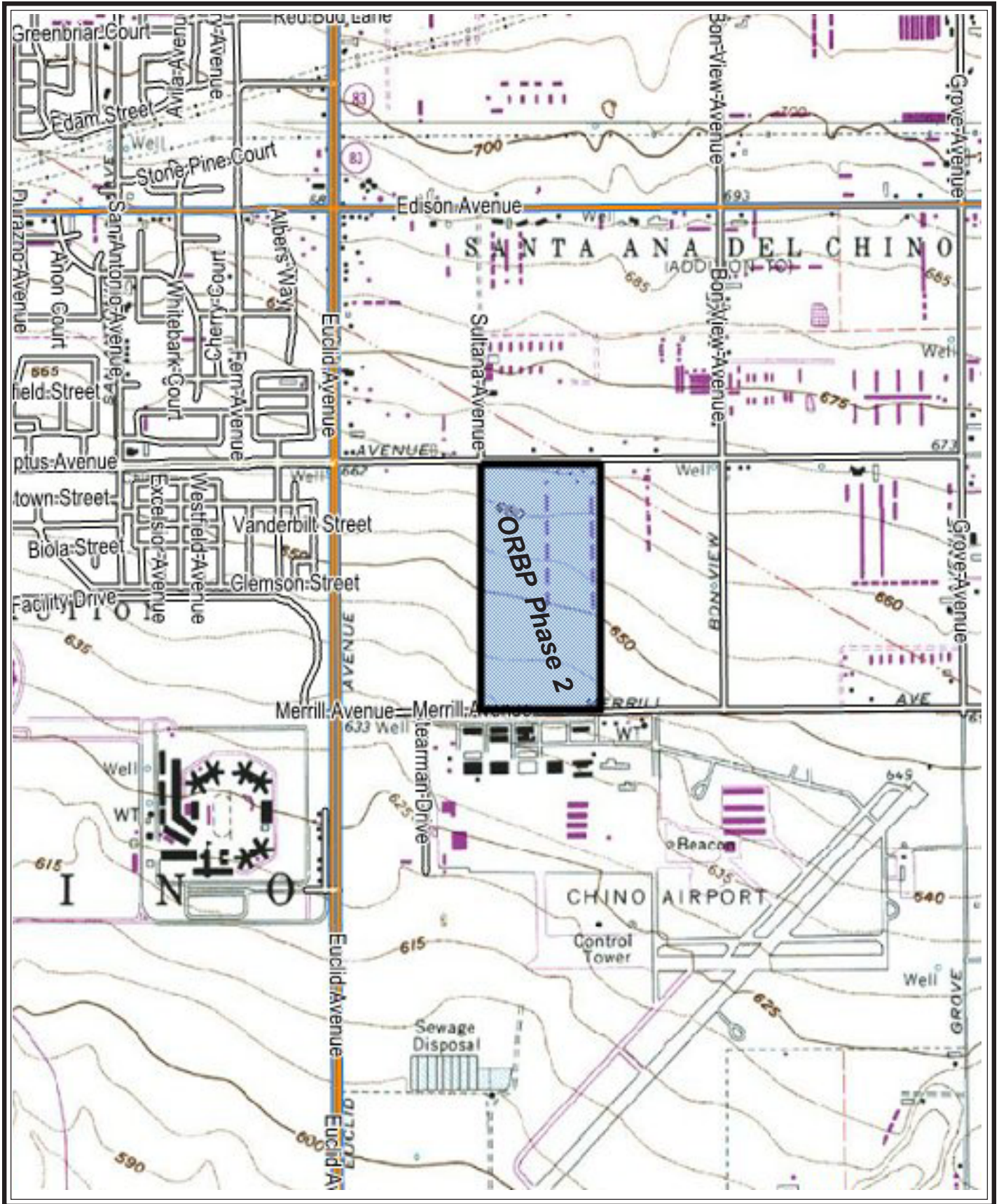
Projects proposed in the area that contain potentially suitable habitat to support sensitive biological resources must demonstrate to reviewing agencies [e.g., U.S. Fish and Wildlife Service (FWS), California Department of Fish and Game (CDFG-currently Department of Fish and Wildlife or CDFW), County of San Bernardino (County), City of Ontario (City)] that potential project-related impacts to sensitive biological resources are adequately addressed and mitigated pursuant to the California Environmental Quality Act (CEQA) and other environmental regulations as part of project approval. For the purposes of this report, both the 1995 CDFG Staff Report on Burrowing Owl Mitigation and the 2012 CDFG Staff Report on Burrowing Owl Mitigation are referenced to provide background information.

### **Selected Species Overview / Regulatory Background**

The **western burrowing owl** is considered a California Species of Special Concern, Federal Species of Concern, Partners in Flight Priority Bird Species, and Fish and Wildlife Service Species of Management Concern because of declines of suitable habitat, as well as localized and statewide population declines (CDFG 1995, 2012). Burrowing owls range across most of western North America. In coastal southern California, they occur in annual and perennial grasslands, agricultural areas, and coastal dunes. Habitat characteristics also include deserts and arid scrublands that contain low-growing vegetation (Zarn 1974). It is believed that burrowing owls may potentially occur wherever there are ground squirrel (e.g., *Spermophilus beecheyi*) colonies as this owl uses ground squirrel burrows throughout the year. Burrows are the essential component of burrowing owl habitat (CDFG 1995), however, burrowing owls are also known to use artificial burrows under certain circumstances such as abandoned concrete structures and debris piles. The BUOW generally prefers moderately to heavily grazed grasslands for nesting and roosting and avoids recently cultivated/disc'd fields. BUOW may utilize multiple burrows/sites throughout the year (e.g., small seasonal migrations), although in central and southern California, owls are predominantly non-migratory (CBOC 2000).







While this special-status species is not protected by state or federal endangered species acts, take, possession or destruction of individual burrowing owls, their nests and eggs is prohibited under CDFG code sections 3503, 3503.5 and 3513, as well as the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). Under CEQA, goals would consist of measures that would avoid, minimize and mitigate impacts to a less than significant level. For individual projects, mitigation must be roughly proportional to the level of impacts, including cumulative impacts, in accordance with the provisions of CEQA (CEQA Guidelines, §§ 15126.4(a)(4)(B), 15064, 15065, and 16355). If it were later determined that active nests would be lost as a result of site-preparation, it would be in conflict with these regulations, and could also be considered a significant impact under CEQA without mitigation. In order to avoid violation of the MBTA and CDFG Code requirements, CDFG guidelines (1995, 2012) suggest that project-related disturbances at active nesting territories be reduced or eliminated during the BUOW nesting/breeding cycle (typically February 1 to August 31). Accordingly, construction should take place, as much as possible, outside of the breeding season for BUOW (i.e., construction between September 1 to January 31) to avoid or reduce potential impacts to this species. However, BUOW nesting activity is variable, and as such the time frame should be adjusted accordingly based on specific site information.

Owl survival can be adversely affected by disturbance (e.g., foraging habitat loss) even when impacts to individual birds and nest/burrows are avoided (CDFG 1995). Recommended restricted activity dates and setback distances by level of disturbance for burrowing owls (Scobie and Faminow 2000 in 03/7/12 CDFG BUOW Staff Report are provided below in Table 1.

**Table 1- CDFG Recommended Restricted Activity Dates and Setback Distances by Level of Disturbance for BUOW**

Location	Time of Year	Level of Disturbance		
		Low	Medium	High
Nesting sites	April 1-Aug 15	200 m*	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

\*meters (m). Table and text excerpted directly from 2012 CDFG BUOW Staff Report

Note: Based on existing vegetation, human development, and land uses in an area, resource managers may decide to allow human development or resource extraction closer to these areas/sites than recommended above. However, if it is decided to allow activities closer than the setback distances recommended, a broad-scale, long-term, scientifically-rigorous monitoring program ensures that burrowing owls are not detrimentally affected by alternative approaches.

Mitigation measures detailed in the CDFG 1995 staff report include: (1) preservation of habitat, (2) artificial burrow construction, and (3) provide funding for long-term management and monitoring of protected mitigation lands. Mitigation measures successfully implemented for this species also include giving the Service/CDFW right of first refusal for actively relocating any BUOW present. Currently occupied receiving sites may be available where this species has a greater chance of successful long-term relocation. Other minimization measures include eliminating actions that reduce burrowing owl forage and burrowing surrogates (e.g. ground squirrel), or introduce/facilitate burrowing owl predators. Actions that could influence these factors include reducing livestock grazing rates and/or changing the timing or duration of grazing or vegetation management that could result in less suitable habitat (CDFG 2012).

Implementation of avoidance and minimization measures would be triggered by positive owl presence on the site where project activities would occur. The development of avoidance and minimization approaches would be developed by monitoring. BUOW may re-colonize a site after only a few days. Time lapses (i.e. construction delays) between project activities would trigger subsequent take avoidance surveys including but not limited to a final survey conducted within 24 hours prior to ground disturbance (CDFG 2012). Should eggs or fledglings be discovered in any owl burrow or native nest, these resources



cannot be disturbed (pursuant to CDFW guidelines) until the young have hatched and fledged (matured to a stage that they can leave the nest on their own). Take of active nests should always be avoided. If owls must be moved away from the disturbance area, passive relocation techniques (where applicable outside of the breeding season before breeding behavior is exhibited and after the burrow is confirmed empty by site surveillance) should be used rather than trapping (CDFG 2012). If burrow exclusion and/or burrow closure is implemented, BUOWs should not be excluded from burrows unless or until: (1) a Burrowing Owl Exclusion Plan is developed and approved by the applicable local CDFW office; and (2) permanent loss of occupied burrow(s) and habitat is mitigated in accordance with the Mitigating Impacts (CDFG 2012).

## **Methodology**

### **Review of Existing Information**

Existing documentation pertinent to the distribution and habitat requirements of the burrowing owl was reviewed and analyzed. This included a review of: (1) the California Natural Diversity Data Base (CNDDB 2020), (2) both the 1995 CDFG Staff Report on Burrowing Owl Mitigation and the 2012 CDFG Staff Report on Burrowing Owl Mitigation, and (3) other literature pertaining to habitat requirements of the BUOW as referenced herein.

### **2020 Focused BUOW Survey**

The BUOW surveys were conducted in accordance with the March 7, 2012 CDFG Staff Report on Burrowing Owl Mitigation. These guidelines include searches for BUOW, burrows (natural and artificial), and BUOW sign by walking parallel transects (where feasible) through suitable habitat over the entire survey area [i.e., the project site and within a 150 meter (500 feet) buffer area where feasible or at least by visual means]. Upon arrival at the survey area and prior to initiating the walking surveys, the biologist used binoculars and/or spotting scope to scan suitable habitat. Ecological Sciences' Principal Biologist, Scott Cameron, initiated the first of four total focused breeding season BUOW surveys on April 12, 2020. Subsequent surveys were conducted on May 17, June 14, and July 11. Mr. Cameron has extensive experience conducting habitat assessments and focused burrowing owl surveys over the past 25 years, and has recorded numerous BUOW over the course of 100+ surveys throughout southern California. Mr. Cameron has also conducted passive relocation activities, used burrow probes, and conducted burrow closing procedures for multiple projects.

Per the Staff Report, the breeding season BUOW surveys included a review of pertinent information of the project site and vicinity and a series of four focused burrowing owl surveys conducted according to the 2012 California Department of Fish and Game (CDFG April 7, 2012) Staff Report on Burrowing Owl Mitigation. The Staff reports requires at least one site visit between 15 February and 15 April, and a minimum of three survey visits, at least three weeks apart, between 15 April and 15 July, with at least one visit after 15 June. Surveys would be conducted by walking straight-line transects spaced 7 meters (23 feet) to 20 meters (65 feet) apart, adjusting for vegetation height and density using standard auditory and visual means. At the start of each transect and, at least, every 100 m (328 feet), the entire visible project area would be scanned for BUOW using binoculars. During walking surveys, a record of all potential burrows used by burrowing owls as determined by the presence of one or more burrowing owls, pellets, prey remains, whitewash, or decoration would be recorded. Surveys should not be conducted when wind speed is >20 kilometers/hour (>12.5 miles/hour), and/or if there is precipitation or dense fog. Surveys have greater detection probability if conducted when ambient temperatures are >20° Celsius (>68° Fahrenheit), <12 km/hr winds (<7.5 miles/hr), and cloud cover is <75%. Surveys would be conducted between morning civil twilight and 10:00 a.m. and two hours before sunset until evening civil twilight (highest detection probabilities); It is assumed that a copy of this report would be forwarded to the lead agency at the discretion of the project applicant in order to comply with conditions of approval (where applicable).

Focused BUOW surveys were conducted to determine if the BUOW was foraging on or adjacent to the site. Transects were spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines was no more than 20 meters ( $\pm 65$  feet) and were reduced (as necessary) to account for differences in terrain, vegetation density, and ground surface visibility. Periodic stops along each transect (generally at 100 meter intervals) and at the end of each transect were implemented to scan the site for BUOW with binoculars. Suitable burrows were examined for sign of BUOW use such as the presence of owl pellets, prey remains, or feathers at burrow entrances. Suitable burrows (burrows that are open and wide enough for owl use), regardless if owl sign was recorded, were noted. Burrows (where present) were inspected with the aid of a mirror to better view burrow interiors. Per protocol, surveys were conducted during weather that was conducive to observing owls outside their burrows and detecting BUOW sign. Focused surveys were conducted two hours before sunset until evening civil twilight (highest detection probabilities). Weather conditions through the survey period included clear skies, scattered clouds, and partly cloudy (<50% cover), 1-8 mph variable breezes, and air temperatures ranging between 67-89 °F. Accordingly, weather conditions were conducive for above-ground BUOW activity.

### **Existing Biological Environment**

The subject site is characterized primarily as an active dairy operation. The site contains a single-family residence, multiple dairy-related structures (sheds, corrals, etc.), feeding preparation areas, waste ponds/basins, cultivated/disc'd areas, manure spreading areas, and debris dumping areas. The ruderal/disturbed areas support mostly invasive, non-native annual species. Manure, associated with the ongoing dairy operation, is present throughout most of the site. Cattle feeding areas were barren ground covered in manure and mud. Surrounding land uses include agricultural areas similar to the subject site and the Chino Airport is located to the south. **Plate 3** aerially illustrates site features.

### **Vegetation**

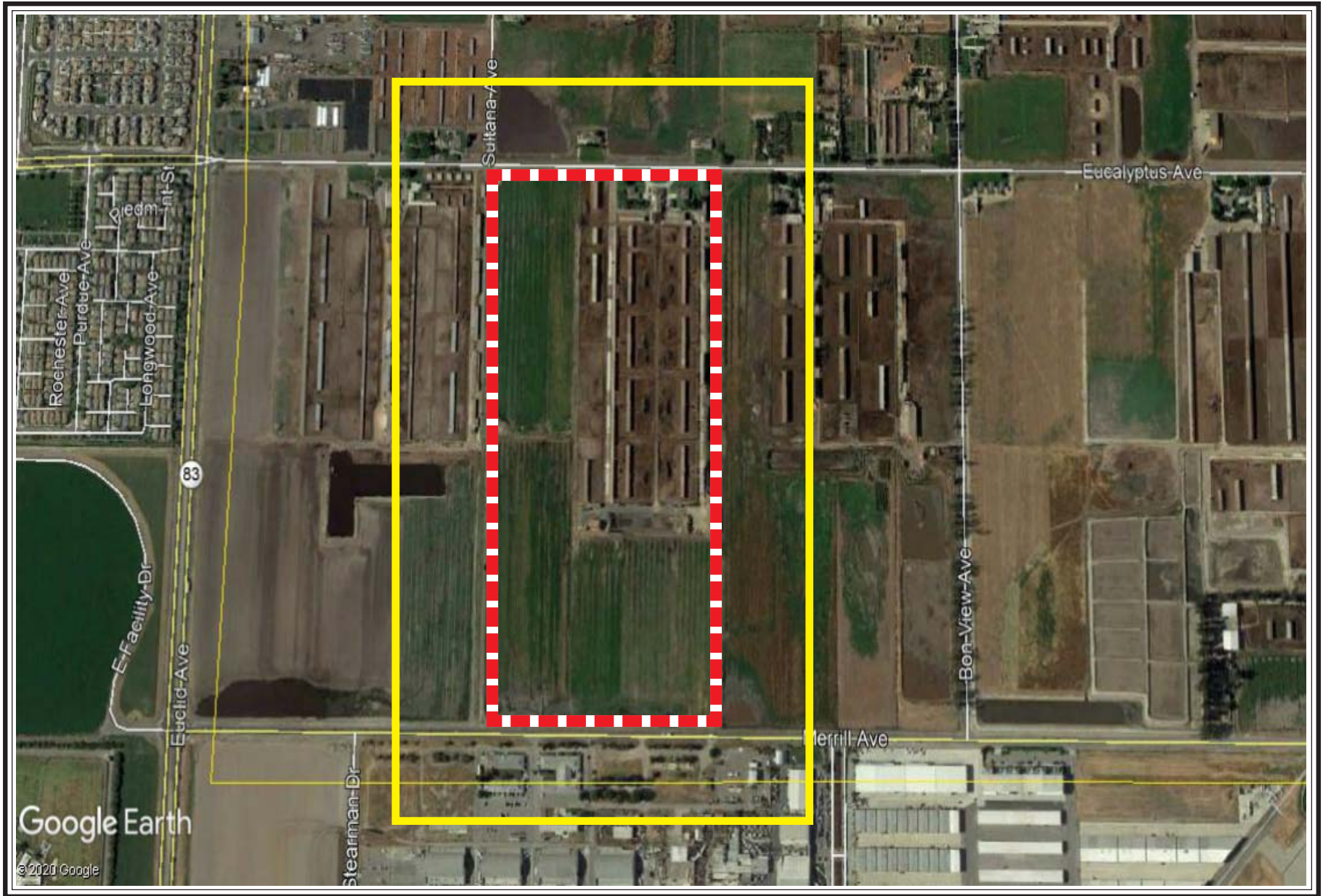
Ruderal plants recorded on site included various non-native grasses and weedy species such as foxtail chess (*Bromus madritensis* spp. *rubens*), ripgut grass (*Bromus diandrus*), Bermuda grass (*Cynodon dactylon*), Mediterranean grass (*Schismus barbatus*), filaree (*Erodium* sp.), Lamb's quarter's (*Chenopodium album*), milk thistle (*Silybum marianum*), alfalfa (*Medicago sativa*), Russian thistle (*Salsola tragus*), puncture vine (*Tribulus terrestris*), black mustard (*Brassica nigra*), cheeseweed (*Malva parviflora*), nettle (*Urtica* sp.), tree tobacco (*Nicotiana glauca*), and gum (*Eucalyptus* sp.).

### **Survey Results**

No direct BUOW observations were recorded during the April-July 2020 focused BUOW breeding season surveys. No potential burrows inspected during the survey were determined to be currently occupied by BUOW based on absence of BUOW observations and sign (feathers, pellets, fecal material, prey remains, etc.) at or near burrow entrances/aprons. BUOW were also not observed utilizing the site for foraging purposes on or adjacent to the site (adjacent areas viewed by binocular only).

Avian species observed on site included turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), killdeer (*Charadrius vociferus*), barn swallow (*Hirundo rustica*), European starling (*Sturnus vulgaris*), rock pigeon (*Columba livia*), Eurasian collared dove (*Streptopelia decaocto*), black-phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), Brewer's blackbird (*Euphagus cyanocephalus*), western meadowlark (*Sturnella neglecta*), house finch (*Carpodacus mexicanus*), white-crowned sparrow (*Zonotrichia leucophrys*), and house sparrow (*Passer domesticus*). Reptile species observed included site-blotched lizard (*Uta stansburiana*). Mammal species directly observed, or of which sign was detected, included California ground squirrel (*Otospermophilus beecheyi*), desert cottontail (*Sylvilagus auduboni*), and pocket gopher (*Thomomys bottae*).





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December 2020

-  = Study Area
-  = 500' (150 m) Survey Buffer

*plate 3*

## ***Aerial of Survey Area***

ORBP Phase 2



Despite that fact that the site has been exposed to long-standing disturbances, BUOW often occur in less than optimal and/or disturbed conditions. If it were later determined that active nests of BUOW would be lost as a result of site-preparation, it could result in CEQA significant adverse impacts and would be in conflict with CDFW code sections. Although no BUOW were recorded on site, it is recommended by CDFW to complete an initial take avoidance survey no less than 14 days prior to initiating ground disturbance activities. Implementation of avoidance and minimization measures would be triggered by positive owl presence on the site where project activities would occur. The development of avoidance and minimization approaches would be evaluated by monitoring burrowing owls (if present on site). BUOW may re-colonize a site after only a few days. Time lapses between project activities trigger subsequent take avoidance surveys including but not limited to a final survey conducted within 24 hours prior to ground disturbance (CDFW 2012).

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I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological survey, and that the facts, statements, and information presented herein are true and correct to the best of my knowledge and belief.

Sincerely,

Ecological Sciences, Inc.



Scott D. Cameron  
Principal Biologist



## References

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**APPENDIX D**  
**CULTURAL AND PALEONTOLOGICAL**  
**RESOURCES ASSESSMENT**



**Prepared for:**

**Euclid Land Ventures, LLC**

**4100 MacArthur Blvd, Suite 120**

**Newport Beach, CA 92660**

## **CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT**

# **Ontario Ranch Business Park**

**City of Ontario, San Bernardino County, California**



**PHASE 1 CULTURAL AND PALEONTOLOGICAL  
RESOURCES ASSESSMENT:  
ONTARIO RANCH BUSINESS PARK  
CITY OF ONTARIO, SAN BERNARDINO COUNTY, CALIFORNIA**

**Prepared for:**

Euclid Land Ventures, LLC  
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Newport Beach, CA 92660

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Jennifer Kelly, M.Sc., Geology, Professional Paleontologist  
Sonia Sifuentes, M.Sc, Registered Professional Archaeologist

**May 2020 Revision**

**Type of Study: Date of Fieldwork:** Cultural and Paleontological resources assessment

**Cultural/ Paleontological Resources within Area of Potential Impact:** None

**Paleontological Formations:** younger Quaternary alluvium, older Quaternary alluvium

**USGS 7.5-minute Quadrangle(s):** Section 19 of Township 2 South, Range 7 West, Prado Dam and Ontario

**Survey Area:** 164.93 acres

**APN(s):** 1054-011-01, -02, -04; 1054-021-01, -02; 1054-031-01, -02; 1054-041-01, -02; 1054-261-01, -02; 1054-271-01, -02, -03; 1054-281-01, -02, -03; and 1054-291-01, -02

**Date of Fieldwork:** July 27, 2018

**Key Words:** Archaeology, Paleontology, CEQA, Phase I Survey, Negative Report, Younger Quaternary Alluvium, Older Quaternary Alluvium, Low Paleontological Sensitivity, Moderate Paleontological Sensitivity, San Bernardino County, City of Ontario

## MANAGEMENT SUMMARY

Euclid Land Ventures, LLC (Proponent) proposes the development of a new warehouse facility, as outlined in the Ontario Ranch Business Park Specific Plan (hereafter referred to as Project or Specific Plan Area). The Specific Plan Area is located on 84.1 acres of land at the southeast corner of Eucalyptus Avenue and Euclid Avenue and 80.83 acres of land located at the southeast corner of Eucalyptus Avenue and Sultana Avenue, in the City of Ontario, San Bernardino County. Material Culture Consulting, Inc. (MCC) was initially retained by the Proponent to conduct a Phase I cultural and paleontological resource investigation of the 84.1-acre Specific Plan Area in July 2018. These assessments were conducted in accordance with the California Environmental Quality Act (CEQA), along with local regulations and guidelines. This assessment included a cultural resources records search of the California Historical Resources Information System (CHRIS), a locality search at the National History Museum of Los Angeles County (LACM), an examination of geological maps and paleontological literature, a search of the Sacred Lands File by the Native American Heritage Commission (NAHC), outreach efforts with 20 Native American tribal representatives, background research, and a pedestrian survey. In February 2020, MCC was retained by EPD to conduct a supplemental assessment of an expanded Specific Plan Area encompassing an additional 80.83 acres. This assessment included a compilation of previous CHRIS record searches that overlap the expanded Specific Plan Area.

The SLF search did not identify any previously known cultural resources within the entire Specific Plan Area. MCC sent letters on August 1, 2018 to 20 Native American contacts identified by the NAHC, requesting any information related to cultural resources or heritage sites within or adjacent to the Project Area. Additional attempts at contact by letter, email, or phone call were made on August 10, August 22, and August 23, 2018. As a result of this outreach effort, MCC received nine responses from Native American Tribes or individuals. No specific cultural resources were identified in the responses; however, several Native American Tribes stated an interest in the Project and provided comments. These results are summarized in the Native American Outreach and Background Research section of this report and in Appendix C. MCC did not conduct formal consultation with the Native American representatives.

The CHRIS records searches in 2018 and 2020 identified 23 cultural resources investigations previously conducted within a 1-mile radius buffer around the Specific Plan Area, seven of which are located adjacent to the Specific Plan Area. The cultural records search identified six previously recorded cultural resources within a 1-mile radius buffer around the Specific Plan Area, none of which are located within the Specific Plan boundaries. A review of historical aerial photographs and maps show the Specific Plan Area has been consistently used for agricultural and dairy activities since the 1930s.

The Specific Plan Area is comprised of younger Quaternary Alluvium, derived broadly from the San Bernardino Mountains to the north. These deposits typically do not contain significant vertebrate fossils within the uppermost layers, however, it is likely that the Specific Plan Area is underlain by older Quaternary deposits at an unknown depth. No previously recorded fossil localities are located within one mile of the Project Area.

Allison Hill, M.A., RPA, MCC Archaeologist and Cross-Trained Paleontologist, conducted the cultural and paleontological survey of the initial 84.1-acre Specific Plan Area on July 27, 2018. During fieldwork, survey conditions were generally poor with the Specific Plan Area utilized by ongoing agricultural activities and dairy cattle pasture / enclosures. The property has been previously disturbed by agricultural and dairy operations conducted by the current owners. No cultural or paleontological resources were identified during the survey. The expanded

Specific Plan Area is considered to not need a supplemental cultural and paleontological survey at this time.

Based on the above findings, the probability of encountering cultural or paleontological resources within the Specific Plan Area is considered low. MCC recommends no further mitigation measures prior to implementation of projects within the Specific Plan. While we do not recommend additional mitigation, we do recommend including a section in the Specific Plan which addresses inadvertent discoveries of cultural materials and/or human remains, should these be encountered during any projects within the Specific Plan Area. Please note – if the lead agency for any project within the Specific Plan requires presence of Tribal Cultural Monitors, archaeological monitoring should also occur in tandem, to quickly and expeditiously salvage materials in a scientific manner and assess such finds for archaeological significance.

Excavation extending more than ten feet below surface has the potential to impact the paleontologically sensitive older Quaternary sediments. If excavation for a given project extends deeper than ten feet below surface, MCC recommends that a paleontological resource mitigation program be put in place to monitor, salvage, and curate any recovered fossils associated with the current study area, should these be unearthed during ground disturbance associated with any project within the Specific Plan Area.

A copy of this report will be permanently filed with the SCCIC at California State University, Fullerton. All notes, photographs, correspondence and other materials related to this Project are located at MCC, Inc located in Pomona, California.

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APPENDIX D: Paleontological Resources Records Search Results

## INTRODUCTION

Euclid Land Ventures, LLC (Proponent) proposes the development of a new warehouse facility, as outlined in the Ontario Ranch Business Park Specific Plan (hereto after referred to as Project or Specific Plan Area). The Specific Plan Area is located on 84.1 acres of land at the southeast corner of Eucalyptus Avenue and Euclid Avenue and 80.83 acres of land located at the southeast corner of Eucalyptus Avenue and Sultana Avenue, in the City of Ontario, San Bernardino County. Material Culture Consulting, Inc. (MCC) was initially retained by the Proponent to conduct a Phase I cultural and paleontological resource investigation of the 84.1-acre Specific Plan Area in July 2018. These assessments were conducted in accordance with the California Environmental Quality Act (CEQA), along with local regulations and guidelines. This assessment included a cultural resources records search of the California Historical Resources Information System (CHRIS), a locality search at the National History Museum of Los Angeles County (LACM), an examination of geological maps and paleontological literature, a search of the Sacred Lands File by the Native American Heritage Commission (NAHC), outreach efforts with 20 Native American tribal representatives, background research, and a pedestrian survey. In February 2020, MCC was retained by EPD to conduct a supplemental assessment of an expanded Specific Plan Area encompassing an additional 80.83 acres. This assessment included a compilation of previous CHRIS record searches that overlap the expanded Specific Plan Area.

### PROJECT LOCATION AND DESCRIPTION

The proposed Specific Plan is located at the northeast corner of Eucalyptus Avenue and Euclid Avenue and located at the southeast corner of Eucalyptus Avenue and Sultana Avenue, in the City of Ontario, San Bernardino County, California (Figures 1 and 2). The Specific Plan Area is bounded by Eucalyptus Avenue to the north, by Euclid Avenue to the west, by Merrill Avenue to the south, and is bisected by Sultana Avenue, with additional agricultural and dairy fields to the east (Figure 3). This Specific Plan Area is located on Section 19 of the USGS 7.5-minute Prado Dam and Ontario, California topographic maps, Township 2 South, Range 7 West (Figure 2). The Specific Plan Area consists of nineteen parcels, identified as Assessor's Parcel Numbers (APNs) 1054-011-01, -02, -04; 1054-021-01, -02; 1054-031-01, -02; 1054-041-01, -02; 1054-261-01, -02; 1054-271-01, -02, -03; 1054-281-01, -02, -03; and 1054-291-01, -02. Presently, the Specific Plan Area contains an operational dairy farm, Legend Dairy Farms and two single-family residences. The proposed Project includes demolition of existing structures and facilities, and construction of eight buildings consisting of warehouses and offices. Currently, no major utilities connect to undeveloped projects within the Specific Plan Area, therefore projected onsite improvements will include installation of storm drains, water quality systems, a sewer main and sewer lines, water lines, and dry utility connections.

### PROJECT PERSONNEL

Tria Belcourt, M.A., Registered Professional Archaeologist (RPA), President of MCC, served as the Project Manager and Principal Archaeologist for the study. Belcourt holds a M.A. in Anthropology from the University of Florida, a B.A. in Anthropology from the University of California at Los Angeles, and has gained over thirteen years of experience in California archaeology and eight years of experience overseeing paleontological assessments in California (See Appendix A). Ms. Belcourt oversaw the project and performed editorial review of this report. Jennifer Kelly, M.S., served as the Principal Investigator for Paleontology for the study. Ms. Kelly has a M.Sc. in Geology from California State University, Long Beach, and has over ten years of experience in environmental and paleontological compliance in California (See Appendix A). Ms. Kelly conducted the paleontological resource literature and map reviews, oversaw the field study, and prepared the paleontological sections of this report. Allison Hill, M.A., RPA, Archaeologist and Cross-Trained Paleontologist conducted the cultural resources records search and cultural/paleontological field survey of the initial 84.1-acre Specific Plan Area. Sonia Sifuentes, M.Sc., RPA, provided primary authorship of this report. Julia Carvajal, M.A., provided GIS support for the investigation.

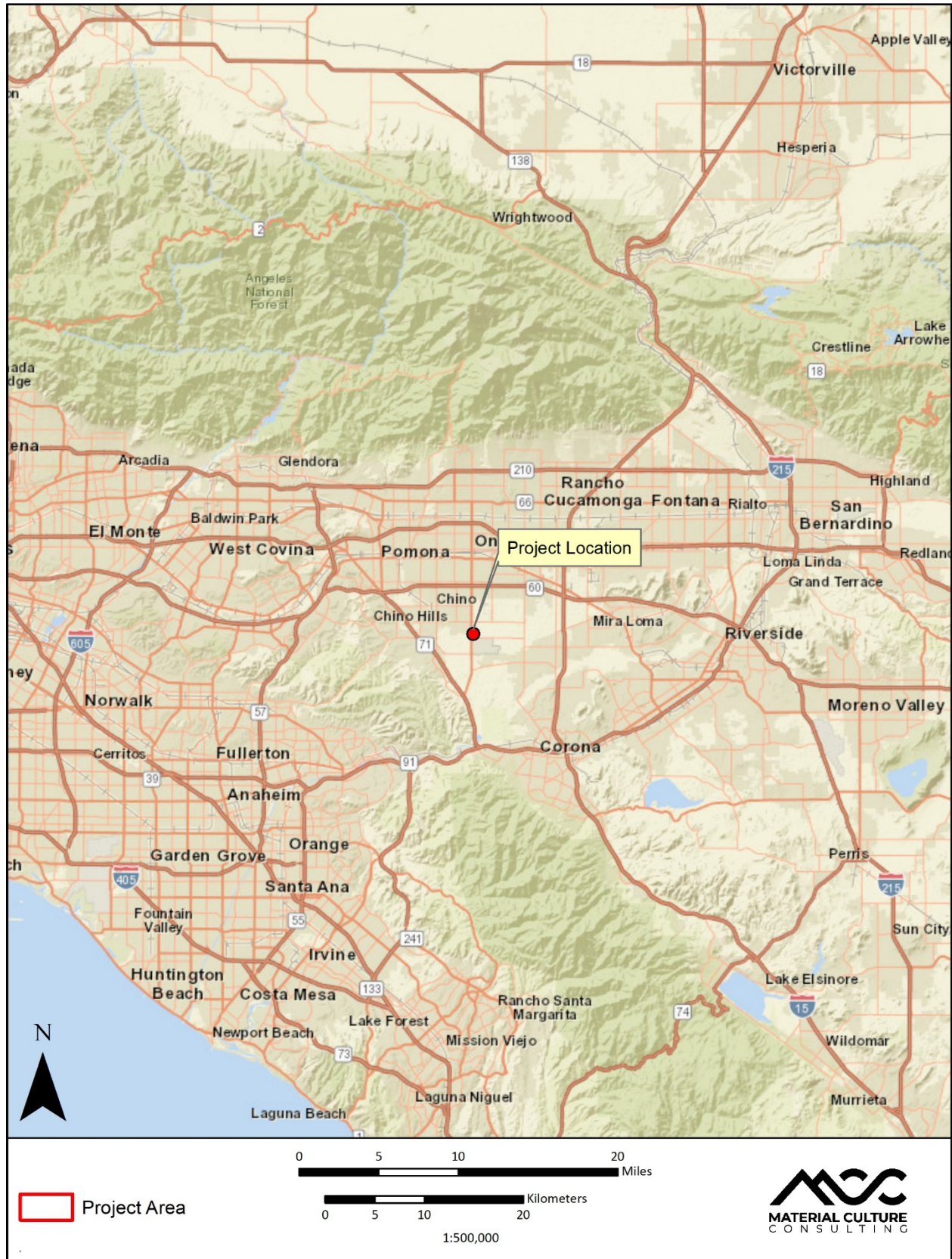


Figure 1. Ontario Ranch Business Park (1:500,000)



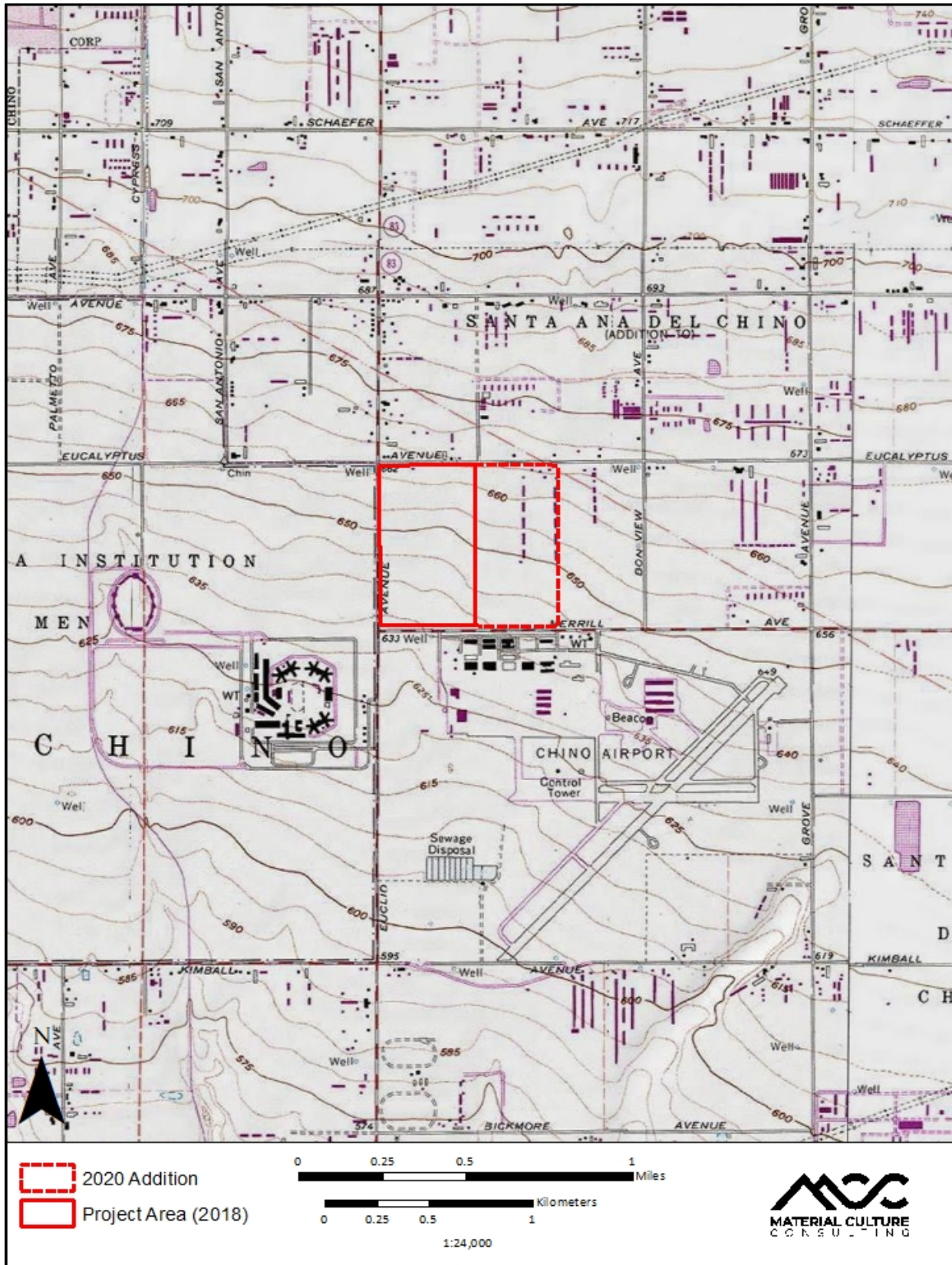


Figure 2. Ontario Ranch Business Park (1:24,000, as depicted on Prado Dam and Ontario USGS 7.5-Minute Quadrangles)





Figure 3. Ontario Ranch Business Park (1:5,000, as depicted on aerial photograph)

## REGULATORY ENVIRONMENT

The current study is subject to local and state laws and regulations regarding cultural and paleontological resources. These regulations require the identification of cultural and paleontological resources within the Specific Plan Area which should be considered during the planning stage of new Projects; include application review for Projects that would potentially involve land disturbance; provide Project-level standard conditions of approval that address unanticipated discoveries; and provide requirements to develop specific mitigation measures if resources are encountered during any development activity. Specific governing legislation and regulations include the following:

### **CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)**

CEQA declares that it is state policy to "take all action necessary to provide the people of this state with...historic environmental qualities." It further states that public or private Projects financed or approved by the state are subject to environmental review by the state. All such Projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental impacts of a proposed Project. In the event that a Project is determined to have a potential significant environmental impact, CEQA requires that alternative plans and mitigation measures be considered. CEQA includes historic and archaeological resources as integral features of the environment.

CEQA requires a designated lead agency to determine whether a Project may have a significant impact on historical resources. A historical resource is defined as a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (Section 21084.1); a resource included in a local register of historical resources (Section 15064.5(a)(2)); or any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant (Section 15064.5 (a)(3)). Public Resources Code (PRC) Section 5024.1, Section 15064.5 of the Guidelines, and Sections 21083.2 and 21084.1 of the Statutes of CEQA were used as one of the basic guidelines for the current cultural resources study. PRC Section 5024.1 directs evaluation of historical resources to determine their eligibility for listing on the CRHR.

The purpose of the register is to maintain listings of the state's historical resources. The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing on the NRHP, enumerated above, and require similar protection to what NHPA Section 106 mandates for historic properties. According to Public Resources Code (PRC) Section 5024.1(c)(1-4), a resource is considered historically significant if it meets at least one of the following criteria:

1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
2. Associated with the lives of persons important to local, California or national history;
3. Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values; or
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

In addition to having significance, resources must retain integrity. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance. Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register, if,

under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data. Note that California Historical Landmarks with numbers 770 or higher are automatically included in the CRHR.

Under CEQA, if an archeological site is not a significant “historical resource” but meets the definition of a “unique archeological resource” as defined in PRC Section 21083.2, then it should be treated in accordance with the provisions of that section. A unique archeological resource is defined in PRC Section 21083.2(g) as follows:

An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Resources that neither meet any of these criteria for listing on the NRHP or CRHR nor qualify as a “unique archaeological resource” under CEQA PRC Section 21083.2 are viewed as not significant. Under CEQA, “A non-unique archaeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects” [PRC Section 21083.2(h)].

Impacts to historical resources that alter the characteristics that qualify the historical resource for listing on the CRHR are considered to be a significant impact. Impacts to a historical resource are considered significant if the Project activities physically destroy or damage all or part of a resource; change the character of the use of the resource or physical feature within the setting of the resource which contribute to its significance; or introduce visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource. If it can be demonstrated that a Project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2 (a), (b), and (c)).

#### **CALIFORNIA HISTORICAL LANDMARKS AND POINTS OF HISTORICAL INTEREST**

Historical landmarks are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. In order to be considered a California Historical Landmark, the landmark must meet at least one of the following criteria:

- 1) Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
- 2) Associated with the lives of persons important to local, California, or national history;
- 3) Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; or possesses high artistic values;
- 4) Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

If a site is primarily of local or countywide interest, it may meet the criteria for the California Point of Historical Interest Program. Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. To be eligible for designation as a Point of Historical Interest, a

resource must meet at least one of the following criteria:

1. The first, last, only, or most significant of its type in the local geographic region (city or county);
2. Associated with an individual or group having a profound influence on the history of the local area;
3. A prototype of, or an outstanding example of, a period, style, architectural movement or construction; or
4. One of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the California Register. No historical resource may be designated as both a Landmark and a Point of Interest. If a Point of Interest is subsequently granted status as a Landmark, the Point of Interest designation will be retired.

## PALEONTOLOGY

The State of California Public Resources Code (Chapter 1.7), Sections 5097.5 and 30244, includes additional state level requirements for the assessment and management of paleontological resources. These statutes require reasonable mitigation of adverse impacts to paleontological resources resulting from development on state lands, define the removal of paleontological “sites” or “features” from state lands as a misdemeanor, and prohibit the removal of any paleontological “site” or “feature” from State land without permission of the jurisdictional agency. These protections apply only to State of California land, and thus apply only to portions of the Project, if any, which occur on State land.

As defined by Society for Vertebrate Paleontology (SVP), paleontological resources means any fossilized remains, traces, or imprints of prehistoric plants and/or animals which are preserved in or on the earth’s crust that can provide information about the history of past life on the planet (2009). Generally, any resource greater than 5,000 years old is considered to be a fossil and are considered a nonrenewable resource that are subject to impacts from land development (SVP, 2010). Paleontological resources are important scientific and educational resources because they are used to:

- 1) Document the evolutionary history of now extinct organisms to study any associated evolution patterns and/or speciation;
- 2) Reconstruct the environments, climate change, and/or paleoecological relationships these organism lived in; and
- 3) Determine the relative geologic age of the strata in which the resources occur and any geological events that resulted in the deposition of the sediments that formed the strata.

Fossil resources vary widely in their relative abundance and distribution and not all are regarded as significant. Vertebrate fossils, whether preserved remains or track ways, are classed as significant by most state and federal agencies and professional groups (and are specifically protected under the California Public Resources Code). In some cases, fossils of plants or invertebrate animals are also considered significant and can provide important information about ancient local environments. Assessment of significance is also subject to the California Environmental Quality Act (CEQA) criterion that the resource constitutes a “unique paleontological resource or site.” A significant paleontological resource is considered to be of scientific interest if it is a rare or previously unknown species, it is of high quality and well-preserved, it preserves a previously unknown anatomical or other characteristic, provides new information about the history of life on earth, or has an identified educational or recreational value. Paleontological resources that may be considered not to have scientific significance include those that lack provenience or context, lack physical integrity due to decay or natural erosion, or that are overly redundant or are otherwise not useful for research. Vertebrate fossil remains and traces include bone, scales, scutes, skin impressions, burrows, tracks, tail drag marks, vertebrate coprolites (feces), gastroliths (stomach stones), or other physical evidence of past vertebrate life or activities (BLM, 2007). The full significance of fossil



specimens or fossil assemblages cannot be accurately predicted before they are collected, and in many cases, before they are prepared in the laboratory and compared with previously collected material.

Pre-construction assessment of significance associated with an area or formation must be made based on previous finds, characteristics of the sediments, and other methods that can be used to determine paleoenvironmental conditions. A separate issue is the potential of a given geographic area or geologic unit to preserve fossils.

Information that can contribute to assessment of this potential includes:

- 1) The existence of known fossil localities or documented absence of fossils nearby and in the same geologic unit (e.g. "Formation" or one of its subunits);
- 2) Observation of fossils within the Project vicinity;
- 3) The nature of sedimentary deposits in the area of interest, compared with those of similar deposits known elsewhere (size of particles, clasts and sedimentary structures conducive or non-conductive to fossil inclusion) that may favor or disfavor inclusion of fossils; and
- 4) Sedimentology details, and known geologic history, of the sedimentary unit of interest in terms of the environments in which the sediments were deposited, and assessment of the favorability of those environments for the probable preservation of fossils.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer 2003; Scott et al. 2004).

#### **CITY OF ONTARIO GENERAL PLAN**

The City of Ontario General Plan Community Design Element contains several policies (CD4-1 through CD4-7) were developed to meet the City's goals regarding management of cultural and paleontological resources. CD4-1 applies to the current study as an effort to update the known information on the project area, as it has not been surveyed or examined in the past ten years:

CD4-1 Cultural Resource Management. Update and maintain an inventory of historic sites and buildings, professional collections, artifacts, manuscripts, photographs, documents, maps, and other archives.

CD4-2 Collaboration with Property Owners and Developers. Educate and collaborate with property owners and developers to implement strategies and best practices that preserve the character of our historic buildings, streetscapes, and neighborhoods.

CD4-3 Collaboration with Outside Agencies. Pursue opportunities to team with other agencies, local organizations, and nonprofits in order to preserve and promote Ontario's heritage.

CD4-4 Incentives. Use the Mills Act and other federal, state, regional, and local programs to assist property owners with the preservation of select properties and structures.

CD4-5 Adaptive Reuse. Actively promote and support the adaptive reuse of historic sites and buildings to preserve and maintain their viability.

CD4-6 Promotion of Public Involvement in Preservation. Engage in programs to publicize and promote the City's and the public's involvement in preservation efforts.

CD4-7 Public Outreach. Provide opportunities for our residents to research and learn about the history of Ontario through the Planning Department, Museum of History and Art, Ontario, and the Robert E. Ellingwood Model Colony History Room.

## BACKGROUND

### ENVIRONMENTAL SETTING

The Specific Plan Area is located 5.2 miles south of the downtown area of the City of Ontario, bounded by Eucalyptus Avenue to the north, Euclid Avenue to the west, Merrill Avenue to the south, bisected by Sultana Avenue, and additional agricultural and dairy fields to the east. To the north is a mixture of dairy/agricultural and service commercial properties. Heavily developed residential areas are found west of Euclid Avenue and Chino Airport is located to the south. Ontario lies within the broad alluvial fan originating from the southern flank of the San Gabriel Mountains, and dips gradually southward to the confluence of San Antonio Channel, Cucamonga Channel/Mill Creek, and the Santa Ana River at the Prado Dam Flood Control Basin in Riverside County. The Santa Ana River flows to the south of the City and Cucamonga Creek and Deer Creek traverse north to south through the City. The Specific Plan Area is generally flat, with elevation averaging approximately 197 meters (m) (646 ft) above mean sea level (AMSL). The entire project area has been disturbed by the development and over 80 years of use by Legend Dairy Farms, currently located within the subject properties. Vegetation is characterized as primarily agricultural and commercial landscaping with no native vegetation observed.

### PALEONTOLOGICAL SETTING

The Specific Plan Area is situated in the San Bernardino Basin, adjacent to the Transverse Ranges Geomorphic Province. This province is comprised of a series of mountain ranges that run transverse to most mountain ranges in southern California – roughly east/west trending. The mountains within the province, including the San Gabriel and San Bernardino mountains to the north and northeast, were uplifted by tectonic activity, and provide a major sedimentary source for the alluvium basins of the adjacent areas (Critelli et al. 1995). The geologic units underlying this project are mapped entirely as younger Quaternary alluvium (Qyfa) dating from the late Holocene to Pleistocene (Jennings et al. 1977) (Figure 4). These deposits derived broadly as alluvial fan deposits from the San Bernardino Mountains to the north (McLeod 2018).

*Young Quaternary alluvium* (Qyfa) are Holocene to late Pleistocene-aged alluvial fan deposit that typically consists of river and stream derived sediments. The sediments are comprised of slightly consolidated gray-hued arkosic, sandy and gravel-sand deposits derived from local Peninsular Ranges batholith granitic bodies (Morton 2003).

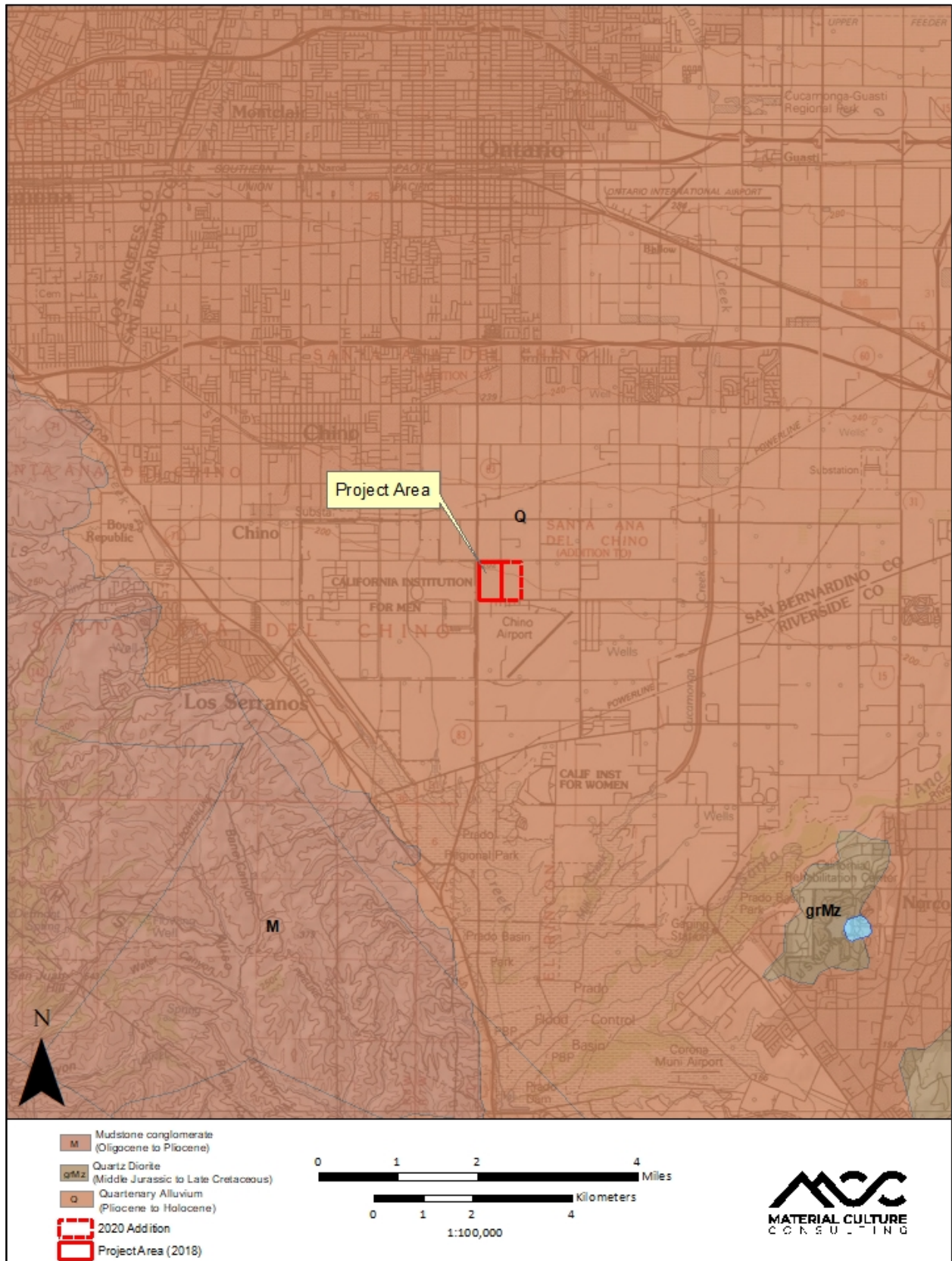


Figure 4. Geological Map of Specific Plan Area (1:100,000; compiled by USGS in open source PDF format)

## PREHISTORIC CONTEXT

Most researchers agree that the earliest occupation for the Ontario area dates to the early Holocene (11,000 to 8,000 years ago). The following discussion of the cultural history of San Bernardino County references the San Dieguito Complex, the Milling Stone Horizon, the Encinitas Tradition, the La Jolla Complex, the Pauma Complex, and the San Luis Rey Complex, since these culture sequences have been used to describe archaeological manifestations in the region. The Late Prehistoric component in the area of San Bernardino County was represented by the Cahuilla, Gabrielino, and Luiseño Indians. Absolute chronological information, where possible, will be incorporated into this discussion to examine the effectiveness of continuing to use these terms interchangeably.

### *The Paleo Indian Period*

The Paleo Indian Period is associated with the terminus of the late Pleistocene (12,000 to 10,000 YBP). The environment during the late Pleistocene was cool and moist, which allowed for glaciation in the mountains and the formation of deep, pluvial lakes in the deserts and basin lands (Moratto 1984). However, by the terminus of the late Pleistocene, the climate became warmer, which caused glaciers to melt, sea levels to rise, greater coastal erosion, large lakes to recede and evaporate, extinction of Pleistocene megafauna, and major vegetation changes (Moratto 1984; Martin 1967, 1973; Fagan 1991). Paleo Indians were likely attracted to multiple habitat types, including mountains, marshlands, estuaries, and lakeshores. These people likely subsisted using a more generalized hunting, gathering, and collecting adaptation, utilizing a variety of resources including birds, mollusks, and both large and small mammals (Erlandson and Colten 1991; Moratto 1984; Moss and Erlandson 1995). The earliest sites known in the area are attributed to the San Dieguito culture, which consists of a hunting culture with flaked stone tool industry (Warren 1967). The material culture related to this time included scrapers, hammer stones, large flaked cores, drills, and choppers, which were used to process food and raw material.

### *Milling Stone Period*

Around 8,000 years ago, subsistence patterns changed, resulting in a material complex consisting of an abundance of milling stones (for grinding food items) with a decrease in the number of chipped stone tools. The material culture from this time period includes large, bifacially worked dart points and grinding stones, handstones and metates. Archaeologists initially designated this period as the "Millingstone Horizon" (Wallace 1955). Later, the Millingstone Horizon was redefined as a cultural tradition named the Encinitas Tradition (Warren 1967) with various regional expressions including Topanga and La Jolla. Use by archaeologists varied as some adopted a generalized Encinitas Tradition without regional variations, while others continued to use Millingstone Horizon, and still others used Middle Holocene (the geologic time period) to indicate this observed pattern (Sutton and Gardner 2010:1-2). Recently, this generalized terminology was criticized by Sutton and Gardner (2010) as suppressing the identification of cultural, spatial, and temporal variation, as well as the movement of peoples throughout space and time. It is these factors that are believed to be critical to an understanding of prehistoric cultural adaptation and change in this portion of southern California (Sutton and Gardner 2010:1-2).

The Encinitas Tradition characteristics include abundant metates and manos, crudely-made core and flake tools, bone tools, shell ornaments, very few projectile points, indicating a subsistence pattern focused on hunting and gathering a variety of floral resources. Faunal remains vary by location but include marine mammals, fish, and shellfish, as well as terrestrial animals, reptiles, and birds (Sutton and Gardner 2010:7). The Encinitas Tradition has been redefined to have four patterns (Sutton and Gardner 2010: 8-25). These include the Topanga Pattern in coastal Los Angeles and Orange counties, the La Jolla Pattern in coastal San Diego County, and the Sayles or Pauma cultures in inland San Diego County extending into western San Bernardino County, where the project is located. At approximately 3,500 years ago, Pauma groups in the general Project vicinity adopted new cultural traits which

transformed the archaeological site characteristics - including mortar and pestle technology. This indicated the development of food storage, largely acorns, which could be processed and saved for the leaner, cooler months of the year.

#### *Late Prehistoric Period*

At approximately 1,500 years before present, bow and arrow technology started to emerge in the archaeological record, which also indicates new settlement patterns and subsistence systems. The local population retained the subsistence methods of the past but incorporated new materials into their day to day existence, as evidenced by the archaeological record. The Palomar Tradition is attributed to this time, and is comprised of larger two patterns: the Peninsular Pattern in the inland areas of the northern Peninsular Ranges (e.g., San Jacinto and Santa Rosa mountains) and the northern Coachella Valley (Sutton 2010), and the San Luis Rey pattern of the project area. Archaeological sites from this time period are characterized by soapstone bowls, arrowhead projectile points, pottery vessels, rock paintings, and evidence of cremation sites. The shift in material culture assemblages is largely attributed to the emergence of Shoshonean (Takic-speaking) people who entered California from the east.

### **ETHNOGRAPHY**

The territory of the Gabrielino at the time of Spanish contact covered much of current-day Los Angeles and Orange Counties and extended into the western part of San Bernardino County. The southern extent of this culture area is bounded by Aliso Creek, the eastern extent is located east of present-day San Bernardino along the Santa Ana River, the northern extent includes the San Fernando Valley, and the western extent includes portions of the Santa Monica Mountains. The Gabrielino also occupied several Channel Islands including Santa Barbara Island, Santa Catalina Island, San Nicholas Island, and San Clemente Island. Because of their access to certain resources, including a steatite source from Santa Catalina Island, this group was among the wealthiest and most populous aboriginal groups in all of southern California. Trade of materials and resources controlled by the Gabrielino extended as far north as the San Joaquin Valley, as far east as the Colorado River, and as far south as Baja California (Johnson 1962; Kroeber 1976; Bean and Smith 1978).

The Gabrielino lived in permanent villages and smaller, resource-gathering camps occupied at various times of the year depending upon the seasonality of the resource. Larger villages were comprised of several families or clans, while smaller, seasonal camps typically housed smaller family units. The coastal area between San Pedro and Topanga Canyon was the location of primary subsistence villages, while secondary sites were located near inland sage stands, oak groves, and pine forests. Permanent villages were located along rivers and streams, as well as in sheltered areas along the coast. As previously mentioned, the Channel Islands were also the locations of relatively large settlements (Kroeber 1976; Bean and Smith 1978).

The Gabrielino tribe carried out food exploitation strategies that utilized local resources ranging from plants to animals; coastal resources were also exploited. Rabbit and deer were hunted and acorns, buckwheat, chia, berries, fruits and many other plants were collected. Artifacts associated with their occupations include a wide array of chipped stone tools including knives and projectile points, wooden tools like digging sticks and bows, and ground stone tools like bedrock and portable mortars, metates and pestles. Local vegetation was used to construct shelters as well as for medicinal purposes. Cooked foods were prepared on hearths (Kroeber 1976; Bean and Smith 1978; McCawley 1996). Acorns were one of the most important food resources utilized by the Gabrielino and other Native American groups across California. The acorns were ground into a fine powder in order to make an acorn mush or gruel. A dietary staple, acorns provided a large number of calories and nutrients. The ability to store and create stockpiles in case of lean times also contributed to the importance of acorns as a vital natural resource. Much of the material evidence available to archaeologists concerning the Gabrielino is a result of tools and technologies related to their subsistence activities.

The social structure of the Gabrielino is little known; however, there appears to have been at least three social classes: 1) the elite, which included the rich, chiefs, and their immediate family; 2) a middle class, which included people of relatively high economic status or long established lineages; and 3) a class of people that included most other individuals in the society. Villages were politically autonomous units comprised of several lineages. During times of the year when certain seasonal resources were available, the village would divide into lineage groups and move out to exploit them, returning to the village between forays (Kroeber 1976; Bean and Smith 1978). Each lineage had its own leader, with the village chief coming from the dominant lineage. Several villages might be allied under a paramount chief. Chiefly positions were of an ascribed status, most often passed to the eldest son. Chiefly duties included providing village cohesion, leading warfare and peace negotiations with other groups, collecting tribute from the village(s) under his jurisdiction, and arbitrating disputes within the village(s). The status of the chief was legitimized by his safekeeping of the sacred bundle, a representation of the link between the material and spiritual realms and the embodiment of power (Kroeber 1976; Bean and Smith 1978). Shamans were leaders in the spirit realm. The duties of the shaman included conducting healing and curing ceremonies, guarding of the sacred bundle, locating lost items, identifying and collecting poisons for arrows, and making rain (Kroeber 1976; Bean and Smith 1978). Marriages were made between individuals of equal social status and, in the case of powerful lineages, marriages were arranged to establish political ties between the lineages (Kroeber 1976; Bean and Smith 1978). Men conducted the majority of the heavy labor, hunting, fishing, and trading with other groups. Women's duties included gathering and preparing plant and animal resources, and making baskets, pots, and clothing (Kroeber 1976; Bean and Smith 1978). The name "Gabrielino" is Spanish in origin and was used in reference to the Native Americans associated with the Mission San Gabriel. It is unknown what these people called themselves before the Spanish arrived, but today they call themselves "Tongva", meaning "people of the earth".

## HISTORICAL SETTING

The "Sacred Expedition" of 1769, led by Spaniard Gaspar de Portola and Franciscan Fray (or Father) Junipero Serra, started the process of colonization in Alta California was meant to begin the permanent settlement of Alta California, beginning in San Diego. Once the first European exploration of California occurred, the region underwent immense change. As early as 1827, Anglo-Americans were migrating into Southern California. In the decades to come, California would be taken by the United States with the close of the Mexican-American War and subsequent events such as the Civil War and California Gold Rush would continue to shape the history of California.

### *Spanish Period (1769 to 1821) to Mexican Period (1821 to 1848)*

The Spanish period began in 1769 with Captain Gaspar de Portolá's land expedition and ended in 1821 with Mexican Independence. During the Spanish Period, the establishment of the Mission San Gabriel Arcángel (1771) was influential throughout the surrounding regions, using the area for cattle grazing. An asistencia was established within the area nearby in Redlands in 1819 and helped facilitate the Mission's control of the surrounding area. However, after control of the area shifted to Mexico, secularization began throughout the area and the missions and their associated ranches began to decline. The Mexican government proceeded to push settlements of Mexican populations from the south by deeding large grants to individuals who promised to employ settlers. One such land grant was the *Rancho Santa Ana del Chino*.

In 1841, Antonio Maria Lugo was granted the rights to what became *Rancho Santa Ana del Chino*. After building an adobe house (now currently the location of Boy's Republic in Chino Hills), Lugo turned over the management of the ranch to his son-in-law, Isaac Williams. For decades, Williams successfully grazed cattle on the 46,000 acres Rancho. Notably, Williams played a significant part of the Battle of Chino, a local skirmish during the Mexican-American War. On September 26 and 27, 1846, the Mexican army sent an advancing contingency to intercept 24 American sympathizers, led by Benjamin D. Wilson, on their way to Los Angeles (Beattie 1942; Martino et al. 2011;

Lech 2014). The adobe house at *Rancho Santa Ana del Chino*, where the sympathizers had been hiding, was set ablaze as a result of multiple attacks. The American group surrendered and, instead of execution, the group was taken to Los Angeles where they remained prisoners of war until they were eventually released (Beattie 1942; Lech 2014).



Figure 5. Map of *Rancho Santa Ana del Chino* (Martino et al. 2011)

#### *American Period (1848 to present)*

The Gold Rush of 1849 would see tremendous influx of Americans and Europeans flooding into Southern California. *Rancho Santa Ana del Chino* became a popular stopover for travelers of the rush (Martino et al. 2011). The passing of the Homestead Act of 1862 continued this increase of settlers within the region, George and William Chaffey were among these early pioneers. In 1881, the Chaffey brothers believed that if the land was properly irrigated, it could be converted to profitable agriculture property. They bought over 6,000 acres of land in 1882 that was arid and covered by patches of scrub brush (City of Ontario 2018a). The Chaffey brothers designed a water system that connected miles of cement pipe from an underground water source to each parcel of land. This land would eventually become the cities of Ontario and Upland. George and William Chaffey derived the name of the city from their native province of Ontario in Canada (Galvin Preservation Associates 2007). The City of Ontario was incorporated in 1891, becoming one of the earliest established towns in San Bernardino County (City of Ontario 2018a and b). By 1903, the city was referred to as a “Model Irrigation Colony” after receiving an award at the World Fair as a “Model Colony” for innovation in water rights and technology, which assisted in attracting settlers to the City (City of Ontario 2018a). Charles Frankish, an early citizen of Ontario, guided and encouraged early development in the city by successfully attracting the Southern Pacific Railway to locate a depot in the center of town on Euclid Avenue, making it an important feature of the City. The establishment of the Southern Pacific Railroad depot transformed Ontario into an agricultural center. Ontario focused primarily on the citrus industry, but also grew walnuts, peaches, and grapes. There was a large gentry class of citrus growers who constructed many grand ornamental Victorian houses throughout the city (City of Ontario 2018b).





**Figure 6.** Citrus grove in North Ontario area, circa 1905 (Galvin Preservation Associates 2007)

Dairies began to be established in the region, known as Chino Valley, during the late 1890s and continued to dominate the area throughout the 20<sup>th</sup> century. During the 1920s and 1930s, middle European dairymen began settling in the area (Galvin and Associates 2004). In 1967, the County of San Bernardino designated 14,000 acres of land in Chino Valley as an agricultural preserve protected by the Williamson Act and the Land Conservation Act. By the 1980s, the area had more cows per acre and higher milk yields than anywhere else in the world (Galvin and Associates 2004). By the 1990s, increased demand for housing and high dairy operation costs pressured farmers in the San Bernardino Agricultural Preserve to consider relocating their dairies and annexing their land to adjoining cities. Anticipating the expiration of the Williamson Act, the area was divided, and portions were incorporated into the Cities of Ontario, Chino, and Chino Hills. The City of Ontario annexed 8,200 acres of the former San Bernardino Agriculture Preserve in 1999 and called the area the New Model Colony. The Local Agency Formation Commission (LAFCO) required the City to prepare a General Plan Amendment and EIR prior to annexation. In 1996, the City of Ontario began planning for annexation and adopted the New Model Colony General Plan Amendment and EIR in 1998 (Galvin and Associates 2004).



**Figure 7.** Ontario Airport, undated photo (City of Ontario 2018b)

## METHODS

### **CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM AND CULTURAL BACKGROUND RESEARCH**

On July 25, 2018, Allison Hill, M.A., RPA, conducted a search of the California Historical Resource Information System (CHRIS) at the South Central Coast Information Center (SCCIC), located at the California State University, Fullerton, Orange County. The record search covered the initial 84.1-acre Specific Plan Area. In April 2020, MCC staff compiled previous CHRIS research of previous nearby projects that overlap the supplemental 80.83-acre Specific Plan Area. These searches covered any previously recorded cultural resources and investigations within a 1-mile radius of the entire Specific Plan Area. The CHRIS search also included a review of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Inventory of Historic Resources.

### **NATIVE AMERICAN OUTREACH AND BACKGROUND RESEARCH**

MCC requested a search of the Sacred Lands File from the Native American Heritage Commission (NAHC) on July 24, 2018. The Commission responded on July 25, 2018, stating that there are no known sacred lands within a 1-mile radius of the Specific Plan Area. The NAHC requested that 20 Native American tribes or individuals be contacted for further information regarding the general vicinity. MCC subsequently sent letters on August 1, 2018 to the 20 Native American contacts, requesting any information related to cultural resources or heritage sites within or adjacent to the Specific Plan Area. Additional attempts at contact by letter, email, or phone call were made on August 10, 22, and 23, 2018. These efforts represent our due diligence in information, rather than formal consultation with the Tribes. The Lead Agency will be responsible for conducting consultation as per Assembly Bill 52 or Senate Bill 18, as applicable to the Specific Plan and/or Projects within the Specific Plan Area.

### **PALEONTOLOGICAL RECORDS SEARCH**

The literature review included an examination of geologic maps and a review of relevant geological and paleontological literature to determine which geologic units are present within the Specific Plan Area and whether fossils have been recovered from those geologic units elsewhere in the region. As geologic units may extend over large geographic areas and contain similar lithologies and fossils, the literature review includes areas well beyond the current study area. The results of this literature review include an overview of the geology of the region and a discussion of the paleontological sensitivity (or potential) of the geologic units within the Specific Plan Area. A search for paleontological records was completed by staff of the Natural History Museum of Los Angeles County (LACM) in Los Angeles on August 2, 2018. The record search included a one-mile radius around the Specific Plan Area, as well as the Specific Plan Area itself, and identified any vertebrate localities in the museum's records that exist near the study area in the same or similar deposits.

### **CULTURAL AND PALEONTOLOGICAL FIELD SURVEY**

The purpose of survey is to verify the exact location of each identified cultural or paleontological resource, the condition or integrity of the resource, and identify areas of cultural or paleontological resource sensitivity. Allison Hill, MCC Archaeologist and cross-trained Paleontologist, conducted the survey of the initial 84.1-acre Specific Plan Area on July 27, 2018. The survey consisted of walking in parallel transects spaced at approximately 15-meter intervals over the parcels, while closely inspecting the ground surface. All undeveloped areas were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools or fire-affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic-era debris (e.g., metal, glass, ceramics). The type of sediment and land formations were also noted in order to assess the potential for paleontological sensitivity. Existing ground disturbances (e.g. cutbanks, ditches, animal burrows, etc.) were also visually inspected to get a sense of subsurface deposits and soil horizons. Representative photographs were taken of the entire study area. The supplemental 80.83-acre Specific Plan Area was determined to not need a

supplemental cultural and paleontological survey at this time.

## RESULTS

### CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM AND CULTURAL BACKGROUND RESEARCH

The CHRIS records search identified a total of 23 cultural resources investigation that have been previously conducted within a 1-mile mile radius of the Specific Plan Area. No prior investigations of the Specific Plan Area were identified, yet seven studies took place on lands adjacent to the Specific Plan Area (see Table 1).

**Table 1.** Previous Conducted Cultural Resources Studies within 1-mile of Specific Plan Area

CHRIS Report Number	Authors	Year	Title of Study	Affiliation	Distance from Project Area
SB-00395	Hearn, Joseph E., and Ruth D. Simpson	1976	Archaeological-Historical Resources Assessment of Proposed Chino Maintenance Yard Construction	San Bernardino County Museum Association	Adjacent to Project Area
SB-00537	Hearn, Joseph E.	1977	Archaeological-Historical Resources Assessment of Land Area to be Impacted by Renovation Program at Chino Airport	San Bernardino County Museum Association	Within 1 mile
SB-00547	Hearn, Joseph E.	1977	Archaeological-Historical Resources Assessment of Kimball Road Improvement Project in Chino	San Bernardino County Museum Association	Adjacent to Project Area
SB-00596	San Bernardino County Museum Association	1978	Archaeological-Historical Resources Assessment of Merrill Avenue-From Grove Avenue to Archibald Avenue, Chino Area	San Bernardino County Museum Association	Within 1 mile
SB-01499	Foster, John M. and Roberta S. Greenwood	1985	Cultural Resources Overview: California Portion, Proposed Pacific Texas Pipeline Project	Greenwood and Associates	Adjacent to Project Area
SB-01768	LSA Associates, Inc	1988	A Cultural Resource Assessment, Chino Airport Expansion Project, San Bernardino County	LSA Associates, Inc	Adjacent to Project Area
SB-02623	Taskiran, Ayse and Rachel Greeley	1992	Cultural Resources Assessment: Santa Ana Watershed Project Authority, Chino Basin Desalination Program – Phase I Project, Riverside and San Bernardino Counties, California	Univ. of Calif. Riverside, Archaeological Research Unit	Within 1 mile
SB-02678	Broomhall, Lorie L.	1992	Addendum to Cultural Resources Assessment: Santa Ana Watershed Project Authority, Chino Basin Desalination Program – Phase I Project, Riverside and San Bernardino Counties, California	Univ. of Calif. Riverside, Archaeological Research Unit	Within 1 mile
SB-03012	Owen, Shelley	1995	Cultural Resources Survey and Impact Assessment for the Cajon/EPTC Pipeline Project Located in Portions of Los Angeles, San Bernardino, and Orange Counties, CA	EIP Associates	Within 1 mile
SB-03066	Rosenthal, Jane and Beth Padon	1995	Historic Property Clearance Report for Euclid Ave. (RTE 83) Road Widening Between Kimball & Merrill Avenues in the City of Chino—08-RIV-83 PM 2.73/3.920	Petra Resources, Inc	Adjacent to Project Area
SB-03686	Half, Alice M.	1997	Cultural Resource Assessment-Santa Ana Watershed Project Authority, Chino Basin Desalination Program: Water Pipelines, Wells & Reservoir. 26PP	Greenwood and Associates	Adjacent to Project Area
SB-03687	Love, Bruce and Bai Tang	1997	Identification & Evaluation of Historic Properties- Chino Basin Desalination Program, Facilities Revision Project, San Bernardino & Riverside Counties. 26pp]	CRM Tech	Within 1 mile

**Table 1 (cont.).** Previous Conducted Cultural Resources Studies within 1 -mile of Specific Plan Area

CHRIS Report Number	Authors	Year	Title of Study	Affiliation	Distance from Project Area
SB-04402	Billat, Lorna	2004	Chino Airport/CA-6115D/ 14PP	Earth Touch, LLC	Within 1 mile
SB-04404	Tanaguchi, Christeen	2003	Phase I Cultural Resources Survey for Cingular Telecommunications Facility SB-197-03 (Edison Verizon Colo) 14095 N. Euclid Ave., Ontario, San Bernardino County, CA. 9PP	Michael Brandman Associates	Within 1 mile
SB-04506	Dahdul, Miriam	2001	Historical/Archaeological Resources Survey Report: Chino I Desalter Expansion & Chino II Desalter & Support Facilities, Chino Basin Area, San Bernardino & Riverside Counties. 16PP	CRM Tech	Adjacent to Project Area
SB-06037	Crawford, Kathleen A.	2008	Direct APE Architectural Assessment for Royal Street Communications, LLC California Candidate LA2245B, (SCE Chino, Chino-Mira Loma No.1 M231-T3n), Fern Avenue and Edison Avenue, Chino, San Bernardino County, California.	Michael Brandman Associates	Within 1 mile
SB-06068	Cotterman, Cary and Chandler, Evelyn	2009	Cultural Resources Inventory of Proposed Edison International Aircraft Operations Facility at the Chino Airport Chino, San Bernardino County, California	ECORP Consulting	Within 1 mile
SB-06069	Bonner, Wayne	2007	Cultural Resource Records Search Results and Site Visit for T-Mobile Facility Candidate IE24049C (SCE Tower Aguerre), 14010 Cypress Avenue, Chino, San Bernardino County, California	Michael Brandman Associates	Within 1 mile
SB-06095	Applied Earthworks	2009	Confidential Cultural Resources Specialist Report for the Tehachapi Renewal Transmission Project	Applied Earthworks	Within 1 mile
SB-07181	Garcia, Kyle	2011	Phase I Cultural Resources Assessment for the Proposed College Park (Phase 2A) Project, City of Chino, County of San Bernardino, California	PCR	Within 1 mile
SB-07898	Strudwick, Ivan	2013	Results of the Cultural Resources Assessment Survey for the Stratham Company 14-Acre Brewart Site Project in the City of Chino, San Bernardino County, California.	LSA Associates, Inc.	Within 1 mile
SB-07968	Holm, Lisa and John Holson	2011	Supplemental Archaeological Survey Report: Tehachapi Renewable Transmission Project Segment 8 East (Phase 2 and 3) and West (Phase 4), Los Angeles and San Bernardino Counties, California	Pacific Legacy, Inc	Within 1 mile
SB-07977	Panich, Lee, Tsim D. Schneider, and John Holson	2010	Supplemental Archaeological Survey Report: Tehachapi Renewable Transmission Project Segment 8 East (Phase 2 and 3), San Bernardino County, California	Pacific Legacy, Inc	Within 1 mile

The records search identified six previously recorded cultural resources within 1-mile of the Specific Plan Area. All of these resources are historic, with no prehistoric resources previously identified within the record search buffer. No resources have been recorded within the Specific Plan Area (see Table 2).

**Table 2.** Previously Recorded Cultural Resources within 1-mile of Specific Plan Area

Primary Number	Trinomial	Age	Attributes	NRHP/CRHR	Distance from Project Area
P-36-024903	N/A	Historic	HP11-Engineering structure	unknown	Within 1 mile

**Table 3.** Previously Recorded Cultural Resources within 1-mile of Specific Plan Area

Primary Number	Trinomial	Age	Attributes	NRHP/CRHR	Distance from Project Area
P-36-025440	N/A	Historic	HP11-Engineering structure	unknown	Within 1 mile
P-36-026724	N/A	Historic	N/A	unknown	Within 1 mile
P-36-026725	N/A	Historic	HP33-Farm/ranch	unknown	Within 1 mile
P-36-026882	N/A	Historic	HP20-Canal/aqueduct	unknown	Within 1 mile
P-36-026925	N/A	Historic	AH04-Privies/dumps/trash scatters	unknown	Within 1 mile

The complete results of the CHRIS resources records searches are included as Confidential Appendix B of this report. Several additional sources were consulted for this Project as well (Table 3).

**Table 4.** Additional Sources Consulted

Source	Results
National Register of Historic Places (1979-2002 & supplements)	Negative
Historical United States Geological Survey topographic maps (USGS 2012)	Area consistently used for agricultural activities
Historical United States Department of Agriculture aerial photos	Area consistently used for agricultural activities
California Register of Historical Resources (1992-2010)	Negative
California Inventory of Historic Resources (1976-2010)	Negative
California Historical Landmarks (1995 & supplements to 2010)	Negative
California Points of Historical Interest (1992 to 2010)	Negative
Local Historical Register Listings	Negative
Bureau of Land Management General Land Office Records (BLM GO 2008)	Negative

A review of historic-era aerial photographs and maps show the initial Specific Plan Area has been consistently used for agricultural and dairy activities since the 1930s, with the supplemental Specific Plan Area utilized for agricultural by the 1950s (Figures 8-10). No structures were observed within the Specific Plan Area until the early 1980s, thus no existing buildings are considered historic.



**Figure 8.** Agricultural activities within Specific Plan Areas (depicted on 1938 aerial photograph)



**Figure 9.** Agricultural activities within Specific Plan Areas (as depicted on 1959 aerial photograph)



**Figure 10.** Agricultural and dairy activities within the Specific Plan Areas  
(as depicted on 1994 aerial photograph)

#### **NATIVE AMERICAN OUTREACH AND BACKGROUND RESEARCH**

As a result of the effort to contact the 20 Native American Tribes or individuals identified by the NAHC, MCC received ten responses. These responses came in the form of letters, emails, and phone calls. Below is a summary of the responses provided by Native American Tribes.

On August 3, 2018, MCC received an email from Sarah Bliss, Cultural Resources Manager for Twenty-Nine Palms Band of Mission Indians (TNPBMI). Ms. Bliss stated that TNPBMI was unaware of any additional cultural resources or any Tribal Cultural Resources within the Project area. TNPBMI requested any updates or changes to the Project be brought to their attention. On August 8, 2018, MCC received an email from Jessica Mauck, Cultural Resources Analyst for San Manuel Band of Mission Indians (SMBMI). Ms. Mauck stated the proposed Project Area is located just outside of Serrano ancestral territory and SMBMI would not request consulting party status or elect to participate with further development of the Project. On August 9, 2018, MCC received an email from Lacy Padilla, Archaeological Technician for Agua Caliente Band of Cahuilla Indians (ACBCI). Ms. Padilla stated the proposed Project is not located within ACBCI's Traditional Use Area and they defer to other tribes in the area.

On August 10, 2018, Robert Robinson, Chairperson and Tribal Historic Preservation Office (THPO) for Kern Valley Indian Community (KVIC), responded to MCC's outreach efforts. Mr. Robinson stated that the Project Area is outside KVIC's traditional tribal territory. KVIC recommended MCC seek comments from tribes in the area. During a phone call on August 10, 2018, Mark Cochrane, chairperson for Serrano Nation of Mission Indians, stated that the Tribe had no comment but requested to be updated should any new discoveries occur during the Project. On August 16, 2018, MCC received an email from Travis Armstrong, Tribal Historic Preservation Office for Morongo Band of Mission Indians (MBMI). Mr. Armstrong stated that the Project is outside of MBMI's ancestral territory



and/or areas of tribal affiliation or interest. MBMI requested should no contact be made with other tribal governments, to follow their Standard Development Conditions.

On August 22, 2018, follow up phone calls resulted in three additional responses. Joseph Ontiveros, head of the Cultural Resource Department for the Soboba Band of Luiseno Indians, acknowledged receipt of the letter request sent on August 1, 2018 and stated the Tribe would provide a response by August 24, 2018. To date, MCC has not received a response. Andrew Salas, Chairperson for the Gabrieleno Band of Mission Indians-Kizh Nation, indicated that the project is located in a culturally sensitive area that is part of the Gabrieleno Band of Mission Indians-Kizh Nation ancestral territory. Based on traditional and historical information, Mr. Salas recommends both archaeological and Tribal monitoring for the project. In addition, Mr. Salas requested that MCC include in this report that: the Gabrieleno Band of Mission Indians-Kizh Nation would like to be the primary tribe to consult on the project because the project is located in their ancestral territory; that the Tribe wishes to be in contact with the lead agency for consultation; and that the Tribe would like to draft mitigation language for tribal cultural resources as Mr. Salas anticipates encountering prehistoric and historic cultural resources. On August 23, 2018, Brian Etsitty, acting THPO for the Colorado River Indian Tribes of the Colorado River Indian Reservation, indicated the tribe had no comment regarding the project.

On August 30, 2018 MCC received a response from Anthony Morales, Chairperson for the Gabrieleno/Tongva San Gabriel Band of Mission Indians. Mr. Morales indicated that the project is located within proximity to multiple areas that are culturally significant to the Tribe. He explained that Euclid Ave, the Pomona Freeway, and the Chino Valley freeway are considered important historic and prehistoric tribal routes located within proximity to important water sources like the Santa Ana River and Prado Dam. Based on this traditional and historical knowledge, Mr. Morales recommends archaeological and Tribal monitoring for the project.

As of August 30, 2018, MCC has not received any additional responses from the remaining NAHC-listed groups or individuals we contacted for information. Should MCC receive additional responses once the final report is submitted, the information will be passed on to EPD Solutions, Inc. to be added to the report as an addendum. NAHC and Native American correspondence materials, including our communication attempts, are provided as Appendix C.

#### **PALEONTOLOGICAL RECORDS SEARCH**

The locality search at LACM did not yield any fossil localities within 1 mile of the Project Area and no fossil localities within the Project Area (See Appendix D) (McLeod 2018). The geological units mapped within the entirety of the Project Area is comprised of younger Quaternary alluvium (McLeod 2018). While these deposits typically do not contain significant vertebrate fossils within the uppermost layers, it is likely they are underlain in this area by older Quaternary deposits at relatively shallow depth. The closest vertebrate fossil locality from similar sediments is LACM 7811, which is located due east of the Project Area, and west of Mira Loma, California. This locality produced a fossil specimen of whipsnake (*Maticophis*) at a depth of nine to eleven ft below surface (McLeod 2018). The next closest vertebrate fossil locality from Older Quaternary deposits is LACM 1207, located south-southeast of the Specific Plan Area on the northwestern side of Corona, California. This locality produced fossil specimen of deer (*Odocoileus*) (McLeod 2018). Additional literature was consulted, including The University of California Museum of Paleontology (UCMP)'s Miocene Mammal Mapping Project (MioMap), with no fossil localities within the area of the Specific Plan (Carrasco et al. 2005).

#### **CULTURAL AND PALEONTOLOGICAL FIELD SURVEY RESULTS**

During the course of fieldwork, survey conditions were generally poor. The majority of the initial Specific Plan Area (68.6 acres) was inaccessible to intensive level survey, due to agricultural and dairy activities (Figure 11). The areas that were surveyed intensively (15.5 acres) had ground visibility ranging from fair (50%) to good (approximately 75%) with most of the landscaping a combination of manure and annual grasses. However, the initial Specific Plan

Area was surveyed opportunistically, from multiple viewpoints within and around the perimeter of the proposed area. As previously stated, the supplemental 80.83-acre Specific Plan Area to the east was determined as not requiring additional survey efforts at this time. The entire Specific Plan Area has been repeatedly and significantly altered and disturbed by over 80 years of agricultural/dairy operations. Modern refuse was observed throughout the Specific Plan Area. The visual observation of sediment included tan fine loam with small pebble and cobble inclusions that became muddy with increase organic content when wet and with cattle presence. This is consistent with the mapping of younger Quaternary alluvium deposits. No cultural or paleontological resources were observed during the survey. Representative photos of the area are found below (Figures 12-17).



Figure 11. Survey Results for the Specific Plan Area (1:5,000)





**Figure 12.** Overview of western portion of initial Specific Plan Area (View Southwest)



**Figure 13.** Overview of eastern portion of initial Specific Plan Area (View Southeast)





**Figure 14.** Overview of southeastern portion of the initial Specific Plan Area (View North)



**Figure 15.** Overview of initial Specific Plan Area from southwest corner (View Northeast)





**Figure 16.** Representative photo of sediment throughout initial Specific Plan Area (View North)



**Figure 17.** Overview of initial Specific Plan Area (View Northeast)

## CONCLUSIONS AND RECOMMENDATIONS

### CULTURAL RESOURCES CONCLUSIONS

The Phase I cultural resource assessment of the Specific Plan Area included a CHRIS records search, NAHC outreach, background research, a field pedestrian survey and site visit. The records search results indicated no previously recorded resources within the Specific Plan Area and six historic-era resources within a 1-mile radius. During the field survey, no cultural resources were encountered.

### CULTURAL RESOURCES RECOMMENDATIONS

Based on the results of the cultural resources search and survey, the proposed Specific Plan Area is considered to have a low sensitivity for presence of prehistoric or historical archaeological deposits or features. MCC recommends **No Mitigation is Needed**. While we do not recommend additional mitigation, MCC does recommend setting a plan in place to expediently address inadvertent discoveries and human remains (as described below), should these be encountered during construction activities.

### INADVERTENT DISCOVERIES

Despite actions taken to ensure that all cultural resources are located prior to construction, including record searches and field surveying, there still remains the possibility that undiscovered, buried archaeological resources might be encountered during construction. In the event that these resources are inadvertently discovered during ground-disturbing activities, work must be halted within 50 feet of the find until it can be evaluated by a qualified archaeologist. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as data recovery excavation or fossil recovery, may be warranted and would be discussed in consultation with the appropriate regulatory agency(ies).

### HUMAN REMAINS

Procedures of conduct following the discovery of human remains on non-federal lands have been mandated by California Health and Safety Code §7050.5, PRC §5097.98 and the California Code of Regulations (CCR) §15064.5(e). According to the provisions in CEQA, should human remains be encountered, all work in the immediate vicinity of the burial must cease, and any necessary steps to insure the integrity of the immediate area must be taken. The Riverside County Coroner will be immediately notified. The Coroner must then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner has 24 hours to notify the NAHC, who will, in turn, notify the person they identify as the most likely descendent (MLD) of any human remains. Further actions will be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.

### PALEONTOLOGICAL RESOURCES CONCLUSIONS

The Phase I paleontological resource assessment of the Specific Plan Area included a locality records search, literature review, and a field pedestrian survey. No significant paleontological resources were identified within the direct Specific Plan Area during the locality search or the field survey. Geological units mapped within the area are comprised of younger Quaternary Alluvium, derived from San Bernardino Mountains to the north. While these deposits typically do not contain significant vertebrate fossils within the uppermost layers, it is likely there are underlying sediments of older Quaternary deposits at unknown depths. There are nearby localities from similar sedimentary deposits found within the proposed Specific Plan Area. Therefore, the area is considered low to moderate sensitivity for paleontological resources.

### **PALEONTOLOGICAL RESOURCES RECOMMENDATIONS**

Based on the above findings, MCC recommends that for each Project proposed within the Specific Plan, review of grading and infrastructure plans take place prior as part of the environmental review process. Periodic paleontological spot checks are recommended for any excavation exceeding a depth of ten feet below surface to determine if older, paleontologically sensitive sediments are present. If present, full time monitoring should be implemented. Shallow excavations do not require monitoring.

In the case of deep excavations, prior to the start of construction, a paleontological resources monitoring plan (PRMP) should be prepared and implemented. It is recommended the Project's PRMP implement the following procedures:

- A trained and qualified paleontological monitor should perform spot-check and/or monitoring of any excavations on the Project that have the potential to impact paleontological resources in undisturbed native sediments below ten feet in depth. The monitor will have the ability to redirect construction activities to ensure avoidance of adverse impacts to paleontological resources.
- The Project paleontologist may re-evaluate the necessity for paleontological monitoring after examination of the affected sediments during excavation, with approval from Lead Agency and Client representatives.
- Any potentially significant fossils observed shall be collected and recorded in conjunction with best management practices and SVP professional standards.
- Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.
- A report documenting the results of the monitoring, including any salvage activities and the significance of any fossils, will be prepared and submitted to the appropriate personnel.



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## Appendix A: Qualifications

Tria Belcourt, M.A., RPA  
President and Principal Environmental Specialist



Tria Belcourt oversees and is responsible for the entire work process at Material Culture Consulting. She is responsible for planning, supervising, and overseeing field projects, including responsibility for the professional quality of evaluations and recommendations. Tria has primary accountability for the technical completeness and competence of work conducted by her staff. She is responsible for development of work plans and/or research designs, for performance of crew chiefs, for selection standards and limitations on work assignments of crew members, for analysis and interpretation of field data, for integration of fieldwork results into comparative regional perspectives, and for preparation of reports. Tria's advanced academic training and more than sixteen years of professional archaeological experience has included rigorous training and application of anthropological and archaeological theory and methods, and in recording, collecting, handling, analyzing, evaluating, and reporting cultural property data, relative to the type and scope of work proposed.

Tria has been an archaeological project manager and principal investigator for over nine years, leading and managing several complex compliance projects throughout the State of California and in Southern Nevada, which have involved each step of cultural resource compliance and management. Prior to this, she spent six years as a field technician and crew chief on projects throughout California and the Southeastern United States. Her experience includes conducting background research, field survey, resource testing and formal NRHP/CRHR evaluation, data recovery plan development and implementation. She has prepared hundreds of technical reports for all of the above to state and federal standards, including following BLM standards for GIS spatial data management and technical reporting – ranging from simple clearance forms, to letter reports, to extensive data recovery reports. She was the lead preparer of the Fort Irwin Integrated Cultural Resource Management Plan (2009-2013) and has also prepared several cultural resource management plans for state regulated projects. She has overseen and conducted archaeological monitoring and management of unanticipated discovery of resources, including Native American human remains on federal lands (and repatriation of the remains), and reported the results and outcomes of cultural resource monitoring efforts in lengthy technical reports. Finally, Tria regularly provides third party and QA/QC review of cultural resource technical documents, due to her keen understanding of state and federal regulations and laws governing the management of cultural resources throughout the state of California.

#### EDUCATION

2014	Graduate Certificate in Environmental Management of Military Lands, Colorado State University
2010	Professional Certification in CEQA/NEPA, ICF International Corporation
2009	M.A. in Anthropology, University of Florida Gainesville, Florida Professional Certification in GIS
2006	B.A. in Anthropology, Magna Cum Laude, University of California, Los Angeles, California

#### AFFILIATIONS/CERTIFICATIONS/TRAINING

- Society for Historical Archaeology (SHA)
- Society for California Archaeology (SCA)

#### UTILITY SECTOR EXPERIENCE

***SCE Transmission Line Rating and Remediation Project (TLRR) – Control Silver Peak 66kV Subtransmission, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (October 2016- present).*** Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-2018) and Environmental Intelligence (2018-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

***SCE Transmission Line Rating and Remediation Project (TLRR) - Kern River 66kV, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (October 2016- present).*** Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

***SCE Transmission Line Rating and Remediation Project (TLRR) – Eldorado Pisgah Lugo 220kV Subtransmission, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (October 2016- present).*** Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

***SCE Transmission Line Rating and Remediation Project (TLRR) – Control Haiwee 115kV Subtransmission, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (April 2017- present).*** Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-2018) and to SWCA (2018-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

***SCE Transmission Line Rating and Remediation Project (TLRR) – Ivanpah Coolwater Kramer Inyokern 115kV Subtransmission, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (April 2017- present).*** Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-2018) and to SWCA (2018-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

***Pacific Gas and Electric Company (PG&E), NERC Alert Program – Archaeological Principal Investigator; throughout California; 2015 – Present.*** Belcourt provides oversight of all task orders and project management of on-call task orders involving cultural resource desktop reviews, records searches and field reviews for the PG&E NERC Alert program: tracking and reporting efforts, maintaining project schedule, and timely submittal of data to prime contractor (Arcadis).

***Southern California Edison (SCE), On-Call and Emergency Projects – Archaeological Principal Investigator and Project Manager; throughout California, 2013 – Present.*** Belcourt has provided oversight of over 200 task orders for on-call and emergency projects to date, involving cultural resource desktop reviews, records searches and field reviews for deteriorated poles, system upgrades, initial studies to support capital projects, and monitoring support to replace facilities due to natural disasters. This high-volume program includes preparing and submitting budgets, managing support staff and overseeing work, tracking and reporting efforts, maintaining project schedules, and preparing technical reports and GIS datasets for submittal to prime contractor (SWCA).

***Southern California Edison (SCE), Large Capital Projects – Archaeological Principal Investigator and Project Manager; throughout California, 2014 – Present.*** Belcourt has provided oversight of over 20 task orders for major projects to date, involving cultural resources for this contract with SWCA, Environmental Intelligence and ICF. This includes preparing and submitting budgets, managing support staff and overseeing work, tracking and reporting efforts, maintaining project schedule, and preparing technical reports and GIS datasets for submittal to prime contractors.

***Southern California Edison (SCE), Small Capital Projects – Archaeological Principal Investigator and Project Manager; throughout California, 2014 – Present.*** Belcourt provides oversight of all task orders and project management of task orders involving cultural resources for this contract with Environmental Intelligence and ICF. This includes preparing and submitting budgets, managing support staff and overseeing work, tracking and reporting efforts, maintaining project schedule, and preparing technical reports and GIS datasets for submittal to prime contractors.

***Southern California Edison (SCE), Coolwater Lugo Transmission Project — Environmental Project Manager; San Bernardino County, California; 2014 – 2015.*** Belcourt provided oversight of all project management on CWLTP: tracking and reporting efforts of subconsultants (Pacific Legacy, Paleo Solutions and Urbana Preservation and Planning), maintaining project schedule and timely submittal of project deliverables to agency reviewers. Served as communication facilitator between SCE and BLM/CPUC agency reviewers. Provided final review of the Cultural Resources Technical Report (which included over 1,000 cultural resources) and the Historic Built Environment Report - prior to draft submittal to BLM.

***SCE, Eldorado Ivanpah Transmission Project – In-house Consultant for Archaeology; San Bernardino County, California and Clark County, Nevada; 2010-2012.*** Belcourt provided complex regulatory oversight and project management regarding cultural and paleontological resource management. She developed compliance training to inform and guide construction activities and major capital project teams. She also developed and implemented internal cultural resource management programs based on project mitigation measures. Tria coordinated with BLM archaeologists on discovery and management of previously unknown cultural resources identified during construction. She provided environmental analyses, technical reports, and clearance documentation for over 20 project modifications during construction without delay to project. Developed the cultural resources geodatabase for EITP and coordinated regularly with the project GIS team.

***Silver State South Substation, In-house Consultant for Archaeology; Southern California Edison, Clark County, NV; 2010-2012.***

Provided regulatory oversight and project management regarding cultural and paleontological resource management during project licensing and scoping. Identified potential impacts to cultural and paleontological resources, developing appropriate mitigation measures in preparation for and projecting alternative conclusions.

***Tehachapi Renewable Transmission Project, Multiple Roles; Southern California Edison, Segments 1-3 and Segments 6-11, Kern, Los Angeles and Orange County, CA; 2009 - Present.***

Tria provided service to this project over seven years in multiple roles – archaeological field monitor, project coordinator, in-house consultant at SCE, and principal investigator. She provided regulatory oversight and project management regarding cultural and paleontological resource management for all segments of TRTP. Developed and implemented internal cultural resource management programs based on the mitigation measures in the Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS) for TRTP, and for the existing Special Use Permits and Record of Decision for TRTP, issued by the Angeles National Forest (ANF). Oversaw preparation of the Historic Properties Treatment Plans, fieldwork and technical report preparation for two large-scale Phase III Data Recovery excavations on Angeles National Forest. Coordinated with ANF archaeologists on discovery and management of previously unknown cultural resources identified during construction. Provided cultural resources analyses and clearance documentation, including technical reports, for over 100 project modifications during construction without delay to project. Finally, Tria was responsible for maintaining the geospatial data for the project within the SCE cultural resources geodatabase TRTP and coordinated with the project GIS team.

***Desert Tortoise Habitat Conservation Plan Area, Principal Investigator; Cadiz Inc., San Bernardino County, CA; 2013.***

Oversaw records search to identify the extent of previous cultural resources surveys and all previously recorded prehistoric and historic resources within the 7,500-acre Desert Tortoise Habitat Conservation Plan (HCP) area (Project Area) located on lands administered by the BLM Needles Field Office in unincorporated San Bernardino County, California.

## **SOLAR SECTOR EXPERIENCE**

***Ecoplexus California Correctional Institution Solar Project, Tehachapi, Kern County, California. Cultural and Paleontological Assessments (April 2018 – present).***

Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, coordinated AB52 consultation between the State of California and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

***Ecoplexus Ironwood State Prison and Chuckawalla Valley State Prison Solar Project, City of Blythe, Riverside County.***

***Cultural and Paleontological Assessments (June 2018 – present).*** Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, coordinated AB52 consultation between the State of California and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

***Ecoplexus California State Prison Centinela Solar Project, City of Imperial, Imperial County, California. Cultural and Paleontological Assessments (August 2017 – April 2018).***

Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, coordinated AB52 consultation between the State of California and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

***Ecoplexus Calipatria State Prison Solar Project, City of Calipatria, Imperial County, California. Cultural and Paleontological Assessments (August 2017 – April 2018).***

Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, coordinated AB52 consultation between the State of California and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

***Ecoplexus RJ Donovan State Prison Solar Project, San Diego, San Diego County, California. Cultural and Paleontological Assessments (March 2018 – April 2018).***

Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

***Ecoplexus Salinas Valley State Prison Solar Project, City of Soledad, Monterey County, California. Cultural and Paleontological Assessments (March 2018 – April 2018).***

Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

***Ecoplexus Correctional Training Facility Soledad Project, City of Soledad, Monterey County, California. Cultural and Paleontological Assessments (March 2018 – April 2018).*** Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

***SDG&E Cameron Substation Photovoltaic Project, San Diego, San Diego County, California. Cultural and Paleontological Assessments (September 2017 – present).*** Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, facilitated Native American consultation between County of San Diego and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

***Forefront Power Beard Solar Project, Dustin Acres, Kern County, California. Cultural and Paleontological Assessments (March 2018- April 2018).*** Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

***Forefront Power Broadman Solar Project, Livermore, Alameda County, California. Cultural and Paleontological Assessments (February 2018- March 2018).*** Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

***Forefront Power Nachtigall Solar Project, Wasco, Kern County, California. Cultural and Paleontological Assessments (March 2018-April 2018).*** Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

***Forefront Power Rocha Solar Project, Fuller Acres, Kern County, California. Cultural and Paleontological Assessments (March 2018-April 2018).*** Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

***Forefront Power Shafter Solar Project, City of Shafter, Kern County, California. Cultural and Paleontological Assessments (March 2018-present).*** Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

***Forefront Power Anderson Twisselman Solar Project, Lost Hills, Kern County, California. Cultural and Paleontological Assessments (March 2018-April 2018).*** Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

***Forefront Power Weedpatch Solar Project, Kern County, California. Cultural and Paleontological Assessments (March 2018-present).*** Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Jennifer Kelly, M.Sc.  
Paleontological Principal Investigator and Project  
Manager



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Jennifer Kelly has experience in all aspects of paleontology. She has extensive experience with monitoring, salvage, fieldwork, project management, and report writing, as well as volunteer experience from the La Brea Tar Pits/Page Museum and the Cooper Center of Orange County (Paleontology department) and field experience as a Staff Geologist for Leighton Geotechnical. Her expertise is Geology, and she has her M.S. in Geological Sciences, emphasis in Geochemistry.

Jennifer has taught lab courses in paleontology and general geology, and also assisted with field mapping classes. Jennifer is HAZWOPER 40-hour certified and a registered Orange County paleontologist. She has authored and co-authored more than 100 paleontological compliance documents, including PRMPs, EIR, EIS, PEA, treatment plans, final monitoring reports, survey reports, and other compliance documents, in compliance with NEPA, CEQA, Caltrans and city and county laws, ordinances, regulations, and statutes.

#### Education

2012 M.Sc. in Geology, California State University, Long Beach, California  
2005 B.S., Geology (preliminary work for entry to M.S. Geology Program), California State University, Long Beach  
2004 B.A., Theater Arts, California State University, Long Beach

#### Certifications and Training

- 40 Hour Certification for HAZWOPER training under 29 CFR 1910.120, CA (2013 – 2014)
- Orange County Certified Paleontologist
- San Diego County Certified Paleontologist

#### Recent Professional Experience in California

***Paleontological Principal Investigator and Project Manager, Harvill Industrial Project, City of Jurupa Valley, Riverside County, California (2017-present).*** Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation for this project, and prepared the Paleontological Resources Impact Mitigation Plan (PRIMP). Kelly also oversees the paleontological monitoring program for this Project. This project is ongoing and is scheduled to be complete in 2020.

***Paleontological Principal Investigator and Project Manager, Rider Commerce Center Project, Unincorporated Riverside County, California (2018-present).*** Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation for this project, and prepared the Paleontological Resources Impact Mitigation Plan (PRIMP). Kelly also oversees the paleontological monitoring program for this Project. This project is ongoing and is scheduled to be complete in 2020.

***Paleontological Principal Investigator and Project Manager, Ontario Ranch Logistic Center, City of Ontario, County of San Bernardino, California (2018-present)*** Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation for this project, and authored the PRIMP for this project. Kelly also oversees the paleontological monitoring program for this Project. This project is ongoing and is scheduled to be complete in 2021.

***Paleontological Principal Investigator and Project Manager, Saddleback College, City of Mission Viejo, Orange County (2018-present)*** Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation for this project, prepared the Paleontological Resources Impact Mitigation Plan (PRIMP), and



oversaw the paleontological monitoring program detailed in the PRIMP. Kelly is currently co-authoring the final paleontological mitigation report. This project is in the final stages and is scheduled to be completed 2020.

### Private Development Sector Experience

***Paleontological Principal Investigator and Project Manager, Proposed Alta Vista Specific Plan Project, SC Development, City of Placentia, Orange County (2017).*** Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project.

***Paleontological Principal Investigator and Project Manager, Magnolia Tank Farm Project, SLF-HB Magnolia, LLC, City of Huntington Beach, Orange County (2017).*** Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project.

***Paleontological Principal Investigator and Project Manager, Santa Fe Springs Apartment Project, Clearwater Communities, City of Whittier, Los Angeles County (2017).*** Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project.

***Paleontological Principal Investigator and Project Manager, Rider Business Center Project, Capstone Advisor, Unincorporated Riverside County (2017).*** Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project.

***Paleontological Principal Investigator and Project Manager, Los Olivos French Valley Project, Newland Homes LLC, Unincorporated Riverside County (2017).*** Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project.

***Paleontological Principal Investigator and Project Manager, Veteran's Village Community Development Project, UHC LLC, Cathedral City, Riverside County (2017).*** Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project.

***Paleontological Principal Investigator and Project Manager, Colony Commerce East Project, CapRock Partners, City of Ontario, San Bernardino County (2016).*** Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project.

***Paleontological Principal Investigator and Project Manager, Jurupa Valley Medical Clinic Project, Boureston Company, City of Jurupa Valley, Riverside County (2016).*** Ms. Kelly coordinated all surveying, preparation of compliance and environmental documentation relating to Paleontological resources for this project.

### Renewable Energy Sector Experience

***Paleontological Project Manager, Tehachapi Renewable Transmission Project (TRTP), Southern California Edison (SCE), Kern County, Los Angeles County, San Bernardino County (2009-2015).*** Ms. Kelly conducted and led surveys along this project's right of way. She was also in charge of scheduling monitoring crews during grading in areas of paleontological sensitivity, managing and reviewing log sheets, and tracking data that is incorporated to final reports. Ms. Kelly played a valuable role with scheduling for the project's needs. She monitored, surveyed, and reported on all paleontological facets of this project as the Lead Paleontological Monitor for segment 3B, which was located near Rosamond, and for segments 4-11 which extended into Los Angeles and San Bernardino Counties. She authored more than 10 of the compliance reports for this project. She also performed monitoring on every segment of this Project.

***Paleontological Project Manager, West of Devers Transmission Line Project, SCE, Riverside County, California (2009-2016).*** Ms. Kelly provided all project management and paleontological related services. This included proper BLM authorization and permitting to conduct surveying and a research design for field reconnaissance related to PEA, EIS/EIR documentation for the proposed transmission line. She assisted with managing documentation with laws relating to paleontological resources, among which are CEQA and NEPA compliance.

Appendix B:  
(CONFIDENTIAL) CHRIS Results

## Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SB-00395	NADB-R - 1060395; Voided - 76-10.5	1976	HEARN, JOSEPH E. and RUTH D. SIMPSON	ARCHAEOLOGICAL - HISTORICAL RESOURCES ASSESSMENT OF PROPOSED CHINO MAINTENANCE YARD CONSTRUCTION	SAN BERNARDINO COUNTY MUSEUM ASSOCIATION	
*SB-00537	NADB-R - 1060537; Voided - 77-8.7	1977	HEARN, JOSEPH E.	ARCHAEOLOGICAL - HISTORICAL RESOURCES ASSESSMENT OF LAND AREA TO BE IMPACTED BY RENOVATION PROGRAM AT CHINO AIRPORT	SAN BERNARDINO COUNTY MUSEUM ASSOCIATION	
+SB-00596	NADB-R - 1060596; Voided - 78-1.3	1978	SAN BERNARDINO COUNTY MUSEUM ASSOCIATION	ARCHAEOLOGICAL - HISTORICAL RESOURCES ASSESSMENT OF MERRILL AVENUE - FROM GROVE AVENUE TO ARCHIBALD AVENUE, CHINO AREA	SAN BERNARDINO COUNTY MUSEUM ASSOCIATION	
SB-01499	NADB-R - 1061499; Voided - 85-7.4A-B	1985	FOSTER, JOHN M. and ROBERTA S. GREENWOOD	CULTURAL RESOURCES OVERVIEW: CALIFORNIA PORTION, PROPOSED PACIFIC TEXAS PIPELINE PROJECT	GREENWOOD AND ASSOCIATES	
*SB-01768	NADB-R - 1061768; Voided - 88-1.11	1988	LSA ASSOCIATES, INC.	A CULTURAL RESOURCE ASSESSMENT, CHINO AIRPORT EXPANSION PROJECT, SAN BERNARDINO COUNTY	LSA ASSOCIATES, INC.	
SB-02623	NADB-R - 1062623; Voided - 92-3.5	1992	TASKIRAN, AYSE and RACHEL GREELEY	CULTURAL RESOURCES ASSESSMENT: SANTA ANA WATERSHED PROJECT AUTHORITY, CHINO BASIN DESALINATION PROGRAM - PHASE I PROJECT, RIVERSIDE AND SAN BERNARDINO COUNTIES, CALIFORNIA	UNIV. OF CALIF. RIVERSIDE, ARCHAEOLOGICAL RESEARCH UNIT	
SB-02678	NADB-R - 1062678; Voided - 92-8.2	1992	BROOMHALL, LORIE L.	ADDENDUM TO CULTURAL RESOURCES ASSESSMENT: SANTA ANA WATERSHED PROJECT AUTHORITY, CHINO BASIN DESALINATION PROGRAM-PHASE I PROJECT, RIVERSIDE AND SAN	UNIV. OF CALIF. RIVERSIDE, ARCHAEOLOGICAL RESEARCH UNIT	
SB-03012	NADB-R - 1063012	1995	OWEN, SHELLEY	CULTURAL RESOURCES SURVEY AND IMPACT ASSESSMENT FOR THE CAJON/EPTC PIPELINE PROJECT LOCATED IN PORTIONS OF LOS ANGELES, SAN BERNARDINO, AND ORANGE COUNTIES, CA	EIP ASSOCIATES	36-005689, 36-005690, 36-005691, 36-008124, 36-008125
SB-03066	NADB-R - 1063066	1995	ROSENTHAL, JANE and BETH PADON	HISTORIC PROPERTY CLEARANCE REPORT FOR EUCLID AVE. (RTE 83) ROAD WIDENING BETWEEN KIMBALL & MERRILL AVENUES IN THE CITY OF CHINO--08-RIV-83 PM 2.73/3.920	PETRA RESOURCES, INC.	

## Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SB-03686	NADB-R - 1063686	1997	HALE, ALICE M.	CULTURAL RESOURCE ASSESSMENT-SANTA ANA WATERSHED PROJECT AUTHORITY, CHINO BASIN DESALINATION PROGRAM: WATER PIPELINES, WELLS & RESERVOIR. 26PP	GREENWOOD AND ASSOCIATES	
SB-03688	NADB-R - 1063688	2001	HALE, ALICE M.	CULTURAL RESOURCES INVESTIGATION: CALIFORNIA INSTITUTION FOR MEN, CHINO, CA. 7PP	GREENWOOD & ASSOCIATES	
SB-04402	NADB-R - 1064402	2004	BILLAT, LORNA	CHINO AIRPORT/CA-6115D. 14PP	EARTH TOUCH, LLC	
SB-04404	NADB-R - 1064404	2003	TANAGUCHI, CHRISTEEN	PHASE I CULTURAL RESOURCES SURVEY FOR CINGULAR TELECOMMUNICATIONS FACILITY SB-197-03 (EDISON VERIZON COLO) 14095 N. EUCLID AVE, ONTARIO, SAN BERNARDINO COUNTY, CA. 9PP	MICHAEL BRANDMAN ASSOCIATES	
SB-04506	NADB-R - 1064506	2001	DAHFUL, MIRIAM	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT: CHINO I DESALTER EXPANSION & CHINO II DESALTER & SUPPORT FACILITIES, CHINO BASIN AREA, SAN BERNARDINO & RIVERSIDE COUNTIES. 16PP	CRM TECH	
SB-06068		2009	Cotterman, Cary and Chandler, Evelyn	Cultural Resources Inventory of Proposed Edison International Aircraft Operations Facility at the Chino Airport Chino, San Bernardino County, California	ECORP Consulting	
SB-06069						
SB-06095	NADB-R - 1066095	2009	Applied Earthworks	Confidential Cultural Resources Specialist Report for the Tehachapi Renewal Transmission Project.	Applied Earthworks	36-003690, 36-019845, 36-019846, 36-019847, 36-019848
SB-07181		2011	Garcia, Kyle	Phase I Cultural Resources Assessment For the Proposed College Park (Phase 2A) Project, City of Chino, County of San Bernardino, California	PCR	
SB-07968		2011	Holm, Lisa and John Holson	Supplemental Archaeological Survey Report: Tehachapi Renewable Transmission Project Segment 8 East (Phases 2 and 3) and West (Phase 4), Los Angeles and San Bernardino Counties, California	Pacific Legacy, Inc.	36-012533, 36-012621, 36-012622

## Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
SB-07977		2010	Panich, Lee, Tsim D. Schneider, and John Holson	Supplemental Archaeological Survey Report: Tehachapi Renewable Transmission Project Segment 8 East (Phases 2 and 3), San Bernardino County California	Pacific Legacy, Inc.	36-013330, 36-013636

ReportID#	Doc#/ASCE Label	Initiated	IR/Issued	DR	State	Author	Editor	CD/Book	CD/Title	CD/Publisher	CD/Date	CD/Type	CD/Type	Report/Type	Inventory/Size	Inventory/Description	Inventory/Collection	Inventory/Notes	Resource	Resource/Count	Resource/Format	Resource/County	Resource/Map	Resource/Address	Resource/URL
IS-0247		No	No	NA/DR - 1982/47 Issued - 77-82		HEARN, JOSEPH E.		1977	ARCHAEOLOGICAL - HISTORICAL RESOURCES ASSESSMENT OF KIBOLA ROAD IMPROVEMENT PROJECT IN CHINO	SAN BERNARDINO COUNTY MUSEUM ASSOCIATION							[NA/DR Keyword: PREHISTORIC, HISTORIC, ARCHAEOLOGICAL, RECONSTRUCTION, REPORT, CHINO VALLEY, VALLEY, NO, RESOURCES]		0	No	San Bernardino	Prehis Dam			
IS-0287		No	No	NA/DR - 1982/87		LOVE, BRUCE and SHI FANG		1987	IDENTIFICATION & EVALUATION OF HISTORIC PROPERTIES CHINO BASIN SEDIMENTATION PROGRAM FACILITIES REVISION PROJECT. SAN BERNARDINO & RIVERSIDE COUNTIES, 2007	CRW TECH		26	Architectural/Historical, Evaluation	91/MSLS	Not for publication			[NA/DR Keyword: ARCHAEOLOGICAL, RECONSTRUCTION, REPORT, CHINO VALLEY, NO, RESOURCES]		0	No	San Bernardino	China Hook, Orish, Prehis Dam		
IS-0807		No	No	NA/DR - 1982/07		Crowther, Kathleen A.		2008 Jun	DIAGNOSTIC Archaeological Assessment for Royal Street Construction, LLC California - California/LOS ANGELES, CHINA, CHINA VALLEY No. 1, 1920-1950, Park Avenue and Elmer Avenue, CHINA, San Bernardino County, California.	Michael Bendishar Associates		8	Architectural/Historical, Field study	0.25 acres	Not for publication	No		IS-02948	1	No	San Bernardino	China			
IS-0768		No	No			Stueblich, Ivan		2013	Results of the Cultural Resource Assessment Survey for the Shelburn Company 14-Acre Power Site Property in the City of Chino, San Bernardino County, California.	USA Associates, Inc.		14	Field Study		Not for publication	No			0	No	San Bernardino	Orish, Prehis Dam			

## Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-36-024903		Resource Name - Cypress Channel	Structure	Historic	HP11 (Engineering structure)	2012 (M Dice, MBA); 2017 (McGinnis, ICF)	
P-36-025440		Resource Name - Chino-Mira Loma No. 1 Transmission Line	Structure	Historic	HP11 (Engineering structure)	2010 (Wendy Tinsley Becker, Urbana Preservation & Planning)	SB-06037
P-36-026724		Verhoeven Dairy Residence and Milking Shed					
P-36-026882		Resource Name - PL-SCE-SEG8-01	Object	Historic	HP20 (Canal/aqueduct)	2010 (M. Armstrong, Pacific Legacy, Inc.)	
P-36-026925		Resource Name - TC705946_CanScatter	Site	Historic	AH04 (Privies/dumps/trash scatters) - can scatter	2013 (Dionisios Glentis, SCE)	SB-07518
P-36-26725		La Hogue Farm	Structure	Historic	HP33 (Farm, Ranch)	2013 (M. Dice, First Carbon Solutions)	

Appendix C:  
NAHC and Native American Correspondence



**NATIVE AMERICAN HERITAGE COMMISSION**

Environmental and Cultural Department  
1550 Harbor Blvd., ROOM 100  
West SACRAMENTO, CA 95691  
(916) 373-3710  
Fax (916) 373-5471



July 25, 2018

Tria Belcourt

Material Culture Consulting

Sent by Email: tria@materialcultureconsulting.com

Re: EPD Eucalyptus Ontario, San Bernardino County

Dear Ms. Belcourt,

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not preclude the presence of cultural resources in any project area. Other sources for cultural resources should also be contacted for information regarding known and/or recorded sites.

Enclosed is a list of Native Americans tribes who may have knowledge of cultural resources in the project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these tribes, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at 916-573-1033 or frank.lienert@nahc.ca.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Frank Lienert".

Frank Lienert  
Associate Governmental Program Analyst

**Native American Heritage Commission  
Native American Contacts  
July 25, 2018**

<p>Big Pine Paiute Tribe of the Owens Valley Genevieve Jones. Chairperson P. O. Box 700 Big Pine , CA 93513 (760) 938-2003  (976) 938-2942 Fax</p>	<p>Paiute - Shoshone</p>	<p>Colorado River Indian Tribes of the Colorado River Indian Reservation Dennis Patch. Chairman 26600 Moiave Road Parker , AZ 85344 crit.museum@vahoo.com (928) 669-9211 Tribal Office (928) 669-1925 Fax</p>	<p>Mojave Chemehuevi</p>
<p>Ramona Band of Cahuilla Joseph Hamilton. Chairman P.O. Box 391670 Anza , CA 92539 admin@ramonatribe.com (951) 763-4105  (951) 763-4325 Fax</p>	<p>Cahuilla</p>	<p>Gabrieleno/Tongva San Gabriel Band of Mission Indians Anthony Morales. Chairperson P.O. Box 693 San Gabriel , CA 91778 GTTribalcouncil@aol.com (626) 483-3564 Cell  (626) 286-1262 Fax</p>	<p>Gabrielino Tonava</p>
<p>Twenty-Nine Palms Band of Mission Indians Darrell Mike. Chairperson 46-200 Harrison Place Coachella , CA 92236 29chairman@29palmsbomi-nsn.gov (760) 863-2444  (760) 863-2449 Fax</p>	<p>Chemehuevi</p>	<p>Gabrielino /Tonava Nation Sandonne Goad. Chairperson 106 1/2 Judge John Aiso St., #231 Los Angeles , CA 90012 sgoad@gabrielino-tongva.com (951) 807-0479</p>	<p>Gabrielino Tonava</p>
<p>Chemehuevi Indian Tribe Charles F. Wood. Chairperson P.O. Box 1976 Havasu Lake , CA 92363 chairman@cit-nsn.gov (760) 858-4219  (760) 858-5400 Fax</p>	<p>Chemehuevi</p>	<p>San Manuel Band of Mission Indians Lee Clauss. Director-CRM Dept. 26569 Community Center Drive Highland , CA 92346 lclauss@sanmanuel-nsn.gov (909) 864-8933  (909) 864-3370 Fax</p>	<p>Serrano</p>
<p>Fort Moiave Indian Tribe Timothy Williams. Chairperson 500 Merriman Ave Needles , CA 92363 (760) 629-4591  (760) 629-5767 Fax</p>	<p>Mojave</p>	<p>Big Pine Paiute Tribe of the Owens Valley Danelle Gutierrez THPO P.O. Box 700 Big Pine , CA 93513 d.gutierrez@bigpinepaiute.org (760) 938-2003, ext. 228  (760) 938-2942 Fax</p>	<p>Paiute</p>

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American Tribes with regard to cultural resources assessments for the proposed  
**EPD Eucalyptus Ontario, San Bernardino County**

**Native American Heritage Commission  
Native American Contacts  
July 25, 2018**

Aqua Caliente Band of Cahuilla Indians  
Jeff Grubbe, Chairperson  
5401 Dinah Shore Drive           Cahuilla  
Palm Springs , CA 92264  
(760) 699-6800

(760) 699-6919 Fax

Moronco Band of Mission Indians  
Robert Martin, Chairperson  
12700 Pumarra Road           Cahuilla  
Banning , CA 92220           Serrano  
(951) 849-8807

(951) 755-5200  
(951) 922-8146 Fax

Pechanga Band of Luiseño Indians  
Mark Macarro, Chairman  
P.O. Box 1477                   Luiseno  
Temecula , CA 92593  
epreston@pechanga-nsn.gov  
(951) 770-6000

(951) 695-1778 Fax

Serrano Nation of Mission Indians  
Goldie Walker, Chairperson  
P.O. Box 343                   Serrano  
Patton , CA 92369

(909) 528-9027  
(909) 528-9032

Aqua Caliente Band of Cahuilla Indians  
Patricia Garcia-Plotkin, Director, THPO  
5401 Dinah Shore Drive           Cahuilla  
Palm Springs , CA 92264  
ACBCI-THPO@aguacaliente.net

(760) 699-6907  
(760) 567-3761 Cell  
(760) 699-6924 Fax

Kern Vallev Indian Community  
Robert Robinson, Chairperson  
P.O. Box 1010                   Tubatulabal  
Lake Isabella , CA 93283       Kawaiisu  
brobinson@lwvisp.com  
(760) 378-2915 Cell

Soboba Band of Luiseno Indians  
Joseph Ontiveros, Cultural Resource Department  
P.O. BOX 487                   Luiseno  
San Jacinto , CA 92581       Cahuilla  
jontiveros@soboba-nsn.gov  
(951) 663-5279  
(951) 654-5544 ext 4137  
(951) 654-4198 Fax

Gabrieleno Band of Mission Indians - Kizh Nation  
Andrew Salas, Chairperson  
P.O. Box 393                   Gabrielino  
Covina , CA 91723  
admin@gabrielenoindians.org  
(626) 926-4131

Twenty-Nine Palms Band of Mission Indians  
Anthony Madriagal, Jr. THPO  
46-200 Harrison Place           Chemehuevi  
Coachella , CA 92236  
amadriagal@29palmsbomi-nsn.  
(760) 775-3259  
(760) 625-7872 Cell  
(760) 863-2449 Fax

San Manuel Band of Mission Indians  
Lynn Valbuena  
26569 Community Center Dr.       Serrano  
Highland , CA 92346  
(909) 864-8933

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American Tribes with regard to cultural resources assessments for the proposed  
**EPD Eucalyptus Ontario, San Bernardino County**

July 30, 2018



**EXAMPLE LETTER**

**RE: Proposed Ontario Commerce Center Project, City of Ontario; Prado Dam USGS Quadrangle, San Bernardino County, California.**

**Greetings,**

This Project proposes to convert multiple parcels of land into an industrial park near the City of Ontario, unincorporated San Bernardino County, California (see attached map). Material Culture Consulting, Inc (MCC) is conducting the cultural resources review of the project to support preparation of the environmental documents. As part of our background research, we would like to request your input on potential cultural resources within the project area. This request is not part of any formal local, state, or federal consultation process.

Our firm contacted the Native American Heritage Commission (NAHC) on July 19, 2018 to request review of the Sacred Lands File and for a list of tribes with traditional lands and/or cultural places within the area. The NAHC responded on July 25, 2018, stating that the Sacred Lands File review resulted in negative results, and provided your contact information as part of the list. We understand that negative results do not preclude the existence of cultural resources, and that a tribe may be the only source of information regarding the existence of a tribal cultural resource, which is why we are contacting you.

**Project Location and Description**

The proposed project is located at the northeast corner of the intersection of Euclid Avenue and Merrill Avenue, bounded by Eucalyptus Avenue to the north, Sultana Avenue to the east, Euclid Avenue to the west, and Merrill Avenue to the south (see attached map). The area of potential impact (API) includes a total of approximately 84.1 acres and located within Section 21 of Township 2 South and Range 7 West (San Bernardino Base Meridian).

Please respond at your earliest convenience if you wish to share any knowledge of cultural resources within or adjacent to the API. Any information, concerns, or recommendations regarding cultural resources within the API can be shared with me via telephone, email, or via standard mail. Thank you very much for your assistance.

Kindest regards,

A handwritten signature in black ink, appearing to read "Tria Belcourt", is written over a horizontal line.

Tria Belcourt, M.A., RPA  
President and Principal Archaeologist  
626-205-8279  
[tria@materialcultureconsulting.com](mailto:tria@materialcultureconsulting.com)

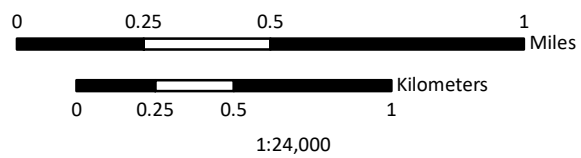




Project Area



Project Area



Ontario Commerce Center Project  
 CEQA Due Diligence Native American Contact Log  
 August 2018  
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Name/Affiliation	Date and Method of 1st Contact	Date of 1 <sup>st</sup> Follow Up Attempt	Date of 2 <sup>nd</sup> Follow-Up Attempt	Results	MCC Response
Joseph Hamilton, Chairman Ramona Band of Cahuilla	August 1, 2018- letter sent via USPS	August 10, 2018-via email	August 22, 2018-via phone	Phone number reached Tribal administrative assistant who transferred call to a John Gomez, a project director responsible for cultural resource responses. Left a voicemail for Mr. Gomez stating company name, purpose for call, and how we can be reached.	No response required
Darrell Mike, Chairperson Twenty-Nine Palms Band of Mission Indians	August 1, 2018- letter sent via USPS	Not necessary	Not necessary	Email received on August 3, 2018 from Sarah Bliss, Cultural Resources Manager: THPO is not aware of any additional cultural resources or any Tribal Cultural Resources within the Project Area. The Tribe requests any updates or changes to the Project should they occur.	MCC thanked the Tribe for their response and noted requests will be included within the report.
Anthony Madrigal, Jr., THPO Twenty-Nine Palms Band of Mission Indians	August 1, 2018- letter sent via USPS	Not necessary	Not necessary	See response above	See response above
Charles F. Wood, Chairperson Chemehuevi Indian Tribe	August 1, 2018- letter sent via USPS	August 10, 2018-via email	August 22, 2018-via phone	Phone number reached a Tribal administrative assistant who indicated Chairperson Wood was in budget meetings until 2 pm. The call was transferred to Mr. Wood's voicemail. A message was left stating company name, purpose for call, and how we can be reached.	No response required
Timothy Williams, Chairperson Fort Mojave Indian Tribe	August 1, 2018- letter sent via USPS	August 10, 2018-via *message left*	August 22, 2018-via phone	The phone rang for two minutes with no answer and no voicemail. Did not reach Mr. Williams via phone.	No response required

Ontario Commerce Center Project  
 CEQA Due Diligence Native American Contact Log  
 August 2018  
 Page 2 of 4

Dennis Patch, Chairman Colorado River Indian Tribes of the Colorado River Indian Reservation	August 1, 2018- letter sent via USPS	August 10, 2018-via email	August 22, 2018-via phone	On August 22, 2018 the phone call connected to the tribal office which transferred the call to the secretary for the chairman's office. There was no answer, so a voicemail was left stating company name, purpose for call, and how we can be reached. A follow up phone call to the THPO office on August 23, 2018 reached acting THPO Brian Etsitty. Mr. Etsitty indicated that the Tribe had no comment regarding the project.	MCC thanked the Tribe for their response and noted requests will be included within the report.
Anthony Morales, Chairperson Gabrieleno/Tongva San Gabriel Band of Mission Indians	August 1, 2018- letter sent via USPS	August 10, 2018-via email	August 22, 2018-via phone	Phone call went to Mr. Morales's voicemail. On August 30, Mr. Morales informed MCC that the project is in the vicinity of important prehistoric and historic tribal routes and water sources. The tribe indicated that the heightened sensitivity warrants archaeological and Tribal monitoring by their tribe.	MCC thanked the Tribe for their response and noted request will be included within the report.
Sandone Goad, Chairperson Gabrielino/Tongva Nation	August 1, 2018- letter sent via USPS	August 10, 2018-via email	August 22, 2018-via phone	Phone call went to Ms. Goad's voicemail. A message was left stating the company name, the purpose of the call, and where we can be reached.	No response required
Lee Clauss, Director-CRM Dept. San Manuel Band of Mission Indians	August 1, 2018- letter sent via USPS	Not necessary	Not necessary	Email received on August 8, 2018 from Jessica Mauck, Cultural Resources Analyst stated: Proposed Project area is located just outside of Serrano ancestral territory and SMBMI will not request consulting party status or elect to participate with further development of the Project.	MCC thanked the Tribe for their response and noted requests will be included within the report.
Lynn Valbuena San Manuel Band of Mission Indians	August 1, 2018- letter sent via USPS	Not necessary	Not necessary	See response above	See response above
Patricia Garcia-Plotkin, Director/THPO Agua Caliente Band of Cahuilla Indians	August 1, 2018- letter sent via USPS	Not necessary	Not necessary	Emailed received on August 9, 2018 from Lacy Padilla, Archaeological Technician: Project is not located within the Tribe's Traditional Use Area. ACBCI defers to other Tribes in the area.	MCC thanked the Tribe for their response and noted requests will be included within the report.

Ontario Commerce Center Project  
 CEQA Due Diligence Native American Contact Log  
 August 2018  
 Page 3 of 4

Jeff Grubbe, Chairperson Agua Caliente Band of Cahuilla Indians	August 1, 2018- letter sent via USPS	Not necessary	Not necessary	See response above	See response above
Robert Martin, Chairperson Morongo Band of Mission Indians	August 1, 2018- letter sent via USPS	August 10, 2018-via *message left*	Not necessary	Email received August 16, 2018 from Travis Armstrong, Tribal Historic Preservation Office: Project is outside the Tribe's ancestral territory and/or areas of tribal affiliation or interest.	MCC thanked the Mr. Armstrong for the Tribe's response.
Mark Macarro, Chairman Pechanga Band of Luiseno Indians	August 1, 2018- letter sent via USPS	August 10, 2018-via email	August 22, 2018-via phone	Phone call reached Tribal Office, call was transferred to Mr. Macarro's secretary. There was no answer and a voicemail was left stating the company name, the purpose of the call, and how we can be reached.	No response required
Goldie Walker, Chairperson Serrano Nation of Mission Indians	August 1, 2018- letter sent via USPS	August 10, 2018-via phone	Not necessary	Talked to Mark Cochrane, Chairperson: Ms. Walker has recently passed, and he is a contact for the Tribe. The Tribe has no comment at this time but wishes to be updated should any new discoveries occur during the Project.	MCC thanked Mr. Cochrane for his time.
Robert Robinson, Chairperson Kern Valley Indian Community	August 1, 2018- letter sent via USPS	August 10, 2018-via email	Not necessary	Replied to outreach email: Project is outside Tribe's traditional Tribal territory. Tribe request MCC seeks comments from Tribes in the area.	MCC thanked Mr. Robinson for his time and stated the Tribe's response would be included within the report.
Joseph Ontiveros, Cultural Resource Department Soboba Band of Luiseno Indians	August 1, 2018- letter sent via USPS	August 10, 2018-via email	August 22, 2018-via phone	In phone conversation Mr. Ontiveros acknowledged receipt of letter request and indicated the Tribe would provide a response by the end of the week.	MCC thanked the Tribe for their response and noted requests will be included within the report. To date, no response has been received from Mr. Ontiveros.



Ontario Commerce Center Project  
 CEQA Due Diligence Native American Contact Log  
 August 2018  
 Page 4 of 4

<p>Andrew Salas, Chairperson          Gabrieleno Band of Mission          Indians-Kizh Nation</p>	<p>August 1,          2018- letter          sent via USPS</p>	<p>August 8,          2018-via          email</p>	<p>August 22,          2018-via          phone</p>	<p>Reached Andrew Salas by phone. Mr. Salas indicated that the project is located in a culturally sensitive area that is part of the Gabrieleno Band of Mission Indians-Kizh Nation ancestral territory. Based on traditional and historical information, Mr. Salas recommends both archaeological and Tribal monitoring for the project. In addition, Mr. Salas requested that MCC include in this report that: the Gabrieleno Band of Mission Indians-Kizh Nation would like to be the primary tribe to consult on the project because the project is located in their ancestral territory; that they wish to be in contact with the lead agency for consultation; and that they would like to draft mitigation language for tribal cultural resources as Mr. Salas anticipates encountering prehistoric and historic cultural resources.</p>	<p>MCC thanked Chairperson Salas for his time and noted the response and requests would be included in the report.</p>
<p>Genevieve Jones, Chairperson          Big Pine Paiute Tribe of the          Owens Valley</p>	<p>August 1,          2018- letter          sent via USPS</p>	<p>August 10,          2018-via          *message          left*</p>	<p>August 22,          2018-via          phone</p>	<p>Number provided by the NAHC reached the Tribal Office. There was no answer or option to connect to other departments, so a voicemail was left indicating the name of the company, the purpose of the call, and where we can be reached.</p>	<p>No response required</p>
<p>Danelle Gutierrez, THPO          Big Pine Paiute Tribe of the          Owens Valley</p>	<p>August 1,          2018- letter          sent via USPS</p>	<p>August 10,          2018-via          email</p>	<p>August 22,          2018-via          phone</p>	<p>Number provided by the NAHC reached the Tribal Office. Used directory to contact Ms. Gutierrez however there was no answer. A voicemail was left indicating the name of the company, the purpose of the call, and where we can be reached.</p>	<p>No response required.</p>



**Fwd: Ontario Commerce Center Project**

Tria Belcourt <tria@materialcultureconsulting.com>  
To: Sonia Sifuentes <sonia@materialcultureconsulting.com>

Fri, Aug 3, 2018 at 2:50 PM

Here is a response for Ontario Commerce Center. Thank you

Tria Belcourt, M.A., RPA # 917250  
President and Principal Archaeologist

Material Culture Consulting, Inc.  
Certified DBE/WBE/SBE

2701-B North Towne Avenue  
Pomona CA, 91767  
Phone: 626-205-8279  
Fax: 626-249-0479

[www.materialcultureconsulting.com](http://www.materialcultureconsulting.com)  
[tria@materialcultureconsulting.com](mailto:tria@materialcultureconsulting.com)

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----- Forwarded message -----

From: Sarah Bliss <sbliss@spotlight29.com>  
Date: Fri, Aug 3, 2018 at 2:50 PM  
Subject: Ontario Commerce Center Project  
To: "tria@materialcultureconsulting.com" <tria@materialcultureconsulting.com>  
Cc: TNP Consultation <TNPConsultation@29palmsbomi-nsn.gov>

Hello,

For the Ontario Commerce Center Project, the Twenty-Nine Palms Band of Mission Indians Tribal Historic Preservation Office (THPO) is not aware of any additional cultural resources or any Tribal Cultural Resources, as defined California Public Resources Code § 21074 (a) (1) (A)-(B) within the project area. If there are any updates or changes to the project please notify the Tribe.

If you have any questions, please do not hesitate to contact the Tribal Historic Preservation Office at (760) 775-3259 or by email: [TNPConsultation@29palmsbomi-nsn.gov](mailto:TNPConsultation@29palmsbomi-nsn.gov).

Thank you,

**Sarah Bliss**

Twenty-Nine Palms Band of Mission Indians

*Cultural Resources Manager*

46-200 Harrison Place, Coachella, CA 92236

Ofc: (760) 863-2489

Cell: (760) 702-0679

E-mail: [sbliss@29palmsbomi-nsn.gov](mailto:sbliss@29palmsbomi-nsn.gov)

<https://www.29palmstribes.org/historic-preservation>



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**Fwd: Ontario Commerce Center Project AND Eagles Nest V & VI Project, City of Chino**

Tria Belcourt <tria@materialcultureconsulting.com>  
To: Sonia Sifuentes <sonia@materialcultureconsulting.com>

Wed, Aug 8, 2018 at 11:47 AM

Tria Belcourt, M.A., RPA # 917250  
President and Principal Archaeologist

Material Culture Consulting, Inc.  
Certified DBE/WBE/SBE

2701-B North Towne Avenue  
Pomona CA, 91767  
Phone: 626-205-8279  
Fax: 626-249-0479

[www.materialcultureconsulting.com](http://www.materialcultureconsulting.com)  
[tria@materialcultureconsulting.com](mailto:tria@materialcultureconsulting.com)

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From: **Jessica Mauck** <JMauck@sanmanuel-nsn.gov>  
Date: Wed, Aug 8, 2018 at 11:45 AM  
Subject: Ontario Commerce Center Project AND Eagles Nest V & VI Project, City of Chino  
To: Tria Belcourt <tria@materialcultureconsulting.com>

Hi Tria,

Thank you for contacting the San Manuel Band of Mission Indians (SMBMI) regarding the above referenced projects. SMBMI appreciates the opportunity to review the project documentation, which was received by our Cultural Resources Management Department on 8 August 2018. The proposed project areas, and the City of Chino, are located just outside of Serrano ancestral territory and, as such, SMBMI will not request consulting party status or elect to participate in the scoping, development, and/or review of documents created pursuant to these legal and regulatory mandates.

Regards,

**Jessica Mauck**

CULTURAL RESOURCES ANALYST  
O: (909) 864-8933 x3249  
M: (909) 725-9054  
26569 Community Center Drive Highland California 92346



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8/9/2018

Material Culture Consulting Mail - Fwd: Proposed Ontario Commerce Center Project



Sonia Sifuentes <sonia@materialcultureconsulting.com>

---

**Fwd: Proposed Ontario Commerce Center Project**

Tria Belcourt <tria@materialcultureconsulting.com>  
To: Sonia Sifuentes <sonia@materialcultureconsulting.com>

Thu, Aug 9, 2018 at 12:56 PM

Tria Belcourt, M.A., RPA # 917250  
President and Principal Archaeologist

Material Culture Consulting, Inc.  
Certified DBE/WBE/SBE

2701-B North Towne Avenue  
Pomona CA, 91767  
Phone: 626-205-8279  
Fax: 626-249-0479

[www.materialcultureconsulting.com](http://www.materialcultureconsulting.com)  
[tria@materialcultureconsulting.com](mailto:tria@materialcultureconsulting.com)

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----- Forwarded message -----

From: **Padilla, Lacy (TRBL)** <[lpadilla@aguacaliente.net](mailto:lpadilla@aguacaliente.net)>  
Date: Thu, Aug 9, 2018 at 12:53 PM  
Subject: Proposed Ontario Commerce Center Project  
To: "tria@materialcultureconsulting.com" <[tria@materialcultureconsulting.com](mailto:tria@materialcultureconsulting.com)>

Greetings,

A records check of the Tribal Historic preservation office's cultural registry revealed that this project is not located within the Tribe's Traditional Use Area. Therefore, we defer to the other tribes in the area. This letter shall conclude our consultation efforts.

Thank you,

**Lacy Padilla**

*Archaeological Technician*

Agua Caliente Band of Cahuilla Indians

5401 Dinah Shore Drive

Palm Springs, CA 92264

760-699-6956 Of ice  
760-333-5222 Cell

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**Re: CEQA Outreach-Follow up Proposed Ontario Commerce Center Project, City of Ontario, Ontario and Prado Dam USGS quadrangles, San Bernardino County**

**Robinson** <brobinson@iwvisp.com>  
Reply-To: Robinson <brobinson@iwvisp.com>  
To: Sonia Sifuentes <sonia@materialcultureconsulting.com>

Fri, Aug 10, 2018 at 10:54 AM

Ms. Sifuentes,

This project and the Eagles Nest V & IV Aviation Business Park project in Chino are outside of our traditional Tribal territory. The Kern Valley Indian Community request you seek comments from tribes in your area.

Robert Robinson  
KVIC Chairman, THPO  
P.O. Box 1010  
Lake Isabella, CA 93240  
W: 760.549.2131  
M: 916.803.3408  
E: [brobinson@iwvisp.com](mailto:brobinson@iwvisp.com)  
[bbutterbredt@gmail.com](mailto:bbutterbredt@gmail.com)

-----Original message-----

From: Sonia Sifuentes [sonia@materialcultureconsulting.com](mailto:sonia@materialcultureconsulting.com)  
Date: Fri, 10 Aug 2018 09:23:23 -0700  
To: Tria Belcourt [info@materialcultureconsulting.com](mailto:info@materialcultureconsulting.com)  
Subject: CEQA Outreach-Follow up Proposed Ontario Commerce Center Project, City of Ontario, Ontario and Prado Dam USGS quadrangles, San Bernardino County

> Good morning,  
>  
> Material Culture Consulting, Inc (MCC) is attempting a follow-up on our  
> letter (dated July 30, 2018) regarding the proposed Ontario Commerce Center  
> Project, located in the City of Ontario, San Bernardino County, to verify  
> you received the letter and if you had a chance to review the Project Area.  
>  
> Please respond at your earliest convenience if you wish to share any  
> knowledge of cultural resources within or adjacent to the API. Any  
> information, concerns, or recommendations regarding cultural resources with  
> the Project Area can be shared with us via telephone, email, or via  
> standard mail. Thank you very much for your assistance.  
>  
> Sincerely,  
>  
> --  
> Sonia Sifuentes, M.Sc., RPA  
> Archaeologist  
> Material Culture Consulting, Inc.  
> 2701-B North Towne Avenue  
> Pomona CA, 91767  
> Cell: 909-730-8829  
> [www.materialcultureconsulting.com](http://www.materialcultureconsulting.com)  
>  
>

MORONGO  
BAND OF  
MISSION  
INDIANS



A SOVEREIGN NATION

**MORONGO BAND OF MISSION INDIANS**  
**TRIBAL HISTORIC PRESERVATION OFFICE**  
12700 PUMARRA RD BANNING, CA 92220  
OFFICE 951-755-5059 FAX 951-572-6004

Date: 8/16/2018

Re:  
Ontario Center

Dear,  
Sonia Sifuentes  
Material Culture Consulting

The project is outside of Morongo's ancestral territory and/or areas of tribal affiliation or interest.

Should you fail to make contact with other tribal governments, we ask that you please follow the Standard Development Conditions in the attached letter.

Sincerely,

Tribal Historic Preservation Office  
Morongo Band of Mission Indians  
Email: [thpo@morongo-nsn.gov](mailto:thpo@morongo-nsn.gov)  
Phone: (951) 755-5059

MORONGO  
BAND OF  
MISSION  
INDIANS



A SOVEREIGN NATION

### Standard Development Conditions

The Morongo Band of Mission Indians asks that you impose specific conditions regarding cultural and/or archaeological resources and buried cultural materials on any development plans or entitlement applications as follows:

1. If human remains are encountered during grading and other construction excavation, work in the immediate vicinity shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5.
2. In the event that Native American cultural resources are discovered during project development/construction, all work in the immediate vicinity of the find shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the overall project may continue during this assessment period.
  - a. If significant Native American cultural resources are discovered, for which a Treatment Plan must be prepared, the developer or his archaeologist shall contact the Morongo Band of Mission Indians.
  - b. If requested by the Tribe<sup>1</sup>, the developer or the project archaeologist shall, in good faith, consult on the discovery and its disposition (e.g. avoidance, preservation, return of artifacts to tribe, etc.).

---

<sup>1</sup> The Morongo Band of Mission Indians realizes that there may be additional tribes claiming cultural affiliation to the area; however, Morongo can only speak for itself. The Tribe has no objection if the archaeologist wishes to consult with other tribes and if the city wishes to revise the condition to recognize other tribes.

Appendix D:  
LACM Locality Search Results



Natural History Museum  
of Los Angeles County  
900 Exposition Boulevard  
Los Angeles, CA 90007

tel 213.763.DINO  
www.nhm.org



Vertebrate Paleontology Section  
Telephone: (213) 763-3325

e-mail: [smcleod@nhm.org](mailto:smcleod@nhm.org)

2 August 2018

Material Culture Consulting  
2701-B North Towne Avenue  
Pomona, CA 91767

Attn: Julia Carvajal, Archaeologist & GIS Specialist

re: Paleontological resources for the proposed Eucalyptus Ontario Project, in the City of Ontario, San Bernardino County, project area

Dear Julia:

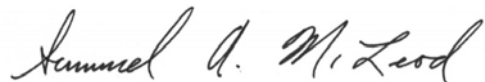
I have conducted a thorough check of our paleontology collection records for the locality and specimen data for the proposed Eucalyptus Ontario Project, in the City of Ontario, San Bernardino County, project area as outlined on the portion of the Prado Dam USGS topographic quadrangle map that you sent to me via e-mail on 19 July 2018. We do not have any vertebrate fossil localities that lie within the proposed project area boundaries, but we do have localities nearby from sedimentary deposits similar to those that occur at depth in the proposed project area.

The entire proposed project area has surface deposits that consist of younger Quaternary Alluvium, derived broadly as alluvial fan deposits from the San Bernardino Mountains to the north. These deposits typically do not contain significant vertebrate fossils in the uppermost layers, but at relatively shallow depth there are probably older Quaternary deposits that may well contain significant vertebrate fossils. Our closest fossil vertebrate locality from similar older Quaternary deposits is LACM 7811, just south of due east of southern-most portion of the proposed project area west of Mira Loma east of Archibald Avenue along Sumner Road north of Cloverdale Road, that produced a fossil specimen of whipsnake, *Masticophis*, at a depth of 9 to 11 feet below the surface. Further to the south-southeast of the proposed project area, on the northwestern side of Corona west of Cota Street between Railroad Street and Harrington Street, our vertebrate fossil locality LACM 1207 produced a fossil specimen of deer, *Odocoileus*.

Shallow excavations in the younger Quaternary Alluvium exposed throughout the proposed project area are unlikely to uncover significant fossil vertebrate remains. Deeper excavations there that extend down into the older Quaternary sediments, however, may well encounter significant vertebrate fossils. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains while not impeding development. Sediment samples should also be collected from the finer-grained deposits in the proposed project area and processed to determine their small fossil potential. Any fossils collected should be placed in an accredited scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

A handwritten signature in cursive script that reads "Samuel A. McLeod". The signature is written in black ink and is positioned below the word "Sincerely,".

Samuel A. McLeod, Ph.D.  
Vertebrate Paleontology

enclosure: invoice

**PRIMARY RECORD**

Primary #  
HRI #  
Trinomial  
NRHP Status Code: 6Z

Other Listings  
Review Code

Reviewer

Date

Page 1 of 17

\*Resource Name: G.H. (Gerben Hettinga) Dairy #2

**P1. Other Identifier:** Assessor Parcel Numbers 1054-041-02-0000, 1054-031-02-0000, 1054-261-02-0000, 1054-291-02-0000

**\*P2. Location:**  Not for Publication  Unrestricted  
and (P2b and P2c or P2d. Attach a Location Map as necessary.)

\*a. County: San Bernardino

\*b. USGS 7.5' Quad: Prado Dam Date: 1981 T 2S; R7W; Rancho del Chino Lot 7 Sec 20; S.B.B.M.

c. Address: 7417, 7475, & 7511 Eucalyptus Avenue City: Ontario Zip: 91762

d. UTM: Zone: 11; Point A: 440785m/E; 3761268m/N Point B: 440776m/E; 3760482m/N

Point C: 440389m/E; 3760485m/N Point D: 440394m/E; 3761262m/N

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: 667 feet asl

Located approximately one-half mile east of the intersection of Euclid Avenue and Eucalyptus Avenue, on the south side of the two-lane road.

**\*P3a. Description:** Per information from the San Bernardino County Assessor's Office, this dairy operation was established in 1976 on approximately 76.66 acres of land. The dairy operation included two, single-family residences, and associated pens and structures for holding livestock. An aerial photograph from 1966 shows that there were not any built-environment resources located within the subject parcels.

**Dairy Barn:** The dairy barn was constructed as part of a large-scale dairy operation. The barn is set on a north-south axis as is usual for dairy barns along Eucalyptus Avenue. The dairy barn is comprised of two sections; the north section contains the office for the dairy manager, and equipment for the milking parlor and milk storage. The south section has the automated milking parlor with the individual stations set in a herringbone formation. The north portion of the building has a rectangular mass approximately 62 feet wide and 37 feet long. The exterior of the north portion of the building was constructed with concrete masonry units (cmu), and is clad in a stucco finish. The north portion is devoid of any superfluous ornamentation or architectural features, and has no cultural or other decorative features that tie it visually to the residences on the property. The north portion of the dairy barn has a medium pitch gable roof set on a north-south axis. Pedestrian doors are situated on the north, east, and south elevation of the northern block, and sliding, metal unit windows provide the fenestration on those elevations as well. Large, steel tanks are set along the west elevation of the northern section, and the roof has been removed from where the tanks are set. A poured concrete, circular driveway with dimensions to allow large tanker trucks access to the front of the building, provides egress from Eucalyptus Avenue. (See Continuation Sheet for additional text)

**\*P3b. Resource Attributes:** HP33 (Farm/ranch), HP32 (Rural open space), HP3 (Multiple family property), HP4 (Ancillary buildings).

**\*P4. Resources Present:**  Building  Structure  Object  Site  District  Element of District  Other (Isolates, etc.)

P5a. Photo or Drawing



P5b. Description of Photo:

Dairy barn, view looking southwest;  
July 21, 2020.

**\*P6. Date Constructed/Age and**

**Sources:**  Historic

Prehistoric  Both

Constructed in 1976 per S.B. County Assessor data.

**\*P7. Owner and Address:**

Pacific Commodities, LLC

Kyle J. Borba, agent

P.O. Box 15238

Irvine, CA 92623

**\*P8. Recorded by:**

Pamela Daly, MSHP

Daly & Associates

2242 El Capitan Drive

Riverside, CA 92506

**\*P9. Date Recorded:**

September 4, 2020

\*P10. Survey Type:

City of Ontario/CEQA

**\*P11. Report Citation:** None.

**\*Attachments:**  NONE  Location Map  Sketch Map  Continuation Sheet  Building, Structure, and Object Record  
 Archaeological Record  District Record  Linear Feature Record  Milling Station Record  Rock Art Record  
 Artifact Record  Photograph Record  Other (List):

**BUILDING, STRUCTURE, AND OBJECT RECORD**

Page 2 of 17

\*NRHP Status Code: 6Z

\*Resource Name: G.H. Dairy #2

B1. Historic Name: B & B Dairy

B2. Common Name: G.H. Dairy #2

B3. Original Use: Dairy farm

B4. Present Use: Dairy farm

\*B5. **Architectural Style:** Ranch style 1960-1980

\*B6. **Construction History:** The dairy farm and associated buildings and structures were erected on the property in 1976 (per San Bernardino Assessor's Office data.)

\*B7. **Moved?** No Yes Unknown **Date:** **Original Location:**

\*B8. **Related Features:** Utilitarian dairy farm features that include: pole structures, out buildings, garages, utility sheds, feed bins, cooling tanks, water tanks, and runoff pits.

B9a. Architect: Unknown

b. Builder: Unknown

\*B10. **Significance:** None

**Theme:** New Model Colony Area (Ontario, CA)

**Area:** San Bernardino County

**Period of Significance:** None

**Property Type:** Large Capacity Dairy Farm

**Applicable Criteria:** None

The following text is excerpted from *The City of Ontario's Historic Context for the New Model Colony Area*, prepared by Galvin & Associates for the City of Ontario Planning Department in September 2004.

In 1967, the County of San Bernardino designated 14,000 acres of agricultural land in the Chino Valley, located in the southwest area of San Bernardino County, an agricultural preserve. This agricultural land, which has been protected by Williamson Act contracts and the 1965 Land Conservation Act, has been farmed primarily by Dutch, French Basque and Portuguese dairy farmers for the last 50 years.

In the 1990s, as dairy operation costs escalated and the demand for housing in the region swelled, development pressures mounted and the process of incorporating this area into adjacent cities began. Anticipating the expiration of the Williamson Act contracts, this area was divided and portions were incorporated into three adjacent cities. In 1999, 8,200 acres were annexed by the City of Ontario; in 2003, 5,000 acres were annexed by the City of Chino, referred to as the Preserve; and the City of Chino Hills annexed the remaining few hundred acres of land.

The City of Ontario named their portion of the former San Bernardino County Agricultural Preserve the *New Model Colony* (NMC) after the original *Model Colony of Ontario* established by the Chaffey Brothers, William and George Jr., in 1882. Over time, the New Model Colony area has been known as Santa Ana Del Chino, the Chino Valley, the Chino Basin, and the San Bernardino Agricultural Preserve or Ag Preserve. It consists of an expansive area of flat arid land that was historically sandy desert. In 2004, the NMC survey area included 711 parcels of predominately open agricultural land scattered with single-family homes and farm buildings. (See Continuation Sheet for additional text.) (See Continuation Sheet for additional text.)

B11. Additional Resource Attributes: None.

\*B12. **References:** Noted in text.

B13. Remarks: G.H. Dairy Corporation (a subsidiary of Sarah Farms, headquartered in Texas) appears to be leasing the dairy farm from Pacific Commodities, LLC. Kyle Borba is the agent for Pacific Commodities.

See continuation sheets for aerial views of the property.

\*B14. **Evaluator:** Pamela Daly, M.S.H.P.

\***Date of Evaluation:** September 4, 2020.

(This space reserved for official comments.)

**CONTINUATION SHEET**

\*Recorded by: Pamela Daly, M.S.H.P.

\*Date: September 4, 2020

Continuation  Update

**P3. Description, continued:**

**Dairy Barn**, continued: The milking parlor is a rectangular-massed building approximately 42 feet wide and 78 feet long. The cows enter from the pens at the south of the dairy barn and pass through the washing bays before entering the milking parlor stalls, where they are attached to automatic milking machinery. This part of the building is partially open sided, and covered with a corrugated metal, medium-pitch gable roof. The roof is supported by steel beams set vertically along the stucco-clad concrete partial walls that form the exterior, load bearing walls of the milking parlor building.

**Houses – East and West:**

There are two, single-family residences located on the property. They are located to the east and west of the dairy barn. The houses are identical except for the attached, two-car garage of the East House is situated on the west elevation, and the garage of the West House is attached to its east elevation. The attached garages are accessed by the main circular driveway.

The subject houses are cross-hipped roof sub-types of Ranch house style of residential architecture. The houses have square-massing, measuring approximately 42 feet wide by 42 feet long, for an approximate square footage of 1,764 of living space. Automobile garages are attached to the elevations of the houses that face the dairy barn and the attached garages measure approximately 30 feet wide by 26 feet long. The main blocks of the houses are covered by low-pitched pyramidal roofs, as are the garages as well. The house roofs have wide overhanging eaves, and along the south elevations of both houses a 13-foot wide flat roof extends from the main block to create a patio cover along the south elevation of the house. The front entrances to the houses are situated on the north elevations within a porch created by the overhanging eaves of a cross-hipped extension from the main roof. Concrete brick support columns are set at the northwest and northeast corners of the north eave of the extension, and this creates a porch overhang for the formal entrance. The houses are fenestrated with modern composite sliding windows units, and sliding door units set in the south elevations providing access to the backyards. The larger window units have four-inch wide flat board surrounds. The houses are clad with a stucco finish, and a water-table of concrete bricks runs along the elevations that face the front of the property. Each house has an exterior chimney constructed with concrete brick. The East house also has a gable roofed, unattached two-car garage situated on the southern edge of the driveway to the attached garage. The unattached garage has a stucco exterior similar to the houses and dairy barn. The houses are set well back from Eucalyptus Avenue, and have nicely landscaped lawns and modest gardens.

The cross-hipped roof Ranch style houses associated with the addresses of 7417 and 7511 Eucalyptus Avenue meet the criteria to be considered “1960s through 1980s Ranch” style houses within the historic context of the New Model Colony. The identically designed houses reflect a very modest, Ranch style single-family residence constructed in the mid-1970s. The subject Ranch houses, constructed in 1976, have no visible design association to its original roots as a design derived from the houses found on the historic ranchos in nineteenth-century California. The Ranch style houses constructed after World War II were popular for their sprawling layouts and rustic feel as represented by the use of rough board-and-batten siding, brick, slumped mortar on many houses set on landscaped lots. The subject houses at 7417 and 7511 Eucalyptus Avenue meet, but do not rise above being modest examples of a 1970s Ranch style cross-hipped house design that was widely constructed in California during the same time period. The subject houses present no visible ties, through any use of architectural features and/or design, to the rural and dairy use of the property

**Cattle pens:** The cattle pens were designed using feedlot fencing around a large section of land, with the large pens divided into various sized pens that can hold from just a few cows to more than 200 head. The tubular steel fencing is embedded in concrete footing and a concrete apron and/or concrete trough extends away from the fencing on the outside of the pen to allow an area for the feed to be laid out for each pen. The headlocks along the feed troughs appear to be from Albers Dairy Equipment. Albers Dairy Equipment was established by Teo Albers, Sr., the brother of Jacob N. Albers.

**Cattle shade pole structures:** Cattle covers have shed roofs that are supported by a system of steel poles, with a roof height ranging between approximately 10 feet tall to 18 feet tall. The sheds roofs are approximately 16 feet to 22 feet in width, and range from 30 feet to almost 250 feet long. At this dairy, the holding area for cows before they enter the wash station and milking parlor has multiple connected shade structures that provide approximately 7,125 square feet of shaded pen space. There are sixteen pole structures situated within the cattle pens on the subject property, and these provide over 1,000 yards of cattle sheds. (See Continuation Sheet for additional text.)

**CONTINUATION SHEET**

\*Recorded by: Pamela Daly, M.S.H.P.

\*Date: September 4, 2020

Continuation  Update

**P.3. Description, continued:**

**Hay cover pole structures:** There are multiple pole structures with shed roofs located in a north-south alignment between the cattle pens. There are ten hay covers, and these pole structures are similar in construction to the cattle shade structures.

**Manure pit:** There is a wet manure capture structure situated at the very southern end of the cattle pens that measures 390 feet long by 80 feet wide. This structure is usually dug to a depth of approximately 8' to be filled with the liquid runoff from the cattle pens. On a routine basis, the pit is drained to be recycled as liquid fertilizer.

**Feed sorter:** The feed sorter is situated at the southeast end of the cattle pens, and accessed by a driveway that runs along the east boundary of the property. The feed sorter has a rectangular footprint, and measures approximately 118' long by 58' wide, with the west façade open for access to the feed bins. It has a concrete foundation and half-walls separating the various feed types. The structure is covered by a shed roof, and plywood side walls enclosing the bays.

**Covered parking area:** Located along the eastern boundary of the property is a parking area 80 feet long covered by a shed roof shade structure approximately 20 feet wide. The roof and siding are comprised of corrugated metal panels, and the structure is supported by steel posts.

**Accessory storage building:** Located immediately south of the covered parking structure, this storage structure is comprised of a gable roof structure, with galvanized metal walls and roof, that measures approximately 26 feet long (north-south) by 22 feet wide, and is 22 feet high at its peak. The structure appears to be used for general farm use as it has a pedestrian door and an overhead garage door on its west elevation.

**CONTINUATION SHEET**

\*Recorded by: Pamela Daly, M.S.H.P.

\*Date: September 4, 2020

Continuation  Update

**B.10. Statement of Significance, continued:**

During the Rancho Period in the history of Southern California, large land grants were given to influential citizens leading to European settlement of ranchos for raising cattle in the San Bernardino Valley. The Rancho period lasted from 1834 until the Mexican War of 1846. Colonists were encouraged to settle in the San Bernardino Valley to help protect the region from such raids. Recipients of the land grants included Spanish gentlemen (dons) from many of the first families of California, such as the Lugos, Sepulvedas, Yorbas, Bandinis, Tapias, Palomares, and Picos.

One of the largest land grants in the area was Rancho Santa Ana del Chino, which encompassed the New Model Colony project study area. In 1841, the Spanish governor Alvarado granted the 22,000-acre Rancho Santa Ana del Chino to his uncle, Antonio Maria Lugo.

Located on a sloping plateau at the base of the 10,000-foot Mt. San Antonio, the City of Ontario, California, was named for Ontario, Canada by George Chaffey, a Canadian-born engineer who came to Riverside in 1880. He and his brother William acquired 1000 acres of the Garcia Rancho in 1881 which they intended to subdivide into small fruit farms. The Chaffey's purchased an additional 6,000 acres that would become the cities of Ontario and Upland. One of the keys to the Chaffey's success as developers was their creation of a "mutual water company" in which each landowner became a stockholder. Ontario was incorporated on December 10, 1891.

Chino's beginning can be traced to Isaac William's Rancho Santa Ana del Chino, known for its cattle and fine horses, its sugar beet factory, its dairy farms, and its truck farms in the early days. After Williams died the Chino Ranch suffered difficult times until the ranch and some additional lands were purchased by Richard Gird in 1881. Gird imported dairy cattle and built up a herd of 200 milk cows, which was the start of Chino's more recent role as a dairy center of Southern California. In 1887 he subdivided half the ranch and set aside the town site of Chino.

The first herds of good cows to reach California were those led or driven across the plains by the gold-seekers of 1849. The cows were fed or grazed along the trail and contributed to the family menu on the way. These cows were the foundation stock of pioneer dairy efforts in the foothills and mountain valleys of the Sierra Nevada. During the late 1840s and early 1850s, Sacramento was the center of California's cattle market. It was during this period that dairying became an established industry in California.

The scientist, Louis Pasteur, discovered in 1865 that heating milk to 140 degrees Fahrenheit for 20 minutes would destroy germs of tuberculosis, typhoid fever and other pathogenic organisms. Due to his discovery, the milk manufacturing industry began to develop in other areas related to the dairy industry such as supply machinery and equipment for milk pasteurizing plants, coolers, pasteurizers, bottling machines and a score of other products.

In the 1880s, dairying was largely confined to Humboldt County, Pt. Reyes Peninsula, the coastal section of San Luis Obispo and the mountain pastures of the Lake Tahoe region. In the early 1890s, the first farm separators (mechanical milk separators) were introduced into California.

There are three distinct phases in dairy farming in Southern California. The first phase was from 1900-1930 and consisted of free grazing of the cattle. The first dairies before 1930s were small family concerns, consisting of five or six acres. During the 1920s, the dairies gravitated to the southeastern part of Los Angeles County around Paramount, Artesia, and Bellflower.

The second phase of dairying, from 1931-1949 saw a change from free grazing dairying to dry-lot dairying with the mechanization of milking. Prior to World War II, dairies were widely dispersed throughout Los Angeles County. Large clusters of dairies were found in areas such as Torrance, Artesia, El Monte and the San Fernando Valley. During this period much of the feed and fodder was available from the local area, and dairies usually occupied the less valuable land that was not suited to citrus or truck farms raising vegetables for market.

The third phase of dairying in Southern California took place between 1950 and 1969. One of the paradoxes of the 1950s Los Angeles milk industry is that the rapidly growing human population and industry of Los Angeles County after the end of World War II, squeezed the dairymen into smaller and smaller areas, forcing the dairy industry to produce milk more economically than before the squeeze began. The dairy farmers moved to new dairies to take advantage of mechanization; their old barns were not large enough for the new machinery.

Dairies first came to the Chino Valley in the late 1890s, mostly on rented land. The Chino Valley was a good location for dairy farming because of its vast areas to cultivate hay and its sunshine, fertile soil, and water supply. In the late 1950s and early 1960s many housing developments began in Westminster and Cypress and dairymen started to buy farm land in the Chino Valley which had been used mostly for growing grapes. By 1957, more than 135 dairies were located in the Chino Valley area. (See additional text on Continuation Page)

\*Recorded by: Pamela Daly, M.S.H.P.

\*Date: September 4, 2020

Continuation  Update

**B.10. Statement of Significance, continued:**

In moving to the Chino Valley area, the dairymen established the most efficient and modern dairies in the nation. By 1979, the largest concentration of dairies in the world was located in the approximately 18 square miles that comprise the Chino Valley. Sixty percent of the milk produced in the State of California was produced in this area.

Dairy farming in the Chino Valley, between 1950 and 1969, consisted of the introduction of scientific feeding and breeding, resulting in larger herds and more productive dairy operations. The dairy properties that developed during 1950-1969 are located on very large parcels or on properties that comprise multiple smaller parcels. The average size for a property associated with this context is approximately forty (40) acres or more. As the mechanization of dairying advanced, the size of the parcel increased as the dairy farmer was capable of milking more cattle. The layout of the dairy property also changed as the dairy operation began to introduce new farming equipment for the mechanization process.

With the technology of the new milking systems (of the 1950s-60s) one man easily could milk 450 cows twice a day. Machines could handle more cows, consequently, the herds increased in size again. Also, the dairy farmers from this period were able to afford more land after selling their dairies for premium prices in the highly valued inner-city areas of Los Angeles County, and could consequently increase the size of their operations and upgrade their milking facilities as the cost of land in the Chino Valley area was far less costly.

At present, the subject 76.6-acre project area is comprised of four legal parcels that are owned by Pacific Commodities, LLC. The dairy operations are being leased to Gerben Hettinga Dairy #2 (a subsidiary of Sarah Farms Corporation based in Texas.) The history and evaluation of the subject property is based upon a review of historic aerial photographs dating from 1938 to 2002 that provide a view of buildings and structures on the parcels in the subject area; San Bernardino County Assessor's Office data; historic newspaper articles; and census information.

Jacob Nicolas Albers immigrated to the United States in 1929 when he was just 20 years old. He is recorded as living in a rural area of Fresno, California, in 1935, before establishing a dairy operation in Buena Park by 1940. Within a few years, Jacob and Nellie have relocated to a dairy property at 614 West Artesia Street, in Artesia, Los Angeles County. In 1948, Jacob is joined by Teo (Teunis) Albers and his family at the property on West Artesia Street. (Due to the closeness in the ages of Jacob and Teo, they may have been brothers or cousins.) Jacob and Nellie eventually settle at a dairy farm property at 19510 Pioneer Boulevard in Artesia, and in 1960 is noted as being a Councilman in the City of Artesia. Teo Albers, Sr. would establish the Albers Manufacturing Company that specialized in dairy industry equipment. Albers Manufacturing Company is the "originator" of the self-locking stanchion, used to hold cows while they are feeding and in the milking stations.

The Assessor's records for the subject parcels present Jacob and Nellie Albers as the owners of the unimproved land in the Chino Valley dairy area in 1976. It appears they sold the land to Theodor Z. and Felice Miller in 1976. All the improvements on the property were constructed on the property in 1976, but it is unknown if Theodor and Felice lived or worked on the land. In 1976, both Theodor and Felice would have been 57 years old. They may have had adult children or other family members who were active in operating a large dairy operation, and this may explain why two, identical houses were constructed on the site. (Usually, a larger residence was constructed for the dairy owner, while the manager's house was smaller in size.)

Based on Assessor's records, the property fell into receivership in 1988, and was quickly acquired by Joseph A. Borba and his wife Doleen. Joseph A. Borba was one of George A. Borba Sr.'s three brothers, and Kyle Borba, the agent of Pacific Commodities LLC (the current owner of the property) is Joseph A. Borba's grandson. At the time that Joseph and Doleen acquired the subject property, they would have 68 years old, so it is highly likely that the actual dairy operations were conducted by Joseph Borba's children, grandchildren, or members of the extended Borba family.

(Sources: Ancestry.com for "Jacob Nicolas Albers", "Theodor Z. Miller", "Joseph A. Borba". Resources include 1930 and 1940 U.S. Census records, World War II draft card for "Jacob N. Albers", Immigration Record for "Jacob N. Albers", City Directories and Voter Registration Records for Albers, Borba, and Miller.)

In assessing the historical significance of the subject property, federal, state, and local significance criteria were applied. The subject property is not currently listed in either the National Register of Historic Places, California Register of Historical Resources, or as a City of Ontario Historic Landmark.

**National Register and California Register**

**Criteria A/1:** Pursuant to the National Register and/or California Register criterion relating to the subject property's association with significant historical events that exemplify broad patterns of our history, the subject property does not qualify as a significant resource under Criteria A/1. (See Continuation Sheet for additional text.)



**B.10. Statement of Significance, continued:**

**NR-CR Criteria A/1, continued:** While the history of the subject property with the development of the dairy industry in Chino Valley-Ontario is important, the property was not specifically identified in our research as the site of an event important to the history of large-scale dairy farming in California, or the United States. There is no evidence that the subject property is eligible for listing under National Register Criterion A or California Register Criterion 1.

**Criteria B/2:** Pursuant to National Register and California Register criteria relating to the subject property's association with the lives of persons significant in our past, the property does not qualify as a significant resource under National Register Criterion B or California Register Criterion 2. This criterion is used to determine if a person important to the history dairy farming in the United States and/or California is *directly* associated with the subject property. Research has not revealed that there were important persons associated with the property before 1975 (45 years ago.) The property does not appear to have become part of the extended Borba Family holdings until 1988.

**Criteria C/3:** Pursuant to the National Register and California Register criteria relating to the distinctive characteristics of a type, period, region, or method of construction, the subject property does not appears to be eligible for listing as a significant Large Capacity Dairy under National Register Criterion C or California Register Criterion 3. The property is an example of a Large Capacity Dairy constructed in Ontario in 1976. The design of a Large Capacity Dairy had been developed over 50 years of both technical improvements in milking machinery and the handling of dairy cows. The Large Capacity Dairies were simply an expansion of the dairy operations built soon after World War II, which brought together the improved hygienics of milking operations with the use of mechanical milking parlors. Large-scale dairy farms had been established, constructed, and operated in Southern California and the Chino Valley Dairy region since the early 1950s, and the subject dairy operation was not found to be a pioneer of large-scale dairy management. The Millers built an operation in 1976 whose success was insured by following the example of the layout and management of other regional farms and industry guidelines. The subject property does not present any significant contributions to the history of Large Capacity Dairies, constructed in the New Model Colony Area between 1950 and 1969, and is not eligible for listing as a significant property under Criterion C/3.

**City of Ontario Criteria**

The subject property was constructed in 1976, which is outside of the time parameters of "Post 1950 to 1969" timeframe to be considered under the criterion for a "Scientific, Large Capacity Dairy" farm as presented in the *City of Ontario's Historic Context for the New Model Colony Area*. While the property possesses the physical attributes of a large-scale dairy operation, it does not meet the age criterion to be considered a contributor to the history of dairy farming in the City of Ontario.

Prior to 1950, the dairy farms in the Chino Valley area were primarily owned and operated by a single family, with some hired hands to supplement the family's involvement. Even with the advent of modern milking equipment, improved feeding and animal husbandry, the dairy farms continued to resemble those of the early twentieth-century, with the cows able graze in pastures and the farms make a visual connection to the early days of settlement in Ontario and the Chino Valley.

After World War II, the pressure from urban development, high price of land, and loss of interest by the younger generations of dairy farmers, forced dairy farmers in the New Model Colony Area to adapt to the modern livestock business plan of operating, what is called in common terminology, a factory farm. The dairy operation on the subject property can accommodate approximately 1,500 head of cattle on the property, with approximately 1,000 head being milked on a daily basis due to the improvement of technology. A factory farm is considered:

*An operation is defined as an animal feeding operation, or AFO, if the facility confines, stables, or feeds animals for 45 days or more in a 12-month period, and a ground cover of vegetation is not sustained over at least 50 percent of the confinement area.* An operation is defined as a concentrated animal feeding operation, or CAFO, if it meets the definition of an AFO and also confines more than 1,000 animal units (1,000 animal units is equal to 700 dairy cows). (United State Department of Agriculture (USDA) <https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/plantsanimals/livestock/afo/>)

**Criterion a.:** Evaluating the property under the City of Ontario criteria for historic landmarks, the property of the subject property has not been found to exemplify or reflect special elements of the City's history. The "Post 1950 [to 1969], Scientific, Large Capacity Dairies" were identified in the "New Model Colony Historic Context" not for their contribution to the post World War II development of the City of Ontario, but rather that the advancements of dairy management and technology allowed for farmers to milk a greater number of cows in a 24-hour period. (See Continuation Sheet for additional text.)

\*Recorded by: Pamela Daly, M.S.H.P.

\*Date: September 4, 2020

Continuation  Update

**B.10. Statement of Significance, continued:**

**City of Ontario Criteria, continued:**

Criterion a, continued: The buildings and structures on the subject property were constructed in 1976, outside the period of significance for "Scientific, Large Capacity Dairies" in the New Model Colony Area.

Criterion b.: The subject property has not been identified with persons or events significant in state or national history. In 1988, Joseph A. and Doleen Borba were recorded as owners of the property, but their exact involvement with the dairy operation on the property are unknown. While many members of the extended Borba were very active in Chino Valley dairy community, both in civic and industry activities, we have not found any important contributions made in association with this property.

Criterion c.: The built-environment resources of the subject property were not constructed within the period of significance for "Post 1950 [to 1969], Scientific, Large Capacity Dairies" in the New Model Colony Area. These types of large-scale dairy operations were being constructed across California, and in many parts of the United States, since the end of World War II. Per the USDA, there are over 450,000 AFOs in the United States in 2017, of which dairy operations make up a large percentage of the total number.

Criterion d.: While the subject does present the physical and architectural attributes of a Large Capacity Dairy, it was constructed in 1976 and is therefore outside the period of significance for a "Post 1950 [to 1969] Scientific, Large Capacity Dairy" in the New Model Colony Area. The design of the dairy facility on the subject property had no impact on the future of architectural or agricultural development of dairy farms in Ontario or the Chino Valley in the last quarter of the twentieth-century.

Criterion e.: The buildings and structures of the subject property do not exhibit noteworthy examples of the use of indigenous materials or craftsmanship.

Criterion f.: The subject property does not embody elements that represent significant dairy technology, or design of a factory farm, constructed in the 1970s. The dairy operation presents the type of large scale, dry lot, milking operation widely used across California where urban growth pushes against agrarian interests. (And why the Williamson Act was enacted to protect agricultural and open space land.)

Criterion g.: The subject property is not located in a unique location. The farm is just one of many that are still located in the Chino Valley-Ontario area.

Criterion h.: The subject property was constructed outside of the period of significance for a "Post 1950 [to 1969] Scientific, Large Capacity Dairy" in the New Model Colony Area, and is not a rare example of a large capacity dairy in Ontario or California. Large capacity dairies continue to operate across California, and many are constructed based upon the same basic physical design, but are being outfitted with technologically advanced milking, animal husbandry, and herd control devices.

The subject property has not been identified as a contributing member of any identified Historic District of thematically related groupings of Large Capacity Dairy farms constructed after 1969 in the New Model Colony Area.

(See Continuation Sheet for additional text.)

\*Recorded by: Pamela Daly, M.S.H.P.

\*Date: September 4, 2020

Continuation  Update

**B.10. Statement of Significance, continued:**

**Evaluation of the Ranch style houses of the subject property per National Register, California Register Criteria**

The East and West Houses of the subject property were constructed in 1976, and have not met the sufficient age (50 years) to be evaluated as historic resources for listing in the National Register or California Register. In addition, the East and West Houses do not meet Criterion G of the National Register as buildings of *exceptional importance* that have achieved significance within the past 50 years.

Nonetheless, evaluated under Criterion A/1, the East and West Houses of the subject property have not been found to have been associated with events that have made a significant contribution to the broad pattern of dairy farm ranch houses, or to the cultural history of dairy farming, in Chino Valley-Ontario, California, or the United States.

Under Criterion B/2, the East and West Houses of the subject property have not been found to have been directly, or remotely, associated with persons important to the dairy farm industry in Ontario, California, or the United States prior to 1988.

Under Criterion C/3, the East and West Houses of the subject property have not been found to present sufficient character-defining features of "1960s through 1980s" Ranch style houses of high artistic values, or designs that contribute to the national or regional discussion regarding Ranch style houses constructed in 1976.

**City of Ontario Criteria:**

As noted above, the East and West Houses have not achieved sufficient age to be evaluated for historical significance as Ranch style dwellings in the New Model Colony area, or the City of Ontario.

Nonetheless, under criteria established by the City of Ontario, the East and West Houses do not possess the level, and number, of character-defining features that are necessary for the buildings to be considered good examples of "1960s through 1980s" Ranch style house as defined under the *New Model Colony Historic Context*. The East and West Houses do not possess asbestos/composition roof shingles; aluminum-framed windows set to present a strong horizontal alignment; lack of a low-pitch gable or cross-gable roof system; large, single-light picture windows; plain metal- or wood-post porch supports; concrete slab front porch situated under a long, narrow shed roof along the front façade; use of decorative stone and masonry; arch patterns along the walkways; wide surrounds around the main and entry windows; stylized double doors with ornate panels and ornamental oversized hardware.

Criterion a: The East and West Houses of the subject property do not exemplify or reflect special elements of the City or New Model Colony's history.

Criterion b: The East and West Houses of the subject property have not been identified with persons or events significant in local, state, or national history.

Criterion c: The East and West Houses of the subject property do not represent the work of a notable builder, designer, architect, or artist.

Criterion d: The East and West Houses of the subject property do not possess sufficient character-defining features to embody the distinguishing architectural features of a "1960s through 1980s" Ranch style residence, or method of construction.

Criterion e: The East and West Houses of the subject property are not noteworthy examples of the use of indigenous materials or craftsmanship.

Criterion f: The East and West Houses of the subject property do not embody elements that represent a significant structural, engineering, or architectural achievement or innovation.

Criterion g: The East and West Houses of the subject property do not have a unique location, a singular physical characteristic, or are established and familiar visual features of a neighborhood, or community in the City.

Criterion h: The East and West Houses of the subject property are not rare examples of an architectural or historical type of residential construction in the City, region, state, or nation.

\*Recorded by: Pamela Daly, M.S.H.P.

\*Date: September 4, 2020

Continuation  Update



East House, front (north) elevation. View looking south southeast.



West House, front (north) elevation. View looking south.

\*Recorded by: Pamela Daly, M.S.H.P.

\*Date: September 4, 2020

Continuation  Update



East House, north and west elevations. View looking southeast.



West House, north and east elevations. View looking southwest.



\*Recorded by: Pamela Daly, M.S.H.P.

\*Date: September 4, 2020

Continuation  Update



Dairy barn, north and west elevations. View looking south-southeast.



Dairy barn, north and east elevations. View looking southwest.



Dairy barn, west elevation. View looking northeast.

\*Recorded by: Pamela Daly, M.S.H.P.

\*Date: September 4, 2020

Continuation  Update



Cattle pens with sun shades. View looking southwest.



Hay storage sheds. View looking south.



Cow pens, cow shades, and hay sheds. View looking south.

\*Recorded by: Pamela Daly, M.S.H.P.

\*Date: September 4, 2020

Continuation  Update



Covered carport. View looking southeast.



Accessory storage building. View looking east-southeast.



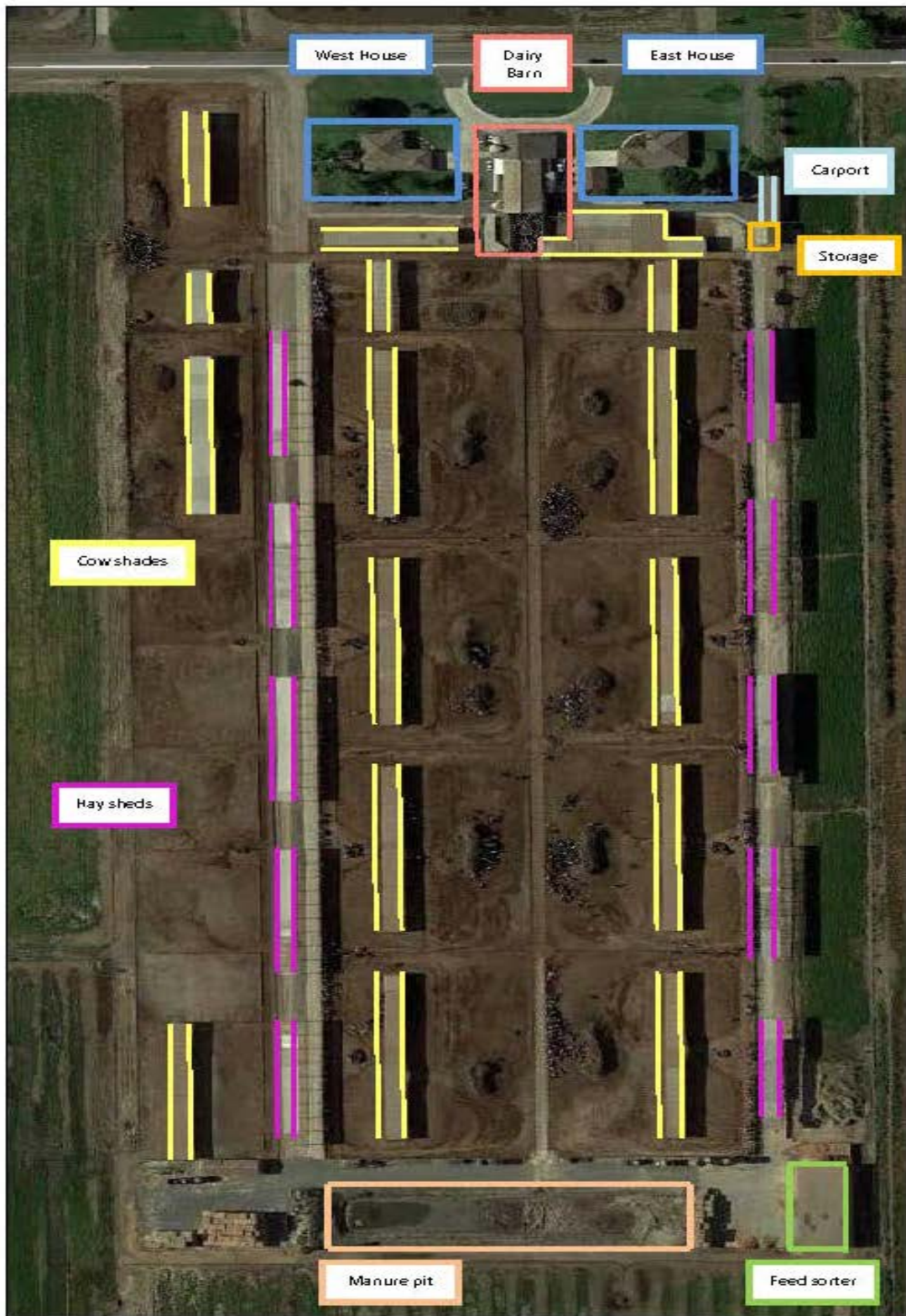
Driveway along the east boundary of the property with GH Dairy #2 signage.

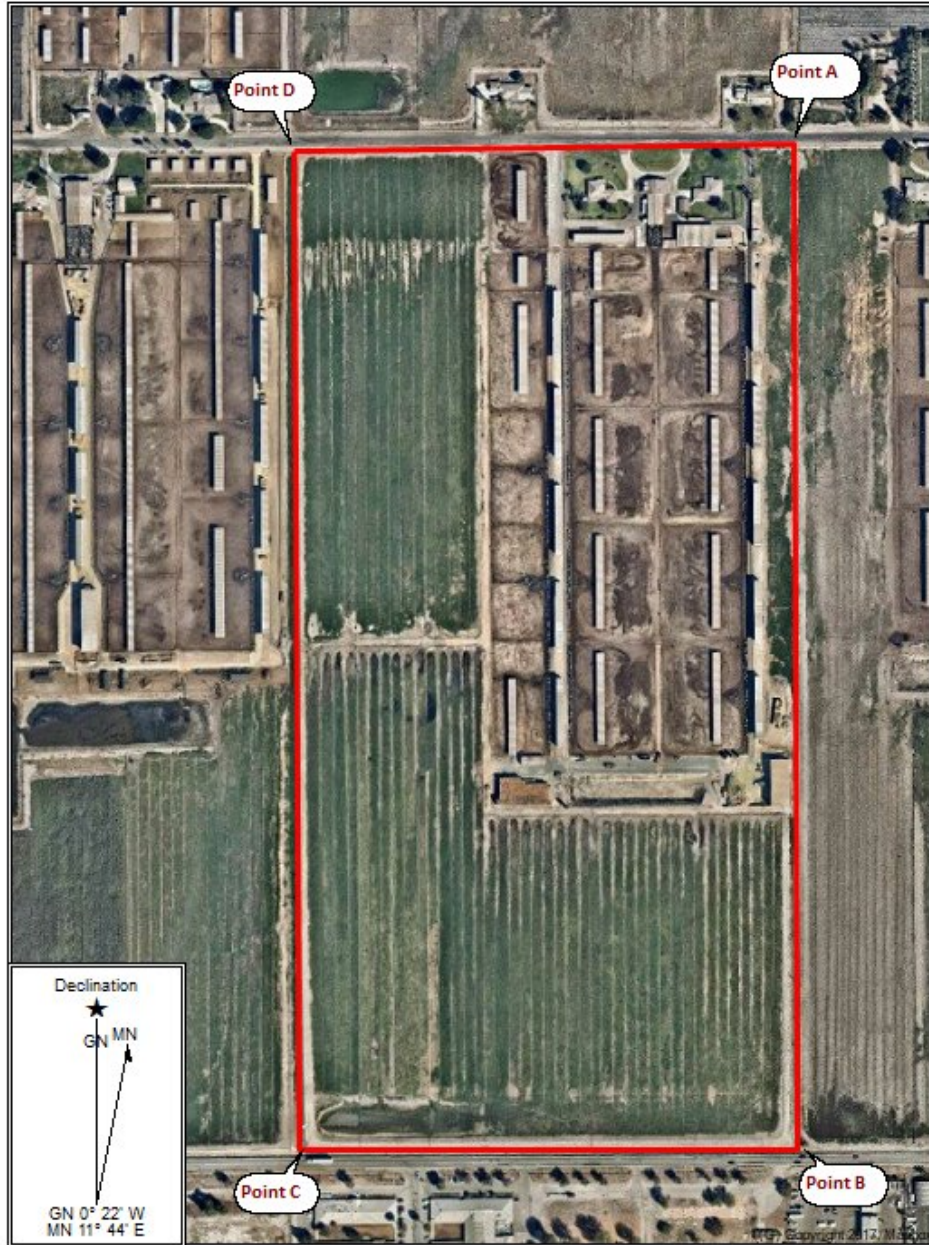


\*Recorded by: Pamela Daly, M.S.H.P.

\*Date: September 4, 2020

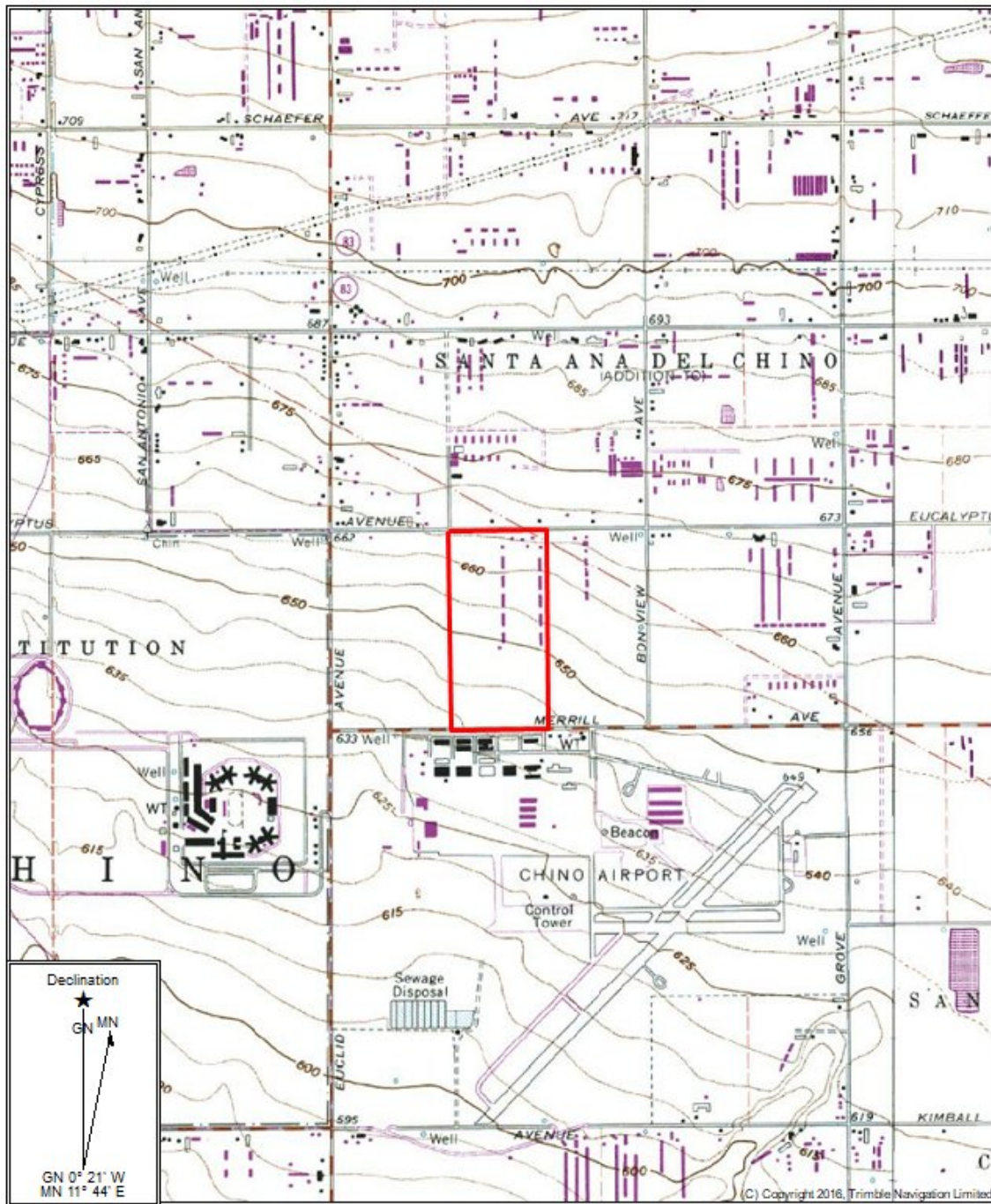
Continuation  Update







**LOCATION MAP**



## **NATIVE AMERICAN CONSULTATION**

## **NAHC CONSULTATION**

## NATIVE AMERICAN HERITAGE COMMISSION

June 30, 2021

Alexis Vaughn  
City of Ontario

Via Email to: [avaughn@ontarioca.gov](mailto:avaughn@ontarioca.gov)

**Re: Native American Consultation, Pursuant to Senate Bill 18, Government Code §65352.3 and §65352.4, General Plan Amendment (File No. PGPA21-001) Specific Plan Amendment (File No. PSPA21-002) Project, San Bernardino County**

Dear Ms. Vaughn:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties.

Government Code §65352.3 and §65352.4 require local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

The law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction. The NAHC believes that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

The NAHC also believes that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:
  - A listing of any and all known cultural resources that have already been recorded or are adjacent to the APE, such as known archaeological sites;
  - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
  - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the APE; and
  - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.
2. The results of any archaeological inventory survey that was conducted, including:
  - Any report that may contain site forms, site significance, and suggested mitigation measures.



CHAIRPERSON  
**Laura Miranda**  
Luiseño

VICE CHAIRPERSON  
**Reginald Pagaling**  
Chumash

SECRETARY  
**Merri Lopez-Keifer**  
Luiseño

PARLIAMENTARIAN  
**Russell Attebery**  
Karuk

COMMISSIONER  
**William Mungary**  
Paiute/White Mountain  
Apache

COMMISSIONER  
**Julie Tumamait-Stenslie**  
Chumash

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[NAHC.ca.gov](http://NAHC.ca.gov)

All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code §6254.10.

3. The result of the Sacred Lands File (SLF) check conducted through the Native American Heritage Commission. The request form can be found at <http://nahc.ca.gov/wp-content/uploads/2015/08/Local-Government-Tribal-Consultation-List-Request-Form-Update.pdf>.

4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event, that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we are able to assure that our consultation list remains current.

If you have any questions or need additional information, please contact me at my email address:

[Andrew.Green@nahc.ca.gov](mailto:Andrew.Green@nahc.ca.gov).

Sincerely,



Andrew Green  
Cultural Resources Analyst

Attachment

**Native American Heritage Commission  
Tribal Consultation List  
San Bernardino County  
6/30/2021**

**Gabrieleno Band of Mission  
Indians - Kizh Nation**

Andrew Salas, Chairperson  
P.O. Box 393  
Covina, CA, 91723  
Phone: (626) 926 - 4131  
admin@gabrielenoindians.org

Gabrieleno

**Gabrieleno/Tongva San Gabriel  
Band of Mission Indians**

Anthony Morales, Chairperson  
P.O. Box 693  
San Gabriel, CA, 91778  
Phone: (626) 483 - 3564  
Fax: (626) 286-1262  
GTTRibalcouncil@aol.com

Gabrieleno

**Gabrielino /Tongva Nation**

Sandonne Goad, Chairperson  
106 1/2 Judge John Aiso St.,  
#231  
Los Angeles, CA, 90012  
Phone: (951) 807 - 0479  
sgoad@gabrielino-tongva.com

Gabrielino

**Gabrielino Tongva Indians of  
California Tribal Council**

Christina Conley, Tribal  
Consultant and Administrator  
P.O. Box 941078  
Simi Valley, CA, 93094  
Phone: (626) 407 - 8761  
christina.marsden@alumni.usc.edu

Gabrielino

**Gabrielino Tongva Indians of  
California Tribal Council**

Robert Dorame, Chairperson  
P.O. Box 490  
Bellflower, CA, 90707  
Phone: (562) 761 - 6417  
Fax: (562) 761-6417  
gtongva@gmail.com

Gabrielino

**Gabrielino-Tongva Tribe**

Charles Alvarez,  
23454 Vanowen Street  
West Hills, CA, 91307  
Phone: (310) 403 - 6048  
roadkingcharles@aol.com

Gabrielino

**Quechan Tribe of the Fort Yuma  
Reservation**

Jill McCormick, Historic  
Preservation Officer  
P.O. Box 1899  
Yuma, AZ, 85366  
Phone: (760) 572 - 2423  
historicpreservation@quechantribe.com

Quechan

**Santa Rosa Band of Cahuilla  
Indians**

Lovina Redner, Tribal Chair  
P.O. Box 391820  
Anza, CA, 92539  
Phone: (951) 659 - 2700  
Fax: (951) 659-2228  
Isaul@santarosa-nsn.gov

Cahuilla

**Soboba Band of Luiseno  
Indians**

Isaiah Vivanco, Chairperson  
P. O. Box 487  
San Jacinto, CA, 92581  
Phone: (951) 654 - 5544  
Fax: (951) 654-4198  
ivivanco@soboba-nsn.gov

Cahuilla  
Luiseno

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 6097.98 of the Public Resources Code and section 5097.98 of the Public Resources Code.

This list is only applicable for consultation with Native American tribes under Government Code Sections 65352.3 and 65352.4 et seq for the proposed General Plan Amendment (File No. PGPA21-001) Specific Plan Amendment (File No. PSPA21-002) Project, San Bernardino County.



**SAMPLE AB 52 CONSULTATION LETTER**



# CITY OF ONTARIO

## MEMORANDUM

**TO:** Gabrieleno Band of Mission Indians - Kizh Nation, Andrew Salas

**FROM:** Alexis Vaughn, Assistant Planner

**DATE:** July 2, 2021

**SUBJECT:** AB 52 NOTIFICATION – Ontario Ranch Business Park Specific Plan Amendment/Nos. PSPA21-002 & PGPA21-001

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The City of Ontario is evaluating a proposed Specific Plan Amendment and General Plan Amendment, along with future Development Plan(s), Tentative Parcel Map(s), and a Development Agreement ("Specific Plan Amendment" or "project"). The project is described below and illustrated on the attached maps. The project is subject to the California Environmental Quality Act (CEQA). In accordance with Assembly Bill 52 (Public Resources Code Section 21080.3.1), California Native American Tribes may request consultation regarding possible significant effects that implementation of the proposed project may have on tribal cultural resources. A request for consultation must be received within 30 days of the date of this letter. The request must be in writing to the City of Ontario and must identify a lead contact person. If consultation is requested, the City of Ontario will begin the consultation process within 30 days. This notification was prepared by Kimley-Horn and Associates, Inc. on behalf of the City of Ontario.

The project and contact information are provided below:

**Project Name/File No.: Ontario Ranch Business Park Specific Plan Amendment  
(File Nos. PSPA21 002 & PGPA21-001)**

**Project Location:** The project site is bound by Eucalyptus Avenue to the north, existing right-of-way for the future Campus Avenue extension to the east, Merrill Avenue to the south, and unimproved right-of-way for Sultana Avenue to the west. Regional location and local vicinity maps are provided in Exhibit 1, Regional Location Map and Exhibit 2, Vicinity Map, respectively. The project site is located in southwestern San Bernardino County, within the City of Ontario. The City of Ontario is located approximately 40 miles from downtown Los Angeles, 20 miles from downtown San Bernardino, and 30 miles from Orange County. Regional access is available to the Project site via State Route 83 (SR-83; Euclid Avenue), which is adjacent to the project site, State Route 60 (SR-60) approximately three miles to the north, Interstate 15 (I-15) approximately five miles to the east, and State Route 71 (SR-71) approximately three miles to the southwest. SR-71 connects the project to State Route 91 (SR-91) in unincorporated Riverside County, which is approximately seven miles to the south. The attached exhibits depict the regional location of the site (Exhibit 1); the project vicinity (Exhibit 2); existing and proposed General Plan land use designations (Exhibit 3); and, USGS Map (Exhibit 4).

The proposed Project site consists of eight parcels that are associated with the San Bernardino County Assessor’s Parcel Numbers (APNs) presented in Table 1.

**Table 1: Assessor’s Parcel Numbers**

1054-041-01	1054-041-02
1054-031-01	1054-031-02
1054-261-01	1054-261-02
1054-291-01	1054-291-02

**Project Description:** The proposed project site is currently developed as an operational dairy farm. The site contains two single-family residential structures, a dairy barn, a storage structure, approximately 10 feed storage barns, and numerous livestock corrals. There are large existing retention ponds that collect surface waste accumulations from the dairy farming practices, including animal wastes. Several above-ground storage tanks are present which store housing fuel, water, fresh milk, and livestock feed along with various mechanical systems for dairy production practices. The remainder of the site is used as irrigated cropland with berms located along the site perimeter. The site currently takes access off of Eucalyptus Avenue. The site is fenced with tubular metal fencing.

The project includes a General Plan Amendment and Specific Plan Amendment. Future Applications will include a Development Agreement, Development Plan(s), and Tentative Parcel Map(s) to allow development of approximately 1.6 million square feet (sf) of industrial and business park land uses on the 71.68-acre site, as described further below. The project is an extension of the Ontario Ranch Business Park Specific Plan project, which was approved September 15, 2020, to allow for development of an industrial and business park on eleven parcels covering 85.6 acres in the City of Ontario. The Ontario Ranch Business Park Specific Plan project included eight warehouse buildings ranging from 46,900 sf to 618,353 sf, totaling a maximum development of 1,905,027 sf of warehouse and office uses. This project will extend the Ontario Ranch Business Park Specific Plan boundary and would annex the abutting approximately 72 acres to the east. The project consists of two planning areas (PAs) adding to the Ontario Ranch Business Park Specific Plan. The proposed PAs 3 and 4 would allow for a total of 1,640,690 sf of industrial and business park uses. The Development Plan currently proposes the construction of six industrial concrete tilt-up warehouse buildings. PA 3 will consist of three buildings utilized for warehousing and ancillary office space, totaling 227,951 sf. PA 4 will consist of industrial and warehousing uses, totaling 1,412,739 sf. The EIR will evaluate the project at a “subsequent level.”

The associated EIR will evaluate the total maximum allowable development in the Specific Plan area while still remaining less than The Ontario Plan allowance. The maximum development under the Specific Plan Amendment consists of 1,640,690 sf of industrial and business park land uses and associated on-site and off-site infrastructure improvements. The Specific Plan serves to implement The Ontario Plan General Plan for the land covered by the Specific Plan and provides zoning regulations for development of the project site through adopted permitted land uses, development standards, infrastructure requirements and implementation requirements for the development within the Specific Plan boundaries. Per the Specific Plan Amendment and EIR, the floor area ratios (FARs) analyzed are less than that which The Ontario Plan allows.

The following summarizes the discretionary approvals to be evaluated in the EIR as part of the Project review and approval process by the City of Ontario.

**General Plan Amendment (GPA).** The proposed GPA would amend the City’s General Plan Land Use Map by changing the existing land use designations of the 71.68-acre Project site from 18 acres of “Business Park” and 54 acres of “Low-Medium Density Residential” to 11.63 acres of “Business Park” and 60.06 acres of “General Industrial,” to facilitate development of the project site.

As part of Senate Bill (SB) 330, an additional GPA will be processed concurrently to increase density elsewhere in the City to achieve no net loss of unit capacity.

**Ontario Ranch Business Park Specific Plan Amendment (SPA).** The SPA proposes a comprehensive land use plan, circulation plan, streetscape plan, infrastructure service plan, grading plan, maintenance plan, phasing plan, design guidelines, development regulations, and implementation measures to guide the development of the 71.68-acre site into a master-planned industrial/business park. The SPA consists of two PAs which would accommodate a variety of commercial, office, technology, manufacturing, and warehouse/ distribution uses. Furthermore, the SPA site is within the Chino Airport’s airport influence area (AIA) but outside the Chino Airport zoning overlay. Land use compatibility assessments are part of the Chino Airport Master Plan. The Project site is within Safety Zone 6, Traffic Pattern Zone of the Chino Airport Overlay (Generic Safety Zones for General Aviation Airports from the Caltrans Division of Aeronautics – California Airport Land Use Planning Handbook). Safety Zone 6 compatibility criteria prohibit people-intensive uses such as stadiums, large daycare centers, hospitals, and nursing homes. In the San Bernardino County Chino Airport Comprehensive Land Use Plan, the site is within Safety Zone III, Traffic Pattern/Overflight Zone. Light industrial and manufacturing uses are acceptable within this zone, provided that they do not generate any visual, electronic, or physical hazards to aircraft. The Airport Land Use Compatibility Plan (ALUCP) for Chino Airport provides additional guidance for development around Chino Airport. The SPA site is not within an existing or current airport noise hazard zone and is in Zone D as designated in the ALUCP.

Furthermore, the SPA site is within the Ontario Airport’s AIA. Land use compatibility assessments for Ontario Airport are included in the facilities Master Plan and ALUCP. The SPA site for the Ontario Airport is not within a safety zone, a noise impact zone, or an airspace protection zone. The SPA site is within an overflight notification zone requiring a real estate transaction disclosure for residential properties; a requirement that does not apply to the SPA site.

The SPA would allow for a maximum buildout of up to 1,640,690 sf of building space for these PAs. PAs 3 and 4 would be located south of Eucalyptus Avenue and north of Merrill Avenue, which is east of Sultana Avenue, and west of Campus Avenue.

- **Business Park:** The SPA would allow up to 227,951 sf of Business Park floor area, consisting of a maximum of 0.45 FAR, less than The Ontario Plan’s standard of 0.60 FAR. PA 3 would comprise 11.63 acres and could be developed with business park buildings with uses such as offices, technology centers, research and development, enterprises, light manufacturing, and warehouse/distribution uses.
- **General Industrial:** The SPA would allow up to 1,412,739 sf of Industrial building space to be constructed within PA 4, consisting of a maximum of 0.54 FAR, as opposed to The Ontario Plan’s standard of 0.55 FAR. PA 4 would comprise 60.06 acres and would allow for the development of uses such as general light industrial, manufacturing, warehouse/distribution, and e-commerce fulfillment center operations.

**Housing Accountability Act (Senate Bill [SB] 330):** The EIR will include evaluation of “replacement housing” in accordance with SB 330, the Housing Crisis Act of 2019 (Government Code Section 6300). SB 330 requires in part that, where a development project results in reducing the number of housing units allowed under existing zoning, the City must concurrently rezone other parcels such that there is no “net loss” of the total allowable housing development in the City. The City has evaluated the proposed project and has determined that it would result in “loss” of approximately 479 low- to moderate-density housing units. The EIR will evaluate the potential environmental impacts of rezoning a proposed replacement site situated along Grove Avenue approximately 5.0 miles from the Project site, for higher density residential uses at a programmatic level, as no specific development has been proposed for the proposed replacement site and no site-specific applications have been submitted to the City at this time.

**Background:** The City is preparing a Subsequent Environmental Impact Report (SEIR) for the project and will be incorporating project-specific mitigation measures along with standard The Ontario Plan (General Plan) set mitigation measures from the Certified Environmental Impact Report (CEIR) prepared for The Ontario Plan that was adopted in 2010. At minimum, the following Cultural Resources mitigation measures will be required for the project:

1. Should any cultural and/or archaeological resources be accidentally discovered during construction, construction activities shall be moved to other parts of the project site and a qualified archaeologist shall be contacted to determine the significance of these resources. If the find is determined to be an historical or unique archaeological resource, as defined in Section 15064.5 of the CEQA Guidelines, avoidance or other appropriate measures shall be implemented.
2. In the event of the accidental discovery or recognition of any human remains during excavation/construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the County Coroner has been contacted and any required investigation or required Native American consultation has been completed.

**General Plan FEIR Cultural Resources Mitigation Measures:**

- 5-1 Historic or potentially historic resources in the City shall be evaluated for historic significance through the City's tier system prior to the issuance of plan or development approvals.
- 5-2 In areas of documented or inferred archaeological and/or paleontological resource presence, City staff shall require applicants for development permits to provide studies to document the presence/absence of such resources. On properties where resources are identified, such studies shall provide a detailed mitigation plan, including a monitoring program and recovery and/or in-situ preservation plan, based on the recommendation of a qualified cultural preservation expert. The Mitigation plan shall include the following requirements:
  - a) Archaeologist and/or paleontologist shall be retained for the project and will be on call during grading and other significant ground-disturbing activities.
  - b) Should any cultural resources be discovered, no further grading shall occur in the area of the discovery until the Planning Director or designee is satisfied that adequate provisions are in place to protect these resources.
  - c) Unanticipated discoveries shall be evaluated for significance by a San Bernardino County Certified Professional Archaeologist/ Paleontologist. If significance criteria are met, then the project shall be required to perform data recovery, professional identification,

radiocarbon dates, and other special studies; submit materials to a museum for permanent curation; and provide a comprehensive final report including catalog with museum numbers.

**Cultural Resources Analysis:** The project is required to prepare a cultural resources impact analysis, the results of which will be included in the project EIR. In March 2020, a phase 1 cultural and paleontological resources assessment records search was provided by the Material Culture Consulting group. A copy of the report's Appendix B: Cultural Resources Records Search Results is enclosed. Further research will need to occur for Phase 2 of the Specific Plan area, should it be developed in the future.

**Lead Agency Contact:** Alexis Vaughn, City of Ontario, 303 East "B" Street, Ontario, California 91764.

Should you have any questions regarding this matter, or require additional information or further clarification, please feel free to contact me by telephone at (909) 395-2416 or by e-mail at [avaughn@ontarioca.gov](mailto:avaughn@ontarioca.gov). Thank you in advance for your timely attention to this matter.

Respectfully,

A handwritten signature in blue ink, appearing to read 'Alexis Vaughn', with a long horizontal stroke extending to the right.

Alexis Vaughn  
*Assistant Planner*

Enclosures

ONTARIO PLANNING DEPARTMENT – AB 52 NOTIFICATION

FILE NOS.: PSPA21-002 & PGPA21-001

Exhibit 1, Regional Location Map



□ Specific Plan Amendment Boundary

Kimley»Horn

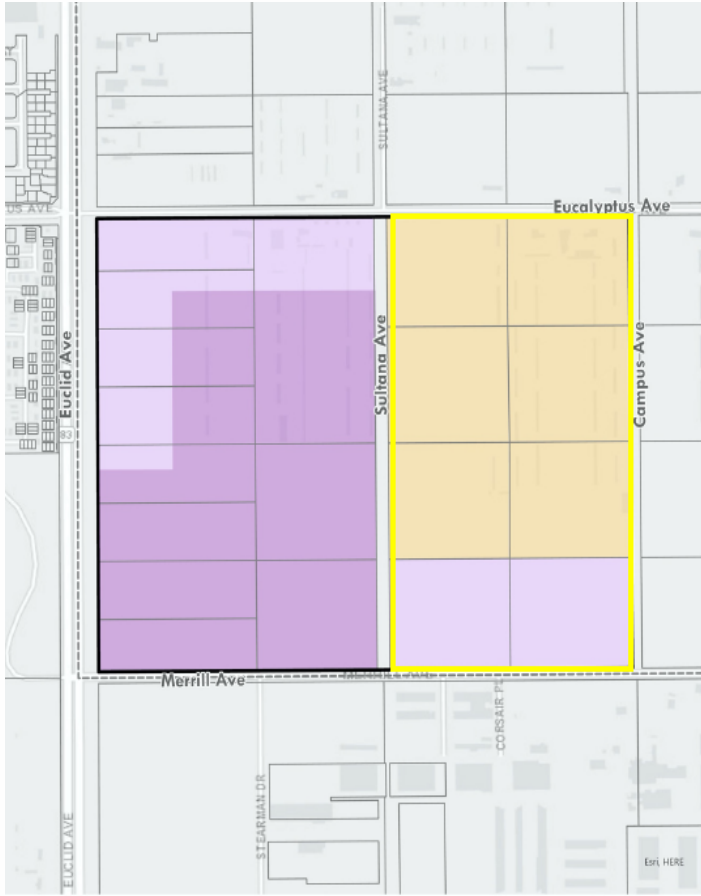


Exhibit 2, *Vicinity Map*



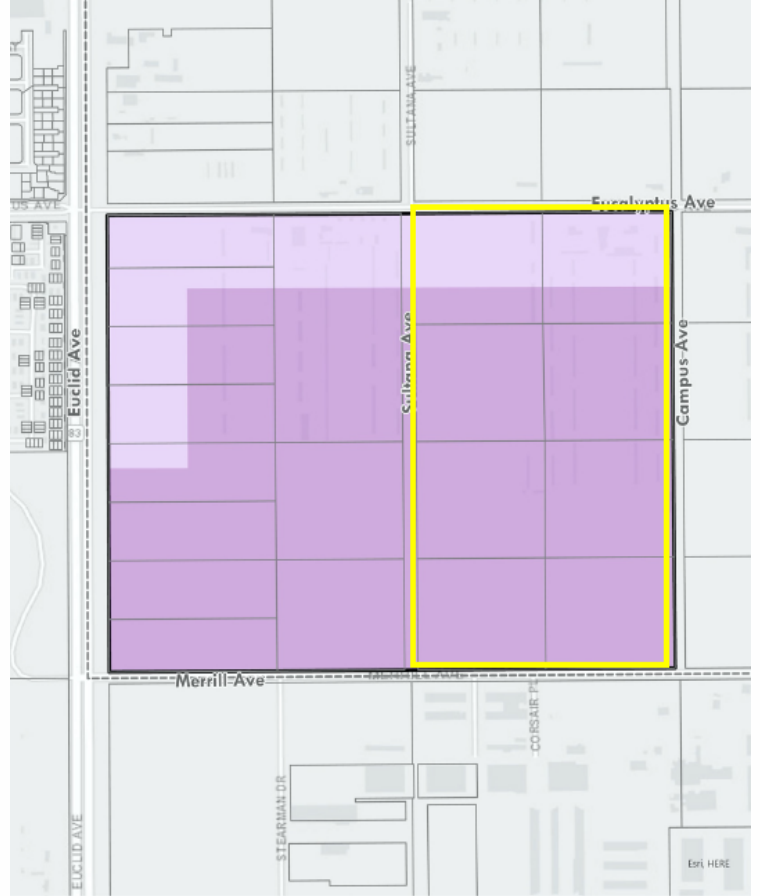


**Exhibit 3, Existing and Proposed General Plan Land Use**



**General Plan Land Use Designations**

 Business Park	 Low-Medium Density
 Industrial General	 Project Site



**Ontario Ranch BP Land Use Designations**

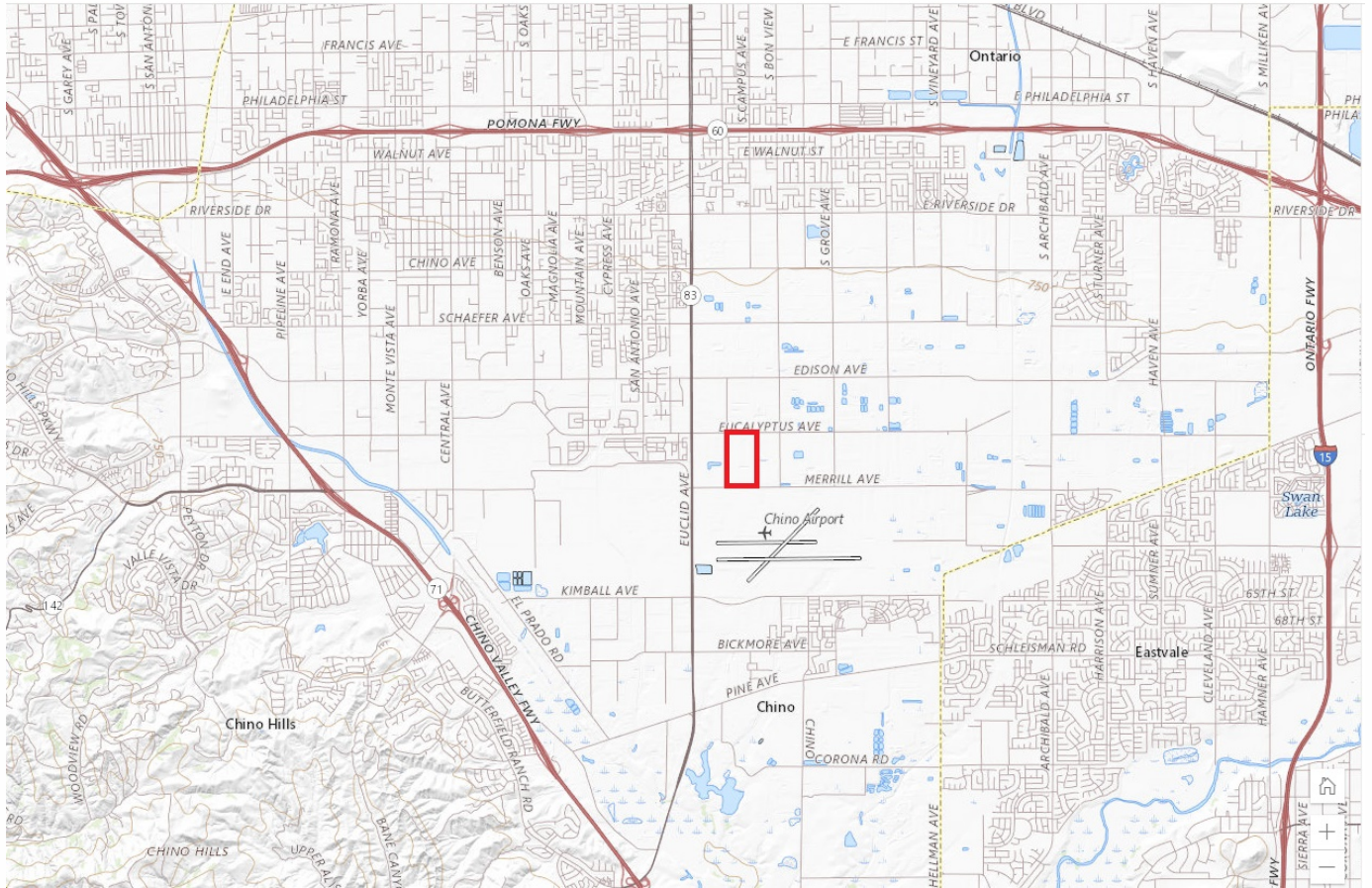
 Business Park	 Project Site
 Industrial General	

**Existing Land Use**

**Proposed Land Use**

**ONTARIO PLANNING DEPARTMENT – AB 52**  
**NOTIFICATION FILE NOs.: PSA21-002 & PGPA21-001**

**Exhibit 4, USGS Map**



 **Specific Plan Amendment Boundary**

**SAMPLE SB 18 CONSULTATION LETTER**



# CITY OF ONTARIO

## MEMORANDUM

**TO:** Gabrieleno Band of Mission Indians - Kizh Nation, Andrew Salas

**FROM:** Alexis Vaughn, Assistant Planner

**DATE:** July 2, 2021

**SUBJECT:** SB 18 NOTIFICATION – Ontario Ranch Business Park Specific Plan Amendment/Nos. PSPA21-002 & PGPA21-001

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In an effort to preserve and protect California Native American traditional tribal cultural places, the City of Ontario invites you to consult on the proposed Specific Plan Amendment and General Plan Amendment, pursuant to Government Code Section 65352.3. The City of Ontario recognizes that the proposed project may have impacts to potential cultural resources and encourages tribal participation. It is important for the City and local Tribes to collaborate efforts in order to preserve cultural resources through the local planning process. This notification was prepared by Kimley-Horn and Associates, Inc. on behalf of the City of Ontario.

The project and contact information are provided below:

**Project Name/File No.: Ontario Ranch Business Park Specific Plan Amendment  
(File Nos. PSPA21-001 & PGPA21-001)**

**Project Location:** The project site is bound by Eucalyptus Avenue to the north, existing right-of-way for the future Campus Avenue extension to the east, Merrill Avenue to the south, and unimproved right-of-way for Sultana Avenue to the west. Regional location and local vicinity maps are provided in Exhibit 1, Regional Location Map and Exhibit 2, Vicinity Map, respectively. The project site is located in southwestern San Bernardino County, within the City of Ontario. The City of Ontario is located approximately 40 miles from downtown Los Angeles, 20 miles from downtown San Bernardino, and 30 miles from Orange County. Regional access is available to the Project site via State Route 83 (SR-83; Euclid Avenue), which is adjacent to the project site, State Route 60 (SR-60) approximately three miles to the north, Interstate 15 (I-15) approximately five miles to the east, and State Route 71 (SR-71) approximately three miles to the southwest. SR-71 connects the project to State Route 91 (SR-91) in unincorporated Riverside County, which is approximately seven miles to the south. The attached exhibits depict the regional location of the site (Exhibit 1); the project vicinity (Exhibit 2); existing and proposed General Plan land use designations (Exhibit 3); and, USGS Map (Exhibit 4).

The proposed Project site consists of eight parcels that are associated with the San Bernardino County Assessor's Parcel Numbers (APNs) presented in Table 1.

**Table 1: Assessor Parcel Numbers**

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1054-031-01	1054-031-02
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**Project Description:** The proposed project site is currently developed as an operational dairy farm. The site contains two single-family residential structures, a dairy barn, a storage structure, approximately 10 feed storage barns, and numerous livestock corrals. There are large existing retention ponds that collect surface waste accumulations from the dairy farming practices, including animal wastes. Several above-ground storage tanks are present which store housing fuel, water, fresh milk, and livestock feed along with various mechanical systems for dairy production practices. The remainder of the site is used as irrigated cropland with berms located along the site perimeter. The site currently takes access off of Eucalyptus Avenue. The site is fenced with tubular metal fencing.

The project includes a General Plan Amendment and Specific Plan Amendment. Future Applicants will include a Development Agreement, Development Plan(s), and Tentative Parcel Map(s) in the future to allow development of approximately 1.6 million square feet (sf) of industrial and business park land uses on the 71.68-acre site, as described further below. The project is an extension of the Ontario Ranch Business Park Specific Plan boundary, which was approved September 15, 2020, to allow for development of an industrial and business park on eleven parcels covering 85.6 acres in the City of Ontario. The Ontario Ranch Business Park Specific Plan project included eight warehouse buildings ranging from 46,900 sf to 618,353 sf, totaling a maximum development of 1,905,027 sf of warehouse and office uses. This project will extend the Ontario Ranch Business Park Specific Plan project and would annex the abutting approximately 72 acres to the east. The project consists of two planning areas (PAs) adding to the Ontario Ranch Business Park Specific Plan. The proposed PAs 3 and 4 would allow for a total of 1,640,690 sf of industrial and business park uses. The Development Plan currently proposes the construction of six industrial concrete tilt-up warehouse buildings. PA 3 will consist of three buildings utilized for warehousing and ancillary office space, totaling 227,951 sf. PA 4 will consist of industrial and warehousing uses, totaling 1,412,739 sf.

The Environmental Impact Report (EIR) will evaluate the project at a “subsequent level.” The associated EIR will evaluate the total maximum allowable development in the Specific Plan area while still remaining less than The Ontario Plan allowance. The maximum development under the Specific Plan Amendment consists of 1,640,690 sf of industrial and business park land uses and associated on-site and off-site infrastructure improvements. The Specific Plan serves to implement The Ontario Plan General Plan for the land covered by the Specific Plan and provides zoning regulations for development of the project site through adopted permitted land uses, development standards, infrastructure requirements and implementation requirements for the development within the Specific Plan boundaries. Per the Specific Plan Amendment and EIR, the floor area ratios (FARs) analyzed are less than that which The Ontario Plan allows.

The following summarizes the discretionary approvals to be evaluated in the EIR as part of the Project review and approval process by the City of Ontario.

**General Plan Amendment (GPA).** The proposed GPA would amend the City’s General Plan Land Use Map by changing the existing land use designations of the 71.68-acre Project site from 18 acres of “Business Park” and 54 acres of “Low-Medium Density Residential” to 11.63 acres of “Business Park” and 60.06 acres of “General Industrial,” to facilitate development of the project site.

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**Ontario Ranch Business Park Specific Plan Amendment (SPA).** The SPA proposes a comprehensive land use plan, circulation plan, streetscape plan, infrastructure service plan, grading plan, maintenance plan, phasing plan, design guidelines, development regulations, and implementation measures to guide the development of the 71.68-acre site into a master-planned industrial/business park. The SPA consists of two PAs which would accommodate a variety of commercial, office, technology, manufacturing, and warehouse/distribution uses. The SPA site is within the Chino Airport's airport influence area (AIA) but outside the Chino Airport zoning overlay. Land use compatibility assessments are part of the Chino Airport Master Plan. The Project site is within Safety Zone 6, Traffic Pattern Zone of the Chino Airport Overlay (Generic Safety Zones for General Aviation Airports from the Caltrans Division of Aeronautics – California Airport Land Use Planning Handbook). Safety Zone 6 compatibility criteria prohibit people intensive uses such as stadiums, large daycare centers, hospitals, and nursing homes. In the San Bernardino County Chino Airport Comprehensive Land Use Plan, the site is within Safety Zone III, Traffic Pattern/Overflight Zone. Light industrial and manufacturing uses are acceptable within this zone, provided that they do not generate any visual, electronic, or physical hazards to aircraft. The Airport Land Use Compatibility Plan (ALUCP) for Chino Airport provides additional guidance for development around Chino Airport. The SPA site is not within an existing or current airport noise hazard zone and is in Zone D as designated in the ALUCP.

Furthermore, the SPA site is within the Ontario Airport's AIA. Land use compatibility assessments for Ontario Airport are included in the facilities Master Plan and ALUCP. The SPA site is not within a safety zone, a noise impact zone, or an airspace protection zone. The SPA site is within an overflight notification zone requiring a real estate transaction disclosure for residential properties; a requirement that does not apply to the SPA site.

The SPA would allow for a maximum buildout of up to 1,640,690 sf of floor area for these PAs. PAs 3 and 4 would be located south of Eucalyptus Avenue and north of Merrill Avenue, which is east of the Sultana Avenue and west of Campus Avenue.

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**Housing Accountability Act (Senate Bill [SB] 330):** The EIR will include evaluation of "replacement housing" in accordance with SB 330, the Housing Crisis Act of 2019 (Government Code Section 6300). SB 330 requires in part, that where a development project results in reducing the number of housing units allowed under existing zoning, the City must concurrently rezone other parcels such that there is no "net loss" of the total allowable housing development in the City. The City has evaluated the proposed project and has determined that it would result in "loss" of approximately 479 low- to moderate-density housing units. The EIR will evaluate the potential environmental impacts of rezoning a proposed replacement site

situated along Grove Avenue approximately 5.0 miles from the Project site, for higher density residential uses at a programmatic level, as no specific development has been proposed for the proposed replacement site and no site-specific applications have been submitted to the City at this time.

**Background:** The City is preparing a Subsequent EIR (SEIR) for the project and will be incorporating project-specific mitigation measures along with standard The Ontario Plan (General Plan) set mitigation measures from the Certified Environmental Impact Report (CEIR) prepared for The Ontario Plan that was adopted in 2010. At minimum, the following Cultural Resources mitigation measures will be required for the project:

1. Should any cultural and/or archaeological resources be accidentally discovered during construction, construction activities shall be moved to other parts of the project site and a qualified archaeologist shall be contacted to determine the significance of these resources. If the find is determined to be an historical or unique archaeological resource, as defined in Section 15064.5 of the CEQA Guidelines, avoidance or other appropriate measures shall be implemented.
2. In the event of the accidental discovery or recognition of any human remains during excavation/construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the County Coroner has been contacted and any required investigation or required Native American consultation has been completed.

**General Plan FEIR Cultural Resources Mitigation Measures:**

- 5-1 Historic or potentially historic resources in the City shall be evaluated for historic significance through the City's tier system prior to the issuance of plan or development approvals.
- 5-2 In areas of documented or inferred archaeological and/or paleontological resource presence, City staff shall require applicants for development permits to provide studies to document the presence/absence of such resources. On properties where resources are identified, such studies shall provide a detailed mitigation plan, including a monitoring program and recovery and/or in-situ preservation plan, based on the recommendation of a qualified cultural preservation expert. The Mitigation plan shall include the following requirements:
- a) Archaeologist and/or paleontologist shall be retained for the project and will be on call during grading and other significant ground-disturbing activities.
  - b) Should any cultural resources be discovered, no further grading shall occur in the area of the discovery until the Planning Director or designee is satisfied that adequate provisions are in place to protect these resources.

Unanticipated discoveries shall be evaluated for significance by a San Bernardino County Certified Professional Archaeologist/Paleontologist. If significance criteria are met, then the project shall be required to perform data recovery, professional identification, radiocarbon dates, and other special studies; submit materials to a museum for permanent curation; and provide a comprehensive final report including catalog with museum numbers.

I would like to assure you that the City of Ontario will enforce all above mitigation measures as set forth in the General Plan FEIR. In addition, project specific mitigations measures identified in the project's EIR will also be enforced.

**Lead Agency Contact:** Alexis Vaughn, City of Ontario, 303 East "B" Street, Ontario, California 91764.

In accordance with Government Code section 65352.3 (a)(2), please respond to this request for consultation within 90 days following receipt of this notification.

Should you have any questions regarding this matter, or require additional information or further clarification, please feel free to contact me by telephone at (909) 395-2416 or by e-mail at [avaughn@ontarioca.gov](mailto:avaughn@ontarioca.gov). Thank you in advance for your timely attention to this matter.

Respectfully,

A handwritten signature in blue ink, appearing to read 'Alexis Vaughn', with a long horizontal stroke extending to the right.

Alexis Vaughn  
*Assistant Planner*

Enclosures



Exhibit 1, Regional Location Map

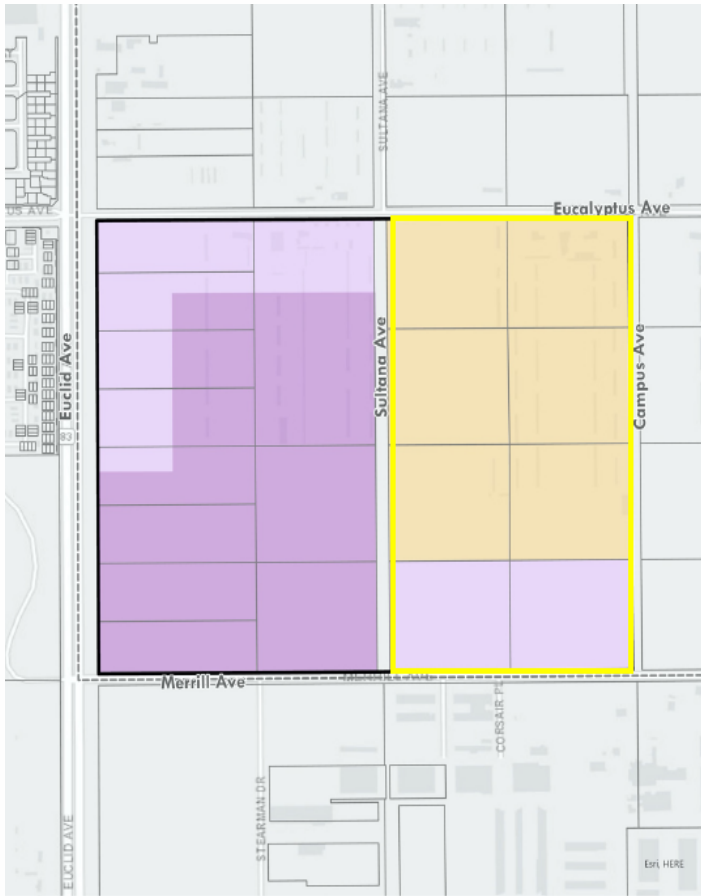


□ Specific Plan Amendment Boundary

Exhibit 2, Vicinity Map



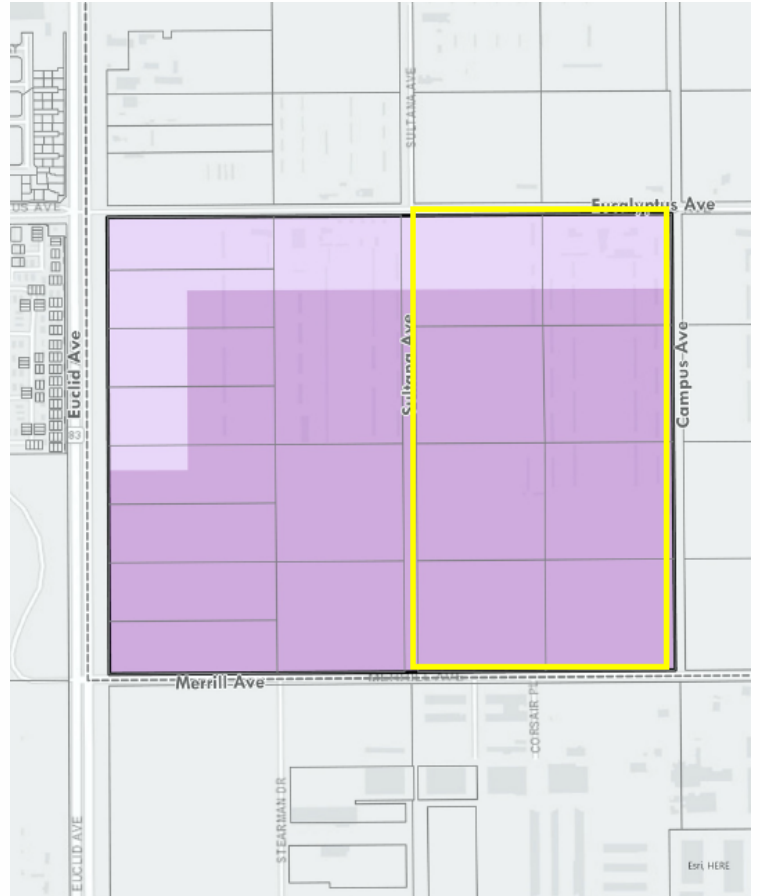
**Exhibit 3, Existing and Proposed General Plan Land Use**



**General Plan Land Use Designations**

 Business Park	 Low-Medium Density
 Industrial General	 Project Site

**Existing Land Use**



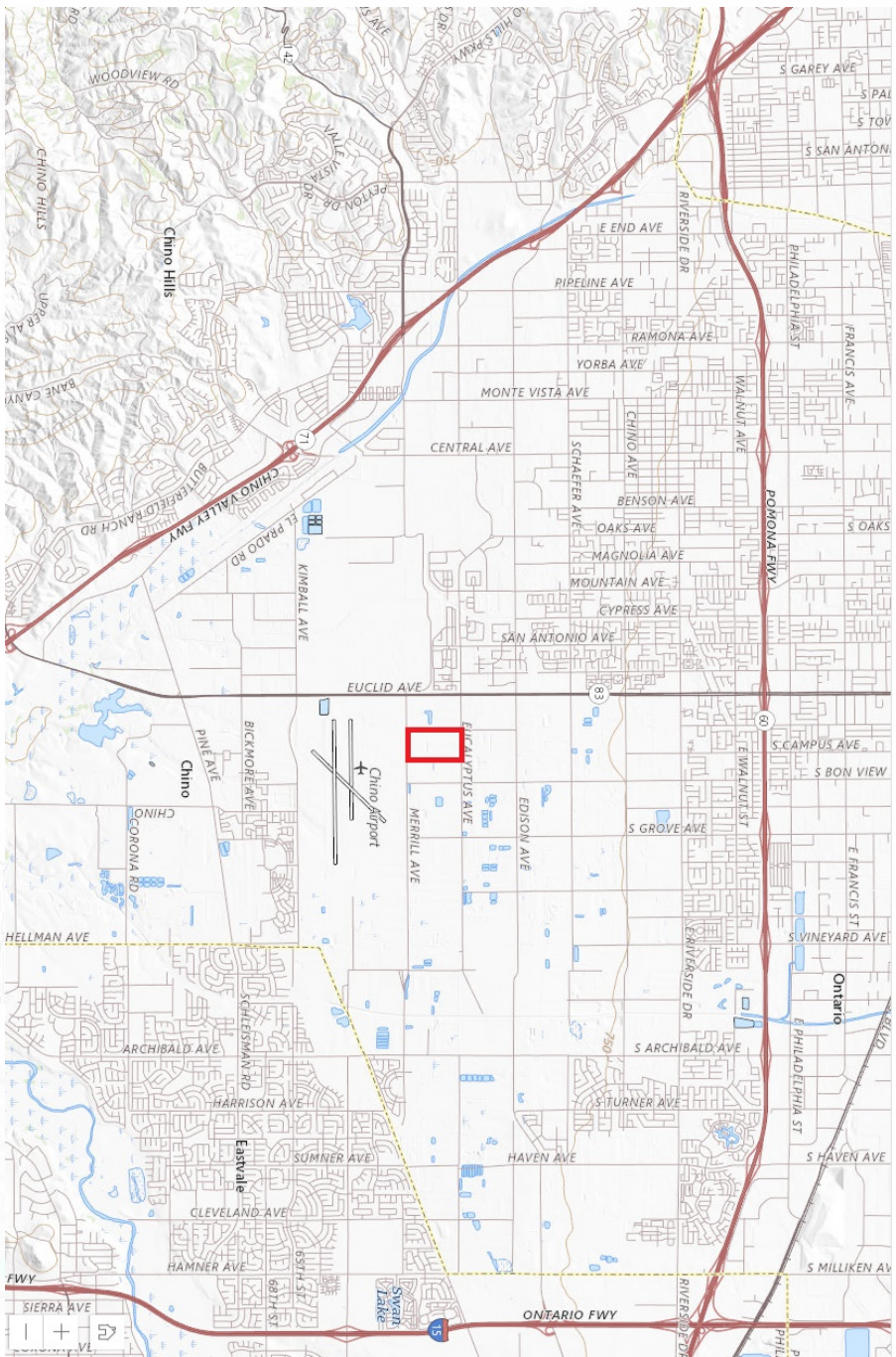
**Ontario Ranch BP Land Use Designations**


 Business Park	 Project Site
 Industrial General	

**Proposed Land Use**



**Exhibit 4, USGS Map**



 Specific Plan Amendment Boundary

**APPENDIX E**  
**GEOTECHNICAL FEASIBILITY STUDY**

**GEOTECHNICAL FEASIBILITY STUDY  
PROPOSED COMMERCIAL/INDUSTRIAL  
DEVELOPMENT**

NEC Euclid Avenue and Merrill Avenue  
Ontario, California  
For  
Real Estate Development Associates



**SOUTHERN  
CALIFORNIA  
GEOTECHNICAL**  
*A California Corporation*

January 28, 2020

Real Estate Development Associates  
4100 MacArthur Boulevard, Suite 120  
Newport Beach, California 92660



**SOUTHERN  
CALIFORNIA  
GEOTECHNICAL**  
*A California Corporation*

Attention: Mr. Jeff Johnston  
Senior Vice President

Project No.: **19G248-1**

Subject: **Geotechnical Feasibility Study**  
Proposed Commercial/Industrial Development  
SEC Eucalyptus Avenue and Sultana Avenue  
Ontario, California

Gentlemen:

In accordance with your request, we have conducted a geotechnical feasibility study at the subject site. We are pleased to present this report summarizing the conclusions and recommendations developed from our investigation.

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

**SOUTHERN CALIFORNIA GEOTECHNICAL, INC.**

Handwritten signature of Daniel W. Nielsen in blue ink.

Daniel W. Nielsen, RCE 77915  
Senior Engineer



Handwritten signature of Robert G. Trazo in blue ink.

Robert G. Trazo, GE 2655  
Principal Engineer



Distribution: (1) Addressee

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# 1.0 EXECUTIVE SUMMARY

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Presented below is a brief summary of the conclusions and recommendations of this investigation. Since this summary is not all inclusive, it should be read in complete context with the entire report.

It should be noted that this investigation was focused on determining the geotechnical feasibility of the proposed development. **This report is not a design-level investigation. Future studies will be necessary to refine the preliminary design parameters that are presented within this report.**

## **Preliminary Geotechnical Design Considerations and Recommendations**

- Demolition of the existing structures should include all foundations, floor slabs, utilities, septic systems, and any other subsurface improvements that will not remain in place for use with the new development. Debris resultant from demolition should be disposed of offsite. Alternatively, concrete and asphalt debris may be pulverized to a maximum 2-inch particle size, well mixed with the on-site soils, and incorporated into new structural fills.
- Site stripping should remove all vegetation, organic soils, and root masses. The active cattle pen areas should be stripped of any manure. In addition, organic topsoil was encountered at the trench locations performed within the planted areas of the site. These highly organic soils extend to depths of 6 to 12± inches at the trench locations. All of the manure, vegetation, and any organic topsoil should be removed from the site or be placed in nonstructural areas of the site, such as landscape planters.
- Some of the soils in the upper 2 to 3± feet, located beneath the highly organic topsoil in the planted areas, possess organic contents greater than 3 percent. It may be feasible to use these soils in fills, provided that they are cleaned of appreciable organic materials and can be blended with the underlying soils in order to reduce the organic content to less than 3 percent throughout.
- The near-surface soils possess low to medium expansion potentials.
- The near-surface soils are considered to be corrosive to ferrous metals, including ductile iron pipe.
- Existing undocumented fill soils were encountered at most of the boring and trench locations, extending to depths of 1½ to 8½± feet.
- The proposed development is considered to be feasible with respect to the geotechnical conditions encountered at the boring and trench locations at the site. However, remedial grading will be necessary in order to support the proposed structures on conventional shallow foundation systems. Preliminary remedial grading and foundation design recommendations have been provided herein, based on the preliminary site plan, assumed site grading, and assumed foundation loads.
- Remedial grading should be performed within the proposed building area, to remove the undocumented fill soils, as well as the upper portion of the alluvial soils, and replace these materials as structural compacted fill.
- Preliminarily, the overexcavation within the building area is also recommended to extend to a depth of at least 4 to 6 feet below existing site grades. The overexcavation should also extend to a depth of at least 3 feet below bearing grade within the influence zones of any new foundations. Deeper overexcavation will be necessary in localized areas to remove

undocumented fill soils. These recommendations are subject to review and may be revised based on the results of the design-level geotechnical investigation.

- Preliminarily, the new parking area subgrade soils are recommended to be scarified to a depth of 12± inches, moisture conditioned or air dried to within 2 to 4 percent above the optimum moisture content and recompacted to at least 90 percent of the ASTM D-1557 maximum dry density.

### Preliminary Foundation Design Recommendations

- Conventional shallow foundations, supported in newly placed compacted fill.
- 2,000 to 3,000 lbs/ft<sup>2</sup> maximum allowable soil bearing pressure.
- The design of the foundations will depend on the results of the future design-level geotechnical study. Minimum reinforcement consisting of four (4) to six (6) No. 5 rebars in strip footings. Additional reinforcement may be necessary for structural considerations.

### Preliminary Floor Slab Design Recommendations

- Conventional slab-on-grade, minimum 6 to 7 inches thick.
- The design of the floor slabs will depend on the results of the future design-level geotechnical study. Based on the presence of low to medium expansive soils, a reinforced floor slabs will likely be necessary. The actual thickness and reinforcement of the floor slabs should be determined by the structural engineer.

### Preliminary Pavement Design Recommendations

<b>ASPHALT PAVEMENTS (R = 10)</b>					
<b>Materials</b>	<b>Thickness (inches)</b>				
	Automobile Parking (TI = 4.0)	Automobile Drive Lanes (TI = 5.0)	Truck Traffic		
			(TI = 6.0)	(TI = 7.0)	(TI = 8.0)
Asphalt Concrete	3	3	3½	4	5
Aggregate Base	6	9	12	15	16
Compacted Subgrade	12	12	12	12	12

<b>PORTLAND CEMENT CONCRETE PAVEMENTS (R= 10)</b>			
<b>Materials</b>	<b>Thickness (inches)</b>		
	Automobile and Light Truck Traffic (TI = 5.0 & 6.0)	Truck Traffic	
		(TI = 7.0)	(TI = 8.0)
PCC	5	5½	7
Compacted Subgrade (95% minimum compaction)	12	12	12

## **2.0 SCOPE OF SERVICES**

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The scope of services performed for this project was in general accordance with our Proposal No. 19P455, dated December 23, 2019. The scope of services included a visual site reconnaissance, subsurface exploration, field and laboratory testing, and geotechnical engineering analysis to determine the geotechnical feasibility of the proposed development. The evaluation of the environmental aspects of this site was beyond the scope of services for this geotechnical feasibility study.

## **3.0 SITE AND PROJECT DESCRIPTION**

---

### **3.1 Site Conditions**

The subject site is located at the southeast corner of Eucalyptus Avenue and Sultana Avenue in Ontario, California. The site is bounded to the north by Eucalyptus Avenue, to the west by a Sultana Avenue easement, to the south by Merrill Avenue, and to the east by a Campus Avenue easement. The general location of the site is illustrated on the Site Location Map, enclosed as Plate 1 in Appendix A of this report.

The subject site consists of a rectangular shaped parcel, 75± acres in size. The site is currently developed as an operational dairy farm. The northeastern portion of the site is developed with cattle pens with multiple canopy structures, farm houses, and structures associated with milking activities. The buildings appear to be single-story structures of wood frame construction and the canopies appear to be of metal frame construction. We expect that all of these structures are supported on conventional shallow foundations. Ground surface cover in the northeastern portion of the site structures generally consists of turf grass, asphaltic concrete, and concrete pavements surrounding the farm houses and the other structures, manure in the cattle pen areas, and exposed soils with sparse native grass and weed growth in the remaining areas. The northwestern portion and southern one-third of the site are planted with row crops.

Detailed topographic information was not available at the time of this report. Based on visual observations made at the time of the subsurface investigation and from elevation information obtained from Google Earth, the overall site topography generally slopes downward to the southwest at a gradient of 1± percent.

### **3.2 Proposed Development**

No conceptual site plan was available at the time of this report. Based on similar projects in the area and our conversations with the client, we expect that the proposed development will consist of one (1) commercial/industrial building approximately 1,000,000 to 1,250,000 ft<sup>2</sup> in size. We expect that the new building will possess dock-high doors on at least one side. We expect that the building will be surrounded by asphaltic concrete pavements in the parking and drive areas, Portland cement concrete pavements in the truck court areas, areas of concrete flatwork, and landscape planters.

Detailed structural information has not been provided. It is assumed that the new building will be a single-story structure of tilt-up concrete construction, typically supported on a conventional shallow foundation system with concrete slab-on-grade floor. Based on the assumed construction, maximum column and wall loads are expected to be on the order of 100 kips and 4 to 7 kips per linear foot, respectively.

No significant amounts of below grade construction, such as basements or crawl spaces, are expected to be included in the proposed development. Based on the assumed topography, cuts

and fills of 12 to 15± feet are expected to be necessary to achieve the proposed site grades.

## **4.0 SUBSURFACE EXPLORATION**

---

### **4.1 Scope of Exploration/Sampling Methods**

The subsurface exploration conducted for this project consisted of three (3) borings (identified as Boring Nos. B-1 through B-3) advanced to depths of 35 to 40± feet below the existing site grades. Additionally, four (4) trenches were excavated to depths of 6½ to 10± feet below the existing site grades. All of the borings and trenches were logged during drilling by a member of our staff.

The borings were advanced with hollow-stem augers, by a conventional truck-mounted drilling rig. The trenches were excavated using a backhoe with a 24-inch-wide bucket. Representative bulk and relatively undisturbed soil samples were taken during drilling. Relatively undisturbed soil samples were taken with a split barrel "California Sampler" containing a series of one-inch-long, 2.416±-inch-diameter brass rings. This sampling method is described in ASTM Test Method D-3550. Samples were also taken using a 1.4± inch inside diameter split spoon sampler, in general accordance with ASTM D-1586. Both of these samplers are driven into the ground with successive blows of a 140-pound weight falling 30 inches. The blow counts obtained during driving are recorded for further analysis. Bulk samples were collected in plastic bags to retain their original moisture content. The relatively undisturbed ring samples were placed in molded plastic sleeves that were then sealed and transported to our laboratory.

The approximate boring and trench locations are indicated on the Boring and Trench Location Plan, included as Plate 2 in Appendix A of this report. The Boring and Trench Logs, which illustrate the conditions encountered at the boring and trench locations, as well as the results of some of the laboratory testing, are included in Appendix B.

### **4.2 Geotechnical Conditions**

#### Topsoil

Highly organic topsoil materials were encountered at the trench locations performed in the planted areas on the site. At Trench Nos. T-1, T-2, and T-4, these materials were approximately 6 to 12± inches in thickness. These materials generally consist of silty fine sands and contain abundant fine root fibers and/or other fibrous organic material.

#### Artificial Fill

Artificial fill soils were encountered at the ground surface at all of the boring locations and at Trench No. T-3. The fill soils encountered at the boring and trench locations extend to depths of 1½ to 8½± feet and consist of loose to medium dense silty fine sands and fine sandy silts, and medium stiff to stiff clayey sands and sandy clays with occasional silty clays. The fills soils encountered in the planted areas of the site contain appreciable roots and organic fibers. The fill

soils generally possess a disturbed appearance and some samples possess minor debris content, such as asphaltic concrete fragments, resulting in their classification as artificial fill.

### Alluvium

Native alluvial soils were encountered beneath the fill at all of the boring locations and beneath the topsoil or fill materials at all of the trench locations. The near surface alluvium generally consists of loose to medium dense silty fine sands to fine sandy silts, fine to medium sands, clayey fine sands and medium stiff to stiff fine sandy clays, silty clays, and clayey silts. Dense silty sands were encountered between depths of  $38\frac{1}{2}\pm$  feet and the maximum depth explored of  $40\pm$  feet in two of the boring locations.

### Groundwater

Free water was not encountered during the drilling of any of the borings. Based on the lack of any water within the borings, and the moisture contents of the recovered soil samples, the static groundwater is considered to have been present at a depth in excess of  $30\pm$  feet at the time of the subsurface exploration.

As part of our research, we reviewed available groundwater data in order to determine regional groundwater depths. Recent water level data was obtained from the California State Water Resources Control Board, GeoTracker website, <http://geotracker.waterboards.ca.gov/>. Available data for monitoring wells, located approximately 4,200± feet west from the site, indicate high groundwater levels ranging from  $83\pm$  feet below ground surface.

## **5.0 LABORATORY TESTING**

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The soil samples recovered from the subsurface exploration were returned to our laboratory for further testing to determine selected physical and engineering properties of the soils. The tests are briefly discussed below. It should be noted that the test results are specific to the actual samples tested, and variations could be expected at other locations and depths.

### Classification

All recovered soil samples were classified using the Unified Soil Classification System (USCS), in accordance with ASTM D-2488. The field identifications were then supplemented with additional visual classifications and/or by laboratory testing. The USCS classifications are shown on the Boring Logs and are periodically referenced throughout this report.

### Dry Density and Moisture Content

The density has been determined for selected relatively undisturbed ring samples. These densities were determined in general accordance with the method presented in ASTM D-2937. The results are recorded as dry unit weight in pounds per cubic foot. The moisture contents are determined in accordance with ASTM D-2216, and are expressed as a percentage of the dry weight. These test results are presented on the Boring and Trench Logs.

### Consolidation

Selected soil samples have been tested to determine their consolidation potential, in accordance with ASTM D-2435. The testing apparatus is designed to accept either natural or remolded samples in a one-inch high ring, approximately 2.416 inches in diameter. Each sample is then loaded incrementally in a geometric progression and the resulting deflection is recorded at selected time intervals. Porous stones are in contact with the top and bottom of the sample to permit the addition or release of pore water. The samples are typically inundated with water at an intermediate load to determine their potential for collapse or heave. The results of the consolidation testing are plotted on Plates C-1 through C-4 in Appendix C of this report.

### Maximum Dry Density and Optimum Moisture Content

A representative bulk sample was tested to determine its maximum dry density and optimum moisture content. The results have been obtained using the Modified Proctor procedure, per ASTM D-1557, and are presented on Plate C-5 in Appendix C of this report. This test is generally used for comparison with the in-situ densities of undisturbed field samples, and for later compaction testing. Additional testing of other soil types or soil mixes may be necessary at a later date.

### Soluble Sulfates

Representative samples of the near-surface soils were submitted to a subcontracted analytical laboratory for determination of soluble sulfate content. Soluble sulfates are naturally present in soils, and if the concentration is high enough, can result in degradation of concrete which comes



into contact with these soils. The results of our soluble sulfate testing are presented below, and are discussed further in a subsequent section of this report.

<b><u>Sample Identification</u></b>	<b><u>Soluble Sulfates (%)</u></b>	<b><u>Sulfate Classification</u></b>
B-2 @ 0 to 5 feet	0.032	Not Applicable (S0)
T-1 @ 0 to 5 feet	0.003	Not Applicable (S0)
T-4 @ 0 to 5 feet	0.002	Not Applicable (S0)

### Corrosivity Testing

Representative bulk samples of the near-surface soils were submitted to a subcontracted analytical laboratory for determination of electrical resistivity, pH, and chloride concentrations. The resistivity of the soils is a measure of their potential to attack buried metal improvements such as utility lines. The results of the resistivity and pH testing are presented below:

<b><u>Sample Identification</u></b>	<b><u>Resistivity</u></b> (ohm-cm)	<b><u>pH</u></b>	<b><u>Chlorides</u></b> (mg/kg)
B-2 @ 0 to 5 feet	1,320	7.2	125
T-1 @ 0 to 5 feet	2,880	8.0	16
T-4 @ 0 to 5 feet	2,080	7.7	24

### Expansion Index

The expansion potential of the on-site soils was determined in general accordance with ASTM D-4829 as required by the California Building Code (CBC). The testing apparatus is designed to accept a 4-inch diameter, 1-in high, remolded sample. The sample is initially remolded to 50± 1 percent saturation and then loaded with a surcharge equivalent to 144 pounds per square foot. The sample is then inundated with water, and allowed to swell against the surcharge. The resultant swell or consolidation is recorded after a 24-hour period. The results of the EI testing are as follows:

<b><u>Sample Identification</u></b>	<b><u>Expansion Index</u></b>	<b><u>Expansive Potential</u></b>
B-1 @ 0 to 5 feet	45	Low
T-1 @ 0 to 5 feet	53	Medium

### Organic Content Testing

Selected soil samples have been tested to determine their organic content, in accordance with ASTM Test Method 2974. The results of the testing are as follows:

<b><u>Sample Identification</u></b>	<b><u>Organic Content (%)</u></b>
T-1 @ 0 to 6 inches	13.5
T-1 @ 6 to 12 inches	5.4
T-1 @ 12 to 18 inches	3.8

**Sample Identification**

**Organic Content (%)**

T-1 @ 18 to 24 inches	2.8
T-1 @ 30 to 36 inches	2.1
T-2 @ 0 to 6 inches	2.2
T-2 @ 6 to 12 inches	2.6
T-2 @ 12 to 18 inches	2.9
T-2 @ 18 to 24 inches	4.6
T-2 @ 24 to 30 inches	1.5
T-2 @ 30 to 36 inches	1.5
T-3 @ 0 to 6 inches	26.4
T-3 @ 6 to 12 inches	15.4
T-3 @ 12 to 18 inches	6.2
T-3 @ 18 to 24 inches	2.7
T-3 @ 24 to 30 feet	2.0
T-4 @ 0 to 6 inches	21.1
T-4 @ 6 to 12 inches	10.3
T-4 @ 12 to 18 inches	6.2
T-4 @ 18 to 24 inches	4.7
T-4 @ 30 to 36 inches	2.9

## **6.0 CONCLUSIONS AND RECOMMENDATIONS**

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Based on the results of our review, field exploration, laboratory testing and geotechnical analysis, the proposed development is considered feasible from a geotechnical standpoint. **Based on the preliminary nature of this investigation, further geotechnical investigation(s) will be required prior to construction of the proposed development.** The preliminary recommendations contained in this report should be taken into the design, construction, and grading considerations. The recommendations are contingent upon all grading and foundation construction activities being monitored by the geotechnical engineer of record.

The Grading Guide Specifications, included as Appendix D, should be considered part of this report, and should be incorporated into the project specifications. The contractor and/or owner of the development should bring to the attention of the geotechnical engineer any conditions that differ from those stated in this report, or which may be detrimental for the development.

### **6.1 Seismic Design Considerations**

The subject site is located in an area which is subject to strong ground motions due to earthquakes. The performance of a site-specific seismic hazards analysis was beyond the scope of this investigation. However, numerous faults capable of producing significant ground motions are located near the subject site. Due to economic considerations, it is not generally considered reasonable to design a structure that is not susceptible to earthquake damage. Therefore, significant damage to structures may be unavoidable during large earthquakes. The proposed structures should, however, be designed to resist structural collapse and thereby provide reasonable protection from serious injury, catastrophic property damage and loss of life.

#### Faulting and Seismicity

Research of available maps indicates that the subject site is not located within an Alquist-Priolo Earthquake Fault Zone. Furthermore, SCG did not identify any evidence of faulting during the geotechnical investigation. Therefore, the possibility of significant fault rupture on the site is considered to be low.

#### Seismic Design Parameters

The California Building Code (CBC) provides procedures for earthquake resistant structural design that include considerations for on-site soil conditions, occupancy, and the configuration of the structure including the structural system and height. The seismic design parameters presented below are based on the soil profile and the proximity of known faults with respect to the subject site.

Based on standards in place at the time of this report, the proposed development is expected to be designed in accordance with the requirements of the 2019 edition of the California Building Code (CBC), which was adopted on January 1, 2020.

The 2019 CBC Seismic Design Parameters have been generated using the SEAOC/OSHPD Seismic Design Maps Tool, a web-based software application available at the website [www.seismicmaps.org](http://www.seismicmaps.org). This software application calculates seismic design parameters in accordance with several building code reference documents, including ASCE 7-16, upon which the 2019 CBC is based. The application utilizes a database of risk-targeted maximum considered earthquake ( $MCE_R$ ) site accelerations at 0.01-degree intervals for each of the code documents. The tables below were created using data obtained from the application. The output generated from this program is included as Plate E-1 in Appendix E of this report.

The 2019 CBC requires that a site-specific ground motion study be performed in accordance with Section 11.4.8 of ASCE 7-16 for Site Class D sites with a mapped  $S_1$  value greater than 0.2. However, Section 11.4.8 of ASCE 7-16 also indicates an exception to the requirement for a site-specific ground motion hazard analysis for certain structures on Site Class D sites. The commentary for Section 11 of ASCE 7-16 (Page 534 of Section C11 of ASCE 7-16) indicates that "In general, this exception effectively limits the requirements for site-specific hazard analysis to very tall and or flexible structures at Site Class D sites." **Based on our understanding of the proposed development, the seismic design parameters presented below were calculated assuming that the exception in Section 11.4.8 applies to the proposed structure at this site. However, the structural engineer should verify that this exception is applicable to the proposed structure.** Based on the exception, the spectral response accelerations presented below were calculated using the site coefficients ( $F_a$  and  $F_v$ ) from Tables 1613.2.3(1) and 1613.2.3(2) presented in Section 16.4.4 of the 2019 CBC.

### 2019 CBC SEISMIC DESIGN PARAMETERS

Parameter		Value
Mapped Spectral Acceleration at 0.2 sec Period	$S_s$	1.668
Mapped Spectral Acceleration at 1.0 sec Period	$S_1$	0.597
Site Class	---	D
Site Modified Spectral Acceleration at 0.2 sec Period	$S_{MS}$	1.668
Site Modified Spectral Acceleration at 1.0 sec Period	$S_{M1}$	1.017
Design Spectral Acceleration at 0.2 sec Period	$S_{DS}$	1.112
Design Spectral Acceleration at 1.0 sec Period	$S_{D1}$	0.678

It should be noted that the site coefficient  $F_v$  and the parameters  $S_{M1}$  and  $S_{D1}$  were not included in the SEAOC/OSHPD Seismic Design Maps Tool output for the 2019 CBC. We calculated these parameters-based on Table 1613.2.3(2) in Section 16.4.4 of the 2019 CBC using the value of  $S_1$  obtained from the Seismic Design Maps Tool, assuming that a site-specific ground motion hazards analysis is not required for the proposed buildings at this site.

### Liquefaction

Liquefaction is the loss of strength in generally cohesionless, saturated soils when the pore-water pressure induced in the soil by a seismic event becomes equal to or exceeds the overburden pressure. The primary factors which influence the potential for liquefaction include groundwater table elevation, soil type and plasticity characteristics, relative density of the soil, initial confining

pressure, and intensity and duration of ground shaking. The depth within which the occurrence of liquefaction may impact surface improvements is generally identified as the upper 50 feet below the existing ground surface. Liquefaction potential is greater in saturated, loose, poorly graded fine sands with a mean ( $d_{50}$ ) grain size in the range of 0.075 to 0.2 mm (Seed and Idriss, 1971). Non-sensitive clayey (cohesive) soils which possess a plasticity index of at least 18 (Bray and Sancio, 2006) are generally not considered to be susceptible to liquefaction, nor are those soils which are above the historic static groundwater table.

Research of the San Bernardino County Land Use Services website indicates that the subject site is not located within a zone of liquefaction susceptibility. In addition, the subsurface conditions at the boring locations are not considered to be conducive to liquefaction. Based on the mapping performed by San Bernardino County and the conditions encountered at the boring and trench locations, liquefaction is not considered to be a design concern for this project.

## **6.2 Geotechnical Design Considerations**

### General

Although not encountered at the boring and trench locations, the active cattle pen areas visually observed to be covered with manure at the ground surface. Organic topsoil was also encountered at the trench locations performed with the planted areas of the site. These highly organic soils extend to depths of 6 to 12± inches at the trench locations. All of the manure and any organic topsoil should be removed from the site or utilized in non-structural areas, such as landscape planters.

Additionally, some of the soils in the upper 2 to 3± feet, located beneath the highly organic topsoil in the planted areas, possess organic contents greater than 3 percent. The fill soils at Trench No. T-3 also possess organic contents in excess of 3 percent. It may be feasible to use these soils in fills, provided that they are cleaned of highly organic materials and can be blended with the underlying soils in order to reduce the organic content to less than 3 percent throughout.

Artificial fill soils were encountered at all of the borings and one of the trench locations, extending to depths of 1½ to 8½± feet. These fill soils vary in strength and composition, and some samples include varying amounts of debris, including brick fragments. Based on their variable strengths and composition, the existing fill soils encountered at Trench No. T-3 and the boring locations are considered to represent undocumented fill.

The undocumented fill soils and the upper portion of the near surface native alluvium are not considered suitable for support of the new structure, in their present condition. Remedial grading will be necessary within the proposed building areas in order to remove and replace the existing fill and a portion of the near-surface alluvium as compacted structural fill.

### Settlement

The remedial grading should be performed to remove the existing undocumented fill soils as well as a portion of the near-surface native alluvium, and replace these materials as compacted structural fill. The overexcavation should extend to a sufficient depth so that the native soils that

will remain in place below the recommended depth of overexcavation will not be subject to significant load increases from the foundations of the new structures. Provided that the remedial grading is completed, the post-construction static settlements can be limited within tolerable limits.

### Soluble Sulfates

The results of the soluble sulfate testing, as discussed in Section 5.0 of this report, indicate soluble sulfate concentrations between 0.002 and 0.032 percent. These concentrations are considered to be negligible with respect to the American Concrete Institute (ACI) Publication 318-05 Building Code Requirements for Structural Concrete and Commentary, Section 4.3. Therefore, specialized concrete mix designs are not considered to be necessary, with regard to sulfate protection purposes. We recommend that additional soluble sulfate testing be conducted during the design-level geotechnical investigation and at the completion of rough grading to verify the soluble sulfate concentrations of the soils which are present at the proposed building pad grades.

### Expansion

The composition of the near surface soils at this site ranges from sands, silty sands, and sandy silts to silty clays, sandy clays, and clayey silts. Laboratory testing performed on representative samples of these materials indicate that they possess low to medium expansion potentials (EI = 43 to 52). Based on the presence of potentially expansive soils, special care should be taken to properly moisture condition and maintain adequate moisture content within all subgrade soils as well as newly placed fill soils. The preliminary foundation and floor slab design recommendations contained within this feasibility study are made in consideration of the expansion index test results. We recommend that additional expansion index testing be performed at the time of the design-level geotechnical investigation.

### Organic Content

We recommend that all manure and any organic topsoil be removed during initial site stripping. Manure was observed in the cattle pen areas. The near surface soils extending to depths of 6 to 12± inches in the planted areas generally consist of highly organic topsoil. Therefore, grubbing and segregating of the manure in the cattle pens and the highly organic soils in the planted areas will be necessary prior to grading. These soils should be removed from the site or reutilized in nonstructural areas, such as landscape planters. Any additional organic materials encountered in buried fills should also be segregated during grading.

The results of laboratory testing performed on near-surface soils beneath the organic topsoil (within the planted areas) indicates that soils within the upper 1 to 2± feet possess organic contents ranging from 2.8 to 6.2 percent. The soils present between depths of 2 and 3± possess organic contents ranging between 1.5 and 2.9 percent. It is considered feasible to use most of these soils, not including the manure and organic topsoil, in the upper 2 to 3± in structural fills, provided that these soils are cleaned of all apparent vegetation or highly organic material and thoroughly blended with the inorganic soils from greater depths at the site. Based on our experience with similar projects in the vicinity of the project site, a final mixture containing less than 3 percent organic content is acceptable for the project site. It is recommended that additional organic testing be conducted during the design-level geotechnical investigation and at the

completion of rough grading of the building pads in order to verify that the organic contents of the blended on-site soils are within the acceptable limits.

### Corrosion Potential

The results of laboratory testing indicate that the tested samples of the near surface soils possess resistivity values ranging between 1,320 to 2,880 ohm-cm, and pH values ranging between 7.2 to 8.0. These test results have been evaluated in accordance with guidelines published by the Ductile Iron Pipe Research Association (DIPRA). The DIPRA guidelines consist of a point system by which characteristics of the soils are used to quantify the corrosivity characteristics of the site. Resistivity, pH, Sulfides, and redox potential are factors that enter into the evaluation procedure. Relative soil moisture content is also considered. **Based on these factors, and utilizing the DIPRA procedure, the on-site soils are considered to be severely corrosive to ductile iron pipe. Therefore, protection for embedded metal improvements is expected to be required.** Since SCG does not practice in the area of corrosion engineering, the client may also wish to contact a corrosion engineer to provide a more thorough evaluation.

The results of chloride content testing indicate that the on-site soils possess chloride concentrations ranging between 16 to 125 parts per million (ppm). The Caltrans Memo to Designers 10-5, Protection of Reinforcement Against Corrosion Due to Chlorides, Acids and Sulfates, dated June 2010, indicates that soils possessing chloride concentrations greater than 500 ppm are considered to be corrosive. The chloride concentrations present in the soils tested are not considered to constitute a "corrosive" exposure to steel reinforcement within reinforced concrete. However, based on our experience with other dairy projects, soils present in cattle pen areas may possess chloride concentrations above 500 ppm. **Therefore, we recommend that additional chloride content testing be performed on soils located within the cattle pen areas at the time of the design level investigation.**

### Shrinkage/Subsidence

Removal and recompaction of the near-surface native fill soils is estimated to result in an average shrinkage of 7 to 17 percent. Additional exploration during the design level investigation will help to refine the potential shrinkage estimate. It should be noted that the potential shrinkage estimates are based on dry density testing performed on small-diameter samples taken at the boring locations. If a more accurate and precise shrinkage estimate is desired, SCG can perform a shrinkage study involving several excavated test-pits where in-place densities are determined using in-situ testing methods instead of laboratory density testing on small-diameter samples. Please contact SCG for details and a cost estimate regarding a shrinkage study, if desired.

Minor ground subsidence is expected to occur in the soils below the zone of removal, due to settlement and machinery working. The subsidence is estimated to be 0.10 feet.

These estimates are based on previous experience and the subsurface conditions encountered at the boring locations. The actual amount of subsidence is expected to be variable and will be dependent on the type of machinery used, repetitions of use, and dynamic effects, all of which are difficult to assess precisely.



## Grading and Foundation Plan Review

No grading or foundation plans were available at the time of this report. It is therefore recommended that we be provided with copies of the preliminary plans, when they become available, for review with regard to the conclusions, recommendations, and assumptions contained within this report. These plans should also be made available prior to performance of the design level geotechnical investigation.

### **6.3 Preliminary Site Grading Recommendations**

The preliminary grading recommendations presented below are based on the design details that were available at the time of this report, and the subsurface conditions encountered at our boring and trench locations. These recommendations are general in nature, and should be confirmed as part of the design level geotechnical investigation.

#### Site Stripping and Demolition

Initial site stripping should include removal of all manure, highly organic soils, and any surficial vegetation. The actual extent of site stripping should be determined in the field by the geotechnical engineer, based on the organic content and stability of the materials encountered.

The proposed development will require demolition of the existing buildings, dairy structures and pavements. Additionally, any existing improvements that will not remain in place for use with the new development should be removed in their entirety. This should include all foundations, floor slabs, utilities, and any other subsurface improvements associated with the existing structures. The existing pavements are not expected to be reused with the new development. Debris resultant from demolition should be disposed of offsite. Alternatively, concrete and asphalt debris may be pulverized to a maximum 2-inch particle size, well mixed with the on-site soils, and incorporated into new structural fills or it may be crushed and made into CMB, if desired.

#### Treatment of Existing Soils: Building Pads

Remedial grading will be necessary within the proposed building pad areas to remove all of the existing undocumented fill soils and near-surface alluvial soils and to provide a uniform blanket of compacted fill upon which to support the proposed structures. Based on the conditions at the boring and trench locations, the depths of fill of range from 1½ to 8½± feet below ground surface. The actual depth of overexcavation should be refined during the design level geotechnical investigation. On a preliminary basis, overexcavation to depths of 4 to 6± feet below existing site grades should be anticipated, with localized areas of deeper excavation to remove deeper undocumented fills. Within foundation influence zones, overexcavation to depths of about 3± feet below foundation bearing grade will be necessary. Please note that adverse geotechnical conditions encountered during the design level investigation could result in additional overexcavation requirements.

The overexcavation areas should extend at least 5 feet beyond the building perimeters and foundations, and to an extent equal to the depth of fill below the new foundations. If the proposed structures incorporate any exterior columns (such as for a canopy or overhang) the overexcavation should also encompass these areas.



**Based on conditions encountered at the exploratory boring locations, very moist soils will be encountered at or near the base of the recommended overexcavation.**

Stabilization of the exposed overexcavation subgrade soils is likely to be necessary. Scarification and air drying of these materials may be sufficient to obtain a stable subgrade. However, if highly unstable soils are identified, and if the construction schedule does not allow for delays associated with drying, mechanical stabilization, usually consisting of coarse crushed stone or geotextile, could be necessary. In this event, the geotechnical engineer should be contacted for supplementary recommendations. Chemical stabilization using lime or cement may also be an acceptable alternative.

Treatment of Existing Soils: Retaining Walls and Site Walls

Although not indicated on the site plan, it may be necessary to construct some small retaining walls or site walls at or near the existing surface grade. Overexcavation will also be necessary in these areas to remove the existing fill soils and lower strength alluvium. The overexcavation depth should be expected to be on the order of 2 to 3 feet below proposed foundation bearing grade.

Treatment of Existing Soils: Parking and Drive Areas

Based on economic considerations, overexcavation of the existing soils in the new parking and drive areas is not considered warranted, with the exception of areas where lower strength, or unstable soils are identified by the geotechnical engineer during grading.

Subgrade preparation in the new parking areas should initially consist of removal of all soils disturbed during stripping and demolition operations. The geotechnical engineer should then evaluate the subgrade to identify any areas of additional unsuitable soils. The subgrade soils should then be scarified to a depth of 12± inches, moisture conditioned to within 2 to 4 percent above the optimum moisture content, and recompacted to at least 90 percent of the ASTM D-1557 maximum dry density. Based on the presence of variable strength soils throughout the site, it is expected that some isolated areas of additional overexcavation may be required to remove zones of lower strength, unsuitable soils.

The grading recommendations presented above for the proposed parking and drive areas assume that the owner and/or developer can tolerate minor amounts of settlement within the proposed parking areas. The grading recommendations presented above do not mitigate the extent of undocumented fill soils and low strength alluvium in the parking areas. As such, settlement and associated pavement distress could occur. Typically, repair of such distressed areas involves significantly lower costs than completely mitigating these soils at the time of construction. If the owner cannot tolerate the risk of such settlements, the parking and drive areas should be overexcavated to a depth of 2 feet below proposed pavement subgrade elevation, with the resulting soils replaced as compacted structural fill.

Fill Placement

- Fill soils should be placed in thin (6± inches), near-horizontal lifts, moisture conditioned or air dried to within 2 to 4 percent above the optimum moisture content and compacted.
- On-site soils may be used for fill provided they are cleaned of any debris to the satisfaction of the geotechnical engineer.

- All grading and fill placement activities should be completed in accordance with the requirements of the CBC and the grading code of the city of Ontario.
- All fill soils should be compacted to at least 90 percent of the ASTM D-1557 maximum dry density. Fill soils should be well mixed.
- Compaction tests should be performed periodically by the geotechnical engineer as random verification of compaction and moisture content. These tests are intended to aid the contractor. Since the tests are taken at discrete locations and depths, they may not be indicative of the entire fill and therefore should not relieve the contractor of his responsibility to meet the job specifications.

#### Imported Structural Fill

All imported structural fill should consist of very low expansive ( $EI < 20$ ), well graded soils possessing at least 10 percent fines (that portion of the sample passing the No. 200 sieve). Additional specifications for structural fill are presented in the Grading Guide Specifications, included as Appendix D.

#### Utility Trench Backfill

In general, all utility trench backfill should be compacted to at least 90 percent of the ASTM D-1557 maximum dry density. Compacted trench backfill should conform to the requirements of the local grading code, and more restrictive requirements may be indicated by the city of Ontario. All utility trench backfills should be witnessed by the geotechnical engineer. The trench backfill soils should be compaction tested where possible; probed and visually evaluated elsewhere.

Utility trenches which parallel a footing, and extending below a 1h:1v plane projected from the outside edge of the footing should be backfilled with structural fill soils, compacted to at least 90 percent of the ASTM D-1557 standard. Pea gravel backfill should not be used for these trenches.

### **6.4 Preliminary Construction Considerations**

#### Excavation Considerations

The near-surface soils generally consist of a variety of materials, including sands, silts, and clays. These materials may be subject to minor caving within shallow excavations. Where caving occurs within shallow excavations, flattened excavation slopes may be sufficient to provide excavation stability. On a preliminary basis, the inclination of temporary slopes should not exceed 2h:1v. Deeper excavations may require some form of external stabilization such as shoring or bracing. Maintaining adequate moisture content within the near-surface soils will improve excavation stability. All excavation activities on this site should be conducted in accordance with Cal-OSHA regulations.

#### Moisture Sensitive Subgrade Soils

The near-surface soils possess very high moisture contents and contain appreciable amounts of silt and clay. These materials will become unstable if exposed to significant moisture infiltration or disturbance by construction traffic. In addition, based on their granular content, some of the

on-site soils will also be susceptible to erosion. The site should, therefore, be graded to prevent ponding of surface water and to prevent water from running into excavations.

**Allowances should be made for costs and delays associated with drying the on-site soils or import of a drier, less moisture sensitive fill material.** Grading during wet or cool weather may also increase the depth of overexcavation in the pad areas as well as the need for and/or the thickness of the crushed stone stabilization layer, discussed in Section 6.3 of this report.

#### Groundwater

Based on the conditions encountered in the borings and trenches, groundwater is not present within 40± feet of the ground surface. Based on the anticipated depth to groundwater, it is not expected that the groundwater will affect excavations for the foundations or utilities.

### **6.5 Preliminary Foundation Design and Construction Recommendations**

Based on the preceding geotechnical design considerations and preliminary grading recommendations, it is assumed that the new buildings will be underlain by newly placed structural fill soils, extending to depths of at least 3± feet below foundation bearing grade. Based on this subsurface profile, the proposed structures may be supported on conventional shallow foundations.

The foundation design parameters presented below provide anticipated ranges for the allowable soil bearing pressures. These ranges should be refined during the subsequent design level geotechnical investigation.

#### Building Foundation Design Parameters

New square and rectangular footings may be designed as follows:

- Maximum, net allowable soil bearing pressure: 2,000 to 3,000 lbs/ft<sup>2</sup>.
- Minimum longitudinal steel reinforcement within strip footings: Four (4) to Six (6) No. 5 rebars.

#### General Foundation Design Recommendations

The allowable bearing pressures presented above may be increased by one-third when considering short duration wind or seismic loads. Additional reinforcement may be necessary for structural considerations. The actual design of the foundations should be determined by the structural engineer.

#### Estimated Foundation Settlements

Typically, foundations designed in accordance with the preliminary foundation design parameters presented above will experience total and differential settlements of less than 1.0 and 0.5 inches,

respectively. A detailed settlement analysis should be conducted as part of the design level geotechnical investigation, once detailed foundation loading information is available.

### Lateral Load Resistance

Lateral load resistance will be developed by a combination of friction acting at the base of foundations and slabs and the passive earth pressure developed by footings below grade. The following friction and passive pressure may be used to resist lateral forces:

- Passive Earth Pressure: 250 to 300 lbs/ft<sup>3</sup>
- Friction Coefficient: 0.25 to 0.30

## **6.6 Preliminary Floor Slab Design and Construction Recommendations**

Subgrades which will support new floor slabs should be prepared in accordance with the recommendations contained in the ***Site Grading Recommendations*** section of this report. Preliminarily, the floors of the proposed structures may be constructed as conventional slabs-on-grade supported on newly placed structural fill. The parameters provided below should be refined during the design-level geotechnical investigation. Based on geotechnical considerations, the floor slab may be preliminarily designed as follows:

- Minimum slab thickness: 6 to 7 inches.
- Minimum slab reinforcement: Reinforced floor slabs are recommended based on the presence of low to medium expansive soils. Additional expansion index testing should be performed to confirm this recommendation at the time of the design level investigation. The actual floor slab reinforcement should be determined by the structural engineer, based upon the imposed loading.
- Slab underlayment: If moisture sensitive floor coverings will be used then minimum slab underlayment should consist of a moisture vapor barrier constructed below the entire area of the proposed slab which will incorporate such coverings. The moisture vapor barrier should meet or exceed the Class A rating as defined by ASTM E 1745-97 and have a permeance rating less than 0.01 perms as described in ASTM E 96-95 and ASTM E 154-88. A polyolefin material such as Stego® Wrap Vapor Barrier or equivalent will meet these specifications. The moisture vapor barrier should be properly constructed in accordance with all applicable manufacturer specifications. Given that a rock free subgrade is anticipated and that a capillary break is not required, sand below the barrier is not required. The need for sand and/or the amount of sand above the moisture vapor barrier should be specified by the structural engineer or concrete contractor. The selection of sand above the barrier is not a geotechnical engineering issue and hence outside our purview. Where moisture sensitive floor coverings are not anticipated, the vapor barrier may be eliminated.
- Moisture condition the floor slab subgrade soils to 2 to 4 percent above the Modified Proctor optimum moisture content, to a depth of 12 inches. The moisture content of the floor slab subgrade soils should be verified by the geotechnical engineer within 24 hours prior to concrete placement.

- Proper concrete curing techniques should be utilized to reduce the potential for slab curling or the formation of excessive shrinkage cracks.

The actual design of the floor slab should be completed by the structural engineer to verify adequate thickness and reinforcement.

## **6.7 Preliminary Retaining Wall Design and Construction Recommendations**

Although not indicated on the site plan, some small (less than 6 feet in height) retaining walls may be required to facilitate the new site grades. Retaining walls are also expected to be necessary within the truck dock areas of the proposed building. The parameters recommended for use in the design of these walls are presented below.

### Retaining Wall Design Parameters

Based on the soil conditions encountered at the boring locations, the following parameters may be used in the design of new retaining walls for this site. We have provided parameters assuming the use of on-site soils for retaining wall backfill. The near surface soils generally consist of fine sands, silty fine sands, fine sandy silts, fine sandy clays, silty clays, and clayey silts. **However, the silty clays and clayey silts possess a medium expansion potential and should not be used for retaining wall backfill.** Based on their classifications, the silty sand, clayey sand, and fine sandy silt materials are expected to possess a friction angle of at least 28 degrees when compacted to 90 percent of the ASTM-1557 maximum dry density.

If desired, SCG could provide design parameters for an alternative select backfill material behind the retaining walls. The use of select backfill material could result in lower lateral earth pressures. In order to use the design parameters for the imported select fill, this material must be placed within the entire active failure wedge. This wedge is defined as extending from the heel of the retaining wall upwards at an angle of approximately 60° from horizontal. If select backfill material behind the retaining wall is desired, SCG should be contacted for supplementary recommendations.

### RETAINING WALL DESIGN PARAMETERS

Design Parameter		Soil Type
		On-Site Silty Sands and Sandy Silts
Internal Friction Angle ( $\phi$ )		28°
Unit Weight		120 lbs/ft <sup>3</sup>
Equivalent Fluid Pressure:	Active Condition (level backfill)	43 lbs/ft <sup>3</sup>
	Active Condition (2h:1v backfill)	76 lbs/ft <sup>3</sup>
	At-Rest Condition (level backfill)	64 lbs/ft <sup>3</sup>

The active earth pressure may be used for the design of retaining walls that do not directly support structures or support soils that in turn support structures and which will be allowed to deflect. The at-rest earth pressure should be used for walls that will not be allowed to deflect such as those which will support foundation bearing soils, or which will support foundation loads directly.

Where the soils on the toe side of the retaining wall are not covered by a "hard" surface such as a structure or pavement, the upper 1 foot of soil should be neglected when calculating passive resistance due to the potential for the material to become disturbed or degraded during the life of the structure.

### Seismic Lateral Earth Pressures

In addition to the lateral earth pressures presented in the previous section, retaining walls which are more than 6 feet in height should be designed for a seismic lateral earth pressure, in accordance with the 2019 CBC. Based on the current site plan, it is not expected that any walls in excess of 6 feet in height will be required for this project. If any such walls are proposed, our office should be contacted for supplementary design recommendations.

### Backfill Material

Retaining wall backfill soils should consist of on-site sands, silty sands, and sandy silts possessing an expansion index less than 20. On-site silty clays and clayey silts should not be used to backfill retaining walls. All backfill material placed within 3 feet of the back wall face should have a particle size no greater than 3 inches. The retaining wall backfill materials should be well graded.

It is recommended that a minimum 1 foot thick layer of free-draining granular material (less than 5 percent passing the No. 200 sieve) be placed against the face of the retaining walls. This material should extend from the top of the retaining wall footing to within 1 foot of the ground surface on the back side of the retaining wall. This material should be approved by the geotechnical engineer. In lieu of the 1-foot-thick layer of free-draining material, a properly installed prefabricated drainage composite such as the MiraDRAIN 6000XL (or approved equivalent), which is specifically designed for use behind retaining walls, may be used. If the layer of free-draining material is not covered by an impermeable surface, such as a structure or pavement, a 12-inch thick layer of a low permeability soil should be placed over the backfill to reduce surface water migration to the underlying soils. The layer of free draining granular material should be separated from the backfill soils by a suitable geotextile, approved by the geotechnical engineer.

All retaining wall backfill should be placed and compacted under engineering controlled conditions in the necessary layer thicknesses to ensure an in-place density between 90 and 93 percent of the maximum dry density as determined by the Modified Proctor test (ASTM D1557). Care should be taken to avoid over-compaction of the soils behind the retaining walls, and the use of heavy compaction equipment should be avoided.

## Subsurface Drainage

As previously indicated, the retaining wall design parameters are based upon drained backfill conditions. Consequently, some form of permanent drainage system will be necessary in conjunction with the appropriate backfill material. Subsurface drainage may consist of either:

- A weep hole drainage system typically consisting of a series of 4-inch diameter holes in the wall situated slightly above the ground surface elevation on the exposed side of the wall and at an approximate 8-foot on-center spacing. The weep holes should include a 2 cubic foot pocket of open graded gravel, surrounded by an approved geotextile fabric, at each weep hole location.
- A 4-inch diameter perforated pipe surrounded by 2 cubic feet of gravel per linear foot of drain placed behind the wall, above the retaining wall footing. The gravel layer should be wrapped in a suitable geotextile fabric to reduce the potential for migration of fines. The footing drain should be extended to daylight or tied into a storm drainage system.

Weep holes or a footing drain will not be required for building stem walls.

## **6.9 Preliminary Pavement Design Parameters**

Preliminary design recommendations for pavements that will be utilized on the subject site are presented below. Grading and pavement thickness recommendations for these pavement areas should be developed during the design level geotechnical investigation.

### Pavement Subgrades

It is anticipated that the new pavements will be primarily supported on a layer of compacted structural fill, consisting of scarified, thoroughly moisture conditioned and recompacted existing soils. The near-surface soils generally consist of silty clays, clayey silts, silty sands, sandy silts and fine sands. These soils are considered to possess poor to fair pavement support characteristics with an estimated R-values ranging from 10 to 30. The subsequent pavement design is based upon an assumed R-value of 10. Any fill material imported to the site should have support characteristics equal to or greater than that of the on-site soils and be placed and compacted under engineering controlled conditions. It is recommended that R-value testing be performed at the time of the design level investigation or after the completion of rough grading. Depending upon the results of the R-value testing, it may be feasible to use thinner pavement sections in some areas of the site.

### Asphaltic Concrete

Presented below are the recommended thicknesses for new flexible pavement structures consisting of asphaltic concrete over a granular base. The pavement designs are based on the traffic indices (TI's) indicated. The client and/or civil engineer should verify that these TI's are representative of the anticipated traffic volumes. If the client and/or civil engineer determine that the expected traffic volume will exceed the applicable traffic index, we should be contacted for supplementary recommendations. The design traffic indices equate to the following approximate daily traffic volumes over a 20 year design life, assuming six operational traffic days per week.



Traffic Index	No. of Heavy Trucks per Day
4.0	0
5.0	1
6.0	3
7.0	11
8.0	35
9.0	93

For the purpose of the traffic volumes indicated above, a truck is defined as a 5-axle tractor trailer unit with one 8-kip axle and two 32-kip tandem axles. All of the traffic indices allow for 1,000 automobiles per day.

ASPHALT PAVEMENTS (R = 10)					
Materials	Thickness (inches)				
	Automobile Parking (TI = 4.0)	Automobile Drive Lanes (TI = 5.0)	Truck Traffic		
			(TI = 6.0)	(TI = 7.0)	(TI = 8.0)
Asphalt Concrete	3	3	3½	4	5
Aggregate Base	6	9	12	15	16
Compacted Subgrade	12	12	12	12	12

The aggregate base course should be compacted to at least 95 percent of the ASTM D-1557 maximum dry density. The asphaltic concrete should be compacted to at least 95 percent of the Marshall maximum density, as determined by ASTM D-2726. The aggregate base course may consist of crushed aggregate base (CAB) or crushed miscellaneous base (CMB), which is a recycled gravel, asphalt and concrete material. The gradation, R-Value, Sand Equivalent, and Percentage Wear of the CAB or CMB should comply with appropriate specifications contained in the current edition of the "Greenbook" Standard Specifications for Public Works Construction.

#### Portland Cement Concrete

The preparation of the subgrade soils within concrete pavement areas should be performed as previously described for proposed asphalt pavement areas. The minimum recommended thicknesses for the Portland Cement Concrete pavement sections are as follows:

PORTLAND CEMENT CONCRETE PAVEMENTS (R= 10)			
Materials	Thickness (inches)		
	Automobile and Light Truck Traffic (TI = 5.0 & 6.0)	Truck Traffic	
		(TI = 7.0)	(TI = 8.0)
PCC	5	5½	7
Compacted Subgrade (95% minimum compaction)	12	12	12



The concrete should have a 28-day compressive strength of at least 3,000 psi. Any reinforcement within the PCC pavements should be determined by the project structural engineer. The maximum joint spacing within all of the PCC pavements is recommended to be equal to or less than 30 times the pavement thickness.

## **7.0 GENERAL COMMENTS**

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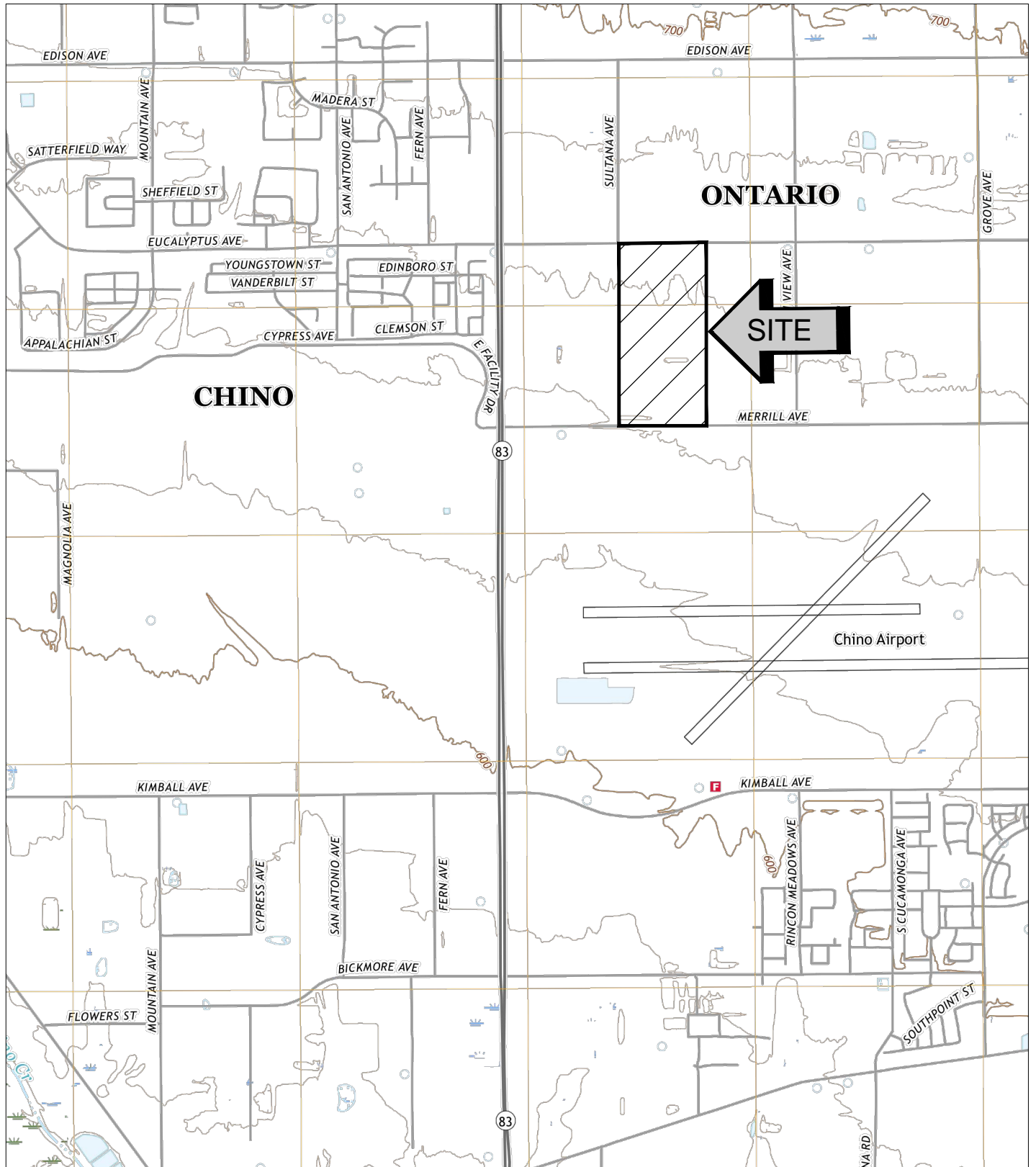
This report has been prepared as an instrument of service for use by the client, in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, civil engineer, and/or structural engineer. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur. The client(s)' reliance upon this report is subject to the Engineering Services Agreement, incorporated into our proposal for this project.

The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between boring locations and sample depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted.

The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

# APPENDIX A



SOURCE: USGS TOPOGRAPHIC MAP OF THE PRADO DAM QUADRANGLE, SAN BERNARDINO COUNTY, CALIFORNIA, 2018.





<b>SITE LOCATION MAP</b>	
<b>PROPOSED COMMERCIAL/INDUSTRIAL BUILDING</b>	
<b>ONTARIO, CALIFORNIA</b>	
SCALE: 1" = 2000'	 <b>SOUTHERN CALIFORNIA GEOTECHNICAL</b>
DRAWN: JAH	
CHKD: RGT	
SCG PROJECT 19G248-1	
<b>PLATE 1</b>	





**GEOTECHNICAL LEGEND**

-  APPROXIMATE BORING LOCATION
-  APPROXIMATE TRENCH LOCATION




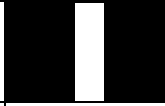

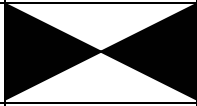

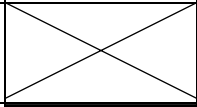


NOTE: AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH.

<b>BORING AND TRENCH LOCATION PLAN</b>	
PROPOSED COMMERCIAL/INDUSTRIAL DEVELOPMENT ONTARIO, CALIFORNIA	
SCALE: 1" = 180'	 <b>SOUTHERN CALIFORNIA GEOTECHNICAL</b>
DRAWN: JAH	
CHKD: RGT	
SCG PROJECT 19G248-1	
PLATE 2	



# APPENDIX B

# BORING LOG LEGEND

SAMPLE TYPE	GRAPHICAL SYMBOL	SAMPLE DESCRIPTION
AUGER		SAMPLE COLLECTED FROM AUGER CUTTINGS, NO FIELD MEASUREMENT OF SOIL STRENGTH. (DISTURBED)
CORE		ROCK CORE SAMPLE: TYPICALLY TAKEN WITH A DIAMOND-TIPPED CORE BARREL. TYPICALLY USED ONLY IN HIGHLY CONSOLIDATED BEDROCK.
GRAB		SOIL SAMPLE TAKEN WITH NO SPECIALIZED EQUIPMENT, SUCH AS FROM A STOCKPILE OR THE GROUND SURFACE. (DISTURBED)
CS		CALIFORNIA SAMPLER: 2-1/2 INCH I.D. SPLIT BARREL SAMPLER, LINED WITH 1-INCH HIGH BRASS RINGS. DRIVEN WITH SPT HAMMER. (RELATIVELY UNDISTURBED)
NSR		NO RECOVERY: THE SAMPLING ATTEMPT DID NOT RESULT IN RECOVERY OF ANY SIGNIFICANT SOIL OR ROCK MATERIAL.
SPT		STANDARD PENETRATION TEST: SAMPLER IS A 1.4 INCH INSIDE DIAMETER SPLIT BARREL, DRIVEN 18 INCHES WITH THE SPT HAMMER. (DISTURBED)
SH		SHELBY TUBE: TAKEN WITH A THIN WALL SAMPLE TUBE, PUSHED INTO THE SOIL AND THEN EXTRACTED. (UNDISTURBED)
VANE		VANE SHEAR TEST: SOIL STRENGTH OBTAINED USING A 4 BLADED SHEAR DEVICE. TYPICALLY USED IN SOFT CLAYS-NO SAMPLE RECOVERED.

## COLUMN DESCRIPTIONS

### DEPTH:

Distance in feet below the ground surface.

### SAMPLE:

Sample Type as depicted above.

### BLOW COUNT:

Number of blows required to advance the sampler 12 inches using a 140 lb hammer with a 30-inch drop. 50/3" indicates penetration refusal (>50 blows) at 3 inches. WH indicates that the weight of the hammer was sufficient to push the sampler 6 inches or more.

### POCKET PEN.:

Approximate shear strength of a cohesive soil sample as measured by pocket penetrometer.

### GRAPHIC LOG:

Graphic Soil Symbol as depicted on the following page.

### DRY DENSITY:

Dry density of an undisturbed or relatively undisturbed sample in lbs/ft<sup>3</sup>.

### MOISTURE CONTENT:

Moisture content of a soil sample, expressed as a percentage of the dry weight.

### LIQUID LIMIT:

The moisture content above which a soil behaves as a liquid.

### PLASTIC LIMIT:

The moisture content above which a soil behaves as a plastic.

### PASSING #200 SIEVE:

The percentage of the sample finer than the #200 standard sieve.

### UNCONFINED SHEAR:

The shear strength of a cohesive soil sample, as measured in the unconfined state.

# SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS	
			GRAPH	LETTER		
<p><b>COARSE GRAINED SOILS</b></p> <p>MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE</p>	<p><b>GRAVEL AND GRAVELLY SOILS</b></p>	<p>CLEAN GRAVELS</p> <p>(LITTLE OR NO FINES)</p>		<b>GW</b>	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES	
		<p>MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE</p>	<p>GRAVELS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>GP</b>	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
			<p>GRAVELS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>GM</b>	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		<p>MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE</p>	<p>CLEAN SANDS</p> <p>(LITTLE OR NO FINES)</p>		<b>SW</b>	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
	<p>MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE</p>		<p>SANDS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>SP</b>	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		<p>SANDS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>SM</b>	SILTY SANDS, SAND - SILT MIXTURES	
	<p>SANDS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>SC</b>	CLAYEY SANDS, SAND - CLAY MIXTURES		
	<p><b>FINE GRAINED SOILS</b></p> <p>MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE</p>	<p><b>SILTS AND CLAYS</b></p> <p>LIQUID LIMIT LESS THAN 50</p>		<b>ML</b>	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY	
				<b>CL</b>	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS	
				<b>OL</b>	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
<p><b>SILTS AND CLAYS</b></p> <p>LIQUID LIMIT GREATER THAN 50</p>			<b>MH</b>	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS		
			<b>CH</b>	INORGANIC CLAYS OF HIGH PLASTICITY		
			<b>OH</b>	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS		
<p><b>HIGHLY ORGANIC SOILS</b></p>				<b>PT</b>	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS	

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS





JOB NO.: 19G248-1      DRILLING DATE: 1/7/20      WATER DEPTH: Dry  
 PROJECT: Proposed C/I Development      DRILLING METHOD: Hollow Stem Auger      CAVE DEPTH: 17 feet  
 LOCATION: Ontario, California      LOGGED BY: Jamie Hayward      READING TAKEN: At Completion

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS						COMMENTS	
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)		ORGANIC CONTENT (%)
SURFACE ELEVATION: --- MSL												
					<u>FILL</u> : Dark Brown to Brown fine Sandy Clay, trace fine root fibers, hard-very moist	90	26					EI = 45 @ 0 to 5 feet
					@ 3 feet, mottled	91	23					
5					<u>FILL</u> : Dark Brown to Brown Clayey Silt, trace fine Sand, mottled, stiff-very moist	81	26					
					@ 7 feet, trace brick fragments	76	33					
10					<u>ALLUVIUM</u> : Brown Silty Clay, trace fine Sand, trace Iron oxide staining, stiff-very moist	101	23					
					Light Gray Brown Silty Clay, some Iron oxide veining, medium stiff-very moist		30					
15					Light Gray Brown Silty fine Sand, 3" Clayey Silt lense, medium dense-very moist		22					
20					Light Gray Brown Silty Clay, trace Iron oxide staining, medium stiff-very moist		38					
25					Light Gray Brown fine Sandy Clay, trace Silt, very stiff-very moist		23					

TBL\_19G248.GPJ\_SOCALGEO.GDT\_1/29/20



JOB NO.: 19G248-1	DRILLING DATE: 1/7/20	WATER DEPTH: Dry
PROJECT: Proposed C/I Development	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: 17 feet
LOCATION: Ontario, California	LOGGED BY: Jamie Hayward	READING TAKEN: At Completion

FIELD RESULTS					DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG		DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	
(Continued)												
35	X	17	4.0		Light Gray Brown Silty Clay, little fine Sand, trace Iron oxide staining, very stiff-very moist		24					
40	X	39			Red Brown Silty fine Sand, trace Clay, some Iron oxide staining, dense-moist		16					
					Boring Terminated at 40'							

TBL\_19G248.GPJ\_SOCALGEO.GDT\_1/29/20



JOB NO.: 19G248-1	DRILLING DATE: 1/7/20	WATER DEPTH: Dry
PROJECT: Proposed C/I Development	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: 26 feet
LOCATION: Ontario, California	LOGGED BY: Jamie Hayward	READING TAKEN: At Completion

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS					COMMENTS	
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT		PASSING #200 SIEVE (%)
SURFACE ELEVATION: --- MSL											
				FILL:	Dark Gray fine Sandy Clay, very stiff-very moist		28				Ei = 52 @ 0 to 5 feet
				ALLUVIUM:	Dark Gray Silty fine Sand, medium dense-very moist		22				
					Dark Gray Clayey Silt, medium stiff-very moist		25				
					Light Brown Silty Clay, trace fine Sand, stiff-very moist		23				
					Light Brown fine Sandy Clay, trace Iron oxide staining, stiff-very moist		22				
			2.0		Light Brown Clayey Silt, some fine Sand, little Iron oxide staining, medium stiff to stiff-very moist		24				
					Light Brown Clayey fine Sand, little Iron oxide staining, medium dense-very moist		17				
					Light Brown Silty fine Sand, medium dense-very moist		17				

TBL\_19G248.GPJ\_SOCALGEO.GDT\_1/29/20



JOB NO.: 19G248-1	DRILLING DATE: 1/7/20	WATER DEPTH: Dry
PROJECT: Proposed C/I Development	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: 26 feet
LOCATION: Ontario, California	LOGGED BY: Jamie Hayward	READING TAKEN: At Completion

FIELD RESULTS					DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG		DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	
35	X	53		[Pattern]	(Continued) @ 33½ to 35 feet, very dense		12					
					Boring Terminated at 35'							

TBL\_19G248.GPJ\_SOCALGEO.GDT\_1/29/20



JOB NO.: 19G248-1	DRILLING DATE: 1/7/20	WATER DEPTH: Dry
PROJECT: Proposed C/I Development	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: 26 feet
LOCATION: Ontario, California	LOGGED BY: Jamie Hayward	READING TAKEN: At Completion

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS					COMMENTS	
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT		PASSING #200 SIEVE (%)
SURFACE ELEVATION: --- MSL											
18	✕			FILL: Brown Silty fine Sand, little Clay, trace fine Gravel, mottled, medium dense-very moist	114	26					
12	✕			FILL: Dark Brown Silty fine Sand, loose-very moist	94	23					
5	✕	26	4.5	ALLUVIUM: Gray Brown Silty Clay, little fine Sand, very stiff-very moist	96	26					
17	✕			Brown Silty fine Sand, medium dense-very moist	102	23					
10	✕	15		@ 9 feet, trace Clay	106	23					
15	✕	17	4.5	Light Brown Silty Clay, trace fine Sand, trace Iron oxide staining, very stiff-very moist		30					
20	✕	49		Light Brown Clayey fine Sand, dense-very moist		22					
25	✕	12	2.0	Light Brown Clayey Silt, trace Iron oxide staining, medium stiff-stiff-very moist		38					
60	✕			Light Brown Silty fine Sand, very dense-very moist		23					

TBL\_19G248.GPJ\_SOCALGEO.GDT\_1/29/20



JOB NO.: 19G248-1	DRILLING DATE: 1/7/20	WATER DEPTH: Dry
PROJECT: Proposed C/I Development	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: 26 feet
LOCATION: Ontario, California	LOGGED BY: Jamie Hayward	READING TAKEN: At Completion

FIELD RESULTS					DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)	GRAPHIC LOG		DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	ORGANIC CONTENT (%)	
35	X	27	4.5		(Continued) Light Brown fine Sandy Clay, trace Iron oxide staining, very stiff-very moist		24					
					Boring Terminated at 35'							

TBL\_19G248.GPJ\_SOCALGEO.GDT\_1/29/20

# SOUTHERN CALIFORNIA GEOTECHNICAL

**TRENCH NO.  
T-1**

JOB NO.: 19G248  
PROJECT: Prop CI Bldg  
LOCATION: Ontario, CA  
DATE: 01-07-2020

EQUIPMENT USED: Backhoe  
LOGGED BY: Daryl Kas/Ryan Bremer  
ORIENTATION: N 0 E  
ELEVATION: ---

WATER DEPTH: Dry  
SEEPAGE DEPTH: Dry  
READINGS TAKEN: At Completion

DEPTH	SAMPLE	ORGANICS (%)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION	GRAPHIC REPRESENTATION
	b	13.5	49	A: TOPSOIL: Dark Gray Brown Silty fine Sand, abundant fine root fibers, loose-very moist	<div style="text-align: center;"> <p>N 0 E →</p> <p>SCALE: 1" = 5'</p> </div>
	b	5.4	24	B: ALLUVIUM: Dark Gray Brown fine Sandy Silt, little Clay, slightly porous, trace fine root fibers, loose-very moist	
	b	3.8	25	C: Gray Clayey Silt, slightly porous, medium stiff-very moist	
	b	2.8	22	D: Dark Gray Brown fine Sandy Silt, trace Clay, loose-very moist	
	b	2.1	19	E: Gray Brown Clayey Silt, medium stiff-very moist	
5	b		23		
	b		21		
	b		35	F: Light Gray Brown Silty Clay, trace fine Sand, medium stiff-very moist	
10	b		30		
	Trench Terminated @ 10 feet				

KEY TO SAMPLE TYPES:  
B - BULK SAMPLE (DISTURBED)  
R - RING SAMPLE 2-1/2" DIAMETER  
(RELATIVELY UNDISTURBED)

# SOUTHERN CALIFORNIA GEOTECHNICAL

**TRENCH NO.  
T-2**

JOB NO.: 19G248

EQUIPMENT USED: Backhoe

WATER DEPTH: Dry

PROJECT: Prop CI Bldg

LOGGED BY: Daryl Kas/Ryan Bremer

SEEPAGE DEPTH: Dry

LOCATION: Ontario, CA

ORIENTATION: N 3 E

READINGS TAKEN: At Completion

DATE: 01-07-2020

ELEVATION: ---

DEPTH	SAMPLE	ORGANICS (%)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION	GRAPHIC REPRESENTATION
	b	2.2	24	A: TOPSOIL: Dark Brown Silty fine Sand, abundant roots, loose-very moist	
	b	2.6	15		
	b	2.9	15		
	b	4.6	25	B: ALLUVIUM: Dark Gray Brown fine Sandy Silt, trace Clay, little fine root fibers, porous, medium dense-moist to very moist	
	b	1.5	15	C: Dark Gray Brown Silt, some fine Sand, trace fine root fibers, medium stiff-moist to very moist	
	b	1.5	19	D: Light Gray Brown fine Sandy Silt, medium dense-very moist	
5	b		26		
	b		19		
	b		25	E: Dark Gray Brown Clayey Silt, stiff-very moist	
10	b			Trench Terminated @ 9.5 feet	
15					

KEY TO SAMPLE TYPES:  
 B - BULK SAMPLE (DISTURBED)  
 R - RING SAMPLE 2-1/2" DIAMETER  
 (RELATIVELY UNDISTURBED)



# SOUTHERN CALIFORNIA GEOTECHNICAL

**TRENCH NO.  
T-3**

JOB NO.: 19G248

EQUIPMENT USED: Backhoe

WATER DEPTH: Dry

PROJECT: Prop CI Bldg

LOGGED BY: Daryl Kas/Ryan Bremer

SEEPAGE DEPTH: Dry

LOCATION: Ontario, CA

ORIENTATION: N 90 E

READINGS TAKEN: At Completion

DATE: 01-07-2020

ELEVATION: ---

DEPTH	SAMPLE	ORGANICS (%)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION	GRAPHIC REPRESENTATION
	b	26.4	49	A: FILL: Gray Brown Clayey fine Sand, mottled, medium dense-very moist B: FILL: Brown Silty fine to medium Sand, some Clay, trace to little fine Gravel, trace Asphaltic concrete fragments, mottled, medium dense-very moist C: ALLUVIUM: Gray Brown Silty fine Sand, slightly porous, medium dense-moist to very moist D: Gray Brown Silty fine Sand to fine Sandy Silt, medium dense-moist	
	b	15.4	38		
	b	6.2	26		
	b	2.7	12		
	b	2	24		
5	b		10		
	b		14		
10				Trench Terminated @ 6.5 feet	
15					

KEY TO SAMPLE TYPES:  
 B - BULK SAMPLE (DISTURBED)  
 R - RING SAMPLE 2-1/2" DIAMETER  
 (RELATIVELY UNDISTURBED)

# SOUTHERN CALIFORNIA GEOTECHNICAL

**TRENCH NO.  
T-4**

JOB NO.: 19G248

EQUIPMENT USED: Backhoe

WATER DEPTH: Dry

PROJECT: Prop CI Bldg

LOGGED BY: Daryl Kas/Ryan Bremer

SEEPAGE DEPTH: Dry

LOCATION: Ontario, CA

ORIENTATION: S 0 E

READINGS TAKEN: At Completion

DATE: 01-07-2020

ELEVATION: ---

DEPTH	SAMPLE	ORGANICS (%)	MOISTURE (%)	EARTH MATERIALS DESCRIPTION	GRAPHIC REPRESENTATION
					<p>S 0 E →</p> <p style="text-align: right;">SCALE: 1" = 5'</p>
	b	21.1	56	<p>A: TOPSOIL: Dark Gray Brown Silty fine Sand, abundant roots, highly organic, loose-very moist</p> <p>B: ALLUVIUM: Dark Gray Brown fine Sandy Silt, little Clay, abundant pores, trace fine root fibers, medium dense-very moist</p> <p>C: Light Gray Clayey Silt, trace fine Sand, trace calcareous nodules, medium stiff-very moist</p> <p>D: Gray Brown fine Sandy Silt, medium dense-very moist</p>	
	b	10.3	35		
	b	6.2	35		
	b	4.7	30		
	b	2.9	22		
5	b		23	E: Gray Brown Clayey Silt, medium stiff-very moist	
	b		26		
	b		25		
10				Trench Terminated @ 8.5 feet	
15					

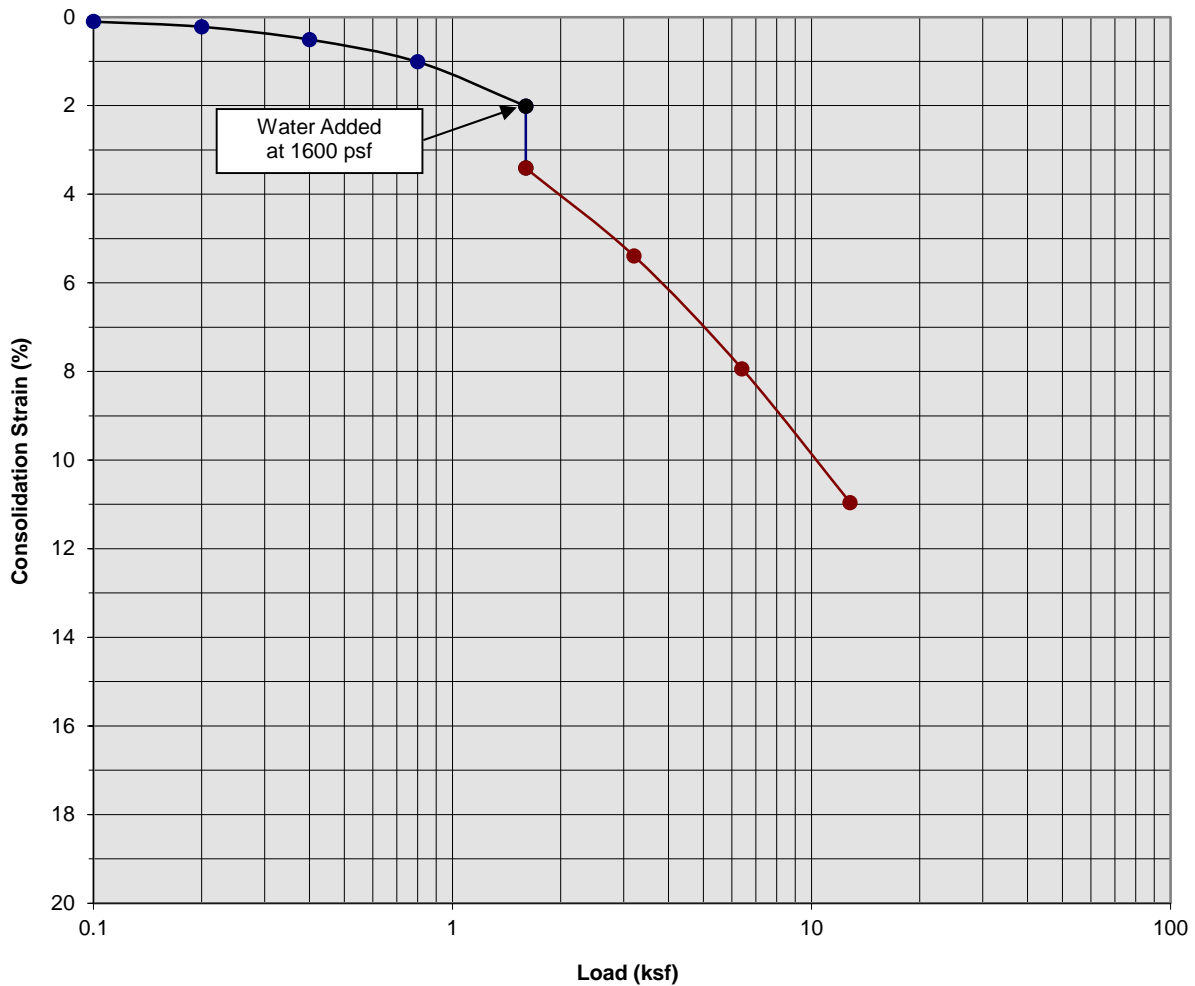
KEY TO SAMPLE TYPES:  
 B - BULK SAMPLE (DISTURBED)  
 R - RING SAMPLE 2-1/2" DIAMETER  
 (RELATIVELY UNDISTURBED)

**TRENCH LOG**

**PLATE B-4**

# A P P E N D I X C

### Consolidation/Collapse Test Results



Classification: FILL: Dark Brown Silty fine Sand

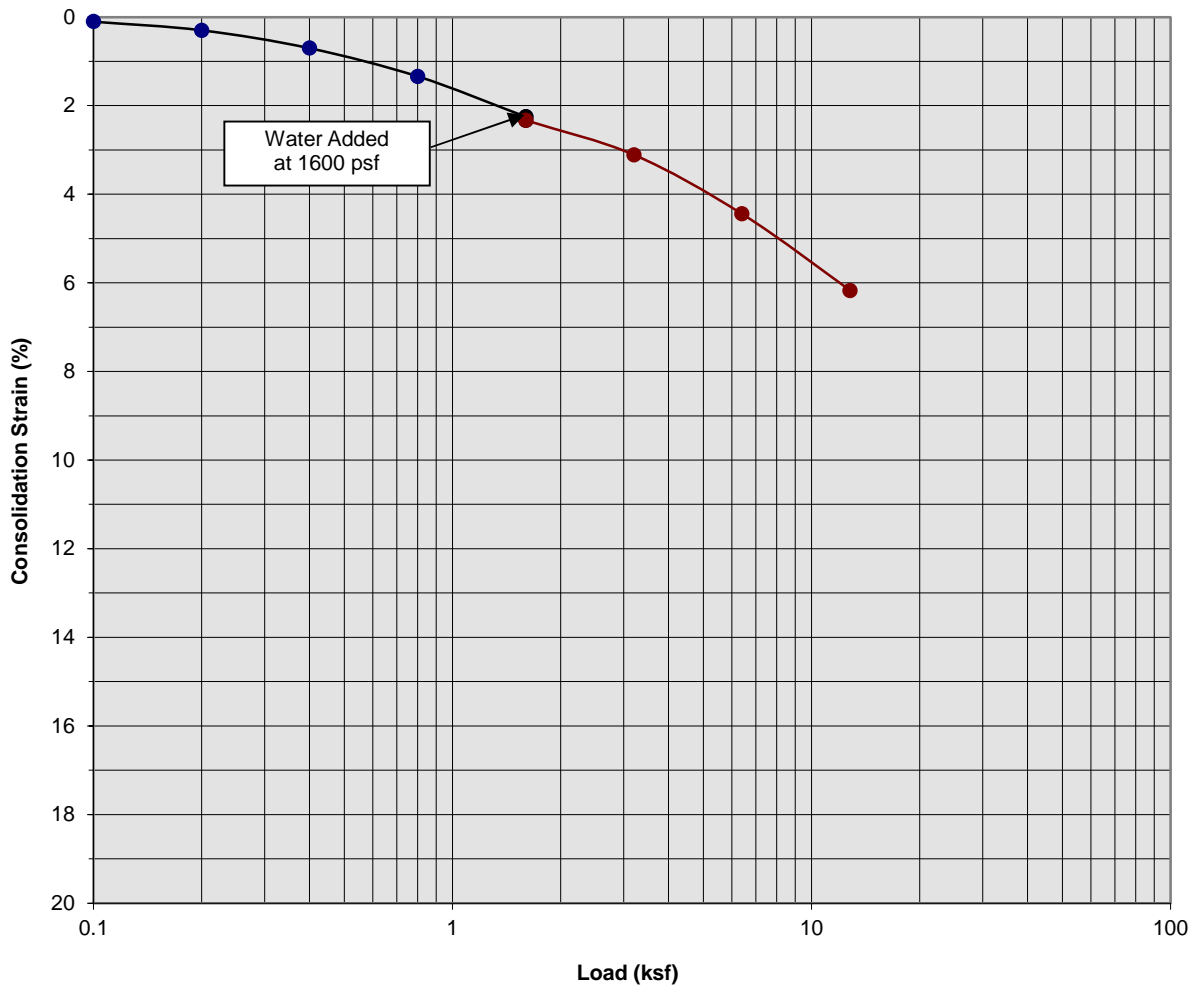
Boring Number:	B-3	Initial Moisture Content (%)	22
Sample Number:	---	Final Moisture Content (%)	24
Depth (ft)	3 to 4	Initial Dry Density (pcf)	93.4
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	104.3
Specimen Thickness (in)	1.0	Percent Collapse (%)	1.40

Proposed Commercial/Industrial Building  
 Ontario, California  
 Project No. 19G248-1  
**PLATE C- 1**



**SOUTHERN  
 CALIFORNIA  
 GEOTECHNICAL**  
*A California Corporation*

### Consolidation/Collapse Test Results



Classification: Gray Brown Silty Clay, trace fine Sand

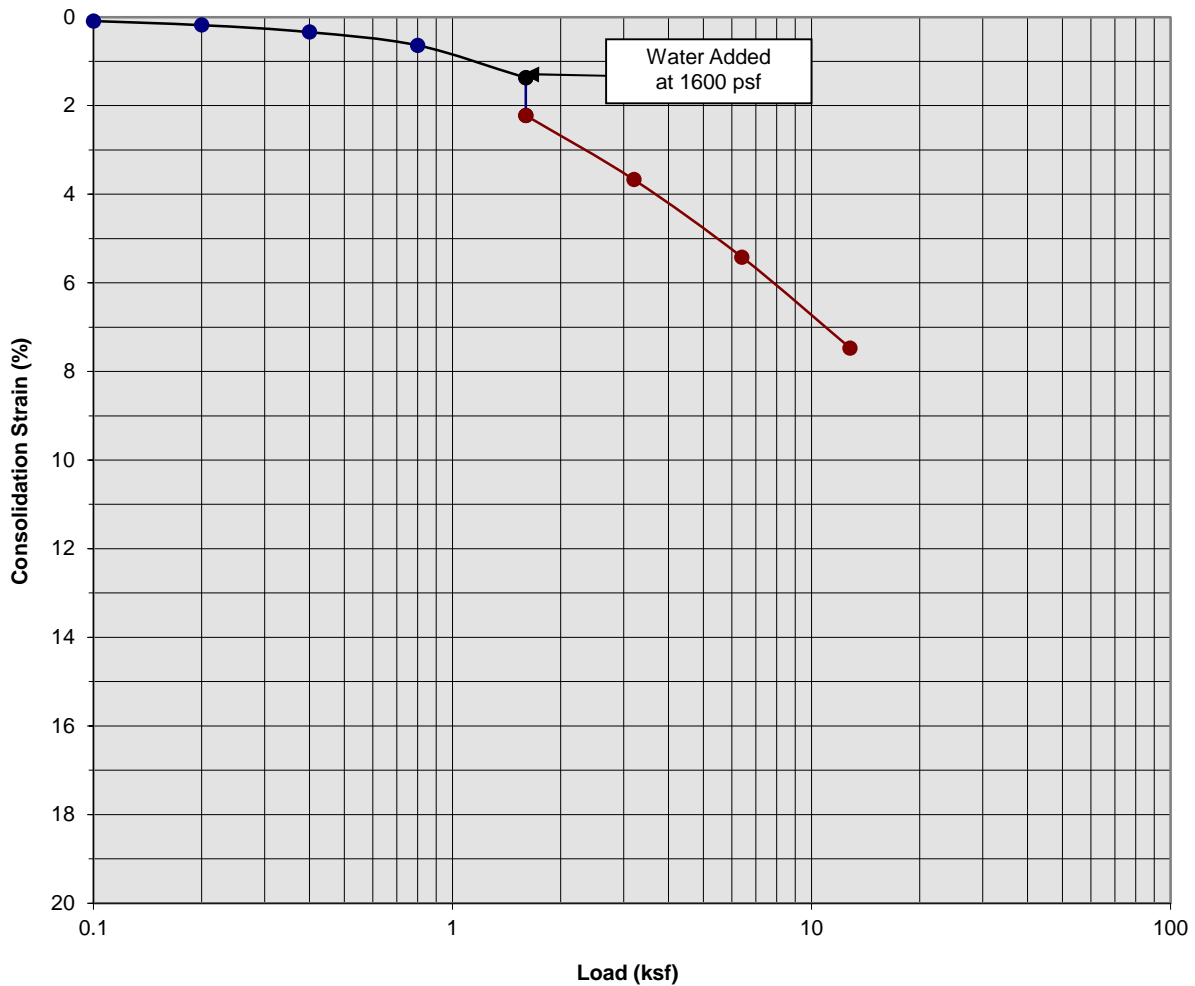
Boring Number:	B-3	Initial Moisture Content (%)	26
Sample Number:	---	Final Moisture Content (%)	27
Depth (ft)	5 to 6	Initial Dry Density (pcf)	95.2
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	101.6
Specimen Thickness (in)	1.0	Percent Collapse (%)	0.08

Proposed Commercial/Industrial Building  
 Ontario, California  
 Project No. 19G248-1  
**PLATE C- 2**



**SOUTHERN  
 CALIFORNIA  
 GEOTECHNICAL**  
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### Consolidation/Collapse Test Results



Classification: Brown Silty fine Sand

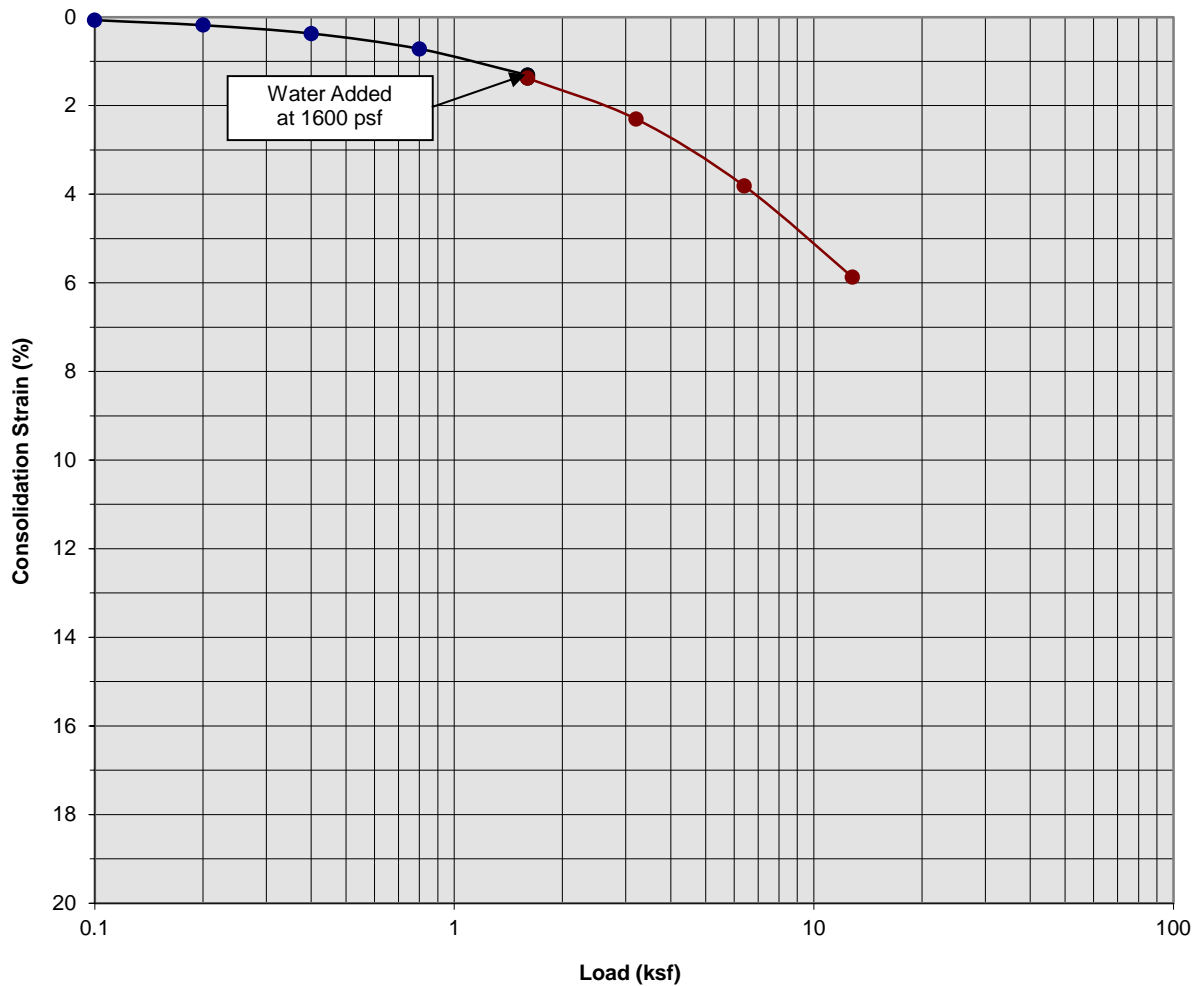
Boring Number:	B-3	Initial Moisture Content (%)	22
Sample Number:	---	Final Moisture Content (%)	21
Depth (ft)	7 to 8	Initial Dry Density (pcf)	102.1
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	106.1
Specimen Thickness (in)	1.0	Percent Collapse (%)	0.85

Proposed Commercial/Industrial Building  
 Ontario, California  
 Project No. 19G248-1  
**PLATE C- 3**



**SOUTHERN  
 CALIFORNIA  
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### Consolidation/Collapse Test Results



Classification: Dark Brown Silty fine Sand

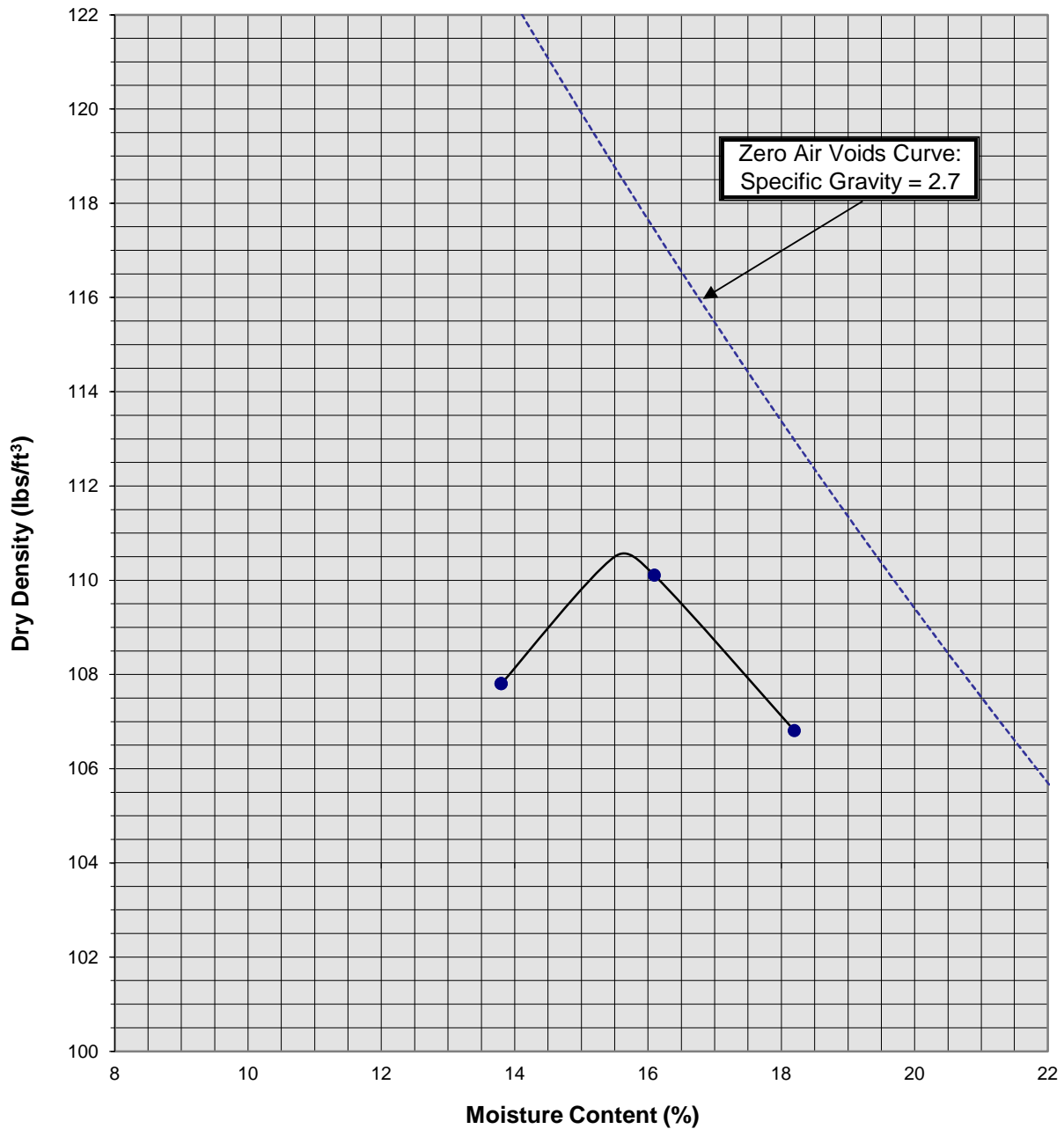
Boring Number:	B-3	Initial Moisture Content (%)	19
Sample Number:	---	Final Moisture Content (%)	22
Depth (ft)	9 to 10	Initial Dry Density (pcf)	106.3
Specimen Diameter (in)	2.4	Final Dry Density (pcf)	109.2
Specimen Thickness (in)	1.0	Percent Collapse (%)	0.07

Proposed Commercial/Industrial Building  
 Ontario, California  
 Project No. 19G248-1  
**PLATE C- 4**



**SOUTHERN CALIFORNIA GEOTECHNICAL**  
*A California Corporation*

### Moisture/Density Relationship ASTM D-1557



Soil ID Number	T-1 @ 0-5'
Optimum Moisture (%)	15.5
Maximum Dry Density (pcf)	110.5
Soil Classification	Dark Gray Brown fine Sandy Silt, little Clay

Proposed Commercial/Industrial Building  
 Ontario, California  
 Project No. 19G248-1  
**PLATE C-5**



**SOUTHERN CALIFORNIA GEOTECHNICAL**  
*A California Corporation*



# APPENDIX

## **GRADING GUIDE SPECIFICATIONS**

These grading guide specifications are intended to provide typical procedures for grading operations. They are intended to supplement the recommendations contained in the geotechnical investigation report for this project. Should the recommendations in the geotechnical investigation report conflict with the grading guide specifications, the more site specific recommendations in the geotechnical investigation report will govern.

### General

- The Earthwork Contractor is responsible for the satisfactory completion of all earthwork in accordance with the plans and geotechnical reports, and in accordance with city, county, and applicable building codes.
- The Geotechnical Engineer is the representative of the Owner/Builder for the purpose of implementing the report recommendations and guidelines. These duties are not intended to relieve the Earthwork Contractor of any responsibility to perform in a workman-like manner, nor is the Geotechnical Engineer to direct the grading equipment or personnel employed by the Contractor.
- The Earthwork Contractor is required to notify the Geotechnical Engineer of the anticipated work and schedule so that testing and inspections can be provided. If necessary, work may be stopped and redone if personnel have not been scheduled in advance.
- The Earthwork Contractor is required to have suitable and sufficient equipment on the job-site to process, moisture condition, mix and compact the amount of fill being placed to the approved compaction. In addition, suitable support equipment should be available to conform with recommendations and guidelines in this report.
- Canyon cleanouts, overexcavation areas, processed ground to receive fill, key excavations, subdrains and benches should be observed by the Geotechnical Engineer prior to placement of any fill. It is the Earthwork Contractor's responsibility to notify the Geotechnical Engineer of areas that are ready for inspection.
- Excavation, filling, and subgrade preparation should be performed in a manner and sequence that will provide drainage at all times and proper control of erosion. Precipitation, springs, and seepage water encountered shall be pumped or drained to provide a suitable working surface. The Geotechnical Engineer must be informed of springs or water seepage encountered during grading or foundation construction for possible revision to the recommended construction procedures and/or installation of subdrains.

### Site Preparation

- The Earthwork Contractor is responsible for all clearing, grubbing, stripping and site preparation for the project in accordance with the recommendations of the Geotechnical Engineer.
- If any materials or areas are encountered by the Earthwork Contractor which are suspected of having toxic or environmentally sensitive contamination, the Geotechnical Engineer and Owner/Builder should be notified immediately.

- Major vegetation should be stripped and disposed of off-site. This includes trees, brush, heavy grasses and any materials considered unsuitable by the Geotechnical Engineer.
- Underground structures such as basements, cesspools or septic disposal systems, mining shafts, tunnels, wells and pipelines should be removed under the inspection of the Geotechnical Engineer and recommendations provided by the Geotechnical Engineer and/or city, county or state agencies. If such structures are known or found, the Geotechnical Engineer should be notified as soon as possible so that recommendations can be formulated.
- Any topsoil, slopewash, colluvium, alluvium and rock materials which are considered unsuitable by the Geotechnical Engineer should be removed prior to fill placement.
- Remaining voids created during site clearing caused by removal of trees, foundations basements, irrigation facilities, etc., should be excavated and filled with compacted fill.
- Subsequent to clearing and removals, areas to receive fill should be scarified to a depth of 10 to 12 inches, moisture conditioned and compacted
- The moisture condition of the processed ground should be at or slightly above the optimum moisture content as determined by the Geotechnical Engineer. Depending upon field conditions, this may require air drying or watering together with mixing and/or discing.

#### Compacted Fills

- Soil materials imported to or excavated on the property may be utilized in the fill, provided each material has been determined to be suitable in the opinion of the Geotechnical Engineer. Unless otherwise approved by the Geotechnical Engineer, all fill materials shall be free of deleterious, organic, or frozen matter, shall contain no chemicals that may result in the material being classified as "contaminated," and shall be very low to non-expansive with a maximum expansion index (EI) of 50. The top 12 inches of the compacted fill should have a maximum particle size of 3 inches, and all underlying compacted fill material a maximum 6-inch particle size, except as noted below.
- All soils should be evaluated and tested by the Geotechnical Engineer. Materials with high expansion potential, low strength, poor gradation or containing organic materials may require removal from the site or selective placement and/or mixing to the satisfaction of the Geotechnical Engineer.
- Rock fragments or rocks less than 6 inches in their largest dimensions, or as otherwise determined by the Geotechnical Engineer, may be used in compacted fill, provided the distribution and placement is satisfactory in the opinion of the Geotechnical Engineer.
- Rock fragments or rocks greater than 12 inches should be taken off-site or placed in accordance with recommendations and in areas designated as suitable by the Geotechnical Engineer. These materials should be placed in accordance with Plate D-8 of these Grading Guide Specifications and in accordance with the following recommendations:
  - Rocks 12 inches or more in diameter should be placed in rows at least 15 feet apart, 15 feet from the edge of the fill, and 10 feet or more below subgrade. Spaces should be left between each rock fragment to provide for placement and compaction of soil around the fragments.
  - Fill materials consisting of soil meeting the minimum moisture content requirements and free of oversize material should be placed between and over the rows of rock or

concrete. Ample water and compactive effort should be applied to the fill materials as they are placed in order that all of the voids between each of the fragments are filled and compacted to the specified density.

- Subsequent rows of rocks should be placed such that they are not directly above a row placed in the previous lift of fill. A minimum 5-foot offset between rows is recommended.
- To facilitate future trenching, oversized material should not be placed within the range of foundation excavations, future utilities or other underground construction unless specifically approved by the soil engineer and the developer/owner representative.
- Fill materials approved by the Geotechnical Engineer should be placed in areas previously prepared to receive fill and in evenly placed, near horizontal layers at about 6 to 8 inches in loose thickness, or as otherwise determined by the Geotechnical Engineer for the project.
- Each layer should be moisture conditioned to optimum moisture content, or slightly above, as directed by the Geotechnical Engineer. After proper mixing and/or drying, to evenly distribute the moisture, the layers should be compacted to at least 90 percent of the maximum dry density in compliance with ASTM D-1557-78 unless otherwise indicated.
- Density and moisture content testing should be performed by the Geotechnical Engineer at random intervals and locations as determined by the Geotechnical Engineer. These tests are intended as an aid to the Earthwork Contractor, so he can evaluate his workmanship, equipment effectiveness and site conditions. The Earthwork Contractor is responsible for compaction as required by the Geotechnical Report(s) and governmental agencies.
- Fill areas unused for a period of time may require moisture conditioning, processing and recompaction prior to the start of additional filling. The Earthwork Contractor should notify the Geotechnical Engineer of his intent so that an evaluation can be made.
- Fill placed on ground sloping at a 5-to-1 inclination (horizontal-to-vertical) or steeper should be benched into bedrock or other suitable materials, as directed by the Geotechnical Engineer. Typical details of benching are illustrated on Plates D-2, D-4, and D-5.
- Cut/fill transition lots should have the cut portion overexcavated to a depth of at least 3 feet and rebuilt with fill (see Plate D-1), as determined by the Geotechnical Engineer.
- All cut lots should be inspected by the Geotechnical Engineer for fracturing and other bedrock conditions. If necessary, the pads should be overexcavated to a depth of 3 feet and rebuilt with a uniform, more cohesive soil type to impede moisture penetration.
- Cut portions of pad areas above buttresses or stabilizations should be overexcavated to a depth of 3 feet and rebuilt with uniform, more cohesive compacted fill to impede moisture penetration.
- Non-structural fill adjacent to structural fill should typically be placed in unison to provide lateral support. Backfill along walls must be placed and compacted with care to ensure that excessive unbalanced lateral pressures do not develop. The type of fill material placed adjacent to below grade walls must be properly tested and approved by the Geotechnical Engineer with consideration of the lateral earth pressure used in the design.

### Foundations

- The foundation influence zone is defined as extending one foot horizontally from the outside edge of a footing, and proceeding downward at a ½ horizontal to 1 vertical (0.5:1) inclination.
- Where overexcavation beneath a footing subgrade is necessary, it should be conducted so as to encompass the entire foundation influence zone, as described above.
- Compacted fill adjacent to exterior footings should extend at least 12 inches above foundation bearing grade. Compacted fill within the interior of structures should extend to the floor subgrade elevation.

### Fill Slopes

- The placement and compaction of fill described above applies to all fill slopes. Slope compaction should be accomplished by overfilling the slope, adequately compacting the fill in even layers, including the overfilled zone and cutting the slope back to expose the compacted core
- Slope compaction may also be achieved by backrolling the slope adequately every 2 to 4 vertical feet during the filling process as well as requiring the earth moving and compaction equipment to work close to the top of the slope. Upon completion of slope construction, the slope face should be compacted with a sheepsfoot connected to a sideboom and then grid rolled. This method of slope compaction should only be used if approved by the Geotechnical Engineer.
- Sandy soils lacking in adequate cohesion may be unstable for a finished slope condition and therefore should not be placed within 15 horizontal feet of the slope face.
- All fill slopes should be keyed into bedrock or other suitable material. Fill keys should be at least 15 feet wide and inclined at 2 percent into the slope. For slopes higher than 30 feet, the fill key width should be equal to one-half the height of the slope (see Plate D-5).
- All fill keys should be cleared of loose slough material prior to geotechnical inspection and should be approved by the Geotechnical Engineer and governmental agencies prior to filling.
- The cut portion of fill over cut slopes should be made first and inspected by the Geotechnical Engineer for possible stabilization requirements. The fill portion should be adequately keyed through all surficial soils and into bedrock or suitable material. Soils should be removed from the transition zone between the cut and fill portions (see Plate D-2).

### Cut Slopes

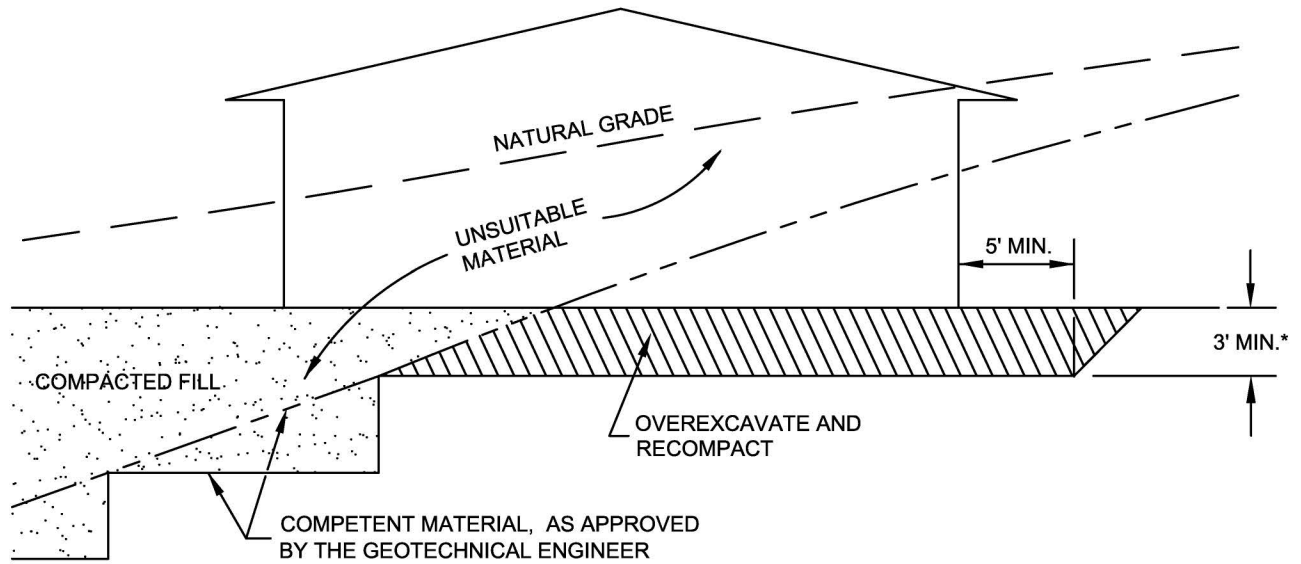
- All cut slopes should be inspected by the Geotechnical Engineer to determine the need for stabilization. The Earthwork Contractor should notify the Geotechnical Engineer when slope cutting is in progress at intervals of 10 vertical feet. Failure to notify may result in a delay in recommendations.
- Cut slopes exposing loose, cohesionless sands should be reported to the Geotechnical Engineer for possible stabilization recommendations.
- All stabilization excavations should be cleared of loose slough material prior to geotechnical inspection. Stakes should be provided by the Civil Engineer to verify the location and dimensions of the key. A typical stabilization fill detail is shown on Plate D-5.

- Stabilization key excavations should be provided with subdrains. Typical subdrain details are shown on Plates D-6.

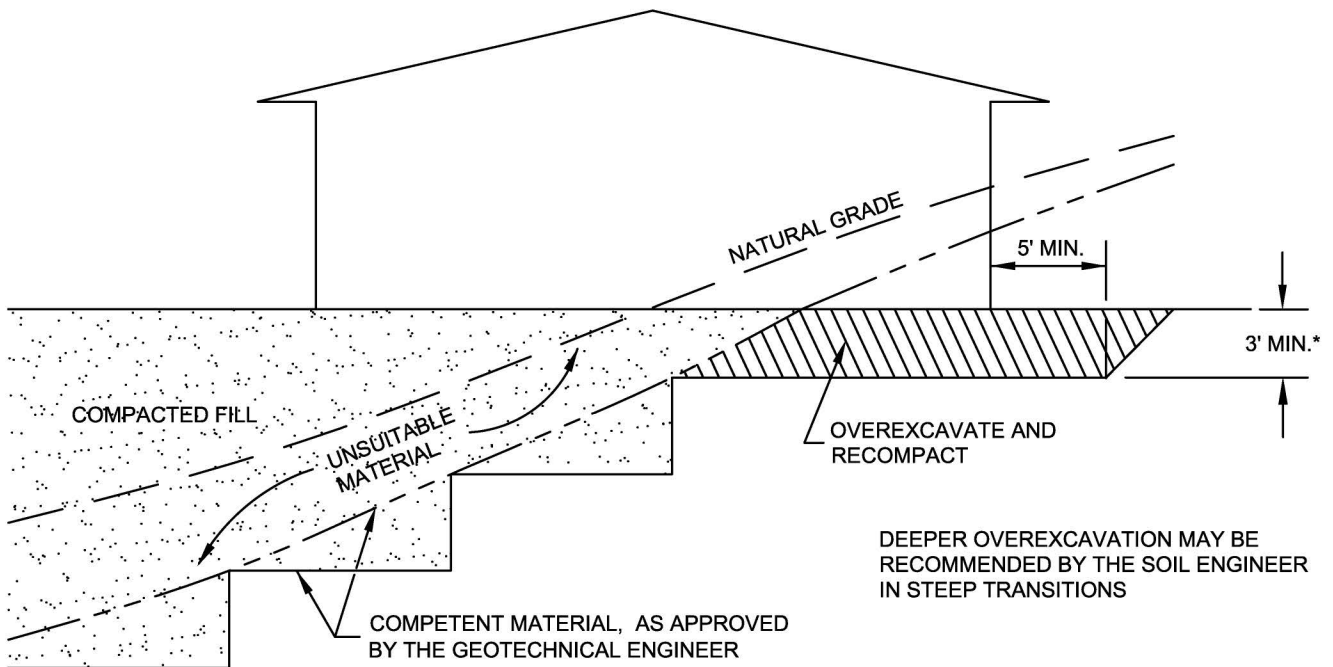
#### Subdrains

- Subdrains may be required in canyons and swales where fill placement is proposed. Typical subdrain details for canyons are shown on Plate D-3. Subdrains should be installed after approval of removals and before filling, as determined by the Soils Engineer.
- Plastic pipe may be used for subdrains provided it is Schedule 40 or SDR 35 or equivalent. Pipe should be protected against breakage, typically by placement in a square-cut (backhoe) trench or as recommended by the manufacturer.
- Filter material for subdrains should conform to CALTRANS Specification 68-1.025 or as approved by the Geotechnical Engineer for the specific site conditions. Clean  $\frac{3}{4}$ -inch crushed rock may be used provided it is wrapped in an acceptable filter cloth and approved by the Geotechnical Engineer. Pipe diameters should be 6 inches for runs up to 500 feet and 8 inches for the downstream continuations of longer runs. Four-inch diameter pipe may be used in buttress and stabilization fills.

CUT LOT

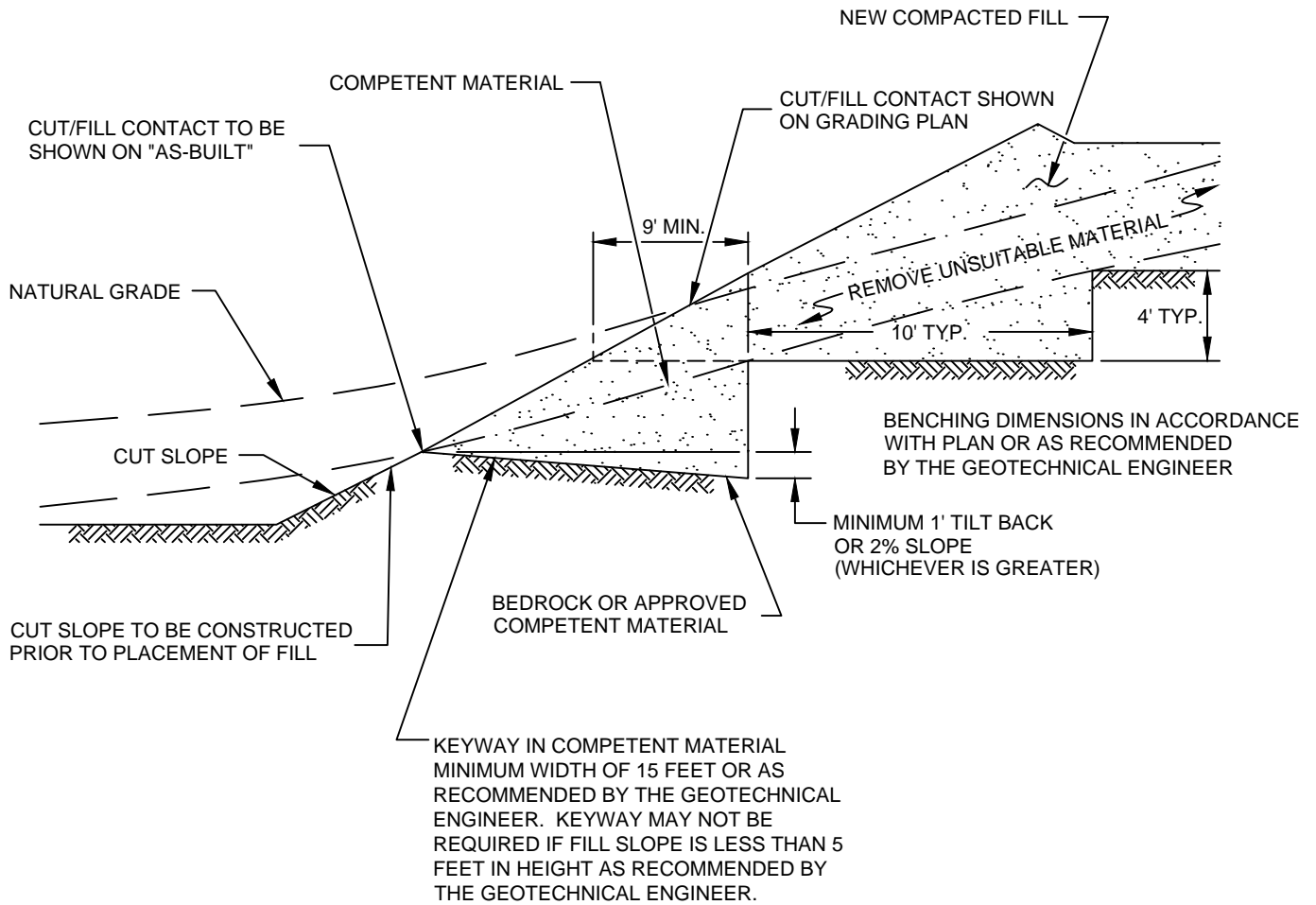


CUT/FILL LOT (TRANSITION)



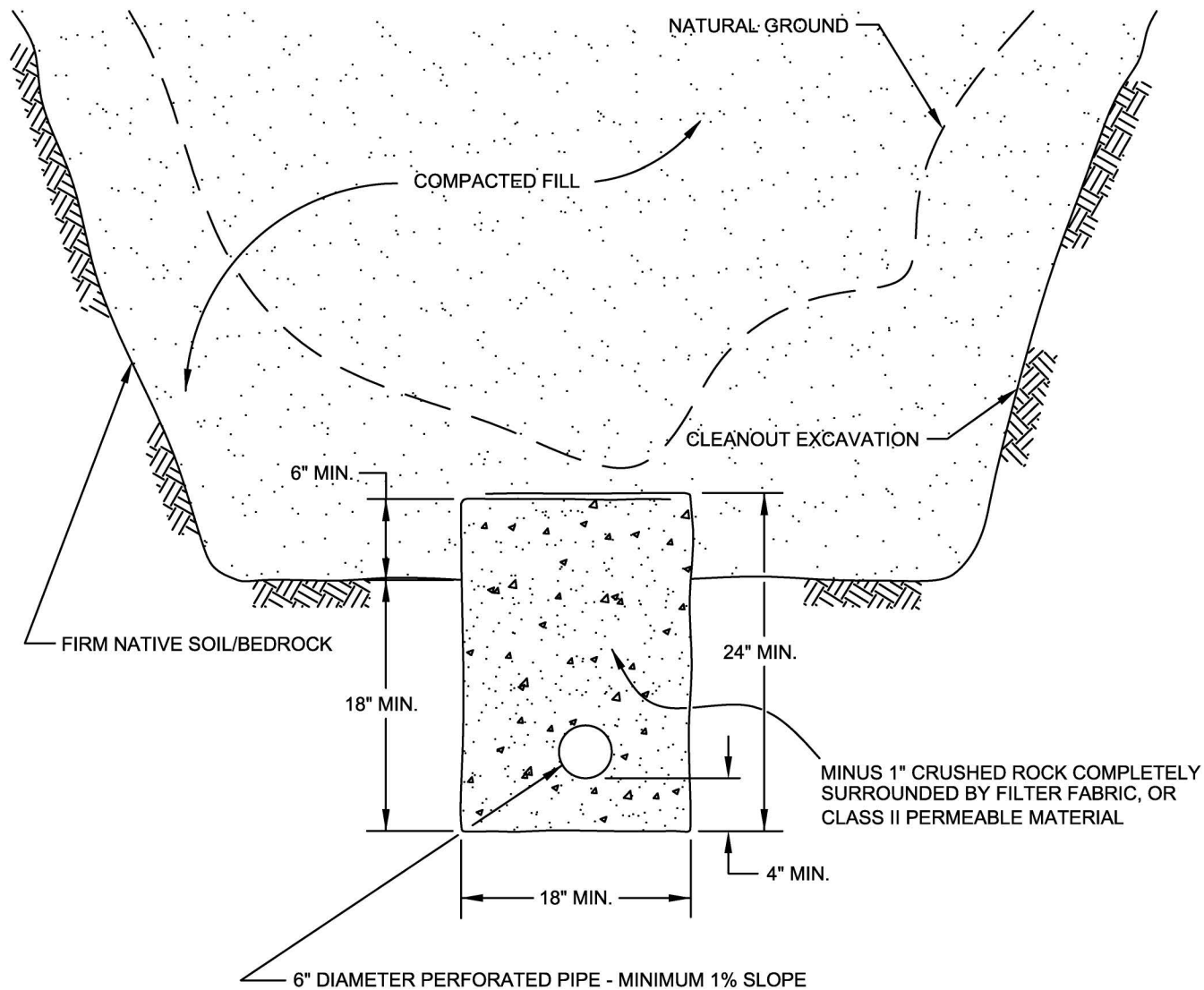
\*SEE TEXT OF REPORT FOR SPECIFIC RECOMMENDATION. ACTUAL DEPTH OF OVEREXCAVATION MAY BE GREATER.

<b>TRANSITION LOT DETAIL</b>	
<b>GRADING GUIDE SPECIFICATIONS</b>	
NOT TO SCALE	 <b>SOUTHERN CALIFORNIA GEOTECHNICAL</b>
DRAWN: JAS CHKD: GKM	
<b>PLATE D-1</b>	



<b>FILL ABOVE CUT SLOPE DETAIL</b>	
<b>GRADING GUIDE SPECIFICATIONS</b>	
NOT TO SCALE	 <b>SOUTHERN CALIFORNIA GEOTECHNICAL</b>
DRAWN: JAS CHKD: GKM	
<b>PLATE D-2</b>	






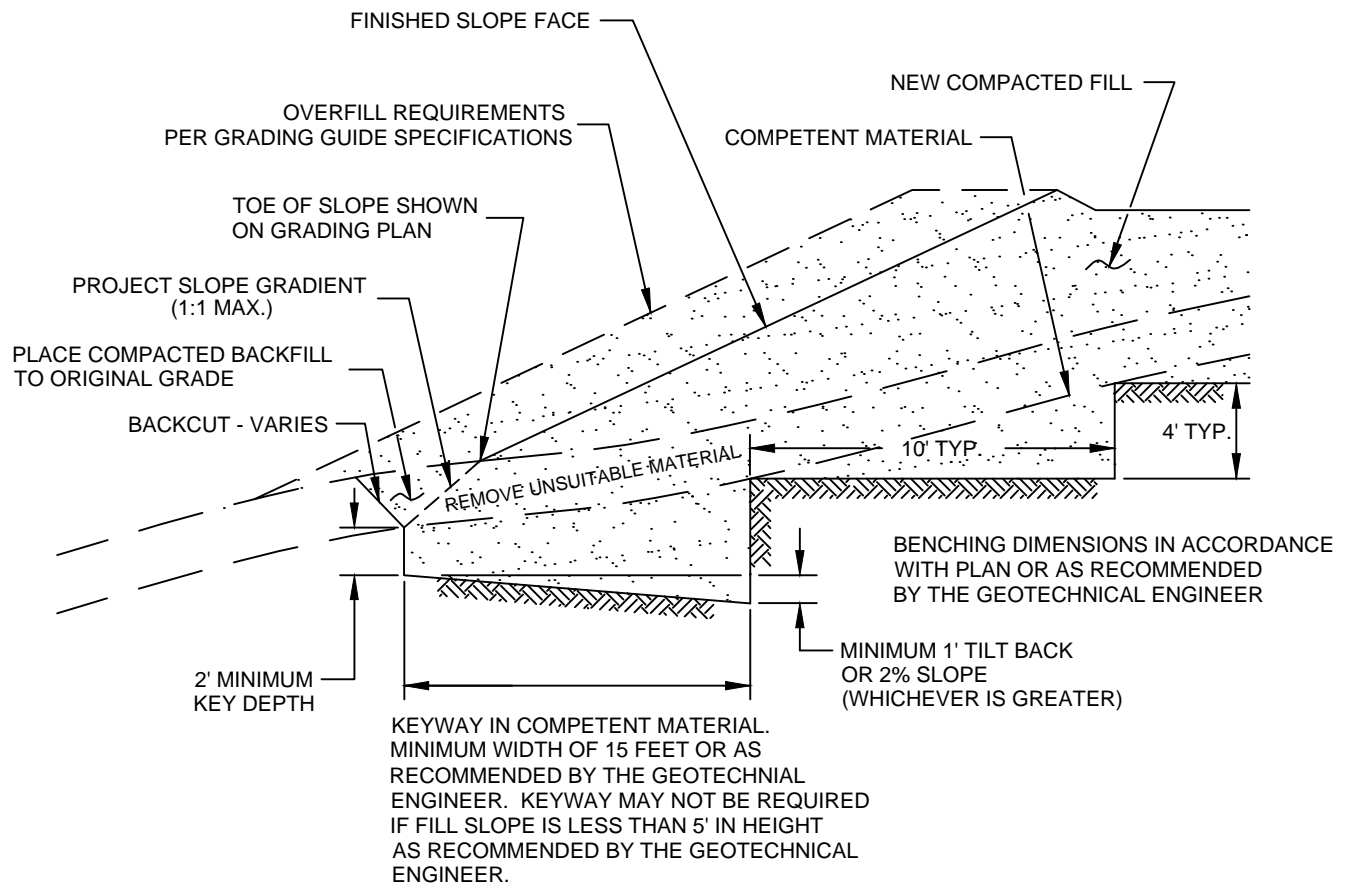
PIPE MATERIAL	DEPTH OF FILL OVER SUBDRAIN
ADS (CORRUGATED POLETHYLENE)	8
TRANSITE UNDERDRAIN	20
PVC OR ABS: SDR 35	35
SDR 21	100

**SCHEMATIC ONLY  
NOT TO SCALE**

<b>CANYON SUBDRAIN DETAIL</b>	
<b>GRADING GUIDE SPECIFICATIONS</b>	
NOT TO SCALE	
DRAWN: JAS CHKD: GKM	
<b>PLATE D-3</b>	

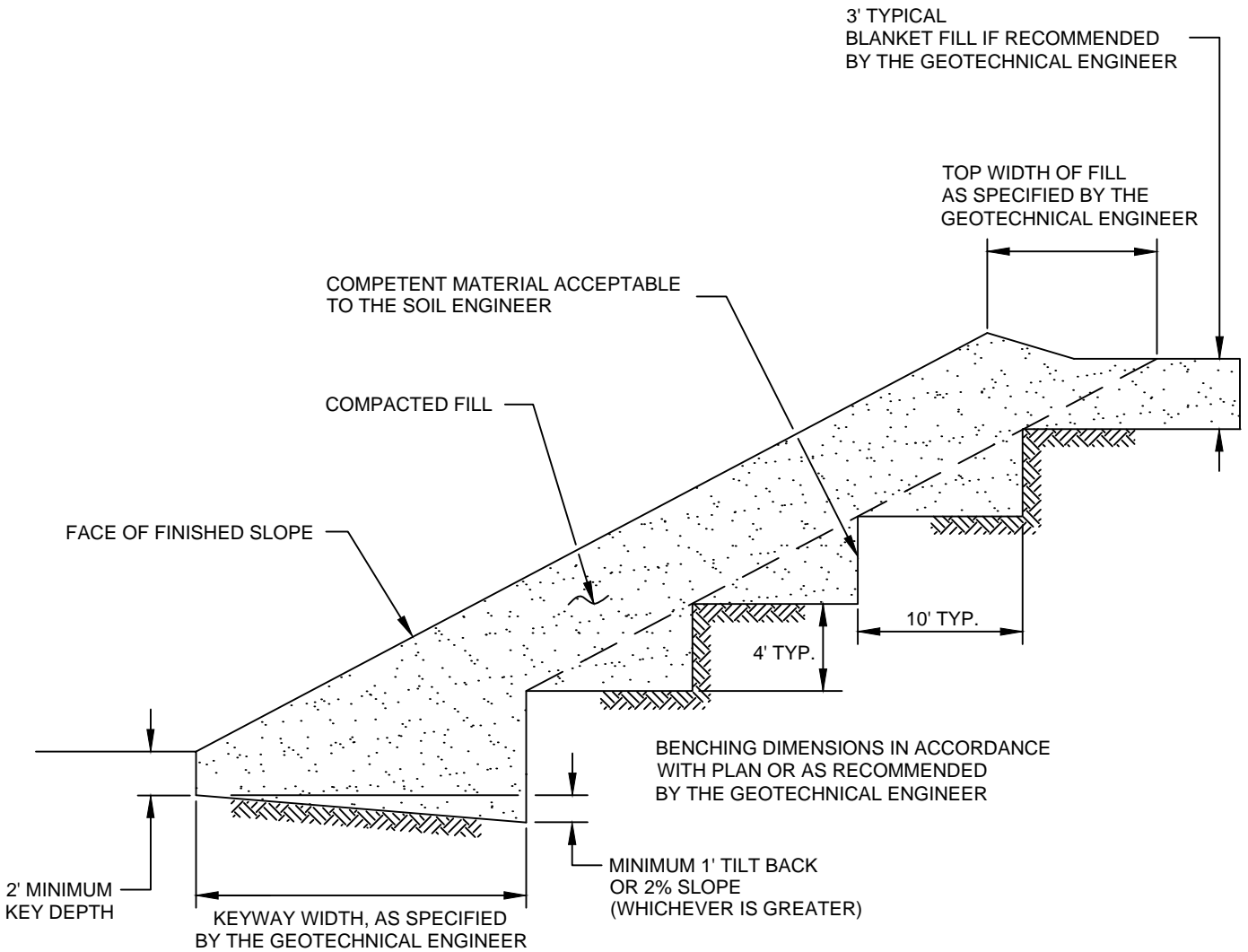



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CALIFORNIA  
GEOTECHNICAL

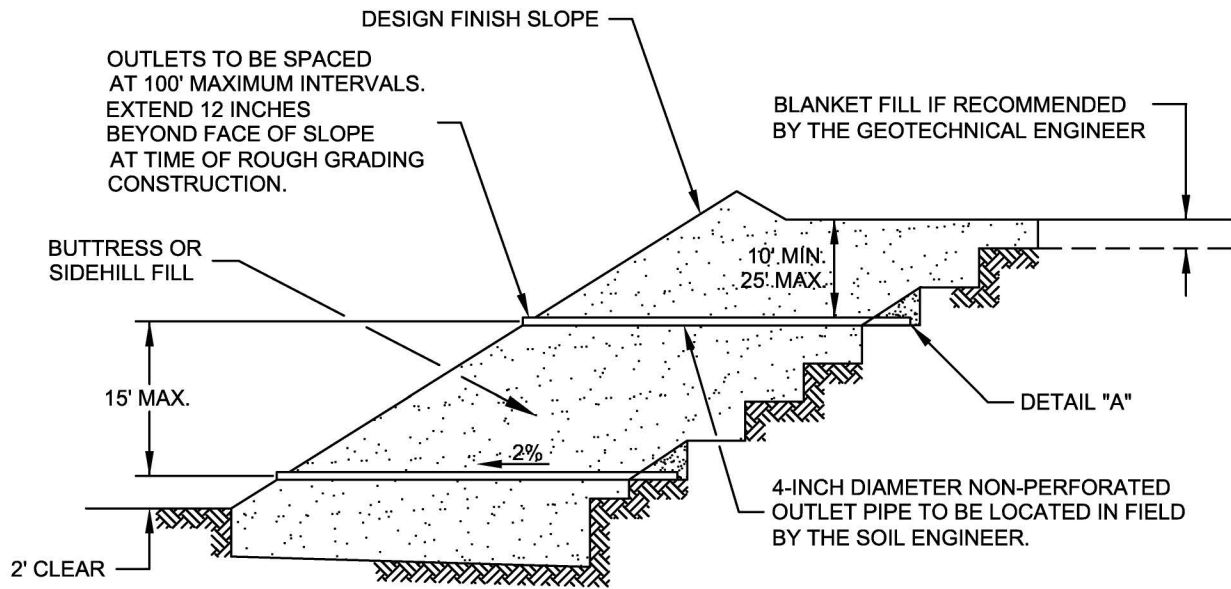


NOTE:  
 BENCHING SHALL BE REQUIRED  
 WHEN NATURAL SLOPES ARE  
 EQUAL TO OR STEEPER THAN 5:1  
 OR WHEN RECOMMENDED BY  
 THE GEOTECHNICAL ENGINEER.

<b>FILL ABOVE NATURAL SLOPE DETAIL</b>	
GRADING GUIDE SPECIFICATIONS	
NOT TO SCALE	 <b>SOUTHERN CALIFORNIA GEOTECHNICAL</b>
DRAWN: JAS CHKD: GKM	
<b>PLATE D-4</b>	



<b>STABILIZATION FILL DETAIL</b>	
GRADING GUIDE SPECIFICATIONS	
NOT TO SCALE	 <b>SOUTHERN CALIFORNIA GEOTECHNICAL</b>
DRAWN: JAS CHKD: GKM	
<b>PLATE D-5</b>	



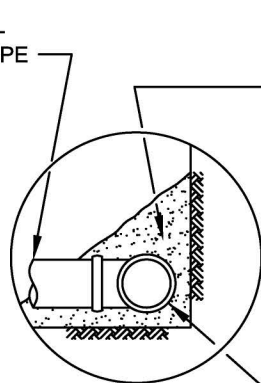
"FILTER MATERIAL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT: (CONFORMS TO EMA STD. PLAN 323)

SIEVE SIZE	PERCENTAGE PASSING
1"	100
3/4"	90-100
3/8"	40-100
NO. 4	25-40
NO. 8	18-33
NO. 30	5-15
NO. 50	0-7
NO. 200	0-3

"GRAVEL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT:

SIEVE SIZE	MAXIMUM PERCENTAGE PASSING
1 1/2"	100
NO. 4	50
NO. 200	8
SAND EQUIVALENT = MINIMUM OF 50	

OUTLET PIPE TO BE CONNECTED TO SUBDRAIN PIPE WITH TEE OR ELBOW



FILTER MATERIAL - MINIMUM OF FIVE CUBIC FEET PER FOOT OF PIPE. SEE ABOVE FOR FILTER MATERIAL SPECIFICATION.


ALTERNATIVE: IN LIEU OF FILTER MATERIAL FIVE CUBIC FEET OF GRAVEL PER FOOT OF PIPE MAY BE ENCASED IN FILTER FABRIC. SEE ABOVE FOR GRAVEL SPECIFICATION.

FILTER FABRIC SHALL BE MIRAFI 140 OR EQUIVALENT. FILTER FABRIC SHALL BE LAPPED A MINIMUM OF 12 INCHES ON ALL JOINTS.

MINIMUM 4-INCH DIAMETER PVC SCH 40 OR ABS CLASS SDR 35 WITH A CRUSHING STRENGTH OF AT LEAST 1,000 POUNDS, WITH A MINIMUM OF 8 UNIFORMLY SPACED PERFORATIONS PER FOOT OF PIPE INSTALLED WITH PERFORATIONS ON BOTTOM OF PIPE. PROVIDE CAP AT UPSTREAM END OF PIPE. SLOPE AT 2 PERCENT TO OUTLET PIPE.

NOTES:

- TRENCH FOR OUTLET PIPES TO BE BACKFILLED WITH ON-SITE SOIL.

SLOPE FILL SUBDRAINS	
GRADING GUIDE SPECIFICATIONS	
NOT TO SCALE	 <b>SOUTHERN CALIFORNIA GEOTECHNICAL</b>
DRAWN: JAS CHKD: GKM	
PLATE D-6	

MINIMUM ONE FOOT THICK LAYER OF LOW PERMEABILITY SOIL IF NOT COVERED WITH AN IMPERMEABLE SURFACE

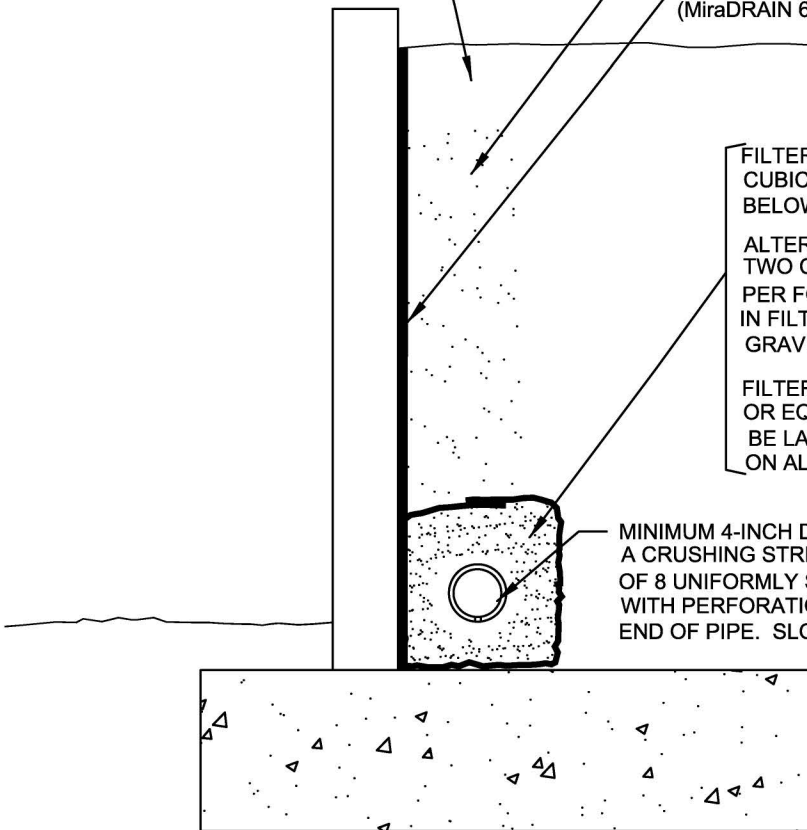
MINIMUM ONE FOOT WIDE LAYER OF FREE DRAINING MATERIAL (LESS THAN 5% PASSING THE #200 SIEVE) OR PROPERLY INSTALLED PREFABRICATED DRAINAGE COMPOSITE (MiraDRAIN 6000 OR APPROVED EQUIVALENT).

FILTER MATERIAL - MINIMUM OF TWO CUBIC FEET PER FOOT OF PIPE. SEE BELOW FOR FILTER MATERIAL SPECIFICATION.

ALTERNATIVE: IN LIEU OF FILTER MATERIAL TWO CUBIC FEET OF GRAVEL PER FOOT OF PIPE MAY BE ENCASED IN FILTER FABRIC. SEE BELOW FOR GRAVEL SPECIFICATION.

FILTER FABRIC SHALL BE MIRAFAI 140 OR EQUIVALENT. FILTER FABRIC SHALL BE LAPPED A MINIMUM OF 6 INCHES ON ALL JOINTS.

MINIMUM 4-INCH DIAMETER PVC SCH 40 OR ABS CLASS SDR 35 WITH A CRUSHING STRENGTH OF AT LEAST 1,000 POUNDS, WITH A MINIMUM OF 8 UNIFORMLY SPACED PERFORATIONS PER FOOT OF PIPE INSTALLED WITH PERFORATIONS ON BOTTOM OF PIPE. PROVIDE CAP AT UPSTREAM END OF PIPE. SLOPE AT 2 PERCENT TO OUTLET PIPE.



"FILTER MATERIAL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT: (CONFORMS TO EMA STD. PLAN 323)

SIEVE SIZE	PERCENTAGE PASSING
1"	100
3/4"	90-100
3/8"	40-100
NO. 4	25-40
NO. 8	18-33
NO. 30	5-15
NO. 50	0-7
NO. 200	0-3

"GRAVEL" TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUIVALENT:

SIEVE SIZE	MAXIMUM PERCENTAGE PASSING
1 1/2"	100
NO. 4	50
NO. 200	8
SAND EQUIVALENT = MINIMUM OF 50	

**RETAINING WALL BACKDRAINS  
GRADING GUIDE SPECIFICATIONS**

NOT TO SCALE

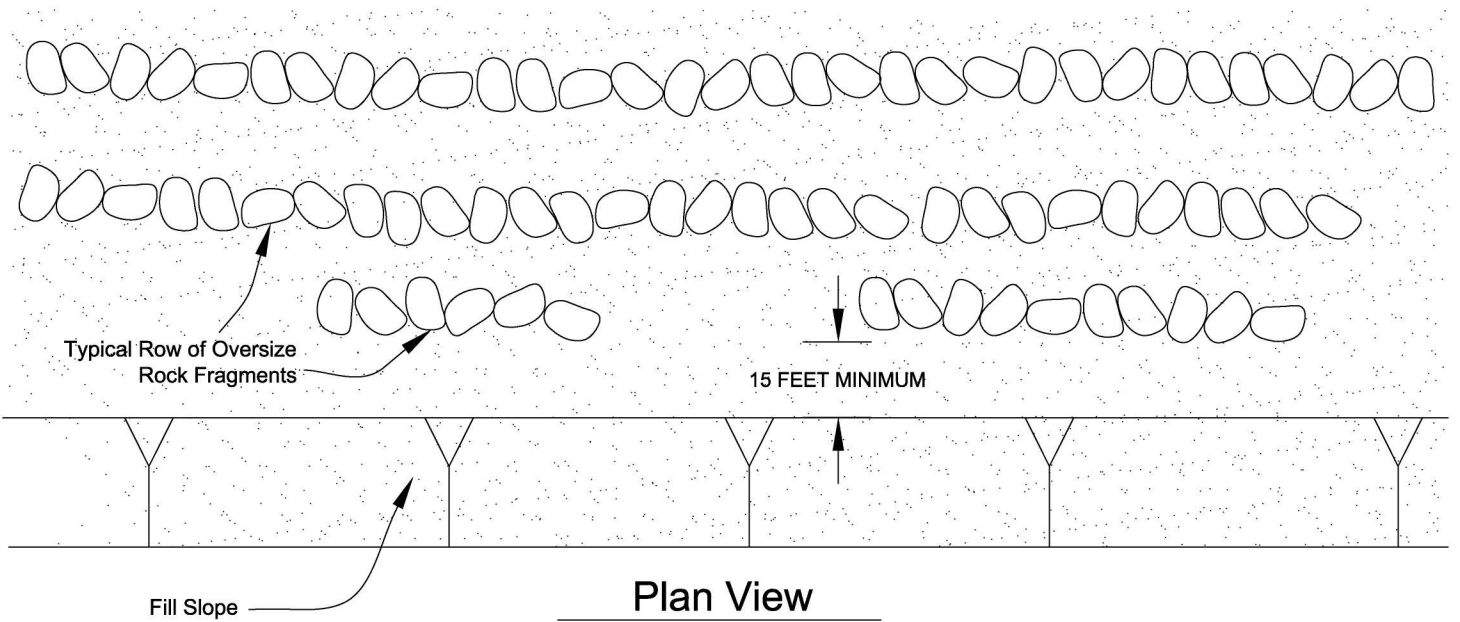
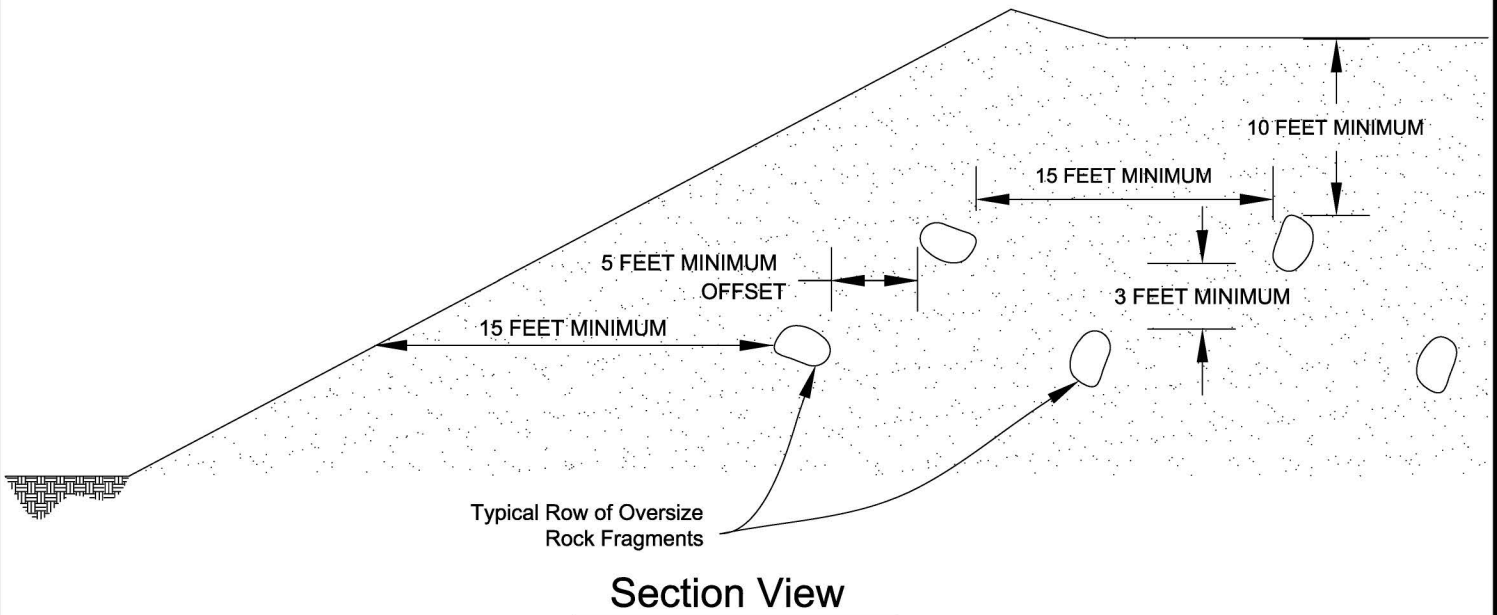
DRAWN: JAS  
CHKD: GKM

PLATE D-7



**SOUTHERN  
CALIFORNIA  
GEOTECHNICAL**





**PLACEMENT OF OVERSIZED MATERIAL  
GRADING GUIDE SPECIFICATIONS**

NOT TO SCALE

DRAWN: PM  
CHKD: GKM

PLATE D-8

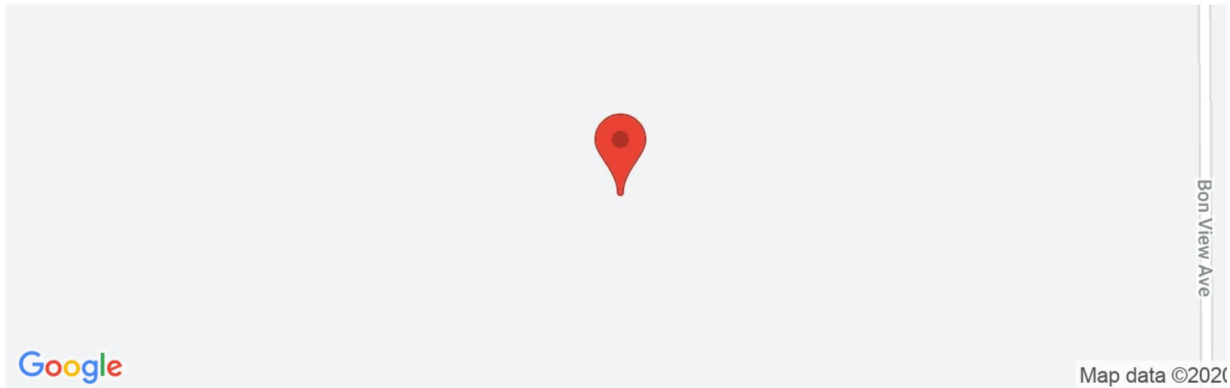


**SOUTHERN  
CALIFORNIA  
GEOTECHNICAL**

# APPENDIX E



Latitude, Longitude: 33.987111, -117.643240



Date	1/16/2020, 3:28:29 PM
Design Code Reference Document	ASCE7-16
Risk Category	III
Site Class	D - Stiff Soil

Type	Value	Description
$S_S$	1.668	$MCE_R$ ground motion. (for 0.2 second period)
$S_1$	0.597	$MCE_R$ ground motion. (for 1.0s period)
$S_{MS}$	1.668	Site-modified spectral acceleration value
$S_{M1}$	null -See Section 11.4.8	Site-modified spectral acceleration value
$S_{DS}$	1.112	Numeric seismic design value at 0.2 second SA
$S_{D1}$	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
$F_a$	1	Site amplification factor at 0.2 second
$F_v$	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.695	$MCE_G$ peak ground acceleration
$F_{PGA}$	1.1	Site amplification factor at PGA
$PGA_M$	0.764	Site modified peak ground acceleration
$T_L$	8	Long-period transition period in seconds
$S_{sRT}$	1.668	Probabilistic risk-targeted ground motion. (0.2 second)
$S_{sUH}$	1.791	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
$S_{sD}$	1.715	Factored deterministic acceleration value. (0.2 second)
$S_{1RT}$	0.597	Probabilistic risk-targeted ground motion. (1.0 second)
$S_{1UH}$	0.652	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
$S_{1D}$	0.6	Factored deterministic acceleration value. (1.0 second)
$PGA_d$	0.696	Factored deterministic acceleration value. (Peak Ground Acceleration)
$C_{RS}$	0.931	Mapped value of the risk coefficient at short periods
$C_{R1}$	0.915	Mapped value of the risk coefficient at a period of 1 s

SOURCE: SEAOC/OSHPD Seismic Design Maps Tool  
<https://seismicmaps.org/>



<b>SEISMIC DESIGN PARAMETERS - 2019 CBC</b>	
PROPOSED COMMERCIAL/INDUSTRIAL BUILDING	
ONTARIO, CALIFORNIA	
DRAWN: JAH CHKD: RGT SCG PROJECT 19G248-1 <b>PLATE E-1</b>	 <b>SOUTHERN CALIFORNIA GEOTECHNICAL</b>



**APPENDIX F**  
**PHASE I ENVIRONMENTAL SITE ASSESSMENT**



# CITADEL EHS

assess resolve strengthen

January 10, 2020

Robert Chute  
**LIT-ACQUISITIONS, LLC**  
**C/O ENVIRONMENTAL ASSET SERVICES, INC.**  
3501 Jamboree Road, Suite 230  
Newport Beach, California 92660

**Re: CITADEL Project No. 0611.1079.0**  
**Phase I Environmental Site Assessment Report**  
**James Borba Dairy / GH Dairy No. 2**  
**7475 Eucalyptus Avenue**  
**Ontario, California 91762**

Dear Mr. Chute:

Enclosed please find Citadel EHS' Phase I Environmental Site Assessment Report for the above-referenced location.

The Phase I Environmental Site Assessment Report was conducted LIT-Acquisitions, LLC c/o Environmental Asset Services, Inc., in accordance with Citadel's Proposal 0611.1079.P, dated December 6, 2019, and a mutually agreed upon scope of work.

If after your review, you have any questions or require additional information, please do not hesitate to telephone me at the Citadel Office in Glendale at (818) 246-2707.

Sincerely,  
**CITADEL EHS**

Mark Drollinger, M.Eng., CSP, CHMM, EIT  
Principal, Engineering and Environmental Sciences

Enclosure



**CITADEL EHS**

assess resolve strengthen

**LIT-Acquisitions, LLC**  
**c/o Environmental Asset Services, Inc.**  
3501 Jamboree Road, Suite 230  
Newport Beach, California 92660

## **Phase I Environmental Site Assessment Report**

January 10, 2020

Citadel Project Number 0611.1079.0

James Borba Dairy / GH Dairy No. 2  
7475 Eucalyptus Avenue  
Ontario, California 91762

**[www.citadelenvironmental.com](http://www.citadelenvironmental.com)**

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- F** EDR City Directory Abstract
- G** Client-Supplied Documents
- H** EDR Historical Topo Map Report
- I** EDR Environmental Lien and AUL Search
- J** EDR Radius Map Report
- K** EDR Vapor Encroachment Screen

## EXECUTIVE SUMMARY

### Project Summary

<b>Client Name/User:</b>	LIT-Acquisitions, LLC	<b>Property Visit Date:</b>	January 2, 2020
<b>Client Contact:</b>	Robert Chute	<b>Construction Date:</b>	Between 1975 and 1981
<b>Phone Number:</b>	(949) 477-4766	<b>No. Buildings/No. Units:</b>	Two residences; one dairy barn; a detached garage; 12 storage sheds; and 13 canopies/sheds associated with corrals
<b>Email Address:</b>	rchute@envassetsvs.com	<b>No. of Stories:</b>	One
<b>Property Name:</b>	James Borba Dairy / GH Dairy No. 2	<b>Bldg. Square Footage:</b>	Not provided
<b>Property Address:</b>	7475 Eucalyptus Avenue	<b>Property Acreage:</b>	74.5 acres
<b>Property City, State, Zip:</b>	Ontario, California 91762	<b>Property Use:</b>	Agricultural, dairy farm, and residences
<b>Property Identification:</b>	1054-031-01-0000; 1054-031-02-0000; 1054-041-01-0000; 1054-041-02-0000; 1054-261-01-0000; 1054-261-02-0000; 1054-291-01-0000; and 1054-291-02-0000	<b>Property History:</b>	Undeveloped land, agricultural, dairy farm, and residences
<b>Other Improvements:</b>	Retention pond and irrigated cropland		

### SUMMARY OF FINDINGS

Report Section	No Further Action	REC	HREC	CREC	Non-ASTM Scope	Recommended Action
2.2 Site Description		X			X	Remove Water Well, Conduct a Limited Phase II of Pond Sediments
2.3 Adjacent Properties	X	X				
5.0 Historical Review	X					
5.6 Previous Reports	X					
6.1 Regulatory Review		X				Review SBCFD Files, Remove UST
6.2 Vapor Encroachment	X					
4.1 USTs/ASTs		X				Remove Impacted Soil, Soil Management Plan
4.2 Chemicals/Hazardous Materials/Raw Materials	X					
4.3 ACMs/ACCMs					X	ACM Survey
4.4 Lead-Based Paint					X	LBP Survey
4.5 PCBs	X					
4.12 Radon	X					

Citadel EHS (Citadel) was contracted by LIT-Acquisitions, LLC (Client) to perform a Phase I Environmental Site Assessment (Phase I ESA) for the James Borba Dairy / GH Dairy No. 2 located at 7475 Eucalyptus Avenue in the City of Ontario, San Bernardino County, California; hereinafter referred to as the "Site."

## Current Site Conditions

The Site consists of two single-family residential structures with a dairy barn located between the residences; a detached garage; a dry grain/feed storage shed; an equipment storage shed; approximately 10 hay storage sheds; and approximately 13 canopies/sheds associated with the corrals for the housing of the cattle. A retention pond is located south of the corrals. The retention pond collects surface wastes from across the Site, as well as provides a potential dumping area for other dairy and animal-related wastes. The remaining areas of the Site appear as irrigated cropland. At the time of the Site reconnaissance, the Site was occupied by GH Dairy No. 2. A low-lying part of the cropland was observed in the southwest corner of the Site during the Site reconnaissance. Due to recent rain events, this low-lying area appeared to be a retention pond. However, according to the Site representative, this area is typically empty and dry about 80 to 90 percent of the time and water is pumped out after rain events.

The following provides the Assessor Parcel Numbers (APNs), associated addresses and brief description of the parcels associated with the Site:

APN (PARCEL)	ASSOCIATED ADDRESSES	DESCRIPTION
1054-041-01-0000 (Parcel A)	None	Parcel A is approximately 9.03 acres in size and is located in the northwest corner of the Site. The parcel consists of irrigated cropland and several corrals.
1054-041-02-0000 (Parcel B)	7417 and 7475 Eucalyptus Avenue	Parcel B is approximately 9.15 acres in size and is located in the northeast corner of the Site, east of Parcel A. The parcel consists of two single-family residences with attached garages; a detached garage; a dairy barn with silos and tanks for storage of milk and water, respectively; several corrals; and associated landscaping.
1054-031-01-0000 (Parcel C)	None	Parcel C is approximately 9.54 acres in size and is located along the west boundary of the Site, south of Parcel A. The parcel consists of irrigated cropland and several corrals.
1054-031-02-0000 (Parcel D)	None	Parcel D is approximately 9.59 acres in size and is located along the east boundary of the Site, south of Parcel B. The parcel consists of hay storage sheds and several corrals.
1054-261-01-0000 (Parcel E)	None	Parcel E is approximately 9.54 acres in size and is located along the west boundary of the Site, south of Parcel C. The parcel consists of irrigated cropland, hay and equipment storage sheds, and several corrals.
1054-261-02-0000 (Parcel F)	None	Parcel F is approximately 9.59 acres in size and is located along the east boundary of the Site, south of Parcel D. The parcel consists of irrigated cropland; hay and feed storage sheds and areas; two 1,000-gallon aboveground storage tanks (ASTs); a retention pond; and several corrals.
1054-291-01-0000 (Parcel G)	None	Parcel G is approximately 9.03 acres in size and is located in the southwest corner of the Site and south of Parcel E. The parcel consists of irrigated cropland. The low-lying part of the cropland is located in the southwest corner of the parcel.
1054-291-02-0000 (Parcel H)	None	Parcel H is approximately 9.14 acres in size and is located in the southeast corner of the Site and south of Parcel F. The parcel consists of irrigated cropland.

Equipment throughout the Site include ASTs for storage of diesel, grain/feed, and water; one potable water well; milking machines and pumping system; silos for storage of milk; air compressors; boilers; and pole-mounted transformers. In general, the Site appeared to be well maintained and the building/ground conditions appeared to be in good condition.

## Site History

A review of historical sources showed that the Site was generally agricultural/undeveloped as early as 1902. Eucalyptus Avenue and Merrill Avenue appeared developed by 1902. The Site remained generally agricultural until at least 1981 with the development of the current dairy farm.

Properties in the vicinity appeared generally undeveloped in 1902:

- Properties north of the Site appeared developed with an orchard by 1938. The two current residences appear developed by 1966. The properties north of the Site appeared in their current configuration by 1994 with the development of a retention pond.
- Properties east of the Site appeared generally agricultural until the development of the current dairy barn and associated structures by 1975. Additional canopies were completed by 1987 and by 2009.
- Properties west of the Site appeared generally agricultural until the development of a small structure, likely a residence or farm-related, along Eucalyptus Avenue by 1975. The current dairy barn appeared developed by 1987.
- Properties south of the Site appeared developed with hangars along with a large exterior plane storage/parking area by 1946—these were likely occupied by Cal-Aero Primary School and Cal-Aero Flight Academy. By 1973, this area was occupied as part of the Chino Airport. Several of the hangars were demolished by 1975.

## Environmental Database

The Site was identified on the following environmental databases: HIST UST, SWEEPS UST, CA FID UST, UST, WDS, CERS, CERS HAZ WASTE, FINDS, CIWQS, ENF, and San Bern. Co. Permit.

The Site was identified on the historical underground storage tank (UST) databases under Ted Miller Dairy. According to information provided by EDR, a 6,000-gallon UST was located at the Site. No further information was provided. The Site was also identified on the current UST database under AG-Borba, Joe. No further information was provided.

The Site was identified on the Facility Index System/Facility Registry System (FINDS) database. FINDS contains facility information and “pointers” to other sources. The Site was identified on this database due to the following references:

- California Enviroview – California Integrated Water Quality System (CIWQS) database for confined animal feeding operations;
- California Enviroview – California Environmental Reporting System (CERS) as a Risk Management Plan (RMP) reporter; and
- National Pollutant Discharge Elimination System (NPDES) – Compliance Information System (ICIS) for concentrated animal feeding operation and NPDES permit.

The Site was identified on the Waste Discharge System (WDS) database as an agricultural facility with designated/influent or solid wastes that pose a significant threat to water quality (dairy waste ponds). The Site was listed on the Water Board Enforcement Action Listings (ENF) for a notice of violation, issued on January 30, 2009, for failure to submit the 2008 annual report on time.

The Site was also identified on the San Bernardino County Permit database with an active hazardous materials (four to 10 chemicals) permit and on CERS as a chemical storage facility. Evaluations by regulatory agencies have been performed since 1987. No violations have been reported with the exception of violations identified in 2008, 2009, 2013, and 2016. The violations issued in 2016 were related to business plans submittals; returned to compliance in August 2017.



No information was provided concerning the remaining violations; however, the violations were listed as historical.

The appearance of the Site on the historic and current UST databases may be an environmental concern. No further information was provided regarding the status of the UST.

Citadel reviewed information provided by EDR regarding nearby properties to evaluate for potential on-Site vapor encroachment concerns from off-site sources. According to EDR, no historical releases of petroleum products from a LUST occurred within 0.25-mile and upgradient of the Site. There are no properties within 0.125-mile and upgradient or cross-gradient of the Site that are listed on the Historical Gas Station and Dry Cleaners databases. However, the Chino Airport property is located south of the Site and was identified as occupied by Flite Craft from as early as 1986 as an aircraft and heavy equipment repair services. This property will be further discussed in the Regulatory Agencies section below.

### Regulatory Agencies

The GeoTracker Database is the California State Water Resources Control Board's (SWRCB) Internet-accessible database system used by the SWRCB, regional boards, and local agencies to track and archive compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from underground storage tanks. The Site was not identified in the database. According to GeoTracker, the nearest Cleanup Program Site (CPS) is the Chino Airport (Airport), located at 7000 Merrill Avenue, located south of the Site. The primary chemicals of concern (COCs) in the groundwater at this CPS include trichloroethene (TCE); 1,2,3-trichloropropane (1,2,3-TCP); cis-1,2-dichloroethane; and 1,1-dichloroethene.

According to the Semiannual Groundwater Monitoring Report, dated March 19, 2019, and prepared by Tetra Tech, portions of the Airport have functioned as an airfield since the early 1940s. Since the 1960s, the County of San Bernardino has operated the Airport as a public airport for commercial, industrial, and general aviation use. Past and present uses include a flight academy; aircraft sales and storage; modification of military aircraft; various manufacturing; crop dusting; aircraft restoration; maintenance repair shops; aircraft painting, stripping, and washing; fire retardant chemical mixing and loading; US Forest Service aircraft maintenance and operations; and aircraft museums. According to the report, three areas of concern (AOCs) were identified. These AOCs are located approximately 350 feet south of the Site; 675 feet south-southwest of the Site; and 900 feet southeast of the Site. Based on the drawing depicting the TCE and 1,2,3-TCP groundwater plumes, the TCE plume is approximately 300 feet south of the Site. The nearest monitoring well, CAMW1, is located approximately 60 feet south of the Site and designated as an upgradient background well. Local groundwater flow direction was estimated toward the southeast and southwest. According to the report, no COCs have been detected in the background well to date. Based on the reviewed data, this CPS is not expected to be a significant environmental concern to the Site. However, due to the emerging contaminants of per- and polyfluoroalkyl substances (PFAS) including perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), the proximity of the Airport to the Site may be a future environmental concern. No records were found for the sampling of PFAS compounds at this time; however, this may be requested and included in future groundwater monitoring events.

### RECOGNIZED ENVIRONMENTAL CONDITIONS

According to American Society for Testing and Materials (ASTM) Standard of Practice E1527-13, REC fall under three specific categories when evaluating a site or properties within the site vicinity. These categories are defined below.

A recognized environmental condition, or REC, means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions.

A controlled REC, or CREC, is a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

An historical REC, or HREC, is a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

According to ASTM E2600-15, the goal of conducting a vapor encroachment screening on a parcel of property is to identify a vapor encroachment condition (VEC), which is the presence or likely presence of chemicals of concern vapors in the subsurface of the target property caused by the release of vapors from contaminated soil or groundwater or both either on or near the target property as identified by Tier 1 or Tier 2 procedures. The purpose of Tier 1 is to conduct a screen using Phase I ESA-type information to determine if a VEC exists at the target property. If the Tier 1 screen cannot rule out the possibility of a VEC existing at the target property, then a Tier 2 screen can be conducted. Tier 2 applies numeric screening criteria to existing or newly collected soil, soil gas, and/or groundwater testing results to evaluate whether a VEC can be ruled out. Tier 2 has two data collective components: non-invasive and invasive.

Based on our review of these databases, reported release incidents that would represent RECs in connection with the Site or a source of a release that would be likely to contribute to a VEC were identified. Citadel identified the following environmental concerns:

- The Site was identified on the historical and current UST databases for a 6,000-gallon diesel UST. Mr. Hein Hettinga had no knowledge of any on-Site USTs. Citadel submitted a request to the San Bernardino County Fire Department (SBCFD) for further information; however, SBCFD has not yet responded to the request. The UST represents a REC. Citadel recommends reviewing available files at the SBCFD. If the UST has not yet been removed, Citadel recommends the proper removal of the UST and a subsurface investigation to determine if the UST had impacted the subsurface.
- During the Site reconnaissance, two elevated ASTs were observed at the Site. The elevated ASTs were located on a gravel surface. No secondary containment was observed under the ASTs. Some staining was observed beneath the ASTs. The observed staining by the ASTs represent a REC; however, the staining would likely be localized to this area. Citadel recommends the removal of the ASTs prior to Site redevelopment and preparation of a soil management plan to manage the stained soils during redevelopment.
- The retention ponds collect surface wastes from across the Site, as well as provide a potential dumping area for other dairy and animal-related wastes. Due to the potential for chemical constituents to accumulate in the ponds and become trapped in the sediment, Citadel recommends conducting a limited subsurface assessment of the sediments after the ponds have been drained to evaluate the sediments for chemical risks to human health and the environment.

- The Airport may be considered an off-Site REC due to its role as an emergent chemical of concern.

No evidence for designating the Site as a HREC or CREC from reviews of historical documents and present Site conditions was found.

## NON-ASTM SCOPE CONSIDERATIONS

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The current Site building was constructed prior to bans using asbestos-containing building materials (ACBMs), lead-based paint (LBP), and polychlorinated biphenyls (PCBs) in electrical equipment came into effect in 1989, 1978, and 1978, respectively. No testing is known to have been performed to evaluate for the presence of ACBMs or PCBs at the Site.

The California Bureau of Mines and Geology and California Department of Public Health (CADPH) participated in the United States EPA's State Radon Survey, a Federal survey to measure levels of indoor radon in all states. Based on the results of this survey, CADPH predicted that approximately 0.5% of homes in Region 9 would have radon concentrations over the EPA action level of 4.0 picoCuries per liter (pCi/L).

The Federal EPA Radon Zone for San Bernardino County is Zone 2, which indicates an average indoor concentration greater than or equal to 2.0 pCi/L of air and less than or equal to 4.0 pCi/L. In a survey, 14 tests were conducted within the 91710 zip code for the presence of radon. Of these, none was found to contain radon in excess of the EPA's action level of 4.0 pCi/L.

One potable well was observed on-Site. Per FEMA Flood Insurance Rate Map No. number 06071C9335H, the Site and adjacent properties are located within areas in which flood hazards are undetermined but possible (Zone D). According to the NWI database, wetland areas are located within the Site.

## ESA SHELF LIFE

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**Date of ESA Report:** January 10, 2020

**Date of Site Inspection:** January 2, 2020

**Date Interview was performed:** January 2, 2020

**Date Records Review was performed:** January 2, 2020

**Date Lien Search was performed:** December 20, 2019

## 1.0 INTRODUCTION

Citadel EHS (Citadel) was contracted by LIT-Acquisitions, LLC (Client) to perform a Phase I Environmental Site Assessment (Phase I ESA) for the James Borba Dairy / GH Dairy No. 2 located at 7475 Eucalyptus Avenue in the City of Ontario, San Bernardino County, California; hereinafter referred to as the "Site."

### 1.1 PURPOSE

The purpose of the Phase I ESA was to review past and present land use practices and to evaluate the presence, or likely presence, of any hazardous substances or petroleum products that have been discharged into the property's structure, ground, groundwater, or surface water. This qualitative assessment was accomplished by review of current and readily available information regarding past and current land use for indications of the manufacture, generation, use, storage and/or disposal of hazardous substances at the Site. A Site visit was also conducted to observe existing Site conditions. This report provides the results of the Phase I ESA performed.

### 1.2 INVOLVED PARTIES

The involved party(s) in this study, to the best of our knowledge, is LIT-Acquisitions, LLC.

Citadel understands that this Phase I ESA is being requested in conjunction with due diligence activities by LIT-Acquisitions, LLC. Citadel recognizes that this report is to be used exclusively by LIT-Acquisitions, LLC and its lenders, and assigns. It is a report upon which LIT-Acquisitions, LLC and its lenders, and assigns, can rely.

This assessment and report were prepared on behalf of and for the exclusive use of LIT-Acquisitions, LLC, their lenders, and assigns solely for its use and reliance, subject to the terms and conditions agreed upon between Citadel and the Client.

### 1.3 SCOPE OF SERVICES

This Phase I ESA was conducted in accordance with the American Society for Testing and Materials (ASTM) Standard of Practice E1527-13 and the standards of care and diligence normally practiced by recognized consulting firms in performing services of a similar nature.

The scope of services for this assessment consisted of the following:

- Δ Performed a Site inspection to verify current Site conditions, and check for visible evidence of previously disposed and/or currently present hazardous waste, surface contamination, underground and above ground storage tanks (USTs/ASTs), suspect polychlorinated biphenyls (PCBs), and other potential environmental hazards.
- Δ Conducted a visual survey of the adjacent properties and the immediate vicinity to determine if any nearby sites posed a significant environmental threat to the Site.
- Δ Reviewed currently and readily available documents, including maps, aerial photographs, governmental databases of known hazardous waste sites and underground tanks, other consultant reports (if any), fire insurance maps, and other accessible records.

- Δ Reviewed results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.
- Δ Consulted with appropriate governmental agencies having jurisdiction relative to the past history of the property, complaints or incidents in the immediate area, and permits that may have been issued.
- Δ Prepared a Phase I report, inclusive of our findings and recommendations, with applicable illustrations and documentation.

The scope of services outlined above is generally considered sufficient to properly assess the Site based on the data search, reasonably ascertainable documents, and Site inspection.

## 2.0 GENERAL SITE CHARACTERISTICS

### 2.1 LOCATION

The rectangular-shaped Site is located approximately 2.75 miles south of the California State Route 60 (SR 60) Freeway, locally referred to as the Pomona Freeway; and 2.4 miles northwest of the State Route 71 (SR 71) Freeway, locally referred to as the Chino Valley Freeway. The Site is bounded by Eucalyptus Avenue to the north, dairy farms to the east and west, and Merrill Avenue to the south. The general Site vicinity is occupied by dairy farms and agricultural properties. Chino Airport is located south of the Site.

According to the U.S. Geological Survey (USGS) Prado Dam Quadrangle (7.5 Minute Series), dated 2012, the Site is at an elevation of approximately 654 feet above mean sea level (AMSL) and appears to slope to the south-southwest. The Site is located at approximate coordinates of 33° 59' 12.21" North Latitude and 117° 38' 35.69" West Longitude.

A Site Location Map identified as Figure 1 is included in Appendix A.

### 2.2 SITE DESCRIPTION

According to the County of San Bernardino Assessor's Parcel Maps, the Site is comprised of eight parcels, encompassing approximately 74.5 acres of land. The parcels are legally identified as Assessor's Parcel Numbers (APNs) 1054-041-01-0000; 1054-041-02-0000; 1054-031-01-0000; 1054-031-02-0000; 1054-261-01-0000; 1054-261-02-0000; 1054-291-01-0000; and 1054-291-02-0000.

The Site consists of two single-family residential structures with a dairy barn located between the residences; a detached garage; a dry grain/feed storage shed; an equipment storage shed; approximately 10 hay storage sheds; and approximately 13 canopies/sheds associated with the corrals for the housing of the cattle. A retention pond is located south of the corrals. The retention pond collect surface wastes from across the Site, as well as provide a potential dumping area for other dairy and animal-related wastes. The remaining areas of the Site appear as irrigated cropland. Berms are located along the perimeter of the Site. At the time of the Site reconnaissance, the Site was occupied by GH Dairy No. 2. A low-lying part of the cropland was observed in the southwest corner of the Site during the Site reconnaissance. Due to recent rain events, this low-lying area appeared to be a retention pond. However, according to the Site

representative, this area is typically empty and dry about 80 to 90 percent of the time and water is pumped out after rain events.

The following provides the APNs, associated addresses and brief description of the parcels associated with the Site:

APN (PARCEL)	ASSOCIATED ADDRESSES	DESCRIPTION
1054-041-01-0000 (Parcel A)	None	Parcel A is approximately 9.03 acres in size and is located in the northwest corner of the Site. The parcel consists of irrigated cropland and several corrals.
1054-041-02-0000 (Parcel B)	7417 and 7475 Eucalyptus Avenue	Parcel B is approximately 9.15 acres in size and is located in the northeast corner of the Site, east of Parcel A. The parcel consists of two single-family residences with attached garages; a detached garage; a dairy barn with silos and tanks for storage of milk and water, respectively; several corrals; and associated landscaping.
1054-031-01-0000 (Parcel C)	None	Parcel C is approximately 9.54 acres in size and is located along the west boundary of the Site, south of Parcel A. The parcel consists of irrigated cropland and several corrals.
1054-031-02-0000 (Parcel D)	None	Parcel D is approximately 9.59 acres in size and is located along the east boundary of the Site, south of Parcel B. The parcel consists of hay storage sheds and several corrals.
1054-261-01-0000 (Parcel E)	None	Parcel E is approximately 9.54 acres in size and is located along the west boundary of the Site, south of Parcel C. The parcel consists of irrigated cropland, hay and equipment storage sheds, and several corrals.
1054-261-02-0000 (Parcel F)	None)	Parcel F is approximately 9.59 acres in size and is located along the east boundary of the Site, south of Parcel D. The parcel consists of irrigated cropland; hay and feed storage sheds and areas; two 1,000-gallon aboveground storage tanks (ASTs); a retention pond; and several corrals.
1054-291-01-0000 (Parcel G)	None	Parcel G is approximately 9.03 acres in size and is located in the southwest corner of the Site and south of Parcel E. The parcel consists of irrigated cropland. The low-lying part of the cropland is located in the southwest corner of the parcel.
1054-291-02-0000 (Parcel H)	None	Parcel H is approximately 9.14 acres in size and is located in the southeast corner of the Site and south of Parcel F. The parcel consists of irrigated cropland.

Equipment throughout the Site include ASTs for storage of diesel, grain/feed, and water; one potable water well; milking machines and pumping system; silos for storage of milk; air compressors; boilers; and pole-mounted transformers. In general, the Site appeared to be well maintained and the building/ground conditions appeared to be in good condition.

A Site Plan is included as Figure 2 in Appendix A. Select photographs of the Site and vicinity is included as Appendix B.

## 2.3 ADJACENT PROPERTIES

The immediately surrounding properties of the Site consist of the following:



Direction from Site	Address – Tenant/Use
North	7388 and 7511 Eucalyptus Avenue – Single-family residences with irrigated cropland
East	7565 Eucalyptus Avenue – Chino Valley Dairy, a dairy farm
South	7565 Eucalyptus Avenue – Various hangars associated with the Chino Airport
West	7233 Eucalyptus Avenue – Legend Dairy Farm

## 2.4 UTILITIES

Electrical service is supplied to the Site by Southern California Edison. Natural gas is supplied to the Site by The Gas Company. General rubbish (non-hazardous) is removed from the Site on a regular basis by a contracted waste hauler.

## 3.0 ENVIRONMENTAL SETTING

### 3.1 PHYSICAL SITE CHARACTERISTICS

Based upon the National Geodetic Vertical Datum (NGVD) of 1929, the Site is at an elevation of approximately 654 feet AMSL. Regional topography in the area of the Site appears to slope to the south-southwest.

### 3.2 GEOLOGIC CONDITIONS AND SOILS

The Site is mapped on the geologic map of the Yorba Linda and Prado Dam quadrangles, California (Dibblee and Ehrenspeck, 2001) as Holocene aged surficial sediments (Qa) described as undissected alluvial gravel, sand, and silt of valleys and floodplains. The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) National Cooperative Soil Survey identifies the Site soils as Chino series, described as silt loam and somewhat poorly drained with moderate infiltration rates.

### 3.3 GROUNDWATER/HYDROGEOLOGICAL CONDITIONS

The Site is located in the Upper Santa Ana Valley Groundwater Basin, Chino Subbasin (No. 8-2.01) as determined by the Department of Water (DWP, 2004). The subbasin is bounded by the impermeable rocks of the San Gabriel Mountains and the Cucamonga fault to the north; the Rialto-Colton fault to the east; the contact with impermeable rocks forming the Jurupa Mountains and low divides connecting the exposures to the southeast; the contact with impermeable rocks of the Puente Hills and the Chino fault to the south; and the San Jose fault to the west. San Antonio Creek and Cucamonga Creek drain the surface of the subbasin southward to join Santa Ana River.

The water-bearing units include the alluvial-fan deposits from the Holocene age and the interfingering finer, alluvial-fan deposits and coarser, fluvial deposits from the Pleistocene age. Groundwater recharge occurs by direct infiltration or precipitation on the subbasin floor, by infiltration of surface flow, and by underflow of groundwater from adjacent basins. The five recharge facilities include Deer Creek, Day Creek, East Etiwanda, San Sevaine, and Victoria.

Citadel reviewed the GeoTracker database of sites that have had releases of fuels, solvents, or other material into the soil and groundwater to obtain information regarding depth to first ground water in the Site vicinity. This database is maintained by the California Regional Water Quality

Control Board. Information was obtained from this database for the Chino Airport, located at 7000 Merrill Avenue, approximately 60 feet south of the Site. According to the Semiannual Groundwater Monitoring Report, Summer and Fall 2018, prepared by Tetra Tech and dated March 2019, depth to groundwater at the nearest monitoring, CAMW1, located approximately 85 feet south of the Site was measured at 63.71 feet below ground surface (bgs) on October 17, 2018. Local groundwater flow direction was estimated toward the southeast and southwest.

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### 3.4 WETLANDS AND FLOOD ZONE

Citadel reviewed information for the presence of wetlands and flood zone areas at the Site and within ½-mile from the Site. Information from the National Wetlands Inventory (NWI) database is provided by the United States Fish and Wildlife Service, and Flood Insurance Rate Map (FIRM) is published by the Federal Emergency Management Agency (FEMA).

Based on information obtained and reviewed by Citadel:

- According to the NWI database, a freshwater pond of 0.43 acre is located in the location of the retention pond. The identified wetland is classified as PUBFx, which is described as a Palustrine System and Unconsolidated Bottom Class that is semipermanently flooded and excavated.
- Per FEMA Flood Insurance Rate Map No. number 06071C9335H, the Site and adjacent properties are located within areas in which flood hazards are undetermined but possible (Zone D).

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## 4.0 SITE RECONNAISSANCE

Citadel representative Ms. Shirley Lee conducted the Phase I ESA reconnaissance on January 2, 2020. Ms. Lee was accompanied by Mr. Hein Hettinga, son of the owner of GH Dairy No. 2. The Site reconnaissance consisted of an inspection of the Site and a perimeter survey of the surrounding properties. Findings from the Site inspection, research and perimeter survey are presented below.

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### 4.1 ON-SITE STORAGE TANKS

The following ASTs were observed during the Site reconnaissance:

- Two 1,000-gallon diesel elevated ASTs to fuel tractors and equipment;
- One approximately 100-gallon diesel generator belly tank;
- One 7,000-gallon and one 12,000-gallon silos to store fresh milk;
- One 1,000-gallon tank to store overflow of fresh milk;
- One 3,000-gallon and two 4,000-gallon tanks/silos to store liquid feed; and
- Two 8,000-gallon water tanks associated with the water well.

At the time of the Site reconnaissance, the elevated ASTs were located on a gravel surface. No secondary containment was observed under the ASTs. Some staining was observed beneath the ASTs, which may be an environmental concern.

No current underground storage of hazardous materials was identified during the Site reconnaissance. However, according to reviewed environmental databases, the Site was



identified on the historical and current UST databases. Mr. Hettinga had no knowledge of any on-site USTs. The former UST may be an environmental concern.

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## 4.2 IDENTIFIED HAZARDOUS MATERIALS

Citadel inspected the Site for current chemical and hazardous waste storage and handling practices. Citadel observed limited quantities of hazardous materials used throughout the Site for equipment and building maintenance purposes. In addition to the limited quantities of hazardous materials used for equipment and building maintenance, the following hazardous materials were observed at the dairy barn:

- Two 55-gallon containers of Io-Shield, an iodine barrier teat dip;
- Two 55-gallon containers of Mandate, a CIP acid sanitizer for dairy and food processing equipment;
- Two 55-gallon containers of HD PL-10 Plus, an acid cleaner;
- Two 30-gallon containers Dyne, a pipeline detergent-germicide for dairy;
- Three 55-gallon containers of Multi-chlor, a sodium hypochlorite solution; and
- One 55-gallon container of Clean Max, a chlorinated alkaline cleaner.

No secondary containment was observed beneath the drums. The hazardous materials observed at the Site are not expected to represent a significant environmental concern.

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## 4.3 ASBESTOS CONTAINING MATERIALS

The EPA issued a final rule under Section 6 of Toxic Substances Control Act (TSCA) banning most asbestos-containing building materials (ACBMs) in 1989. The ban on ACBMs was vacated in 1991 allowing some building materials to continue to contain asbestos. The applicability of the EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Chapter 61, Subpart M) apply to the owner or operator of a facility where an inspection for the presence of asbestos-containing materials (ACM), including Category I (asbestos containing packings, gaskets, resilient floor coverings and asphalt roofing products), and Category II (all remaining types of non-friable asbestos containing material not included in Category I that when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure), non-friable ACM must occur prior to the commencement of demolition or renovation activities.

Based on the estimated construction year for the Site buildings, asbestos-containing building materials (ACBMs) were likely used in the construction of the Site buildings. A survey for ACMs was not conducted as part of this Phase I ESA.

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## 4.4 LEAD PAINTS

Lead-based paint (LBP) is defined as any paint, varnish, stain, or other applied coating that has greater than or equal to one milligram per square centimeter ( $\text{mg}/\text{cm}^2$ ) (5,000 microgram per gram ( $\mu\text{g}/\text{g}$ ) or 5,000 parts per million (ppm)) of lead by federal guidelines; state and local definitions may differ from the federal definitions in amounts ranging from  $0.5 \text{ mg}/\text{cm}^2$  to  $2.0 \text{ mg}/\text{cm}^2$ . The US Consumer Product Safety Commission (16 Code of Federal Regulations CFR 1303) banned paint containing more than 0.06% lead for residential use in 1978. Buildings built before 1978 are much more likely to have LBP.

Based on the estimated construction year for the Site buildings, lead-based paints were possibly used within the Site buildings. A survey for lead containing materials was not conducted as part of this Phase I ESA.

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#### 4.5 POLYCHLORINATED BIPHENYLS

Typical sources of polychlorinated biphenyls (PCBs) include electrical transformer cooling oils, fluorescent light fixture ballasts and hydraulic oil. In 1976, the U.S. EPA banned the manufacture and sale of PCB-containing transformers. Prior to this date, transformers were frequently filled with a dielectric fluid containing PCB-laden oil. By 1985, the US EPA required that commercial property owners with transformers containing more than 500 parts per million (ppm) PCBs must register the transformer with the local fire department, provide exterior labeling, and remove combustible materials within 16 feet (40 Code of Federal Regulations 761.30: "Fire Rule").

Three pole-mounted transformers were observed throughout the Site. No PCB labels were observed. No staining or leaks were observed from the transformers.

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#### 4.6 RADIOACTIVE MAN-MADE MATERIALS

Many public and private office buildings in the United States have self-luminescent tritium exit signs that contain radioactive materials. While these do not constitute a REC, the exit signs must be properly identified to ensure proper handling and disposal practices. No exit signs were observed during the Site reconnaissance.

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#### 4.7 PITS, PONDS, AND LAGOONS

No pits or lagoons were visually observed during the Site reconnaissance or reported to be historically present at the Site. A retention pond is located south of the corrals at Parcel F. According to Mr. Hettinga, the retention pond is regularly maintained and cleaned annually. The retention ponds collect surface water from across the Site, as well as provide a potential dumping area for other dairy and animal-related wastes.

A low-lying part of the cropland was observed in the southwest corner of the Site during the Site reconnaissance. Due to recent rain events, this low-lying area appeared to be a retention pond. However, according to the Site representative, this area is typically empty and dry about 80 to 90 percent of the time and water is pumped out after rain events.

Floor drains were observed in the cow washing and milking area located at the dairy barn. Wastewater is transported from drains via pipes to the retention pond located south of the corrals.

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#### 4.8 SEPTIC TANKS AND CESSPOOLS

No cesspools were visually observed during the Site reconnaissance or reported to have been historically present on the Site. Evidence a septic tank was observed in the northeast portion of the Site. According to Mr. Hettinga, the septic tank is associated with the dairy barn and that additional septic tanks are located by the residences; however, access to the residences was not provided. While the septic tanks do not represent a significant environmental concern, the septic tanks should be properly disposed during redevelopment.

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#### 4.9 WELLS, CISTERNS, SUMPS AND DRAINS

No cisterns or sumps were visually observed during the Site reconnaissance or reported to have been historically present on the Site. One water well was observed at the Site. According to Mr. Hettinga, the water well provides drinking water to the Site. The water well is not expected to represent a significant environmental concern.

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#### 4.10 WASTEWATER INTERCEPTORS / GREASE INTERCEPTORS

No wastewater or grease interceptors were visually observed during the Site reconnaissance or reported to be historically present at the Site.

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#### 4.11 DRINKING WATER

The on-Site water well is used to supply drinking water for the Site.

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#### 4.12 RADON

The California Bureau of Mines and Geology and California Department of Public Health (CADPH) participated in the United States EPA's State Radon Survey, a Federal survey to measure levels of potential indoor radon in all states. Based on the results of this survey, CADPH predicted that approximately 0.5% of homes in Region 9 would have radon concentrations over the EPA action level of 4.0 picoCuries per liter (pCi/L). Region 9 includes Arizona, California Hawaii, Nevada, Pacific Islands, and 148 Tribal Nations.

The Federal EPA Radon Zone for San Bernardino County is Zone 2, which indicates an average indoor concentration greater than or equal to 2.0 pCi/L of air and less than or equal to 4.0 pCi/L. In a survey, 14 tests were conducted within the 91710 zip code for the presence of radon. Of these, none was found to contain radon in excess of the EPA's action level of 4.0 pCi/L.

Site-specific radon values were not available and were not a part of this ASTM Phase I ESA.

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### 5.0 SITE HISTORY

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The purpose of the records review is to obtain and review reasonably ascertainable/standard sources that will help identify any RECs in connection with the property. Reasonably ascertainable records from standard sources is (1) information that is publicly available, (2) information that is obtainable from its source within reasonable time and cost constraints, and (3) information that is practically reviewable.

Reasonable time and cost means that the information will be provided by the source within 20 calendar days of receiving a written, telephone, or in-person request at no more than a nominal cost intended to cover the source's cost of retrieving and duplicating the information. Information that can only be reviewed by a visit to the source is reasonably ascertainable if the visit is permitted by the source within 20 days of request.

To investigate the history of the Site, Citadel reviewed select historic aerial photographs, building permits, city directories, and Sanborn Fire Insurance Maps provided by Environmental Data Resources Inc. (EDR). In addition, Citadel reviewed client-supplied information, and oil and gas

maps, and Citadel interviewed selected individuals regarding historic Site use. Citadel's reviews of these reports and interviews are discussed below.

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## 5.1 HISTORICAL AERIAL PHOTOGRAPHS

Historical aerial photographs of the Site and vicinity were obtained from EDR to ascertain historical land uses and to identify any evidence of hazardous material generation or storage. Thirteen aerial photographs dating from 1938 to 2016 were reviewed. Below are brief descriptions of observations made from the aerial photographs of the Site and vicinity.

### 1938, 1946, 1948, and 1953 Aerial Photographs

The Site appears agricultural. Eucalyptus Avenue and Merrill Avenue appear developed north and south of the Site, respectively. Properties surrounding the Site appear generally agricultural/undeveloped with the exception of several small structures in the current location of a single-family residence northwest of the Site.

By 1946, properties south of the Site appear developed with rows of structures, likely hangars, along with a large exterior plane storage/parking area. By 1948, the exterior plane storage/parking area appears vacant.

### 1959 Aerial Photograph

The Site and properties to the north and west of the Site appear relatively unchanged. Properties east and south of the Site were not shown on this map.

### 1966 Aerial Photograph

The Site and properties to the east and west of the Site appear relatively unchanged. Properties north of the Site appear developed with the two current residences along Eucalyptus Avenue. Several of the previously identified hangars at the properties south of the Site appear to have been demolished.

### 1975 Aerial Photographs

The Site and properties to the north and west of the Site appear relatively unchanged. A small structure, likely a residence or farm-related, appears developed at the adjoining property west of the Site, along Eucalyptus Avenue. The property east of the Site appear developed with the current dairy barn along with canopies for several corrals.

### 1987, 1989, 1990, 1994, 2006, and 2009 Aerial Photographs

The Site appears developed with the current residences, dairy barn, canopies associated with corrals, and a retention pond. The remaining portions of the Site (west and southeast portions of the Site) appear relatively unchanged. Additional canopies appear developed at the adjoining property east of the Site. In addition, the dairy barns west and northwest of the Site appear developed in their current configuration. Properties north and south of the Site appear relatively unchanged with the exception of the development of additional hangars further southeast of the Site.

By 1994, the properties north of the Site appear relatively unchanged with the exception of the development of a retention pond.

### 2012 and 2016 Aerial Photographs

The Site appears relatively unchanged with the exception of the appearance of an addition retention pond in the southwest corner of the Site. Properties in the vicinity appear relatively unchanged.

Copies of the Aerial Photographs provided by EDR can be found in Appendix C.

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### 5.2 HISTORIC BUILDING PERMITS

EDR provides a listing of building permits for the Site and adjoining properties, if available. Permit information was not available. Citadel contacted the City of Ontario to review building permits. According to the City of Ontario, no permits were associated with the Site addresses. In addition, Citadel contacted the County of San Bernardino for any information regarding building permits. One permit was found for the Site; the residences were re-roofed in 1993. No further information was provided.

A copy of the EDR Building Permit Report and select copies of the reviewed building permits are included as Appendix D.

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### 5.3 HISTORICAL FIRE INSURANCE MAPS

Citadel requested that EDR review its collection of Sanborn Fire Insurance Maps for potential coverage of the Site and vicinity. Sanborn Maps were not available for the Site.

A copy of the EDR Sanborn Insurance Map Report is included as Appendix E.

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### 5.4 HISTORICAL CITY DIRECTORIES

City directories were researched by EDR in order to identify previous Site tenants and/or neighboring properties with a potential for hazardous materials generation and/or storage. EDR researched city directory listings from 1922 through 2014 (non-inclusive) and provided their search results to Citadel for review. The following table summarizes information provided by the city directory search.

<b>7417 EUCALYPTUS AVENUE</b>	
1980, 1985	Ted Miller Dairy
<b>7475 EUCALYPTUS AVENUE</b>	
1990, 1996, 2003	Joe Borba Dairy
2008	Not identified

A copy of the EDR City Directory Abstract is included as Appendix F.

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### 5.5 CLIENT-SUPPLIED ENVIRONMENTAL INFORMATION

Citadel was not provided with any previous environmental documents.

## 5.6 HISTORICAL TOPOGRAPHIC MAPS

Historical topographic maps were provided by EDR in order to identify natural features and changes in development over a long period of time. The topographic maps provides the user with a regional view of changes to the Site and vicinity that other historical databases such as aerial photographs may not provide. EDR provided topographic maps dating from 1902 through 2012 (non-inclusive) for review.

### 1902 (Corona) Topographic Map

A road appears developed in the southwest corner of the Site, traversing in a northwest-southeast trajectory. The road continues across the adjoining parcel to the west. Eucalyptus Avenue and Merrill Avenue appears developed north and south of the Site, respectively. Unidentified road also appears developed east and west of the Site. Nearby properties appear generally undeveloped with the exception of several small structures developed further north of the Site.

### 1933 (Prado) and 1941 (Prado) Topographic Maps

The on-Site road appears to have been removed. The previously identified roads along the east and west boundaries of the Site are no longer shown. The remaining portions of the Site and nearby properties appear relatively unchanged with the exception of two small structures developed northeast and northwest of the Site, along Eucalyptus Avenue.

### 1942 (Corona) Topographic Map

The Site and adjacent properties were not shown on this map.

### 1947 (Corona) Topographic Map

The Site and nearby properties to the east, south, and west appear relatively unchanged. An orchard appears developed north/northeast of the Site. Several small structures, likely residences and/or farm-related, appear developed north and northwest of the Site, along Eucalyptus Avenue.

### 1949 (Prado Dam) and 1950 (Prado Dam) Topographic Maps

The Site and the adjoining properties east and west of the Site appear relatively unchanged. The properties south of the Site appear to be occupied by Cal-Aero Primary School and Cal-Aero Flight Academy (deactivated). Properties north of the Site appear relatively unchanged with the exception that several structures appear to have been demolished.

### 1973 (Prado Dam) Topographic Map

The Site and the adjoining properties east and west of the Site appear relatively unchanged. The two current residences appear developed north of the Site. Properties south of the Site now appear as part of the Chino Airport; an area marked for sewage disposal appears developed approximately 0.65 mile south of the Site. A water tower appears located southeast of the Site.

### 1981 (Prado Dam) Topographic Map

The Site appears developed with six small structures in the northeast portion of the Site, 10 canopies associated with corrals south of these structures, and one small structure southwest of the canopies. The small structures appear to be the current residences and dairy barn, along with additional sheds and canopies. The adjoining property east of the Site appears developed with the current dairy-farm related structures. The adjoining property west of the Site appears developed with a small structure along Eucalyptus Avenue. Properties north and south of the Site appear relatively unchanged.

#### 2012 (Prado Dam) Topographic Map

Structures are not featured on this map.

Copies of the historical topographic maps provided by EDR are included as Appendix H.

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### 5.7 HISTORIC OIL AND GAS MAPS

Citadel reviewed information available on-line through the California Department of Conservation's website. The Division of Oil, Gas & Geothermal Resources (DOGGR) Online Mapping System (DOMS) shows that there are no oil wells within a two-mile radius of the Site.

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### 5.8 INTERVIEWS

Citadel interviewed Mr. Hein Hettinga, son of the owner of GH Dairy No. 2, during the Site reconnaissance. Mr. Hettinga was not aware of any historic or current environmental concerns or hazards at the Site.

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### 5.9 ENVIRONMENTAL LIEN

Citadel contracted with EDR to perform an Environmental Lien Search for the Site. The Environmental Lien Search report reviewed did not identify any current environmental liens or other activity and use limitations (AUL) for the Site. A deed, dated April 7, 2003, was included in the report. The deed granted the Site (identifying all eight APNs) from B&B Dairy LLC to Pacific Commodities LLC.

A copy of the environmental lien and AUL search will be found in Appendix I.

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### 5.10 SUMMARY OF SITE HISTORY

A review of historical sources showed that the Site was generally agricultural/undeveloped as early as 1902. Eucalyptus Avenue and Merrill Avenue appeared developed by 1902. The Site remained generally agricultural until at least 1981 with the development of the current dairy farm.

Properties in the vicinity appeared generally undeveloped in 1902:

- Properties north of the Site appeared developed with an orchard by 1938. The two current residences appear developed by 1966. The properties north of the Site appeared in their current configuration by 1994 with the development of a retention pond.



- Properties east of the Site appeared generally agricultural until the development of the current dairy barn and associated structures by 1975. Additional canopies were completed by 1987 and by 2009.
- Properties west of the Site appeared generally agricultural until the development of a small structure, likely a residence or farm-related, along Eucalyptus Avenue by 1975. The current dairy barn appeared developed by 1987.
- Properties south of the Site appeared developed with hangars along with a large exterior plane storage/parking area by 1946—these were likely occupied by Cal-Aero Primary School and Cal-Aero Flight Academy. By 1973, this area was occupied as part of the Chino Airport. Several of the hangars were demolished by 1975.

## 6.0 REGULATORY AGENCY REVIEW

### 6.1 DATABASE REVIEW

As part of the Phase I ESA, Citadel utilized EDR of Milford, Connecticut, as an information source for regulatory agency database records.

The following summary of the database information is divided into two columns. The first column lists sites as identified and located by EDR within the specified distance of the Site. The second column lists orphan sites, which could not be located by EDR due to incomplete and/or inaccurate address information included in the USEPA/state databases, which Citadel identified as potentially lying within the search distance.

Although locations of the orphan sites are frequently unknown, Citadel attempts to evaluate the potential adverse environmental impact that these facilities may have on the Site. This evaluation consists of reviewing street names in an effort to learn whether the street on which the Site is located lies within the search distance of the subject property, a drive-by view of surrounding properties during the Site visit, and evaluating the Site type and information provided by government agencies. The orphan sites included in the following table are those Citadel identified as potentially located within the identified search distance.

Database	Radius	No. of Plottable Sites	Orphan
National Priorities List	1 mile	0	0
RCRA Corrective Action Treatment/Storage/Disposal (TSD) Facilities (CORRACTS)	1 mile	0	0
Delisted National Priorities List	1 mile	0	0
CERCLIS Sites	½ mile	2	0
CERCLIS No Further Remedial Action Planned (NFRAP) Sites	½ mile	0	0
RCRA Non-Corrective Action TSD Facilities	½ mile	0	0
State/Tribal Voluntary Cleanup Sites	½ mile	0	0
State/Tribal Leaking Registered Storage Tank Sites	½ mile	6	2
State/Tribal Brownfield Sites/CERCLIS Equivalent	1 mile	2	0



Database	Radius	No. of Plottable Sites	Orphan
Historic CORTESE List	½ mile	2	1
State/Tribal Solid Waste Landfill Sites/Facilities	½ mile	2	0
Federal/State/Tribal Engineering Controls Registries	½ mile	0	0
Federal/State/Tribal Institutional Controls Registries	½ mile	0	0
RCRA Large Quantity Generators	¼ mile	1	0
RCRA Small Quantity Generators	¼ mile	7	0
RCRA Non Generators	¼ mile	15	0
State/Tribal Registered Storage Tank Sites	¼ mile	8	0
HIST UST	¼ mile	7	0
CA FID UST	¼ mile	3	1
SWEEPS UST	¼ mile	4	0
Facility Index System (FINDS)	Site	2	0
HAZNET	Site	0	1

A brief discussion of select facilities and their database listings are included following the table. The full report provided by EDR and reviewed by Citadel can be found in Appendix J.

EDR Listing of Adjoining Properties <sup>1</sup>			
Facility Name	Facility Address	Distance From Site	Database Reference
Ted Miller Dairy	7475 Eucalyptus Avenue	Target Property	HIST UST, SWEEPS UST, CA FID UST
AG Borba, Joe	7475 Eucalyptus Avenue	Target Property	UST
Lindsey Borba Dairy	7475 Eucalyptus Avenue	Target Property	WDS
GH Dairy No. 2	7475 Eucalyptus Avenue	Target Property	CERS HAZ WASTE, San Bern. Co. Permit, CERS, FINDS
GH Dairy No. 2	7417 Eucalyptus Avenue	Target Property	CERS, FINDS, ENF, CIWQS
Legend Dairy #1	7233 Eucalyptus Avenue	Adjoining Property – West of Site	San Bern. Co. Permit, CERS
Chino Valley Dairy	7565 Eucalyptus Avenue	Adjoining Property – East of Site	CERS TANK, EMI, ENF, San Bern. Co. Permit, CIWQS, CERS

The Site was identified on the following environmental databases: HIST UST, SWEEPS UST, CA FID UST, UST, WDS, CERS, CERS HAZ WASTE, FINDS, CIWQS, ENF, and San Bern. Co. Permit.

<sup>1</sup> Distance and direction from Site assigned by EDR. Actual distance and direction from the Site boundary may vary.

The Site was identified on the historical UST databases under Ted Miller Dairy. According to information provided by EDR, a 6,000-gallon UST was located at the Site. No further information was provided. The Site was also identified on the current UST database under AG-Borba, Joe. No further information was provided.

The Site was identified on the Facility Index System/Facility Registry System (FINDS) database. FINDS contains facility information and "pointers" to other sources. The Site was identified on this database due to the following references:

- California Enviroview – California Integrated Water Quality System (CIWQS) database for confined animal feeding operations;
- California Enviroview – California Environmental Reporting System (CERS) as a Risk Management Plan (RMP) reporter; and
- National Pollutant Discharge Elimination System (NPDES) – Compliance Information System (ICIS) for concentrated animal feeding operation and NPDES permit.

The Site was identified on the Waste Discharge System (WDS) database as an agricultural facility with designated/influent or solid wastes that pose a significant threat to water quality (dairy waste ponds). The Site was listed on the Water Board Enforcement Action Listings (ENF) for a notice of violation, issued on January 30, 2009, for failure to submit the 2008 annual report on time.

The Site was also identified on the San Bernardino County Permit database with an active hazardous materials (four to 10 chemicals) permit and on CERS as a chemical storage facility. Evaluations by regulatory agencies have been performed since 1987. No violations have been reported with the exception of violations identified in 2008, 2009, 2013, and 2016. The violations issued in 2016 were related to business plans submittals; returned to compliance in August 2017. No information was provided concerning the remaining violations; however, the violations were listed as historical.

The appearance of the Site on the historic and current UST databases may be an environmental concern. No further information was provided regarding the status of the UST.

#### Adjoining Properties

The adjoining property west of the Site was identified on the San Bernardino County Permit with an active hazardous materials (four to 10 chemicals) permit and on CERS as a chemical storage facility. These listings do not represent a significant environmental concern to the Site.

The adjoining property east of the Site was identified on the San Bernardino County Permit with an active hazardous materials (four to 10 chemicals) permit and on CERS as a chemical storage facility with an AST. The AST likely associated with a backup generator. These listings do not represent a significant environmental concern to the Site.

#### Orphan Sites

EDR identified 10 orphan sites in its report and includes two listing in the LUST database; one listing in the HIST CORTESE database (Hazardous Waste and Substances Site List); six listings on the Clandestine Drug Labs (CDLs) database; one listing on a historical UST database; one listing on the HAZNET database. The Site was not identified as an orphan site.

Maps showing the location of these facilities and additional information are provided in the Government Records Report in Appendix J.

## 6.2 VAPOR ENCROACHMENT CONDITION

According to ASTM E2600-15, the goal of conducting a vapor encroachment screening on a parcel of property is to identify a vapor encroachment condition (VEC), which is the presence or likely presence of chemicals of concern vapors in the subsurface of the target property (TP) caused by the release of vapors from contaminated soil or groundwater or both either on or near the target property as identified by Tier 1 or Tier 2 procedures. The purpose of Tier 1 is to conduct a screen using Phase I ESA-type information to determine if a VEC exists at the target property. If the Tier 1 screen cannot rule out the possibility of a VEC existing at the target property, then a Tier 2 screen can be conducted. Tier 2 applies numeric screening criteria to existing or newly collected soil, soil gas, and/or groundwater testing results to evaluate whether or not a VEC can be ruled out. Tier 2 has two data collective components: non-invasive and invasive.

Tier 1 screening begins with the default area of concern (AOC) defined by the approximate minimum search distances adjusted as appropriate for local conditions, and then determining if known or suspected contaminated properties with contaminants of concern (COCs) exist within the established AOC. The default AOC is one third of a mile around the TP for COCs and one-tenth of a mile for petroleum hydrocarbon COCs. The AOC is measured from the TP boundary to a contaminated property with known or suspected COC contamination of soil or groundwater or both. The default AOC may be expanded or reduced by the environmental professional (adjusted AOC) using experience and professional judgment, based on factors like groundwater flow direction, subsurface characteristics, surficial features and man-made features.

If groundwater flow direction is known or can be inferred from the Phase I ESA investigation of the TP, the default AOC in the down-gradient direction may be reduced to the area within the critical distance of 100 feet. The AOC in the cross-gradient direction may also be reduced, depending upon the critical distance and the width of the COC-contaminated plume associated with a known or likely COC-contaminated property located in a cross-gradient direction from the TP. The critical distance is the lineal distance in any direction between the nearest edge of the contaminated plume and the nearest TP boundary, and is equal to 100 feet for COCs or 30 feet for dissolved petroleum hydrocarbon COCs.

For a COC-contaminated property identified in Tier 1 located down-gradient from the TP, it is not necessary to have information on migrating groundwater contaminated plume dimensions as the critical distance is measured from the nearest TP boundary to the source of contamination at the off-site down-gradient property. In this case, the AOC may be reduced to the area within the critical distance.

For a contaminated property identified in Tier 1 located crossgradient from the TP, the AOC will be the area within the critical distance plus one half of a reasonable estimation of the contaminated plume width (at the point nearest the closest TP boundary) that might be associated with the nearby known or suspected COC-contaminated property (that is, the COC-contaminated property where the groundwater contamination originated). The environmental professional's judgment and experience can be used to estimate the width of the COC-contaminated plume that might be associated with the nearby known or suspected COC-contaminated property. If it is not possible to estimate the contaminated plume width, then the AOC cannot be reduced in the cross-gradient direction.

Citadel reviewed information provided by EDR regarding nearby properties to evaluate for potential on-Site vapor encroachment concerns from off-site sources. According to EDR, no historical releases of petroleum products from a LUST occurred within 0.25-mile and upgradient of the Site. There are no properties within 0.125-mile and upgradient or cross-gradient of the Site that are listed on the Historical Gas Station and Dry Cleaners databases. However, the Chino Airport property is located south of the Site and was identified as occupied by Flite Craft from as early as 1986 as an aircraft and heavy equipment repair services. This property will be further discussed in Section 6.3.

A copy of the vapor encroachment screen provided by EDR is included as Appendix K.

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### 6.3 REGULATORY AGENCIES

Local and state agencies, such as environmental health departments, fire prevention bureaus, and building and planning departments are contacted to identify any current or previous reports of hazardous materials use, storage, and/or unauthorized releases that may have impacted the Site.

#### **BUILDING DEPARTMENT**

Citadel contacted the City of Ontario Building Department for information regarding the Site in order to identify historical tenants and property use. According to the City of Ontario, no permits were associated with the Site address.

#### **FIRE DEPARTMENT**

Citadel submitted a records request to the San Bernardino County Fire Department (SBCFD) for information regarding the Site to identify historical tenants and property use. The SBCFD has not yet responded to Citadel's request.

#### **AIR QUALITY MANAGEMENT DISTRICT**

Citadel reviewed information available on-line through the South Coast Air Quality Management District's Facility Information Detail (FIND) database. The Site was identified on the database as GH Dairy No. 2 (Facility ID 185103). No permits were found; however, an application for a dairy form was submitted on June 30, 2017; and an application for large confined animal feed operation was submitted on October 30, 2018. No further information was provided; no notices of violation or to comply were reported.

#### **REGIONAL WATER QUALITY CONTROL BOARD**

The GeoTracker Database is the California State Water Resources Control Board's (SWRCB) Internet-accessible database system used by the SWRCB, regional boards, and local agencies to track and archive compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from underground storage tanks. The Site was not identified in the database. According to GeoTracker, the nearest Cleanup Program Site (CPS) is the Chino Airport (Airport), located at 7000 Merrill Avenue, located south of the Site. The primary chemicals of concern (COCs) in the groundwater at this CPS include trichloroethene (TCE); 1,2,3-trichloropropane (1,2,3-TCP); cis-1,2-dichloroethane; and 1,1-dichloroethene.

According to the Semiannual Groundwater Monitoring Report, dated March 19, 2019, and prepared by Tetra Tech, portions of the Airport have functioned as an airfield since the early 1940s. Since the 1960, the County of San Bernardino has operated the Airport as a public airport for commercial, industrial, and general aviation use. Past and present uses include a flight academy; aircraft sales and storage; modification of military aircraft; various manufacturing; crop dusting; aircraft restoration; maintenance repair shops; aircraft painting, stripping, and washing; fire retardant chemical mixing and loading; US Forest Service aircraft maintenance and operations; and aircraft museums. According to the report, three areas of concern (AOCs) were identified. These AOCs are located approximately 350 feet south of the Site; 675 feet south-southwest of the Site; and 900 feet southeast of the Site. Based on the drawing depicting the TCE and 1,2,3-TCP groundwater plumes, the TCE plume is approximately 300 feet south of the Site. The nearest monitoring well, CAMW1, is located approximately 60 feet south of the Site and designated as an upgradient background well. Local groundwater flow direction was estimated toward the southeast and southwest. According to the report, no COCs have been detected in the background well to date. Based on the reviewed data, this CPS is not expected to be a significant environmental concern to the Site. However, due to the emerging contaminants of per- and polyfluoroalkyl substances (PFAS) including perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), the proximity of the Airport to the Site may be a future environmental concern. No records were found for the sampling of PFAS compounds at this time; however, this may be requested and included in future groundwater monitoring events.

## 7.0 DATA GAPS

A data gap is a lack of or inability to obtain information despite good faith efforts to gather such information. A data failure is a failure to achieve the historical research objectives even after reviewing the standard historical sources that are reasonably ascertainable and likely to be useful.

The following data gap has been identified during this investigation:

- Additional governmental agencies that are not included in the Government Records report may maintain information regarding environmental conditions at the Site and nearby facilities. A request has been sent to the SBCFD. At the time of this report, the SBCFD has not yet responded.

Citadel believes that the most significant potential sources for on-site contamination have been identified by other means during the current investigation.

## 8.0 FINDINGS

Citadel was contracted by LIT-Acquisitions, LLC (Client) to perform a Phase I Environmental Site Assessment (Phase I ESA) for the James Borba Dairy / GH Dairy No. 2 located at 7475 Eucalyptus Avenue in the City of Ontario, San Bernardino County, California; hereinafter referred to as the "Site."

### Current Site Conditions

The Site consists of two single-family residential structures with a dairy barn located between the residences; a detached garage; a dry grain/feed storage shed; an equipment storage shed; approximately 10 hay storage sheds; and approximately 13 canopies/sheds associated with the corrals for the housing of the cattle. A retention pond is located south of the corrals. The retention

pond collect surface wastes from across the Site, as well as provide a potential dumping area for other dairy and animal-related wastes. The remaining areas of the Site appear as irrigated cropland. Berms are located along the perimeter of the Site. At the time of the Site reconnaissance, the Site was occupied by GH Dairy No. 2. A low-lying part of the cropland was observed in the southwest corner of the Site during the Site reconnaissance. Due to recent rain events, this low-lying area appeared to be a retention pond. However, according to the Site representative, this area is typically empty and dry about 80 to 90 percent of the time and water is pumped out after rain events.

The following provides the APNs, associated addresses and brief description of the parcels associated with the Site:

APN (PARCEL)	ASSOCIATED ADDRESSES	DESCRIPTION
1054-041-01-0000 (Parcel A)	None	Parcel A is approximately 9.03 acres in size and is located in the northwest corner of the Site. The parcel consists of irrigated cropland and several corrals.
1054-041-02-0000 (Parcel B)	7417 and 7475 Eucalyptus Avenue	Parcel B is approximately 9.15 acres in size and is located in the northeast corner of the Site, east of Parcel A. The parcel consists of two single-family residences with attached garages; a detached garage; a dairy barn with silos and tanks for storage of milk and water, respectively; several corrals; and associated landscaping.
1054-031-01-0000 (Parcel C)	None	Parcel C is approximately 9.54 acres in size and is located along the west boundary of the Site, south of Parcel A. The parcel consists of irrigated cropland and several corrals.
1054-031-02-0000 (Parcel D)	None	Parcel D is approximately 9.59 acres in size and is located along the east boundary of the Site, south of Parcel B. The parcel consists of hay storage sheds and several corrals.
1054-261-01-0000 (Parcel E)	None	Parcel E is approximately 9.54 acres in size and is located along the west boundary of the Site, south of Parcel C. The parcel consists of irrigated cropland, hay and equipment storage sheds, and several corrals.
1054-261-02-0000 (Parcel F)	None	Parcel F is approximately 9.59 acres in size and is located along the east boundary of the Site, south of Parcel D. The parcel consists of irrigated cropland; hay and feed storage sheds and areas; two 1,000-gallon ASTs; a retention pond; and several corrals.
1054-291-01-0000 (Parcel G)	None	Parcel G is approximately 9.03 acres in size and is located in the southwest corner of the Site and south of Parcel E. The parcel consists of irrigated cropland. The low-lying part of the cropland is located in the southwest corner of the parcel.
1054-291-02-0000 (Parcel H)	None	Parcel H is approximately 9.14 acres in size and is located in the southeast corner of the Site and south of Parcel F. The parcel consists of irrigated cropland.

Equipment throughout the Site include ASTs for storage of diesel, grain/feed, and water; one potable water well; milking machines and pumping system; silos for storage of milk; air compressors; boilers; and pole-mounted transformers. In general, the Site appeared to be well maintained and the building/ground conditions appeared to be in good condition.

### Site History



A review of historical sources showed that the Site was generally agricultural/undeveloped as early as 1902. Eucalyptus Avenue and Merrill Avenue appeared developed by 1902. The Site remained generally agricultural until at least 1981 with the development of the current dairy farm.

Properties in the vicinity appeared generally undeveloped in 1902.

- Properties north of the Site appeared developed with an orchard by 1938. The two current residences appear developed by 1966. The properties north of the Site appeared in their current configuration by 1994 with the development of a retention pond.
- Properties east of the Site appeared generally agricultural until the development of the current dairy barn and associated structures by 1975. Additional canopies were completed by 1987 and by 2009.
- Properties west of the Site appeared generally agricultural until the development of a small structure, likely a residence or farm-related, along Eucalyptus Avenue by 1975. The current dairy barn appeared developed by 1987.
- Properties south of the Site appeared developed with hangars along with a large exterior plane storage/parking area by 1946—these were likely occupied by Cal-Aero Primary School and Cal-Aero Flight Academy. By 1973, this area was occupied as part of the Chino Airport. Several of the hangars were demolished by 1975.

### Environmental Database

The Site was identified on the following environmental databases: HIST UST, SWEEPS UST, CA FID UST, UST, WDS, CERS, CERS HAZ WASTE, FINDS, CIWQS, ENF, and San Bern. Co. Permit.

The Site was identified on the historical UST databases under Ted Miller Dairy. According to information provided by EDR, a 6,000-gallon UST was located at the Site. No further information was provided. The Site was also identified on the current UST database under AG-Borba, Joe. No further information was provided.

The Site was identified on the FINDS database. FINDS contains facility information and “pointers” to other sources. The Site was identified on this database due to the following references:

- California Enviroview – CIWQS database for confined animal feeding operations;
- California Enviroview – CERS as a RMP reporter; and
- NPDES – ICIS for concentrated animal feeding operation and NPDES permit.

The Site was identified on the WDS database as an agricultural facility with designated/influent or solid wastes that pose a significant threat to water quality (dairy waste ponds). The Site was listed on the Water Board ENF Listings for a notice of violation, issued on January 30, 2009, for failure to submit the 2008 annual report on time.

The Site was also identified on the San Bernardino County Permit database with an active hazardous materials (four to 10 chemicals) permit and on CERS as a chemical storage facility. Evaluations by regulatory agencies have been performed since 1987. No violations have been reported with the exception of violations identified in 2008, 2009, 2013, and 2016. The violations issued in 2016 were related to business plans submittals; returned to compliance in August 2017. No information was provided concerning the remaining violations; however, the violations were listed as historical.

The appearance of the Site on the historic and current UST databases may be an environmental concern. No further information was provided regarding the status of the UST.

Citadel reviewed information provided by EDR regarding nearby properties to evaluate for potential on-Site vapor encroachment concerns from off-site sources. According to EDR, no historical releases of petroleum products from a LUST occurred within 0.25-mile and upgradient of the Site. There are no properties within 0.125-mile and upgradient or cross-gradient of the Site that are listed on the Historical Gas Station and Dry Cleaners databases. However, the Chino Airport property is located south of the Site and was identified as occupied by Flite Craft from as early as 1986 as an aircraft and heavy equipment repair services. This property will be further discussed in the Regulatory Agencies section below.

### Regulatory Agencies

The GeoTracker Database is the California SWRCB Internet-accessible database system used by the SWRCB, regional boards, and local agencies to track and archive compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from underground storage tanks. The Site was not identified in the database. According to GeoTracker, the nearest CPS is the Airport, located at 7000 Merrill Avenue, located south of the Site. The primary COC in the groundwater at this CPS include TCE; 1,2,3-TCP; cis-1,2-dichloroethane; and 1,1-dichloroethene.

According to the Semiannual Groundwater Monitoring Report, dated March 19, 2019, and prepared by Tetra Tech, portions of the Airport have functioned as an airfield since the early 1940s. Since the 1960, the County of San Bernardino has operated the Airport as a public airport for commercial, industrial, and general aviation use. Past and present uses include a flight academy; aircraft sales and storage; modification of military aircraft; various manufacturing; crop dusting; aircraft restoration; maintenance repair shops; aircraft painting, stripping, and washing; fire retardant chemical mixing and loading; US Forest Service aircraft maintenance and operations; and aircraft museums. According to the report, three AOCs were identified. These AOCs are located approximately 350 feet south of the Site; 675 feet south-southwest of the Site; and 900 feet southeast of the Site. Based on the drawing depicting the TCE and 1,2,3-TCP groundwater plumes, the TCE plume is approximately 300 feet south of the Site. The nearest monitoring well, CAMW1, is located approximately 60 feet south of the Site and designated as an upgradient background well. Local groundwater flow direction was estimated toward the southeast and southwest. According to the report, no COCs have been detected in the background well to date. Based on the reviewed data, this CPS is not expected to be a significant environmental concern to the Site. However, due to the emerging contaminants of per- and PFAS including PFOA and PFOS, the proximity of the Airport to the Site may be a future environmental concern. No records were found for the sampling of PFAS compounds at this time; however, this may be requested and included in future groundwater monitoring events.



## 9.0 CONCLUSIONS AND RECOMMENDATIONS

According to ASTM Standard of Practice E1527-13, RECs fall under three specific categories when evaluating a site or properties within the site vicinity. These categories are defined below.

A REC, means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not RECs.

A controlled REC, or CREC, is a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

An historical REC, or HREC, is a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).

According to ASTM E2600-15, the goal of conducting a vapor encroachment screening on a parcel of property is to identify a vapor encroachment condition (VEC), which is the presence or likely presence of chemicals of concern vapors in the subsurface of the target property caused by the release of vapors from contaminated soil or groundwater or both either on or near the target property as identified by Tier 1 or Tier 2 procedures. The purpose of Tier 1 is to conduct a screen using Phase I ESA-type information to determine if a VEC exists at the target property. If the Tier 1 screen cannot rule out the possibility of a VEC existing at the target property, then a Tier 2 screen can be conducted. Tier 2 applies numeric screening criteria to existing or newly collected soil, soil gas, and/or groundwater testing results to evaluate whether a VEC can be ruled out. Tier 2 has two data collective components: non-invasive and invasive.

Based on our review of these databases, reported release incidents that would represent RECs in connection with the Site or a source of a release that would be likely to contribute to a VEC were identified. Citadel identified the following environmental concerns:

- The Site was identified on the historical and current UST databases for a 6,000-gallon diesel UST. Mr. Hein Hettinga had no knowledge of any on-Site USTs. Citadel submitted a request to the SBCFD for further information; however, SBCFD has not yet responded to the request. The UST represents a REC. Citadel recommends reviewing available files at the SBCFD. If the UST has not yet been removed, Citadel recommends the proper removal of the UST and a subsurface investigation to determine if the UST had impacted the subsurface.
- During the Site reconnaissance, two elevated ASTs were observed at the Site. The elevated ASTs were located on a gravel surface. No secondary containment was observed under the ASTs. Some staining was observed beneath the ASTs. The observed staining by the ASTs represent a REC; however, the staining would likely be localized to this area. Citadel recommends the removal of the ASTs prior to Site redevelopment and preparation of a soil management plan to manage the stained soils during redevelopment.

- The retention ponds collect surface wastes from across the Site, as well as provide a potential dumping area for other dairy and animal-related wastes. Due to the potential for chemical constituents to accumulate in the ponds and become trapped in the sediment, Citadel recommends conducting a limited subsurface assessment of the sediments after the ponds have been drained to evaluate the sediments for chemical risks to human health and the environment.
- The Airport may be considered an off-Site REC due to its role as an emergent chemical of concern.

No evidence for designating the Site as a HREC or CREC from reviews of historical documents and present Site conditions was found.

Citadel recommends that the tenant follow best management practices, in conformance with all appropriate current regulations, in regards to potential use of regulated hazardous materials and/or waste generated during everyday operations. Citadel recommends that the water well be abandoned and removed prior to Site development.

The current Site building was constructed prior to bans using ACBMs, LBP, and PCBs in electrical equipment came into effect in 1989, 1978, and 1978, respectively. No testing is known to have been performed to evaluate for the presence of ACBMs or PCBs at the Site. Prior to renovation or demolition of building components, particularly roofing materials, Citadel recommends that the Client perform a comprehensive survey for ACBMs and LBP prior to renovation or demolition activities. Such surveys should be performed to identify if ACBMs or LBP are present and to ensure proper handling and disposal and to allow for measures to protect both worker and building occupant safety during routine building maintenance, renovation or demolition.

## 10.0 LIMITATIONS

The information and opinions rendered in this report are exclusively for use by the Client. Citadel will not distribute this report without the Client's written consent, except as may be required by law or court order. The recommendations expressed in this report took into consideration the purpose and scope of this limited assignment. We accept responsibility for the competent performance of our duties in executing the assignment and preparing this report in accordance with the normal standards of our profession, but disclaim any responsibility for consequential damages resulting from inaccuracies in information provided by the Client, federal, state, county, or local regulatory agencies.

## 11.0 REFERENCES

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(<http://www.aqmd.gov/webappl/fim/default.htm>).

Tetra Tech, Semiannual Groundwater Monitoring Report, Summer and Fall 2018, Chino Airport Groundwater Assessment, San Bernardino County, California, March 2019.

United States Department of Agriculture, National Resources Conservation Service, Web Soil Survey (<http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>).

United States Fish & Wildlife Service, National Wetlands Inventory.  
(<http://www.fws.gov/wetlands/Data/Mapper.html>).

## 12.0 PROFESSIONAL CERTIFICATION

Citadel has completed a Phase I ESA for the James Borba Dairy / GH Dairy No. 2 located at 7475 Eucalyptus Avenue in the City of Ontario, San Bernardino County, California. The Phase I ESA was performed at the Client's request in accordance with the American Society for Testing and Materials (ASTM) Standard of Practice E1527-2013 and the standards of care and diligence normally practiced by recognized consulting firms in performing services of a similar nature.

The independent conclusions represent our professional judgment based on information and data available to Citadel during the course of this project. Information regarding historical and present operations, conditions and test data provided by the Client or their representative, is assumed to be correct and complete. The conclusions presented by this Phase I ESA are based on information provided to Citadel and from observations and perceived conditions existing on the date of the site reconnaissance.

In expressing the opinions stated in this report, Citadel has exercised the degree of skill and care ordinarily exercised by a reasonable prudent environmental professional. Documentation provided by the Client, Client-designated representatives, interested third-parties, or from the public domain, and referenced in preparation of the Phase I ESA report, have been assimilated with the understanding that Citadel assumes no responsibility or liability for their accuracy.

Report Prepared by:

Shirley Lee  
Senior Staff Environmental Specialist  
Engineering and Environmental Sciences

Report Reviewed by:

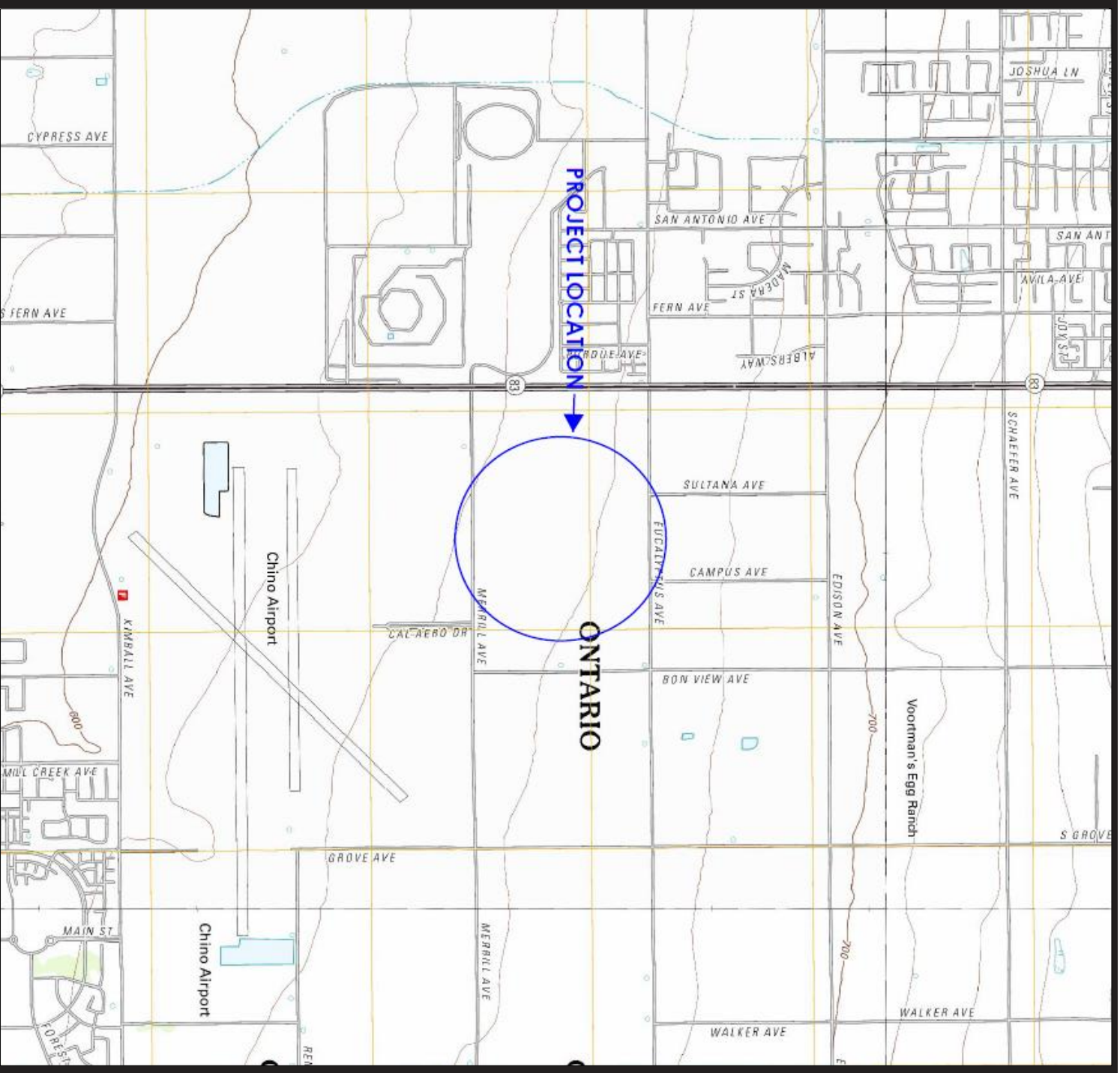
Mark Drollinger, M. Eng., CSP, CHMM, EIT  
Principal, Engineering and Environmental Sciences

I declare that to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined by the final All Appropriate Inquiry (AAI) Rule published in 40 CFR Part 312.10 (November 1, 2013). I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting described in this Phase I ESA. I have developed and performed the AAI in conformance with the standard and care of this Rule.

Mark Drollinger, M. Eng., CSP, CHMM, EIT  
Principal, Engineering and Environmental Sciences

# Appendix A

## Figures



Not to Scale

Source: EDR, Prado Dam Quadrangle, 2012, 7.5 Minute Series



**LIT-ACQUISITIONS, LLC**  
 7475 Eucalyptus Avenue  
 Ontario, California

Figure 1

PROJECT NO.: 0611.1079.0  
 DATE: JANUARY 2020

**Topographic Map**





Not to Scale

Source: Google Earth



LIT-ACQUISITIONS, LLC  
 7475 Eucalyptus Avenue  
 Ontario, California

Figure 2

PROJECT NO.: 0611.1079.0  
 DATE: JANUARY 2020

Site Map

# Appendix B

## Photographs



## PHOTO LOG



**PHOTO 1:** View of the residence at 7475 Eucalyptus Avenue, looking south.



**PHOTO 2:** View of the residence at 7417 Eucalyptus Avenue and the dairy barn, looking southeast.



**LIT-Acquisitions, LLC**

7475 Eucalyptus Avenue  
Ontario, California

Citadel Project No. 0611.1079.0



## PHOTO LOG



**PHOTO 3:** View of the interior of the dairy barn milking area.



**PHOTO 4:** View of the mechanical room at that dairy barn.



**LIT-Acquisitions, LLC**

7475 Eucalyptus Avenue  
Ontario, California

Citadel Project No. 0611.1079.0

**PHOTO LOG**



**PHOTO 5:** View of hazardous materials stored at the dairy barn.



**PHOTO 6:** View of the milk silos, looking east.



**LIT-Acquisitions, LLC**

7475 Eucalyptus Avenue  
Ontario, California

Citadel Project No. 0611.1079.0



## PHOTO LOG



**PHOTO 7:** View of the water tanks, looking southeast.



**PHOTO 8:** View of the emergency generator between the water tank and dairy barn.



**LIT-Acquisitions, LLC**

7475 Eucalyptus Avenue  
Ontario, California

Citadel Project No. 0611.1079.0

## PHOTO LOG



**PHOTO 9:** View of the elevated ASTs at the Site.



**PHOTO 10:** View of the liquid feed storage at the Site.



**LIT-Acquisitions, LLC**

7475 Eucalyptus Avenue  
Ontario, California

Citadel Project No. 0611.1079.0



## PHOTO LOG



**PHOTO 11:** View of the corrals and the pole-mounted transformers at the Site.



**PHOTO 12:** View of the location of one of the septic tanks at the Site.



**LIT-Acquisitions, LLC**

7475 Eucalyptus Avenue  
Ontario, California

Citadel Project No. 0611.1079.0

# Appendix C

## EDR Aerial Photographs



**James Borba Dairy**

7475 Eucalyptus Avenue

Chino, CA 91710

Inquiry Number: 5912552.11

December 19, 2019

## The EDR Aerial Photo Decade Package



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)



**Site Name:**

James Borba Dairy  
7475 Eucalyptus Avenue  
Chino, CA 91710  
EDR Inquiry # 5912552.11

**Client Name:**

Citadel Environmental Services  
1725 Victory Boulevard  
Glendale, CA 91201  
Contact: Shirley Lee



Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

**Search Results:**

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1994	1"=500'	Acquisition Date: June 01, 1994	USGS/DOQQ
1990	1"=500'	Flight Date: August 29, 1990	USDA
1989	1"=500'	Flight Date: August 03, 1989	USDA
1987	1"=500'	Flight Date: March 29, 1987	USDA
1975	1"=500'	Flight Date: August 01, 1975	USGS
1966	1"=500'	Flight Date: April 16, 1966	USGS
1959	1"=500'	Flight Date: October 15, 1959	USDA
1953	1"=500'	Flight Date: March 03, 1953	USDA
1948	1"=500'	Flight Date: July 10, 1948	USGS
1946	1"=500'	Flight Date: December 29, 1946	USGS
1938	1"=500'	Flight Date: June 14, 1938	USDA

**When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.**

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PROJECT SITE

INQUIRY #: 5912552.11

YEAR: 2016

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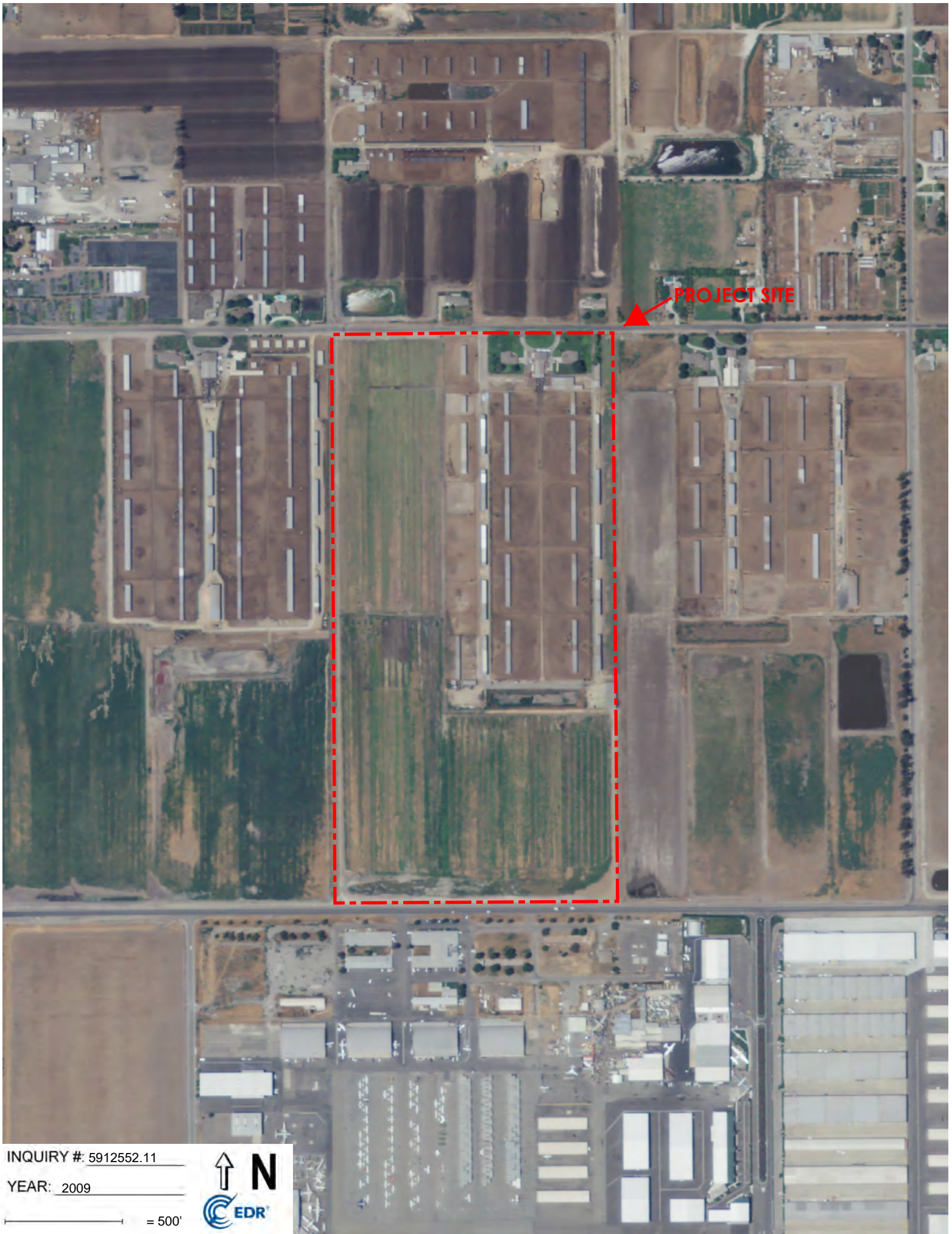
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YEAR: 2012

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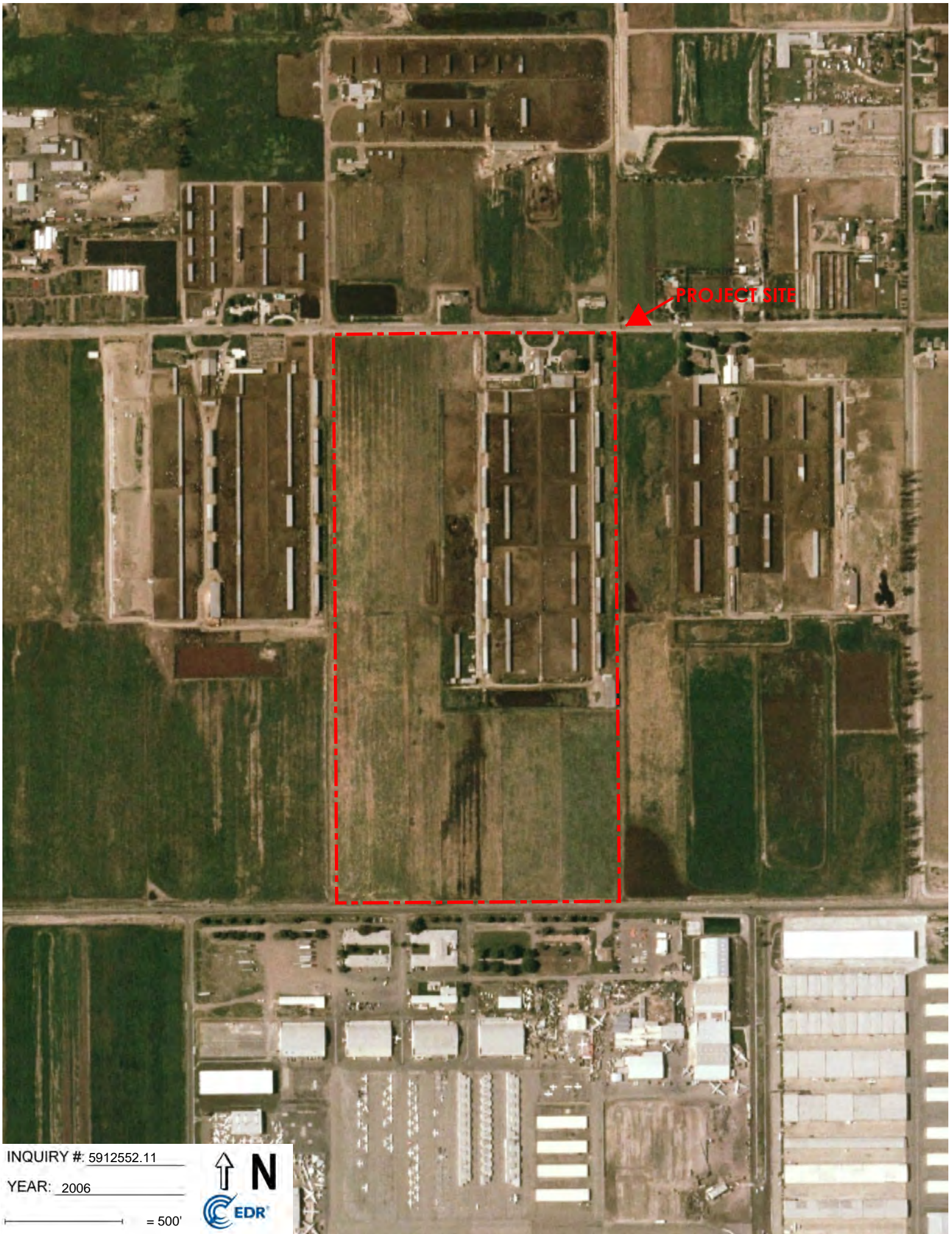
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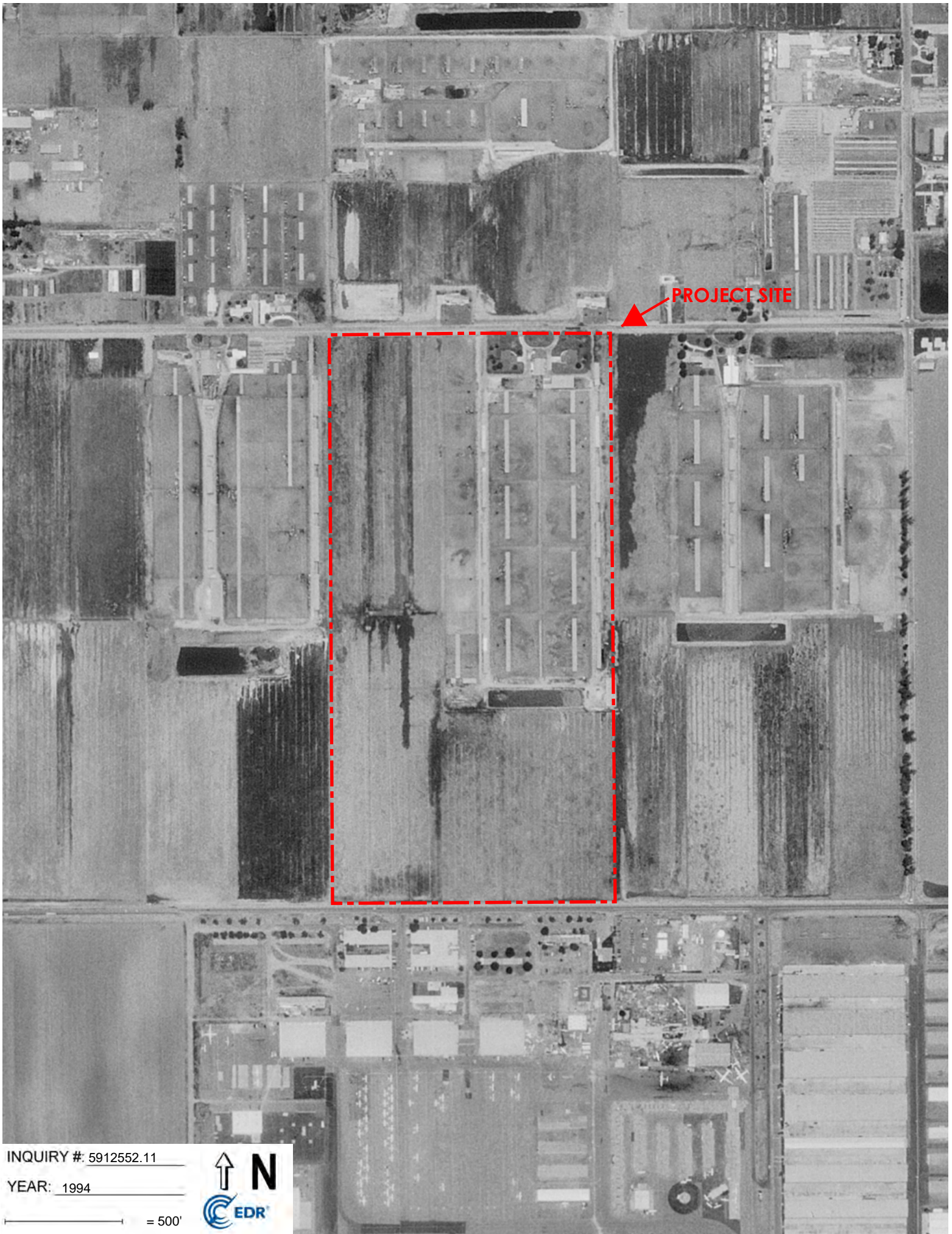
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YEAR: 2006

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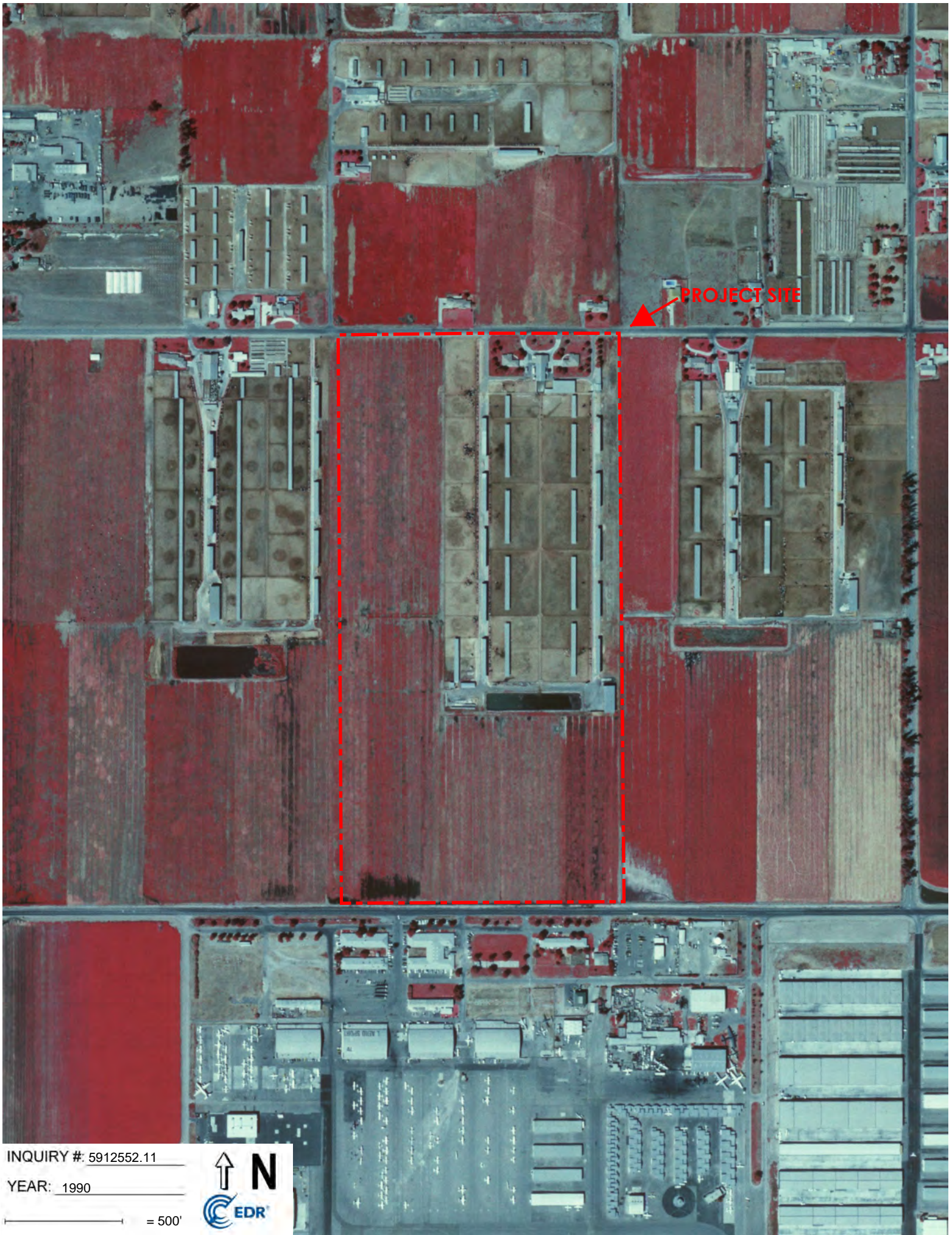
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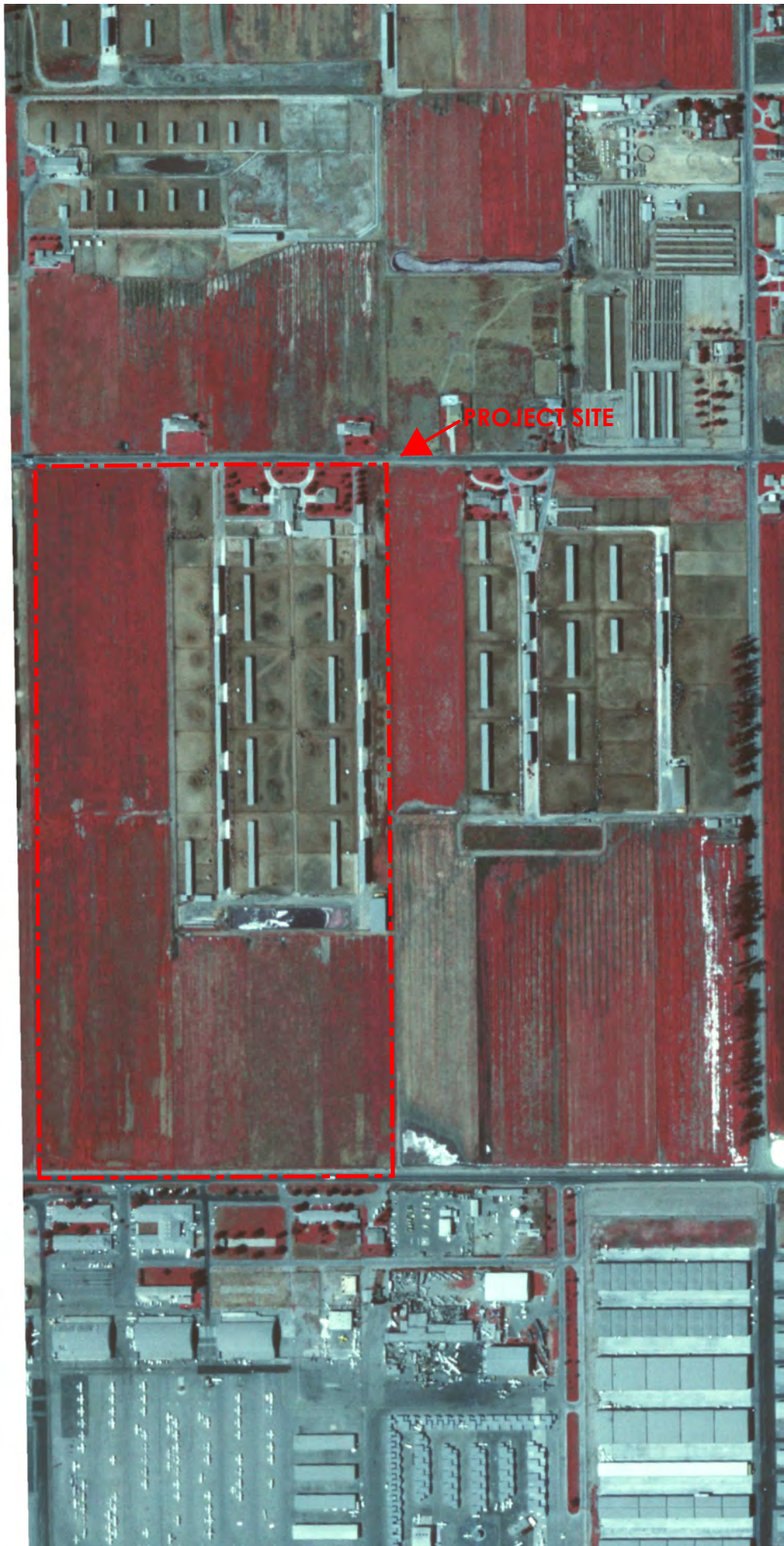
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YEAR: 1989

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PROJECT SITE

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YEAR: 1987

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PROJECT SITE

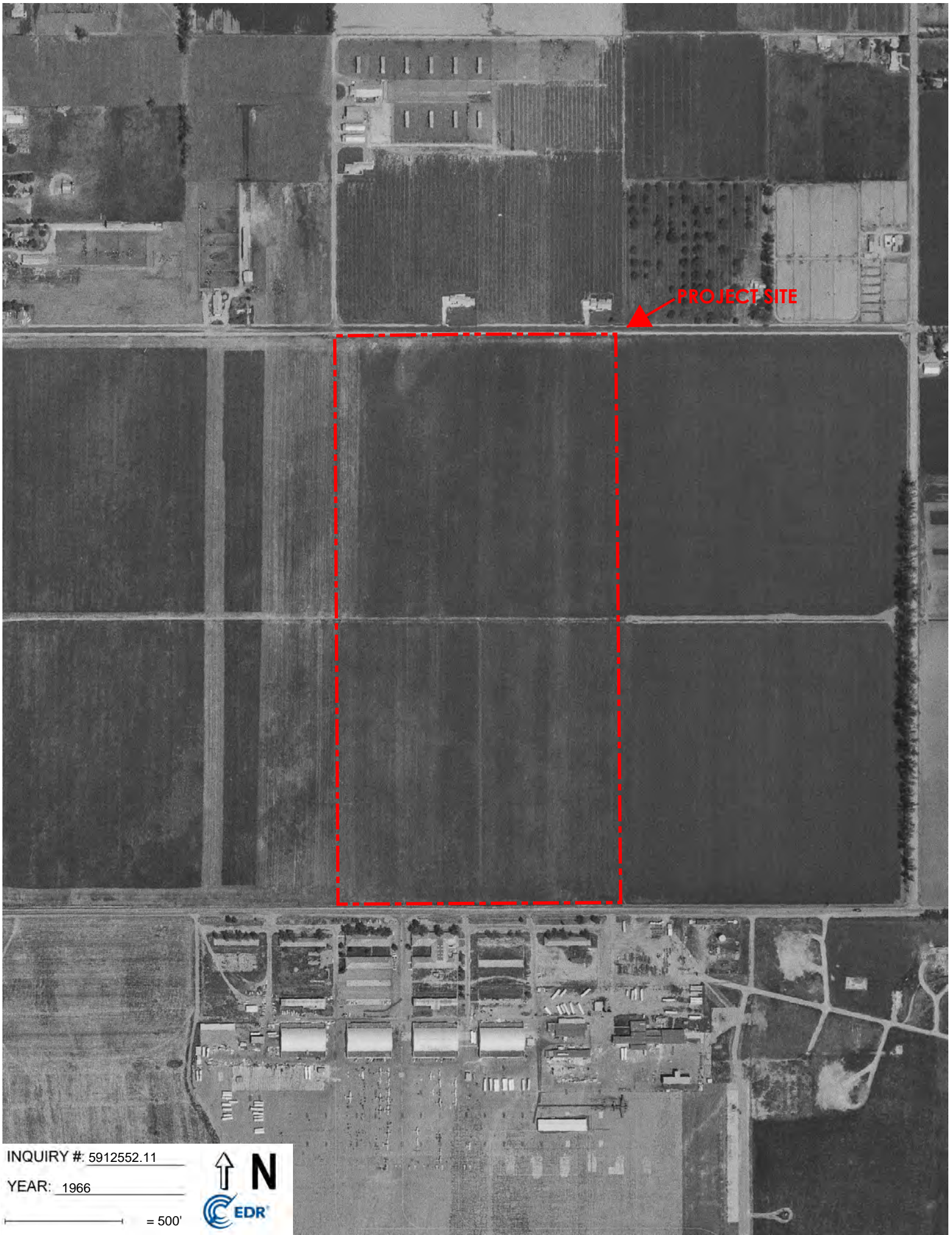
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YEAR: 1975

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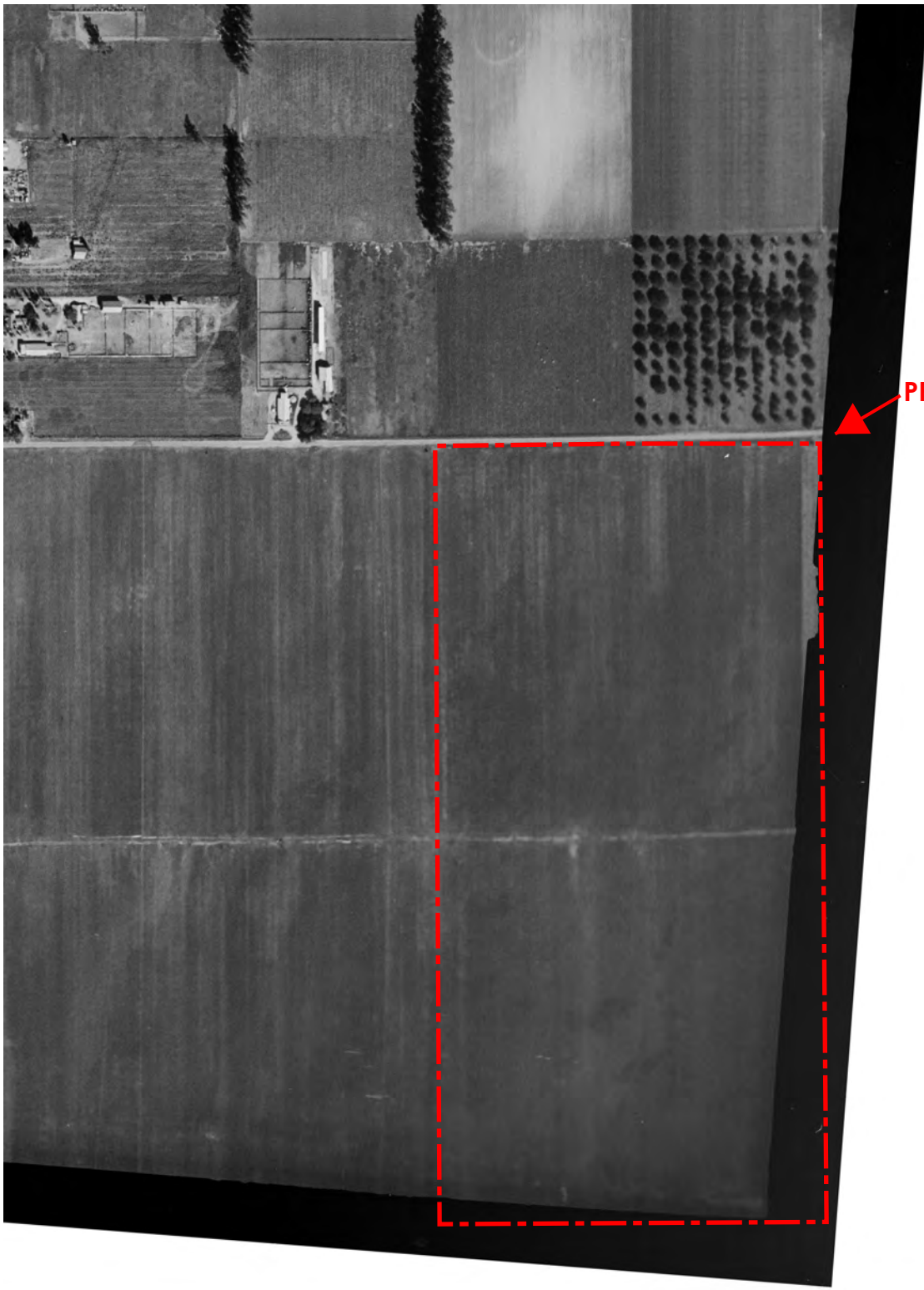
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INQUIRY # 5912552.11

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PROJECT SITE

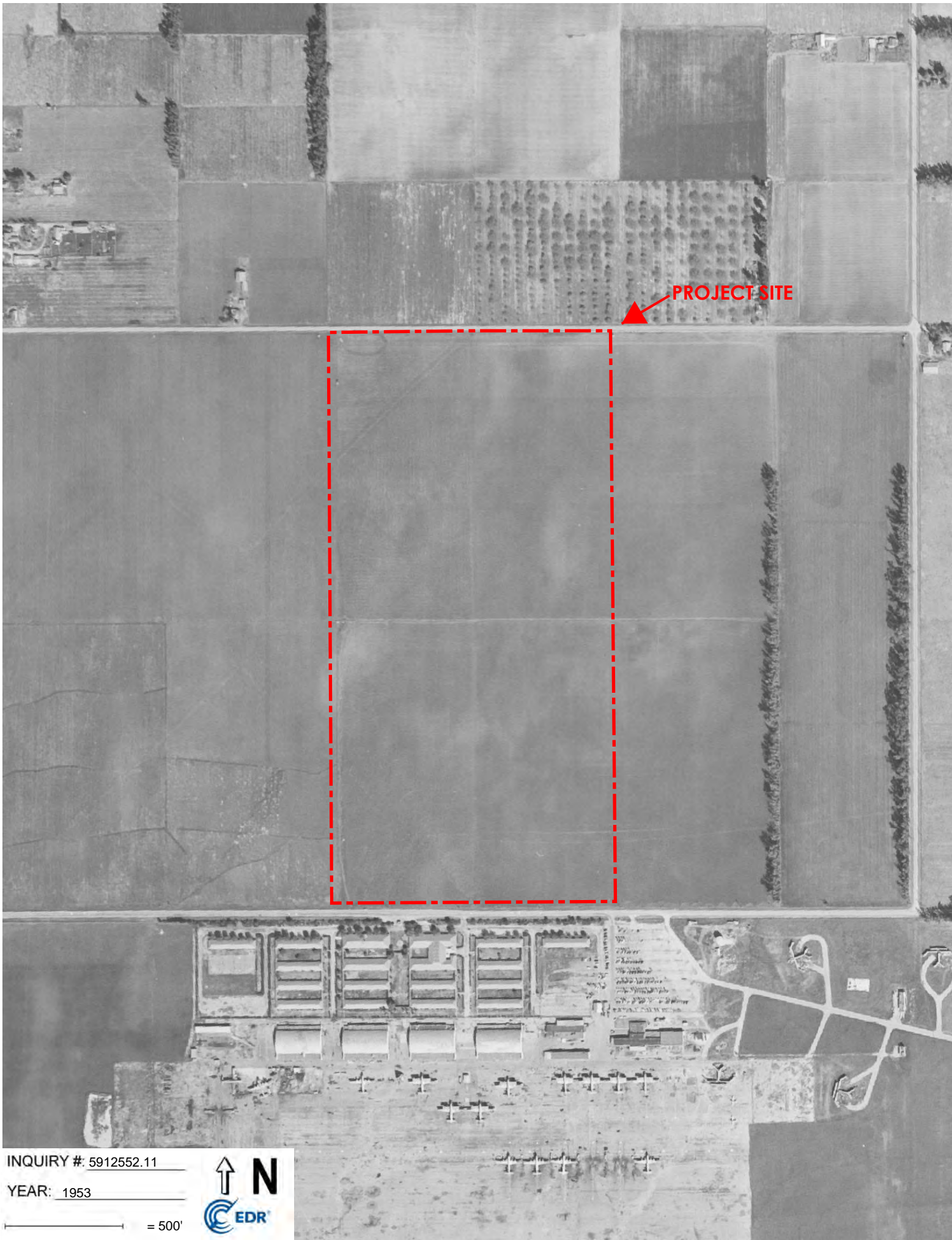
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YEAR: 1959



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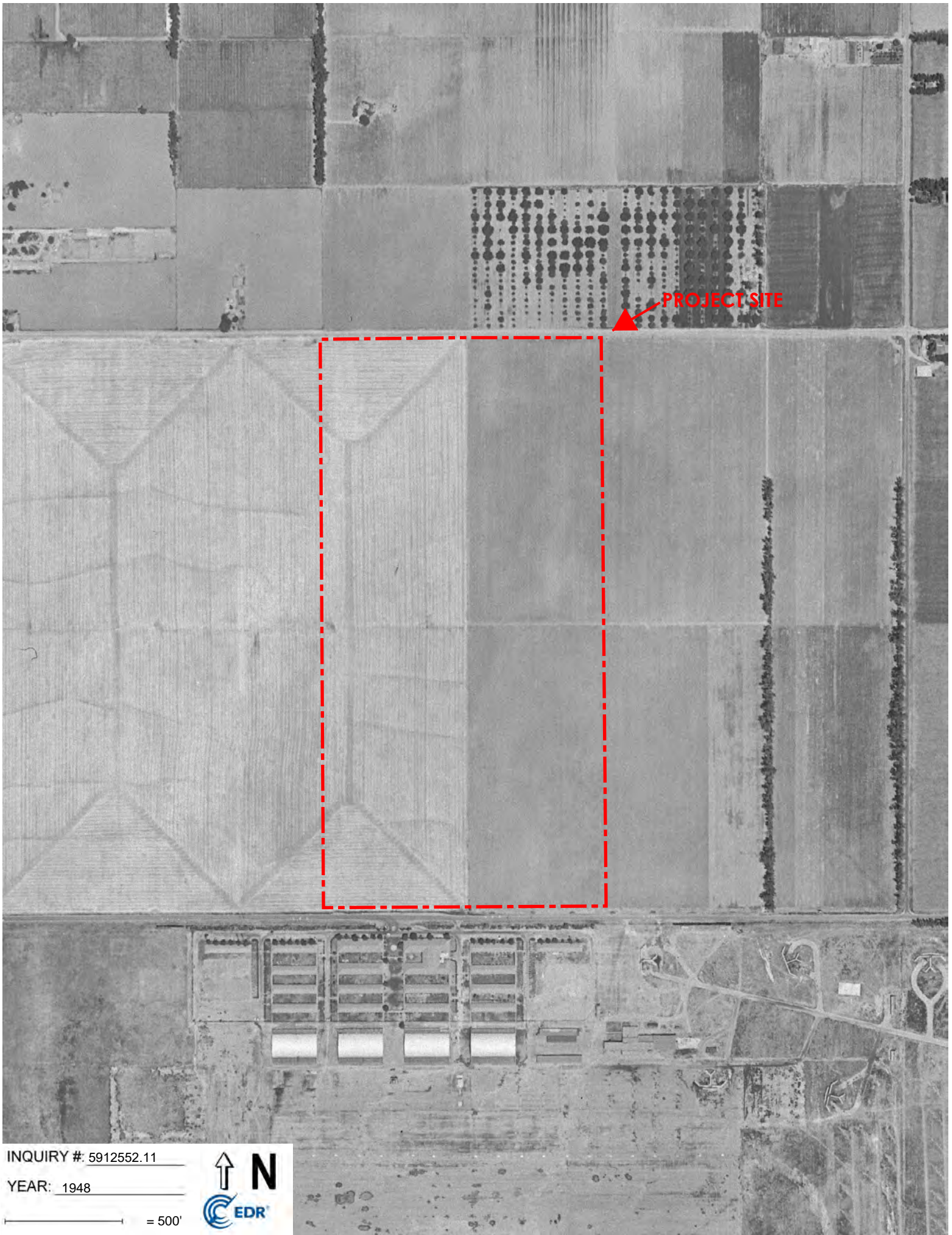
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YEAR: 1953

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PROJECT SITE

INQUIRY # 5912552.11

YEAR: 1948

— = 500'







PROJECT SITE

INQUIRY #: 5912552.11

YEAR: 1946

— = 500'







PROJECT SITE

INQUIRY #: 5912552.11

YEAR: 1938

— = 500'





# **Appendix D**

## **EDR Building Permit Report**

**James Borba Dairy**

7475 Eucalyptus Avenue  
Chino, CA 91710

Inquiry Number: 5912552.8  
December 19, 2019

# EDR Building Permit Report

Target Property and Adjoining Properties

## TABLE OF CONTENTS

### **SECTION**

**About This Report**

**Executive Summary**

**Findings**

**Glossary**

***Thank you for your business.***

Please contact EDR at 1-800-352-0050  
with any questions or comments.

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# EDR BUILDING PERMIT REPORT

## About This Report

The EDR Building Permit Report provides a practical and efficient method to search building department records for indications of environmental conditions. Generated via a search of municipal building permit records gathered from more than 1,600 cities nationwide, this report will assist you in meeting the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

Building permit data can be used to identify current and/or former operations and structures/features of environmental concern. The data can provide information on a target property and adjoining properties such as the presence of underground storage tanks, pump islands, sumps, drywells, etc., as well as information regarding water, sewer, natural gas, electrical connection dates, and current/former septic tanks.

## ASTM and EPA Requirements

ASTM E 1527-13 lists building department records as a "standard historical source," as detailed in § 8.3.4.7: "Building Department Records - The term building department records means those records of the local government in which the property is located indicating permission of the local government to construct, alter, or demolish improvements on the property." ASTM also states that "Uses in the area surrounding the property shall be identified in the report, but this task is required only to the extent that this information is revealed in the course of researching the property itself."

EPA's Standards and Practices for All Appropriate Inquires (AAI) states: "§312.24: Reviews of historical sources of information. (a) Historical documents and records must be reviewed for the purposes of achieving the objectives and performance factors of §312.20(e) and (f). Historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."

## Methodology

EDR has developed the EDR Building Permit Report through our partnership with BuildFax, the nation's largest repository of building department records. BuildFax collects, updates, and manages building department records from local municipal governments. The database now includes 30 million permits, on more than 10 million properties across 1,600 cities in the United States.

The EDR Building Permit Report comprises local municipal building permit records, gathered directly from local jurisdictions, including both target property and adjoining properties. Years of coverage vary by municipality. Data reported includes (where available): date of permit, permit type, permit number, status, valuation, contractor company, contractor name, and description.

Incoming permit data is checked at seven stages in a regimented quality control process, from initial data source interview, to data preparation, through final auditing. To ensure the building department is accurate, each of the seven quality control stages contains, on average, 15 additional quality checks, resulting in a process of approximately 105 quality control "touch points."

For more information about the EDR Building Permit Report, please contact your EDR Account Executive at (800) 352-0050.



## EXECUTIVE SUMMARY: SEARCH DOCUMENTATION

A search of building department records was conducted by Environmental Data Resources, Inc (EDR) on behalf of Citadel Environmental Services on Dec 19, 2019.

### **TARGET PROPERTY**

7475 Eucalyptus Avenue  
Chino, CA 91710

### **SEARCH METHODS**

EDR searches available lists for both the Target Property and Surrounding Properties.

### **RESEARCH SUMMARY**

Building permits identified: **NO PERMITS IDENTIFIED**

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Name: JurisdictionName  
Years: Years  
Source: Source  
Phone: Phone

**BUILDING DEPARTMENT RECORDS SEARCHED**

Name: Chino  
Years: 2002-2019  
Source: City of Chino, Community Development, CHINO, CA  
Phone: (909) 591-9813

Name: Redding  
Years: 1926-2019  
Source: City of Redding, Development Services, Building Division, REDDING, CA  
Phone: 530-225-4014

Name: San Bernardino County  
Years: 1981-2019  
Source: San Bernardino County, Land Use, Building & Safety, RIALTO, CA  
Phone: (909) 387-8311

Name: Montclair  
Years: 2008-2019  
Source: , MONTCLAIR, CA  
Phone: (909) 625-9477

Name: Chino Hills  
Years: 2002-2018  
Source: Chino Hills, Community Development Department, CHINO HILLS, CA  
Phone: (909) 364-2780

## TARGET PROPERTY FINDINGS

### TARGET PROPERTY DETAIL

7475 Eucalyptus Avenue  
Chino, CA 91710

No Permits Found

## ADJOINING PROPERTY FINDINGS

### ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

No Permits Found



## GLOSSARY

### General Building Department concepts

- **ICC:** The International Code Council. The governing body for the building/development codes used by all jurisdictions who've adopted the ICC guidelines. MOST of the US has done this. Canada, Mexico, and other countries use ICC codes books and guides as well. There are a few states who have added guidelines to the ICC codes to better fit their needs. For example, California has added seismic retrofit requirements for most commercial structures.
- **Building Department (Permitting Authority, Building Codes, Inspections Department, Building and Inspections):** This is the department in a jurisdiction where an owner or contractor goes to obtain permits and inspections for building, tearing down, remodeling, adding to, re-roofing, moving or otherwise making changes to any structure, Residential or Commercial.
- **Jurisdiction:** This is the geographic area representing the properties over which a Permitting Authority has responsibility.
- **GC:** General Contractor. Usually the primary contractor hired for any Residential or Commercial construction work.
- **Sub:** Subordinate contracting companies or subcontractors. Usually a "trades" contractor working for the GC. These contractors generally have an area of expertise in which they are licensed like Plumbing, Electrical, Heating and Air systems, Gas Systems, Pools etc. (called "trades").
- **Journeyman:** Sub contractors who have their own personal licenses in one or more trades and work for different contracting companies, wherever they are needed or there is work.
- **HVAC (Mechanical, Heating & Air companies):** HVAC = Heating, Ventilation, and Air Conditioning.
- **ELEC (Electrical, TempPole, TPole, TPower, Temporary Power, Panel, AMP Change, Power Release):** Electrical permits can be pulled for many reasons. The most common reason is to increase the AMPs of power in an electrical power panel. This requires a permit in almost every jurisdiction. Other common reasons for Electrical permits is to insert a temporary power pole at a new construction site. Construction requires electricity, and in a new development, power has yet to be run to the lot. The temporary power pole is usually the very first permit pulled for new development. The power is released to the home owner when construction is complete and this sometimes takes the form of a Power Release permit or inspection.
- **"Pull" a permit:** To obtain and pay for a building permit.
- **CBO:** Chief Building Official
- **Planning Department:** The department in the development process where the building /structural plans are reviewed for their completeness and compliance with building codes
- **Zoning Department:** The department in the development process where the site plans are reviewed for their compliance with the regulations associated with the zoning district in which they are situated.
- **Zoning District:** A pre-determined geographic boundary within a jurisdiction where certain types of structures are permitted / prohibited. Examples are Residential structure, Commercial/Retail structures, Industrial/Manufacturing structures etc. Each zoning district has regulations associated with it like the sizes of the lots, the density of the structures on the lots, the number of parking spaces required for certain types of structures on the lots etc.
- **PIN (TMS, GIS ID, Parcel#):** Property Identification Number and Tax Map System number.
- **State Card (Business license):** A license card issued to a contractor to conduct business.
- **Building Inspector (Inspector):** The inspector is a building department employee that inspects building construction for compliance to codes.
- **C.O.:** Certificate of Occupancy. This is the end of the construction process and designates that the owners now have permission to occupy a structure after its building is complete. Sometimes also referred to as a Certificate of Compliance.

## GLOSSARY

### Permit Content Definitions

- Permit Number: The alphanumerical designation assigned to a permit for tracking within the building department system. Sometimes the permit number gives clues to its role, e.g. a "PL" prefix may designate a plumbing permit.
- Description: A field on the permit form that allows the building department to give a brief description of the work being done. More often than not, this is the most important field for EP's to find clues to the prior use(s) of the property.
- Permit Type: Generally a brief designation of the type of job being done. For example BLDG-RES, BLDG-COM, ELEC, MECH etc.

### Sample Building Permit Data

Date: Nov 09, 2000

Permit Type: Bldg -

New Permit Number: 101000000405

Status: Valuation: \$1,000,000.00


Contractor Company: OWNER-BUILDER

Contractor Name:

Description: New one store retail (SAV-ON) with drive-thru pharmacy. Certificate of Occupancy.

# **Appendix E**

## **EDR Sanborn Map Report**



James Borba Dairy  
7475 Eucalyptus Avenue  
Chino, CA 91710

Inquiry Number: 5912552.3

December 19, 2019

## Certified Sanborn® Map Report



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

# Certified Sanborn® Map Report

12/19/19

**Site Name:**

James Borba Dairy  
7475 Eucalyptus Avenue  
Chino, CA 91710  
EDR Inquiry # 5912552.3

**Client Name:**

Citadel Environmental Services  
1725 Victory Boulevard  
Glendale, CA 91201  
Contact: Shirley Lee



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Citadel Environmental Services were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting [www.edrnet.com/sanborn](http://www.edrnet.com/sanborn).

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

## Certified Sanborn Results:

**Certification #** 32EF-4785-8A98  
**PO #** NA  
**Project** 0611.1079.0

### UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.



Sanborn® Library search results

Certification #: 32EF-4785-8A98

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- Library of Congress
- University Publications of America
- EDR Private Collection

*The Sanborn Library LLC Since 1866™*

### Limited Permission To Make Copies

Citadel Environmental Services (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

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# **Appendix F**

## **EDR City Directory Abstract**

**James Borba Dairy**

7475 Eucalyptus Avenue  
Chino, CA 91710

Inquiry Number: 5912552.5  
January 10, 2020

# The EDR-City Directory Abstract

## TABLE OF CONTENTS

### SECTION

Executive Summary

Findings

City Directory Images

*Thank you for your business.*  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

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## EXECUTIVE SUMMARY

### DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1922 through 2014. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

### RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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Data by

**infoUSA**<sup>®</sup>

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### RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Source</u>	<u>TP</u>	<u>Adjoining</u>	<u>Text Abstract</u>	<u>Source Image</u>
2014	EDR Digital Archive	-	X	X	-
2010	EDR Digital Archive	-	X	X	-
2008	Haines Company, Inc.	X	X	X	-
2003	Haines Co Publishers	X	-	X	-
2002	Cole Information Services	-	-	-	-
1996	GTE	X	-	X	-
1995	GTE Directories	-	-	-	-
1991	GTE California Incorporated	-	-	-	-
1990	GTE California Incorporated	X	-	X	-
1985	GTE	X	-	X	-
1981	General Telephone Company of California	-	-	-	-

## EXECUTIVE SUMMARY

<u>Year</u>	<u>Source</u>	<u>TP</u>	<u>Adjoining</u>	<u>Text Abstract</u>	<u>Source Image</u>
1980	GTE	X	-	X	-
1975	Pacific Telephone Co	-	-	-	-
1970	General Telephone Company of California	-	-	-	-
1965	GTE	-	-	-	-
1964	Luskey Brothers & Co	-	-	-	-
1961	Luskey Brothers & Co Publishers	-	-	-	-
1960	Luskey Brothers & Co Publishers	-	-	-	-
1956	General Telephone Company Publishers	-	-	-	-
1955	Luskey Brothers Co Publishers	-	-	-	-
1951	Los Angeles Directory Co Publishers	-	-	-	-
1950	The Pacific Telephone and Telegraph Co	-	-	-	-
1949	San Bernardino Directory Co. Publishers	-	-	-	-
1946	Los Angeles Directory Company Publishers	-	-	-	-
1945	Southern California Telephone Company	-	-	-	-
1942	San Bernardino Directory Co Publisher	-	-	-	-
1941	Associated Telephone Company Limited	-	-	-	-
1940	Los Angeles Directory Co.	-	-	-	-
1938	Los Angeles Directory Co.	-	-	-	-
1936	San Bernardino Directory Co Publisher	-	-	-	-
1934	Los Angeles Directory Co.	-	-	-	-
1931	Los Angeles Directory Co.	-	-	-	-
1930	San Bernardino Directory Co Publisher	-	-	-	-
1926	Los Angeles Directory Co.	-	-	-	-
1923	Los Angeles Directory Company	-	-	-	-
1922	R.L. Polk & Co Publishers	-	-	-	-

## EXECUTIVE SUMMARY

### SELECTED ADDRESSES

The following addresses were selected by the client, for EDR to research. An "X" indicates where information was identified.

<b><u>Address</u></b>	<b><u>Type</u></b>	<b><u>Findings</u></b>
7417 Eucalyptus Avenue	Client Entered	
7511 Eucalyptus Avenue	Client Entered	X
7388 Eucalyptus Avenue	Client Entered	X
7565 Eucalyptus Avenue	Client Entered	X
7233 Eucalyptus Avenue	Client Entered	X
7280 Eucalyptus Avenue	Client Entered	X

# FINDINGS

## TARGET PROPERTY INFORMATION

### ADDRESS

7475 Eucalyptus Avenue  
Chino, CA 91710

### FINDINGS DETAIL

Target Property research detail.

### Eucalyptus

#### 7417 Eucalyptus

<u>Year</u>	<u>Uses</u>	<u>Source</u>
1985	MILLER TED OAIRY	GTE
1980	MILLER TED DAIRY	GTE

#### 7475 Eucalyptus

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2008	XXXX	Haines Company, Inc.
2003	BORBA JOE DAIRY	Haines & Co Publishers
1996	DBORM JOE DAIRY	GTE
1990	BORBA JOE DAIRY	GTE California Incorporated

### Eucalyptus Avenue

#### 7417 Eucalyptus Avenue

<u>Year</u>	<u>Uses</u>	<u>Source</u>
-------------	-------------	---------------

## FINDINGS

### ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

#### Eucalyptus Avenue

##### **7233 Eucalyptus Avenue**

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2008	SWAGER Dan	Haines Company, Inc.

##### **7280 Eucalyptus Avenue**

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2008	LUGO Eddie	Haines Company, Inc.

##### **7388 Eucalyptus Avenue**

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2008	BEKENDAM Randy	Haines Company, Inc.

##### **7511 Eucalyptus Avenue**

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2008	OWEN Brad	Haines Company, Inc.

##### **7565 Eucalyptus Avenue**

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2008	XXXX	Haines Company, Inc.

#### Euclid Ave

##### **14393 Euclid Ave**

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2010	BRINDERSON KROEZE	EDR Digital Archive
	BRINDERSON KROEZE	EDR Digital Archive

##### **14397 Euclid Ave**

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2010	DAIRY EMPLOYEE UNION LOCAL 17	EDR Digital Archive
	DAIRY EMPLOYEE UNION LOCAL 17	EDR Digital Archive

##### **14430 Euclid Ave**

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2014	INTEGRITY TRUCKING	EDR Digital Archive

## FINDINGS

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2014	G SHOP	EDR Digital Archive
	G SHOP	EDR Digital Archive
	INTEGRITY TRUCKING	EDR Digital Archive
2010	STARDUST AUTOSPORT ACCESORIES	EDR Digital Archive
	STARDUST AUTOSPORT ACCESORIES	EDR Digital Archive

### 14455 Euclid Ave

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2014	EXPERTISE GROWERS	EDR Digital Archive
	EXPERTISE GROWERS	EDR Digital Archive
2010	EXPERTISE GROWERS	EDR Digital Archive
	EXPERTISE GROWERS	EDR Digital Archive

### 14470 Euclid Ave

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2014	ALBERS MFG CO INC	EDR Digital Archive
	ALBERS MFG CO INC	EDR Digital Archive
2010	ALBERS MFG CO INC	EDR Digital Archive
	ALBERS MFG CO INC	EDR Digital Archive

### Longwood Ave

#### 14539 Longwood Ave

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2010	WANGS EXPRESS	EDR Digital Archive
	WANGS EXPRESS	EDR Digital Archive

### Piedmont St

#### 7038 Piedmont St

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2014	STAR NEGOTIATIONS LLC	EDR Digital Archive
	STAR NEGOTIATIONS LLC	EDR Digital Archive
2010	STAR NEGOTIATIONS LLC	EDR Digital Archive
	STAR NEGOTIATIONS LLC	EDR Digital Archive

#### 7041 Piedmont St

<u>Year</u>	<u>Uses</u>	<u>Source</u>
2010	M O R E CLEANING SERVICES	EDR Digital Archive
	M O R E CLEANING SERVICES	EDR Digital Archive

## FINDINGS

### ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

<u>Address Researched</u>	<u>Address Not Identified in Research Source</u>
14393 Euclid Ave	2014, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
14393 Euclid Ave	2014, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
14397 Euclid Ave	2014, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
14397 Euclid Ave	2014, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
14430 Euclid Ave	2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
14430 Euclid Ave	2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
14455 Euclid Ave	2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
14455 Euclid Ave	2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
14470 Euclid Ave	2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
14470 Euclid Ave	2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
14539 Longwood Ave	2014, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
14539 Longwood Ave	2014, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
7038 Piedmont St	2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
7038 Piedmont St	2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922
7041 Piedmont St	2014, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922

## FINDINGS

### **Address Researched**

7041 Piedmont St

7233 Eucalyptus Avenue

7280 Eucalyptus Avenue

7388 Eucalyptus Avenue

7511 Eucalyptus Avenue

7565 Eucalyptus Avenue

### **Address Not Identified in Research Source**

2014, 2008, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922

2014, 2010, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922

2014, 2010, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922

2014, 2010, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922

2014, 2010, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922

2014, 2010, 2003, 2002, 1996, 1995, 1991, 1990, 1985, 1981, 1980, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922



**TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE**

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

**Address Researched**

7475 Eucalyptus Avenue

**Address Not Identified in Research Source**

2014, 2010, 2002, 1995, 1991, 1981, 1975, 1970, 1965, 1964, 1961, 1960, 1956, 1955, 1951, 1950, 1949, 1946, 1945, 1942, 1941, 1940, 1938, 1936, 1934, 1931, 1930, 1926, 1923, 1922


# **Appendix G**

## **Client-Supplied Documents**

No Previous Environmental Documents Provided

# **Appendix H**

## **EDR Historical Topo Map Report**



James Borba Dairy  
7475 Eucalyptus Avenue  
Chino, CA 91710

Inquiry Number: 5912552.4

December 19, 2019

# EDR Historical Topo Map Report

with QuadMatch™



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

# EDR Historical Topo Map Report

12/19/19

**Site Name:**

James Borba Dairy  
7475 Eucalyptus Avenue  
Chino, CA 91710  
EDR Inquiry # 5912552.4

**Client Name:**

Citadel Environmental Services  
1725 Victory Boulevard  
Glendale, CA 91201  
Contact: Shirley Lee



EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Citadel Environmental Services were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDR's Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

**Search Results:**

**Coordinates:**

<b>P.O.#</b>	NA	<b>Latitude:</b>	33.986725 33° 59' 12" North
<b>Project:</b>	0611.1079.0	<b>Longitude:</b>	-117.6432 -117° 38' 36" West
		<b>UTM Zone:</b>	Zone 11 North
		<b>UTM X Meters:</b>	440592.16
		<b>UTM Y Meters:</b>	3760870.48
		<b>Elevation:</b>	654.37' above sea level

**Maps Provided:**

2012	1933
1981	1902
1973	
1950, 1953, 1954	
1949	
1947	
1942	
1941	

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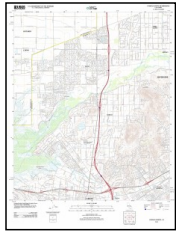
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## Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### 2012 Source Sheets



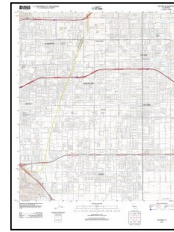
Corona North  
2012  
7.5-minute, 24000



Prado Dam  
2012  
7.5-minute, 24000

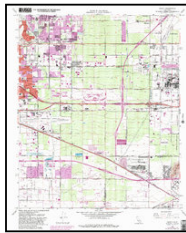


Guasti  
2012  
7.5-minute, 24000

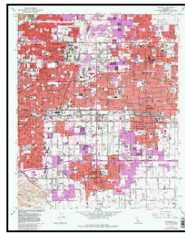


Ontario  
2012  
7.5-minute, 24000

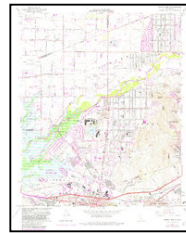
### 1981 Source Sheets



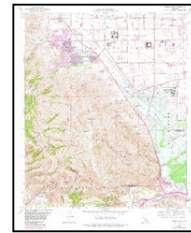
Guasti  
1981  
7.5-minute, 24000  
Aerial Photo Revised 1978



Ontario  
1981  
7.5-minute, 24000  
Aerial Photo Revised 1978



Corona North  
1981  
7.5-minute, 24000  
Aerial Photo Revised 1978

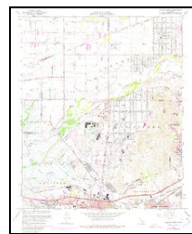


Prado Dam  
1981  
7.5-minute, 24000  
Aerial Photo Revised 1978

### 1973 Source Sheets



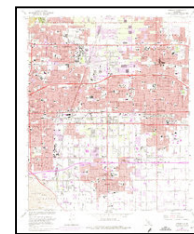
Guasti  
1973  
7.5-minute, 24000  
Aerial Photo Revised 1973



Corona North  
1973  
7.5-minute, 24000  
Aerial Photo Revised 1973



Prado Dam  
1973  
7.5-minute, 24000  
Aerial Photo Revised 1973



Ontario  
1973  
7.5-minute, 24000  
Aerial Photo Revised 1973

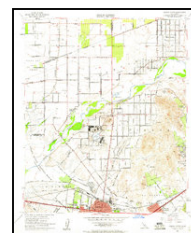
### 1950, 1953, 1954 Source Sheets



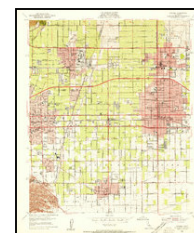
Prado Dam  
1950  
7.5-minute, 24000  
Aerial Photo Revised 1946



Guasti  
1953  
7.5-minute, 24000  
Aerial Photo Revised 1952



Corona North  
1954  
7.5-minute, 24000  
Aerial Photo Revised 1952



Ontario  
1954  
7.5-minute, 24000  
Aerial Photo Revised 1952

## Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### 1949 Source Sheets



Prado Dam  
1949  
7.5-minute, 24000  
Aerial Photo Revised 1946

### 1947 Source Sheets

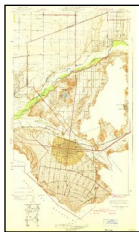


CORONA  
1947  
15-minute, 50000

### 1942 Source Sheets



Ontario and Vicinity  
1942  
7.5-minute, 31680



Corona and Vicinity  
1942  
7.5-minute, 31680

### 1941 Source Sheets



Prado  
1941  
7.5-minute, 31680



GUASTI VICINITY  
1941  
7.5-minute, 31680



## **Topo Sheet Key**

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

### **1933 Source Sheets**

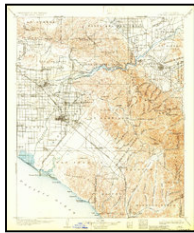


Prado  
1933  
7.5-minute, 31680

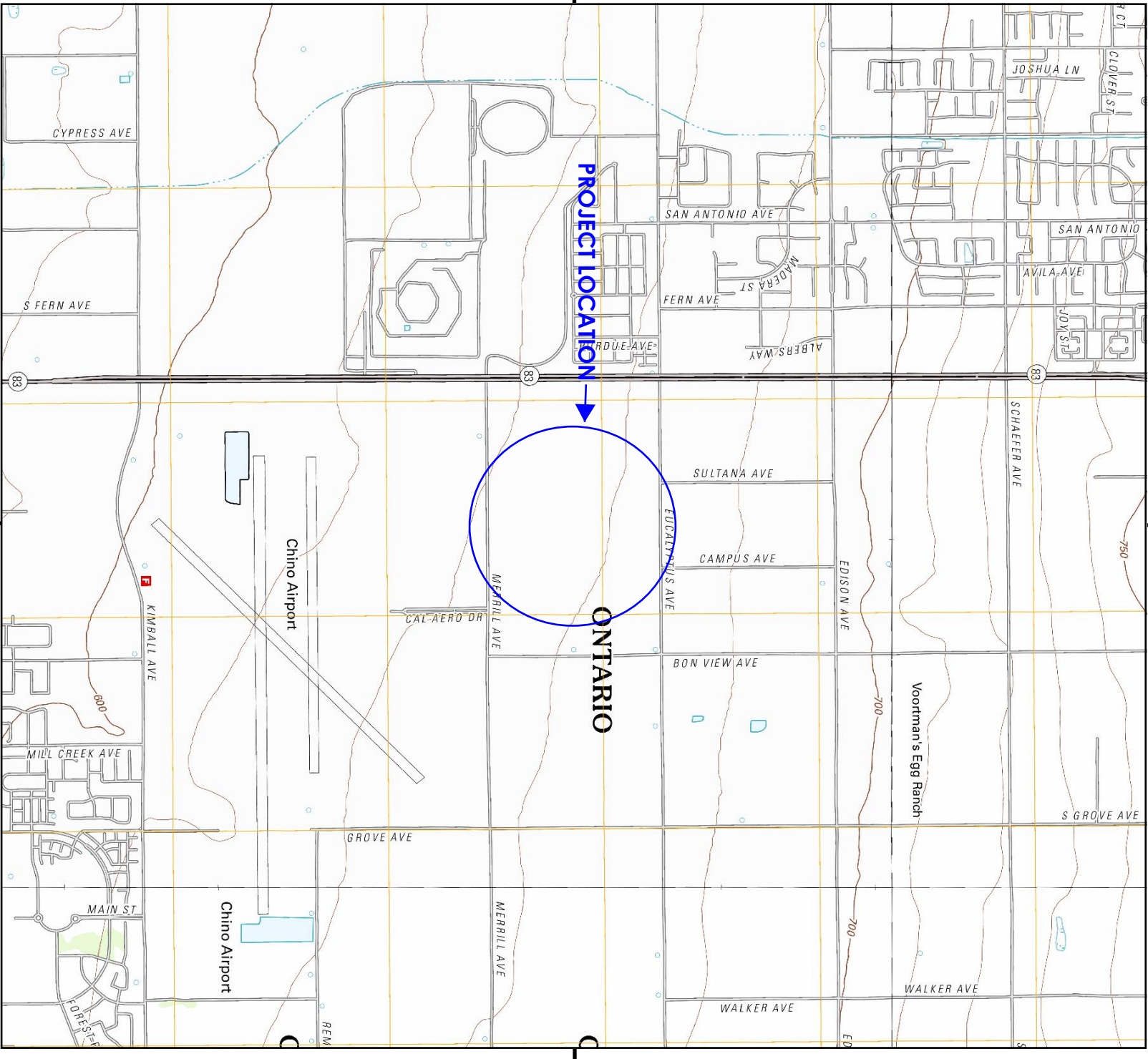


Ontario  
1933  
7.5-minute, 31680

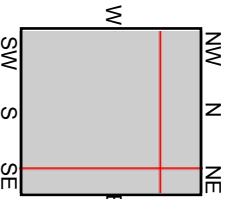
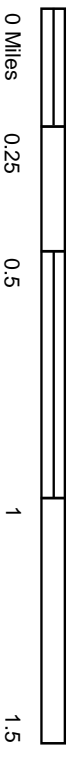
### **1902 Source Sheets**



Corona  
1902  
30-minute, 125000



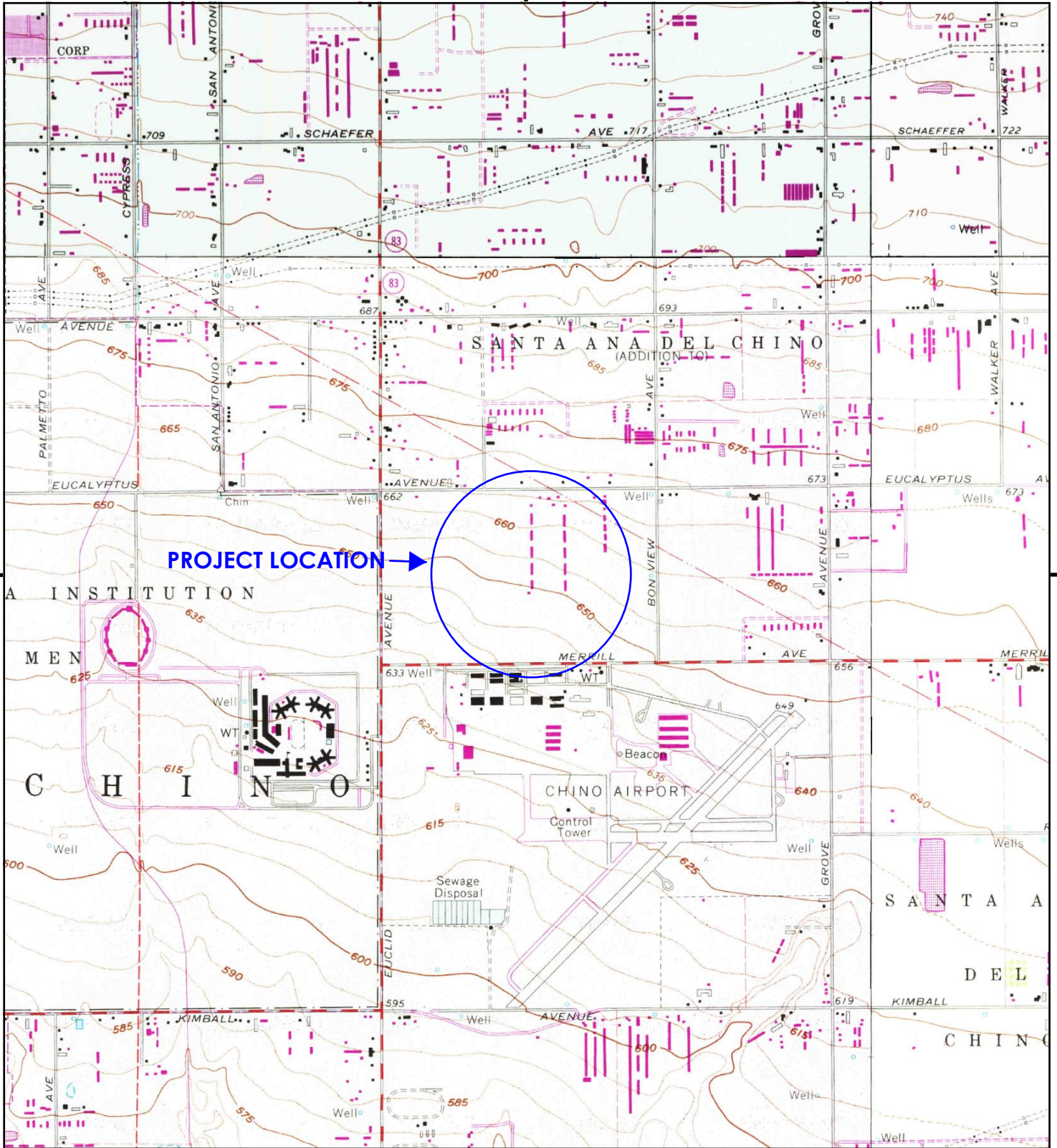
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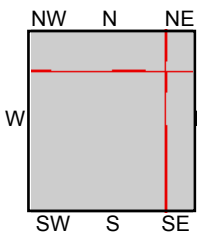
TP, Prado Dam, 2012, 7.5-minute  
NE, Guasti, 2012, 7.5-minute  
SE, Corona North, 2012, 7.5-minute  
NW, Ontario, 2012, 7.5-minute

**SITE NAME:** James Borba Dairy  
**ADDRESS:** 7475 Eucalyptus Avenue  
Chino, CA 91710  
**CLIENT:** Citadel Environmental Services





This report includes information from the following map sheet(s).

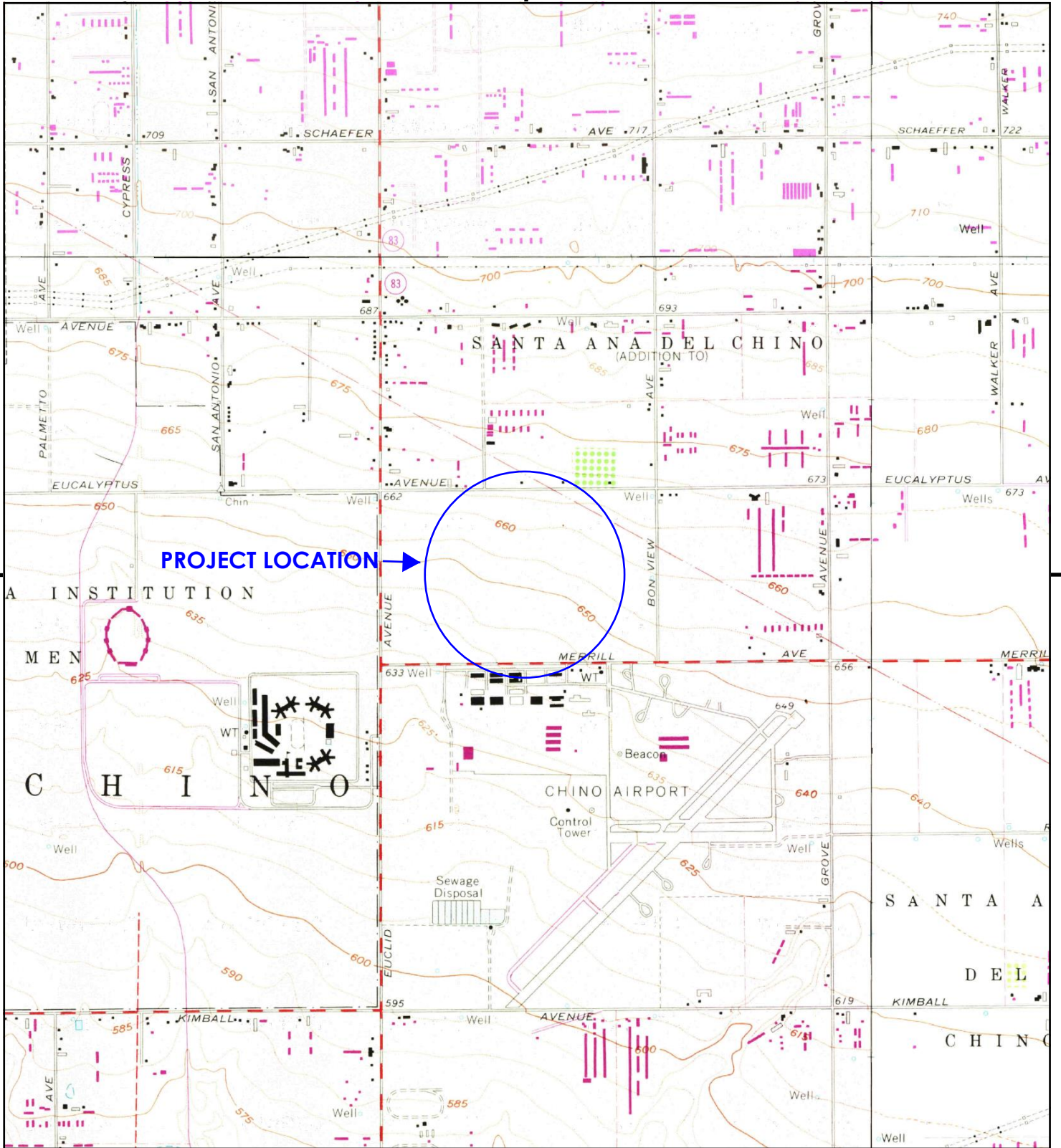


TP, Prado Dam, 1981, 7.5-minute  
 NE, Guasti, 1981, 7.5-minute  
 SE, Corona North, 1981, 7.5-minute  
 NW, Ontario, 1981, 7.5-minute

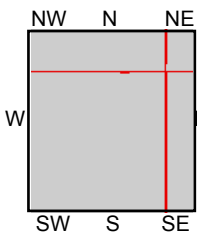
**SITE NAME:** James Borba Dairy  
**ADDRESS:** 7475 Eucalyptus Avenue  
 Chino, CA 91710  
**CLIENT:** Citadel Environmental Services







This report includes information from the following map sheet(s).

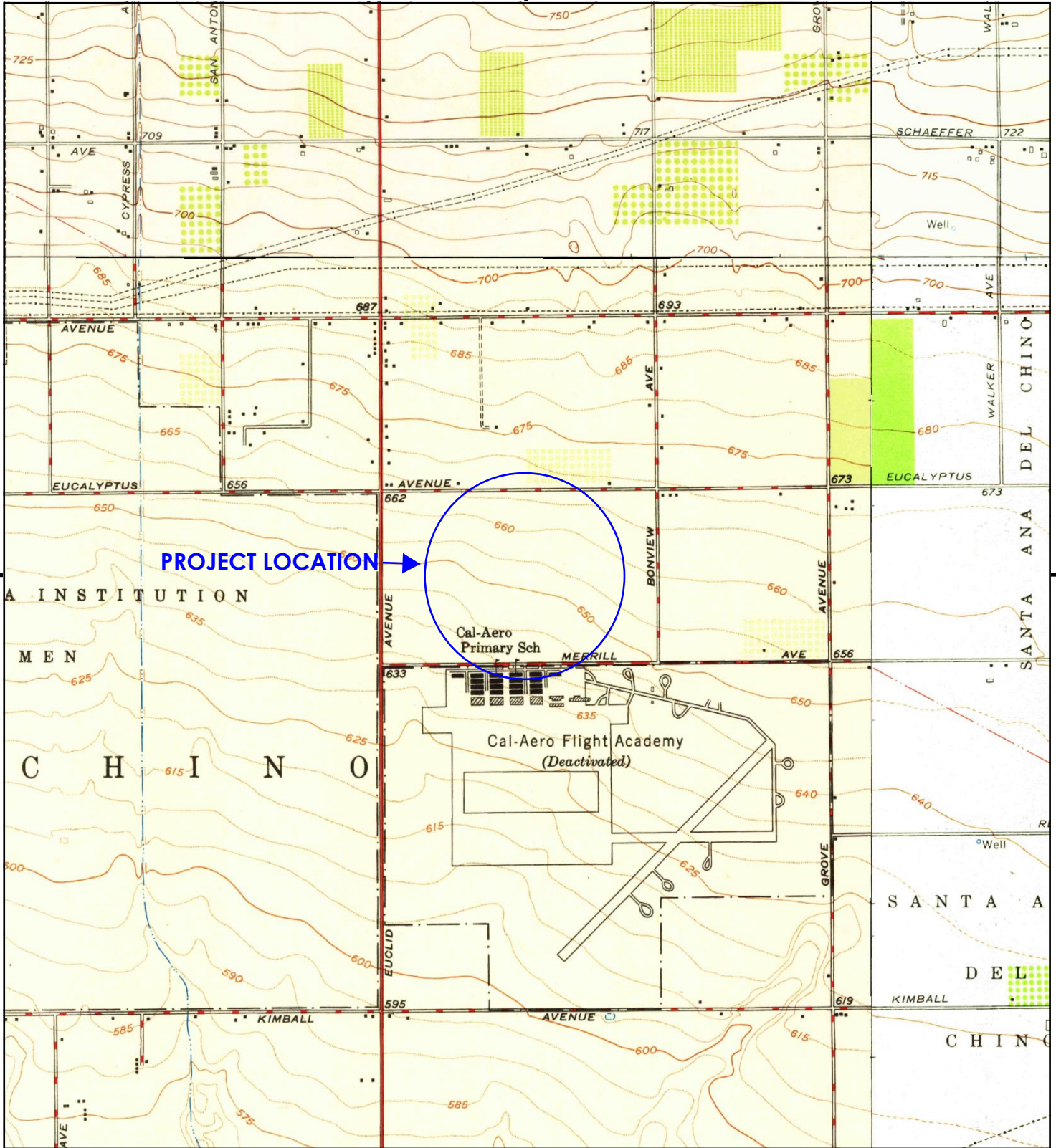


TP, Prado Dam, 1973, 7.5-minute  
 NE, Guasti, 1973, 7.5-minute  
 SE, Corona North, 1973, 7.5-minute  
 NW, Ontario, 1973, 7.5-minute

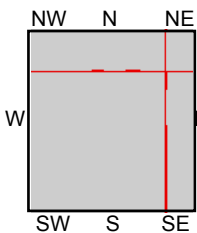
**SITE NAME:** James Borba Dairy  
**ADDRESS:** 7475 Eucalyptus Avenue  
 Chino, CA 91710  
**CLIENT:** Citadel Environmental Services







This report includes information from the following map sheet(s).

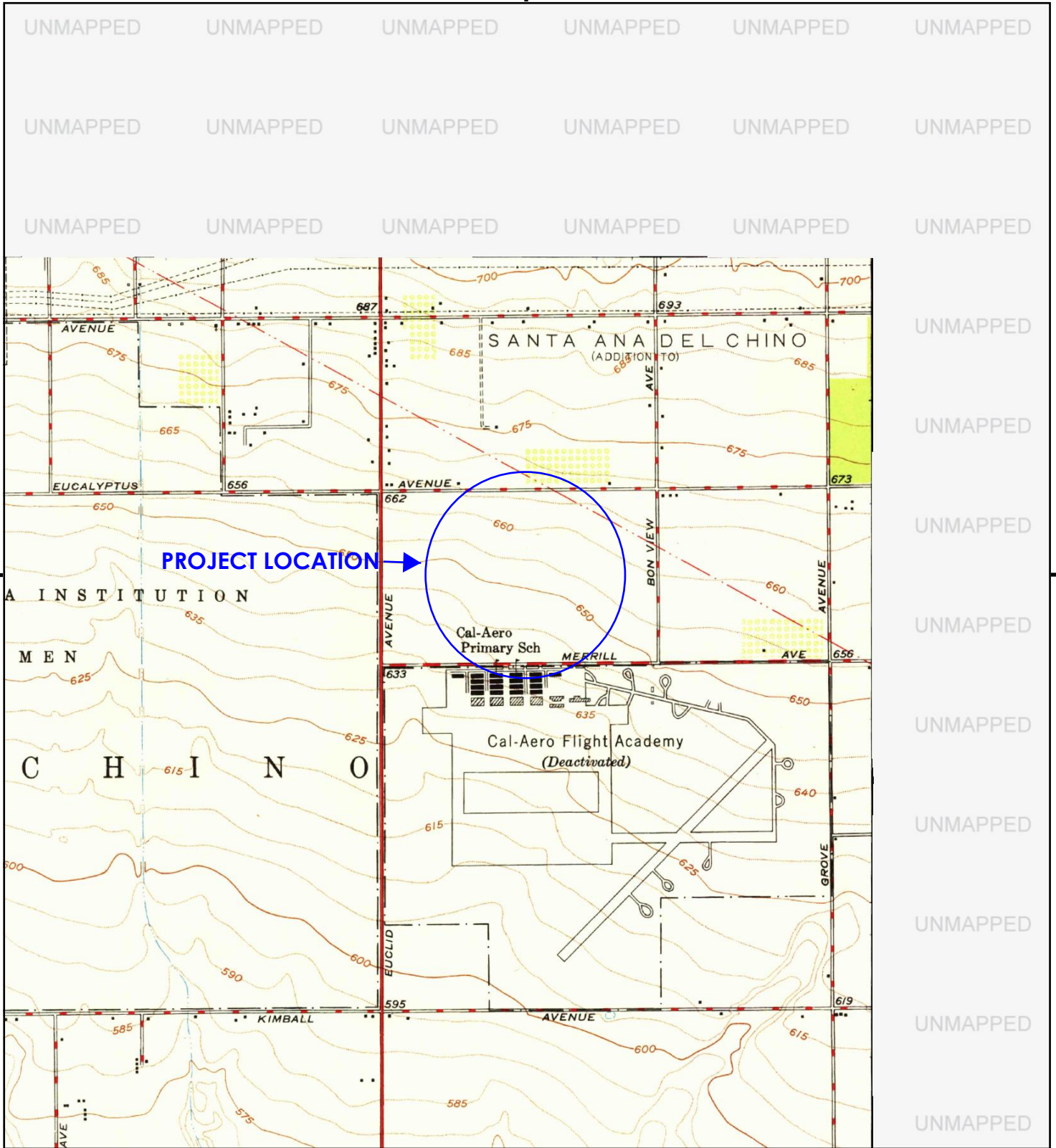


TP, Prado Dam, 1950, 7.5-minute  
 NE, Guasti, 1953, 7.5-minute  
 SE, Corona North, 1954, 7.5-minute  
 NW, Ontario, 1954, 7.5-minute

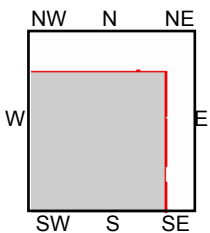
**SITE NAME:** James Borba Dairy  
**ADDRESS:** 7475 Eucalyptus Avenue  
 Chino, CA 91710  
**CLIENT:** Citadel Environmental Services







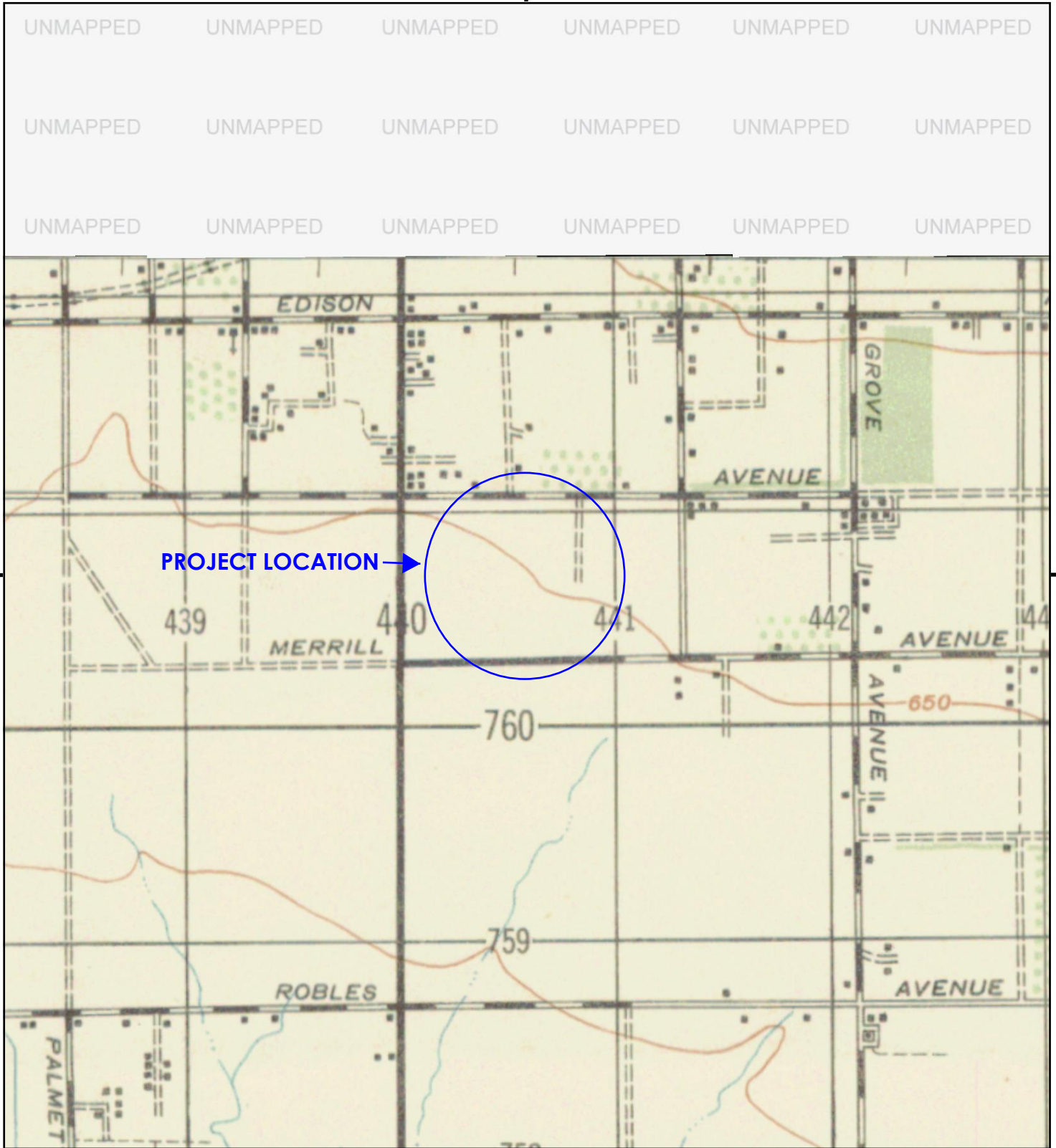
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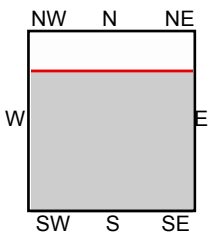
TP, Prado Dam, 1949, 7.5-minute

**SITE NAME:** James Borba Dairy  
**ADDRESS:** 7475 Eucalyptus Avenue  
 Chino, CA 91710  
**CLIENT:** Citadel Environmental Services





This report includes information from the following map sheet(s).

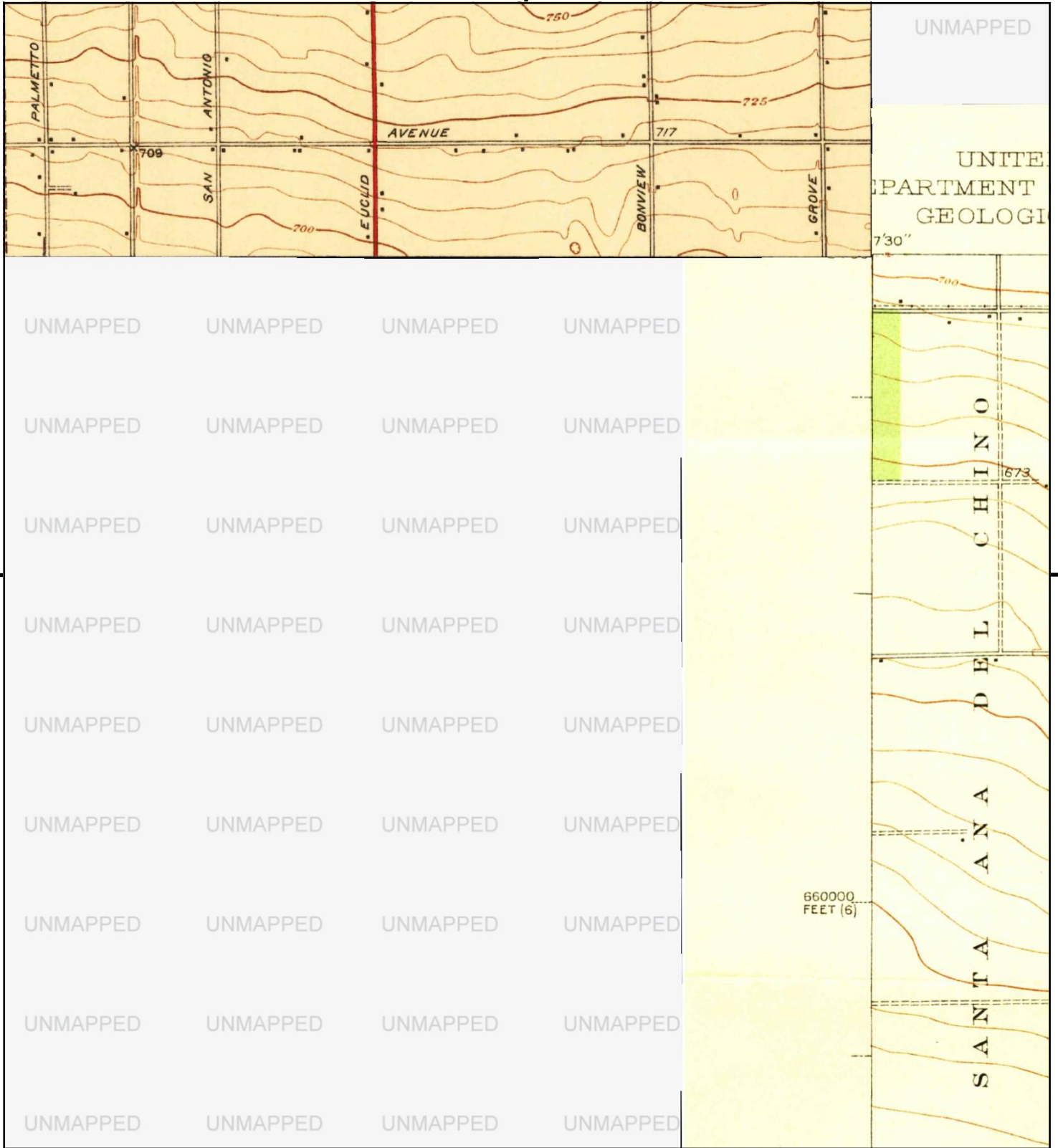


TP, CORONA, 1947, 15-minute

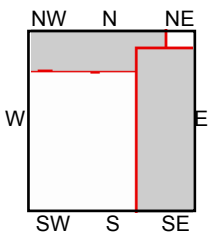
SITE NAME: James Borba Dairy  
 ADDRESS: 7475 Eucalyptus Avenue  
 Chino, CA 91710  
 CLIENT: Citadel Environmental Services







This report includes information from the following map sheet(s).

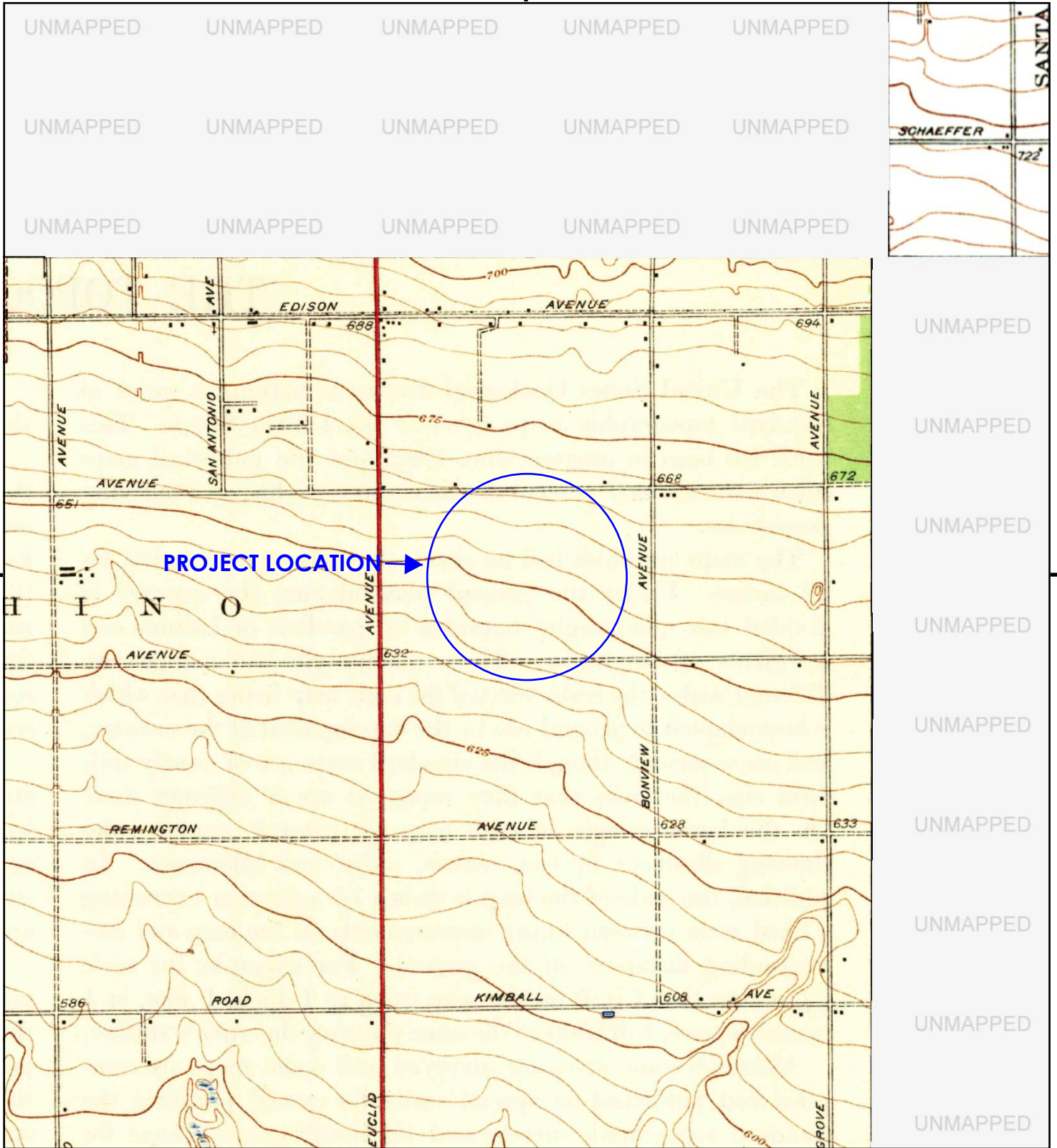


N, Ontario and Vicinity, 1942, 7.5-minute  
SE, Corona and Vicinity, 1942, 7.5-minute

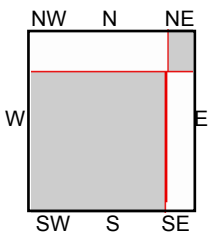
**SITE NAME:** James Borba Dairy  
**ADDRESS:** 7475 Eucalyptus Avenue  
Chino, CA 91710  
**CLIENT:** Citadel Environmental Services







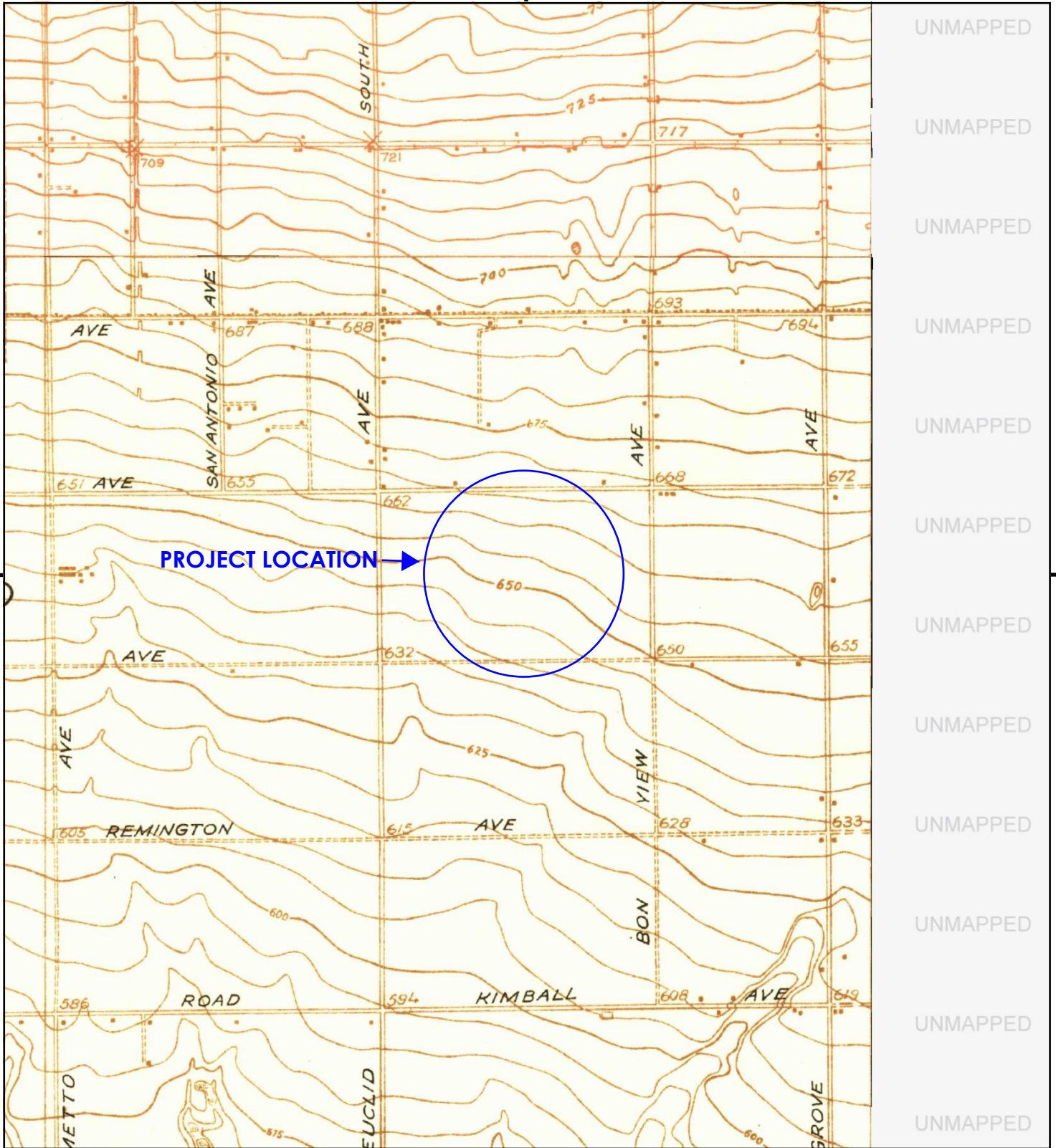
This report includes information from the following map sheet(s).



TP, Prado, 1941, 7.5-minute  
 NE, GUASTI VICINITY, 1941, 7.5-minute

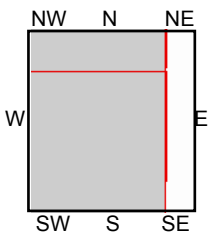
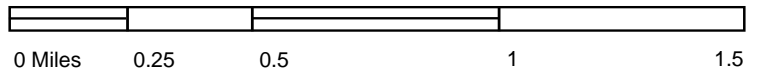
**SITE NAME:** James Borba Dairy  
**ADDRESS:** 7475 Eucalyptus Avenue  
 Chino, CA 91710  
**CLIENT:** Citadel Environmental Services





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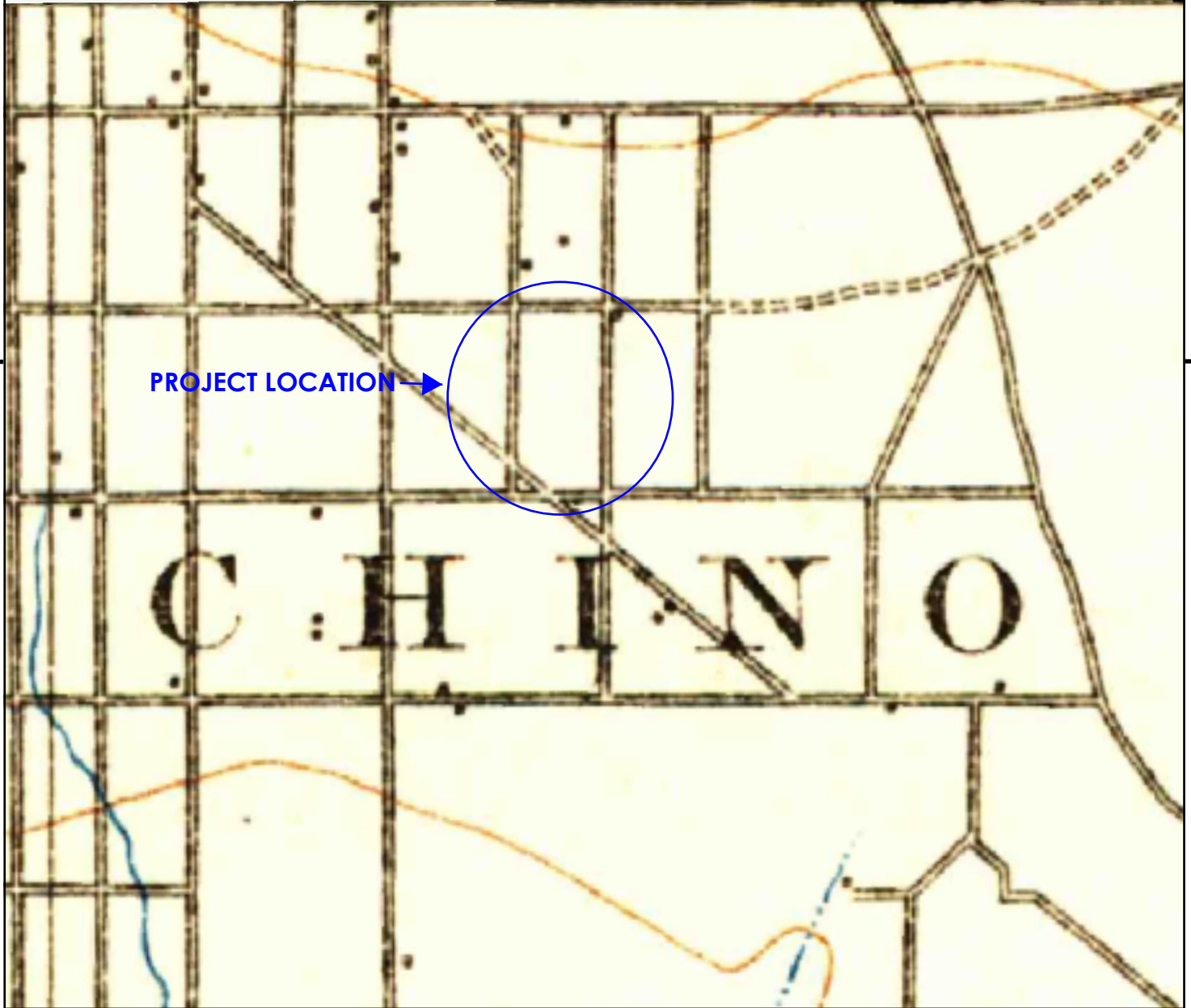
TP, Prado, 1933, 7.5-minute  
N, Ontario, 1933, 7.5-minute

SITE NAME: James Borba Dairy  
ADDRESS: 7475 Eucalyptus Avenue  
Chino, CA 91710  
CLIENT: Citadel Environmental Services

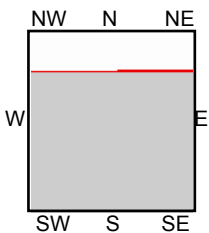




UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED
UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED
UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED	UNMAPPED



This report includes information from the following map sheet(s).



TP, Corona, 1902, 30-minute

SITE NAME: James Borba Dairy  
 ADDRESS: 7475 Eucalyptus Avenue  
 Chino, CA 91710  
 CLIENT: Citadel Environmental Services



# **Appendix I**

## **EDR Environmental Lien and AUL Search**

**James Borba Dairy**

7475 Eucalyptus Avenue  
Chino, CA 91710

Inquiry Number: 5912552.7  
December 20, 2019

## EDR Environmental Lien and AUL Search

## EDR Environmental Lien and AUL Search

The EDR Environmental Lien and AUL Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied address information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
- provide a copy of the deed or cite documents reviewed.

***Thank you for your business.***

Please contact EDR at 1-800-352-0050  
with any questions or comments.

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## EDR Environmental Lien and AUL Search

### TARGET PROPERTY INFORMATION

#### **ADDRESS**

7475 Eucalyptus Avenue  
James Borba Dairy  
Chino, CA 91710

### ENVIRONMENTAL LIEN

Environmental Lien:                      Found                       Not Found

### OTHER ACTIVITY AND USE LIMITATIONS (AULs)

AULs:                                              Found                                               Not Found

**RESEARCH SOURCE**

---

**Source 1:**

San Bernardino Recorder  
San Bernardino, CA



**PROPERTY INFORMATION**

**Deed 1:**

Type of Deed: deed  
Title is vested in: Pacific Commodities LLC  
Title received from: B & B Dairy LLC  
Deed Dated: 4/7/2003  
Deed Recorded: 4/9/2003  
Book: NA  
Page: na  
Volume: na  
Instrument: na  
Docket: NA  
Land Record Comments:  
Miscellaneous Comments:

**Legal Description:** See Exhibit

**Legal Current Owner:** Pacific Commodities LLC

**Parcel # / Property Identifier:** 1054-031-01, 1054-031-02, 1054-041-01, 1054-041-02, 1054-261-01, 1054-261-02, 1054-291-01, 1054-291-02

**Comments:** See Exhibit

## **Deed Exhibit 1**

**RECORDING REQUESTED BY:**

**When Recorded Mail Document  
and Tax Statement To:**

Pacific Commodities, LLC  
2339 N. Euclid Ave.  
Upland, CA 91784

Recorded in Official Records, County of San Bernardino

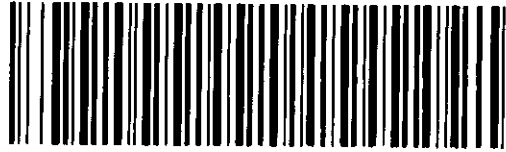


**LARRY WALKER**  
Auditor/Controller - Recorder

P Counter

4/09/2003  
3:08 PM  
LMJ

Doc#: 2003-0234305



Titles: 1      Pages: 3  
Fees            12.00  
Taxes           0.00  
Other           3.75  
PAID            \$15.75

Escrow No.  
Title Order No.

SPACE ABOVE THIS LINE FOR RECORDER'S USE

**GRANT DEED**

APN's: 1054031010000; 1054031020000  
1054041010000; 1054041020000  
1054261010000; 1054261020000  
1054291010000; 1054291020000

The undersigned grantor(s) declare(s)

Documentary transfer tax is \$-0- (transfer) City tax \$

- computed on full value of property conveyed, or
- computed on full value less value of liens or encumbrances remaining at time of sale,
- Unincorporated Area City of \_\_\_\_\_

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,  
B&B DAIRY, LLC, a California Limited Liability Company  
hereby grants, transfers and conveys to  
PACIFIC COMMODITIES, LLC, a California Limited Liability Company

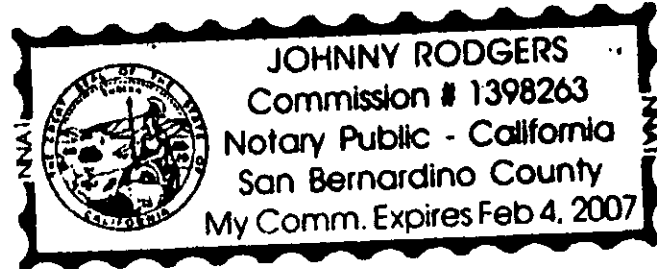
all right, title and interest held by Grantor in, to and under the  
following described real property in the County of San Bernardino,  
State of California:

See Exhibit "A" attached hereto and incorporated herein  
by reference.

DATED: 04-07-2003

STATE OF CALIFORNIA  
COUNTY OF SAN BERNARDINO  
ON APRIL 07, 2003 before me,  
JAMES A. BORBA personally appeared

[Signature] 4-7-03  
James A. Borba, Member  
[Signature] 4-7-03  
Joseph Borba, Member



personally known to me (or proved to me on the basis  
of satisfactory evidence) to be the person(s) whose  
name(s) is/are subscribed to the within instrument and  
acknowledged to me that he/she/they executed the  
same in his/his/their authorized capacity(ies), and that  
by his/his/their signature(s) on the instrument the  
person(s), or the entity upon behalf of which the  
person(s) acted, executed the instrument.

Witness my hand and official seal,  
Signature [Signature]

MAIL TAX STATEMENT AS DIRECTED ABOVE

LEGAL DESCRIPTION

Exhibit "A"

APN: 1054031010000

Rancho Santa Ana Del Chino, Lot 9 Sec 20 TP 2S R 7W 9.5ac

APN: 1054031020000

Rancho Santa Ana Del Chino, Lot 10 Sec 20 TP 2S R 7W 9.6ac

APN: 1054041010000

Rancho Santa Ana Del Chino, Lot 8 Sec 20 TP 2S R 7W 9ac

APN: 1054041020000

Rancho Santa Ana Del Chino, Lot 7 Sec 20 TP 2S R 7W

APN: 1054261010000

Rancho Santa Ana Del Chino, Lot 24 Sec 20 TP 2S R 7W 9.5ac

APN: 1054261020000

Rancho Santa Ana Del Chino, Lot 23 Sec 20 TP 2S R 7W 9.6ac

APN: 1054291010000

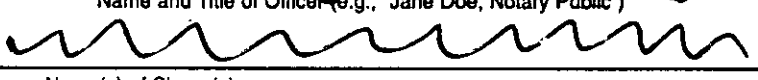
Rancho Santa Ana Del Chino, Lot 25 Sec 20 TP 2S R 7W 9ac

APN: 1054291020000

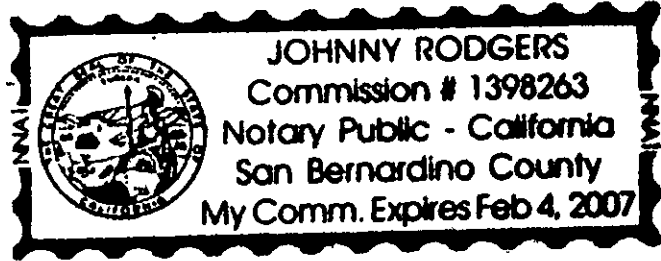
Rancho Santa Ana Del Chino, Lot 26 Sec 20 TP 2S R 7W 9.1ac

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

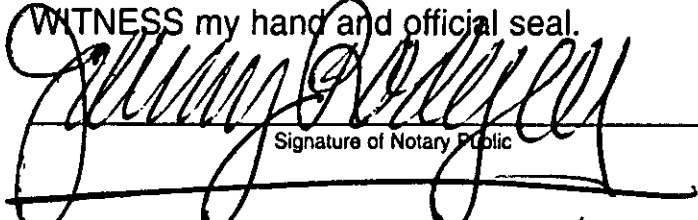
State of California }  
County of SAN BERNARDINO } ss.

On April 07, 2003 before me, Johnny Rodgers, Notary  
Date Name and Title of Officer (e.g., "Jane Doe, Notary Public")  
personally appeared Joseph Berba   
Name(s) of Signer(s)

personally known to me  
 proved to me on the basis of satisfactory evidence



to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.  
  
Signature of Notary Public

**OPTIONAL**

*Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.*

**Description of Attached Document**

Title or Type of Document: \_\_\_\_\_

Document Date: \_\_\_\_\_ Number of Pages: \_\_\_\_\_

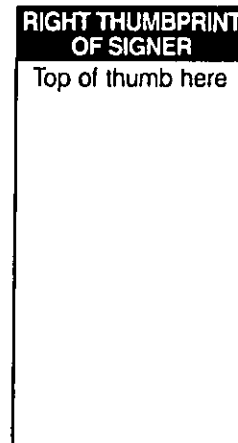
Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer**

Signer's Name: \_\_\_\_\_

- Individual
- Corporate Officer — Title(s): \_\_\_\_\_
- Partner —  Limited  General
- Attorney-in-Fact
- Trustee
- Guardian or Conservator
- Other: \_\_\_\_\_

Signer Is Representing: \_\_\_\_\_



# Appendix J

## EDR Radius Map Report

**James Borba Dairy**

7475 Eucalyptus Avenue

Chino, CA 91710

Inquiry Number: 5912552.2s

December 20, 2019

## The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

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*Thank you for your business.*  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

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## EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

### TARGET PROPERTY INFORMATION

#### ADDRESS

7475 EUCALYPTUS AVENUE  
CHINO, CA 91710

#### COORDINATES

Latitude (North): 33.9867250 - 33° 59' 12.21"  
Longitude (West): 117.6432470 - 117° 38' 35.68"  
Universal Transverse Mercator: Zone 11  
UTM X (Meters): 440586.5  
UTM Y (Meters): 3760676.0  
Elevation: 654 ft. above sea level

### USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5640938 PRADO DAM, CA
Version Date:	2012
Northeast Map:	5620426 GUASTI, CA
Version Date:	2012
Southeast Map:	5640930 CORONA NORTH, CA
Version Date:	2012
Northwest Map:	5619074 ONTARIO, CA
Version Date:	2012

### AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140603
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:  
7475 EUCALYPTUS AVENUE  
CHINO, CA 91710

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
<a href="#">A1</a>	TED MILLER DAIRY	7475 EUCALYPTUS	HIST UST		TP
<a href="#">A2</a>	AG-BORBA, JOE	7475 EUCALYPTUS AVE	UST		TP
<a href="#">A3</a>	LINDSEY BORBA DAIRY	7475 EUCALYPTUS	WDS		TP
<a href="#">A4</a>	G H DAIRY #2	7475 EUCALYPTUS AVE	CERS HAZ WASTE, San Bern. Co. Permit, CERS		TP
<a href="#">A5</a>	TED MILLER DAIRY	7475 EUCALYPTUS	SWEEPS UST, CA FID UST		TP
<a href="#">A6</a>	GH DAIRY NO. 2	7475 EUCALYPTUS AVEN	FINDS		TP
<a href="#">B7</a>	GH DAIRY #2	7417 EUCALYPTUS	CERS	Higher	5, 0.001,
<a href="#">B8</a>	GH DAIRY #2	7417 EUCALYPTUS	FINDS	Higher	5, 0.001,
<a href="#">B9</a>	GH DAIRY #2	7417 EUCALYPTUS AVEN	ENF, CIWQS	Higher	5, 0.001,
<a href="#">10</a>	CHINO VALLEY DAIRY 2	14389 SULTANA AVENUE	ENF, San Bern. Co. Permit, CIWQS	Higher	219, 0.041, NNW
<a href="#">C11</a>	CHINO FIRE STATION T	7100 MERRILL AVE	HIST UST	Lower	336, 0.064, SW
<a href="#">C12</a>	CHINO FIRE DISTRICT	7100 MERRILL AVE	SWEEPS UST, HIST UST, CA FID UST	Lower	336, 0.064, SW
<a href="#">13</a>	CHINO VALLEY DAIRY	7565 EUCALYPTUS AVE	CERS TANKS, EMI, ENF, San Bern. Co. Permit, CIWQS,...	Higher	362, 0.069, NE
<a href="#">14</a>	LEGEND DAIRY #1	7233 EUCALYPTUS	San Bern. Co. Permit, CERS	Higher	373, 0.071, NW
<a href="#">D15</a>	TABRIZI INC D B A RA	7000 MERRILL AVE BLD	RCRA NonGen / NLR	Lower	670, 0.127, SW
<a href="#">D16</a>	CONCRETE MOTOR SPORT	7000 MERRILL AVE., U	RCRA NonGen / NLR	Lower	670, 0.127, SW
<a href="#">D17</a>	CHINO AIRPORT	7000 MERRILL AVENUE	RCRA NonGen / NLR	Lower	670, 0.127, SW
<a href="#">D18</a>	SOUTHERN CALIFORNIA	7000 MERRILL BLDG 4	RCRA NonGen / NLR	Lower	670, 0.127, SW
<a href="#">D19</a>	AERO TRADER	7000 MERRILL AVE HAN	RCRA NonGen / NLR	Lower	670, 0.127, SW
<a href="#">D20</a>	NAVION CUSTOMS LLC	7000 MERRILL AVE HNG	RCRA NonGen / NLR	Lower	670, 0.127, SW
<a href="#">D21</a>	CENTURY AIRCRAFT PAI	7000 MERRILL AVE HAN	RCRA NonGen / NLR	Lower	670, 0.127, SW
<a href="#">D22</a>	FAA CNO ATCT	7000 MERRILL AVE	San Bern. Co. Permit, CERS	Lower	670, 0.127, SW
<a href="#">D23</a>	CAL AERO JET CENTER	7000 MERRILL AVE B-3	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D24</a>	CENTURY AIRCRAFT PAI	7000 MERRILL AVE	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D25</a>	ENCORE JET CENTER	7000 MERRILL AVE STE	RCRA NonGen / NLR	Lower	670, 0.127, SW
<a href="#">D26</a>	A & J ENVIRONMENTAL	7000 MERRILL	RCRA NonGen / NLR	Lower	670, 0.127, SW
<a href="#">D27</a>	DUBOIS AVIATION INC.	7000 MERRILL AVE BOX	RCRA NonGen / NLR	Lower	670, 0.127, SW
<a href="#">D28</a>	CONCRETE MOTOR SPORT	7000 MERRILL AVE., U	RCRA NonGen / NLR	Lower	670, 0.127, SW
<a href="#">D29</a>	CHINO AIRPORT MAINTA	7000 MERRILL	RCRA NonGen / NLR	Lower	670, 0.127, SW
<a href="#">D30</a>	CHINO ROAD YARD	7000 MERRILL AVE	HIST UST	Lower	670, 0.127, SW
<a href="#">D31</a>	CHINO AIRPORT	7000 MERRILL AVE	SWEEPS UST, HIST UST	Lower	670, 0.127, SW
<a href="#">D32</a>	K-M AIR ENTERPRISES	7000 MERRILL AVE BLD	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D33</a>	ENCORE JET CENTER, L	7000 MERRILL AVE BLD	UST	Lower	670, 0.127, SW
<a href="#">D34</a>	UCO AVIATION	7000 MERRILL AVE	UST, San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D35</a>	CHINO ROADYARD	7000 MERRILL AVE	HIST UST	Lower	670, 0.127, SW
<a href="#">D36</a>	ENCORE JET CENTER, L	7000 MERRILL AVE BLD	UST	Lower	670, 0.127, SW
<a href="#">D37</a>	SCE CHINO AIRCRAFT O	7000 MERRILL AVE, BO	CERS HAZ WASTE, CERS TANKS, CERS	Lower	670, 0.127, SW
<a href="#">D38</a>	CHINO VALLEY INDEPEN	7000 MERRILL AVE	RCRA NonGen / NLR	Lower	670, 0.127, SW
<a href="#">D39</a>	YANKS AIR MUSEUM	7000 MERRILL AVE HAN	RCRA NonGen / NLR	Lower	670, 0.127, SW

MAPPED SITES SUMMARY

Target Property Address:  
7475 EUCALYPTUS AVENUE  
CHINO, CA 91710

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
<a href="#">D40</a>	ENCORE JET CENTER, L	7000 MERRILL AVE BLD	CERS HAZ WASTE, CERS TANKS, San Bern. Co. Permit,...	Lower	670, 0.127, SW
<a href="#">D41</a>	CHINO VALLEY IND FIR	7000 MERRILL AVE HNGR	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D42</a>	BUCKLEY AIRCRAFT MAI	7000 MERRILL AVE BLD	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D43</a>	SCE CHINO AIRCRAFT O	7000 MERRILL AVE BX5	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D44</a>	YANKS AIR CORPS	7000 MERRILL AVE HGR	CERS HAZ WASTE, San Bern. Co. Permit, CERS	Lower	670, 0.127, SW
<a href="#">D45</a>	JET CONNECT SERVICES	7000 MERRILL AVE BOX	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D46</a>	CHAMPION JETS INC	7000 MERRILL AVE	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D47</a>	NU VISTA AVIATION	7000 MERRILL AVE BLD	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D48</a>	AIRCRAFTSMAN, INC	7000 MERRILL AVE HNG	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D49</a>	SAN BERNARDINO COUNT	7000 MERRILL BLDG M5	RCRA-SQG, FINDS, ECHO	Lower	670, 0.127, SW
<a href="#">D50</a>	FIGHTER REBUILDERS	7000 MERRILL	RCRA-SQG, FINDS, ECHO	Lower	670, 0.127, SW
<a href="#">D51</a>	AERO TRADER	7000 MERRILL AVE HAN	RCRA-SQG	Lower	670, 0.127, SW
<a href="#">D52</a>	SQUARE ONE AVIATION	7000 MERRILL AVE BX	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D53</a>	FLITE CRAFTENT	7000 MERRILL	RCRA-SQG	Lower	670, 0.127, SW
<a href="#">D54</a>	CHINO AVIATION	7000 MERRILL AVE	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D55</a>	ROGERS AVIATION	7000 MERRILL AVE HGR	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D56</a>	ENCORE JET CENTER	7000 MERRILL AVE A-2	CERS HAZ WASTE, CERS TANKS, San Bern. Co. Permit,...	Lower	670, 0.127, SW
<a href="#">D57</a>	CENTURY AIRCRAFT PAI	7000 MERRILL AVE	CERS HAZ WASTE, HAZNET, CERS	Lower	670, 0.127, SW
<a href="#">D58</a>	SBC/CHINO AIRPORT	7000 MERRILL AVE BLD	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D59</a>	INLAND VALLEY AVIATI	7000 MERRILL AVE UNI	CERS HAZ WASTE, CERS	Lower	670, 0.127, SW
<a href="#">D60</a>	SILVER STATE HELICOP	7000 MERRILL AVE A-2	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D61</a>	CHAMPIONSHIP AVIATIO	7000 MERRILL AVE HGR	AST	Lower	670, 0.127, SW
<a href="#">D62</a>	SAN BDNO COUNTY/CHIN	7000 MERRILL AVE	CERS HAZ WASTE, San Bern. Co. Permit, CERS	Lower	670, 0.127, SW
<a href="#">D63</a>	NORTH ORANGE AVIATIO	7000 MERRILL AVE HGR	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D64</a>	AERO TRADER	7000 MERRILL AVE	CERS HAZ WASTE, San Bern. Co. Permit, CERS	Lower	670, 0.127, SW
<a href="#">D65</a>	ADVANTAGE AVIATION	7000 MERRILL AVE	RCRA NonGen / NLR	Lower	670, 0.127, SW
<a href="#">D66</a>	SOUTHERN CALIFORNIA	7000 MERRILL AVE, BO	AST	Lower	670, 0.127, SW
<a href="#">D67</a>	VAN'S MOBILE TRUCK S	7000 MERRILL AVE	CPS-SLIC, San Bern. Co. Permit, CERS	Lower	670, 0.127, SW
<a href="#">D68</a>	COUNTY SAN BERNARDIN	7000 MERRILL AVE	AST, SWEEPS UST, HIST UST, CERS TANKS, CA FID UST,...	Lower	670, 0.127, SW
<a href="#">D69</a>	TOM KING AERIAL	7000 MERRILL AVE BOX	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D70</a>	CORONA AERO REFINISH	7000 MERRILL AVE 24	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D71</a>	EZELL SALES INC	7000 E MERRILL AVE B	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D72</a>	MILITARY AIRCRAFT RE	7000 MERRILL AVE A48	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D73</a>	SB COUNTY MAINTENANC	7000 MERRILL AVE.	AST	Lower	670, 0.127, SW
<a href="#">D74</a>	AIRCRAFTSMAN	7000 MERRILL HGR AVE	San Bern. Co. Permit	Lower	670, 0.127, SW
<a href="#">D75</a>	UNLIMITED AIRCRAFT I	7000 MERRILL BOX 27	RCRA-SQG, FINDS, ECHO	Lower	670, 0.127, SW
<a href="#">D76</a>	SOUTHERN CALIFORNIA	7000 MERRILL AVE	RCRA-LQG	Lower	670, 0.127, SW
<a href="#">D77</a>	BANNER AIRLINES	7000 MERRILL AVE #19	RCRA-SQG	Lower	670, 0.127, SW
<a href="#">D78</a>	SO CALIF EDISON AIRC	7000 MERRILL AVE HAN	RCRA-SQG, FINDS, ECHO	Lower	670, 0.127, SW

MAPPED SITES SUMMARY

Target Property Address:  
7475 EUCALYPTUS AVENUE  
CHINO, CA 91710

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
<a href="#">D79</a>	CHINO AIRPORT RADIUM	7000 MERRILL AVE	SEMS, PRP	Lower	670, 0.127, SW
<a href="#">D80</a>	CHINO AIRPORT NAPALM	7000 MERRILL AVENUE	SEMS	Lower	670, 0.127, SW
<a href="#">D81</a>	KANETIC LTD	7000 MERRILL AVE A-3	CPS-SLIC, CERS HAZ WASTE, CERS TANKS, EMI, San...	Lower	670, 0.127, SW
<a href="#">82</a>	CAL-AERO FIELD / ACA		ENVIROSTOR	Lower	917, 0.174, SSE
<a href="#">E83</a>	CHINO VALLEY TRUCK W	14411 EUCLID AVE	San Bern. Co. Permit, CERS	Higher	1245, 0.236, NW
<a href="#">E84</a>	CHINO VALLEY TRUCK W	14411 EUCLID AVENUE	ENF, San Bern. Co. Permit, CIWQS	Higher	1245, 0.236, NW
<a href="#">85</a>	CHINO AIRPORT	700 MERRILL AVENUE	CPS-SLIC	Lower	1584, 0.300, WSW
<a href="#">86</a>	J.P. LOUBET	14211 EUCLID AVE	LUST, SWEEPS UST, HIST CORTESE, CERS	Higher	2401, 0.455, NNW
<a href="#">F87</a>	HEMAN G. STARK YOUTH	15180	LUST, HIST CORTESE	Lower	2568, 0.486, SW
<a href="#">G88</a>	ONTARIO AGRICULTURAL	7325 EDISON AVE.	SWF/LF, CERS	Higher	2617, 0.496, North
<a href="#">G89</a>	RESIDUALS RECOVERY G	7325 EDISON RD.	SWF/LF, CERS	Higher	2617, 0.496, North
<a href="#">F90</a>	CHINO YOUTH AUTHORIT	15180 S EUCLID AVE	LUST, CERS HAZ WASTE, SWEEPS UST, HIST UST, CA FID..	Lower	2620, 0.496, SW
<a href="#">H91</a>	CAL-AERO AIRPORT		FUDS	Lower	3093, 0.586, SSE
<a href="#">H92</a>	CAL-AERO AIRPORT		ENVIROSTOR	Lower	3096, 0.586, SSE

## EXECUTIVE SUMMARY

### TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 9 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
TED MILLER DAIRY 7475 EUCALYPTUS CHINO, CA 91710	HIST UST Facility Id: 00000028489	N/A
AG-BORBA, JOE 7475 EUCALYPTUS AVE CHINO, CA 91762	UST Database: UST, Date of Government Version: 09/09/2019 Facility Id: 87014337	N/A
LINDSEY BORBA DAIRY 7475 EUCALYPTUS CHINO, CA 91710	WDS Facility Status: A Facility Id: 8 365684001	N/A
G H DAIRY #2 7475 EUCALYPTUS AVE ONTARIO, CA 91761	CERS HAZ WASTE San Bern. Co. Permit Facility Status: ACTIVE Facility Status: FEE EXEMPT Facility Status: INACTIVE Facility Id: FA0011765 Facility Id: FA0000361  CERS	N/A
TED MILLER DAIRY 7475 EUCALYPTUS CHINO, CA 91710	SWEEPS UST Status: A Tank Status: A Comp Number: 28489  CA FID UST Facility Id: 36008852 Status: A	N/A
GH DAIRY NO. 2 7475 EUCALYPTUS AVEN ONTARIO, CA 91762	FINDS Registry ID:: 110064646236	N/A

## EXECUTIVE SUMMARY

### DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

### STANDARD ENVIRONMENTAL RECORDS

#### ***Federal NPL site list***

NPL..... National Priority List  
Proposed NPL..... Proposed National Priority List Sites  
NPL LIENS..... Federal Superfund Liens

#### ***Federal Delisted NPL site list***

Delisted NPL..... National Priority List Deletions

#### ***Federal CERCLIS list***

FEDERAL FACILITY..... Federal Facility Site Information listing

#### ***Federal CERCLIS NFRAP site list***

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

#### ***Federal RCRA CORRACTS facilities list***

CORRACTS..... Corrective Action Report

#### ***Federal RCRA non-CORRACTS TSD facilities list***

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

#### ***Federal RCRA generators list***

RCRA-VSQG..... RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

#### ***Federal institutional controls / engineering controls registries***

LUCIS..... Land Use Control Information System  
US ENG CONTROLS..... Engineering Controls Sites List  
US INST CONTROL..... Sites with Institutional Controls

#### ***Federal ERNS list***

ERNS..... Emergency Response Notification System

#### ***State- and tribal - equivalent NPL***

RESPONSE..... State Response Sites

#### ***State and tribal leaking storage tank lists***

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

## EXECUTIVE SUMMARY

### **State and tribal registered storage tank lists**

FEMA UST..... Underground Storage Tank Listing  
INDIAN UST..... Underground Storage Tanks on Indian Land

### **State and tribal voluntary cleanup sites**

VCP..... Voluntary Cleanup Program Properties  
INDIAN VCP..... Voluntary Cleanup Priority Listing

### **State and tribal Brownfields sites**

BROWNFIELDS..... Considered Brownfields Sites Listing

### **ADDITIONAL ENVIRONMENTAL RECORDS**

#### **Local Brownfield lists**

US BROWNFIELDS..... A Listing of Brownfields Sites

#### **Local Lists of Landfill / Solid Waste Disposal Sites**

WMUDS/SWAT..... Waste Management Unit Database  
SWRCY..... Recycler Database  
HAULERS..... Registered Waste Tire Haulers Listing  
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands  
ODI..... Open Dump Inventory  
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations  
IHS OPEN DUMPS..... Open Dumps on Indian Land

#### **Local Lists of Hazardous waste / Contaminated Sites**

US HIST CDL..... Delisted National Clandestine Laboratory Register  
HIST Cal-Sites..... Historical Calsites Database  
SCH..... School Property Evaluation Program  
CDL..... Clandestine Drug Labs  
Toxic Pits..... Toxic Pits Cleanup Act Sites  
US CDL..... National Clandestine Laboratory Register  
PFAS..... PFAS Contamination Site Location Listing

#### **Local Land Records**

LIENS..... Environmental Liens Listing  
LIENS 2..... CERCLA Lien Information  
DEED..... Deed Restriction Listing

#### **Records of Emergency Release Reports**

HMIRS..... Hazardous Materials Information Reporting System  
CHMIRS..... California Hazardous Material Incident Report System  
LDS..... Land Disposal Sites Listing  
MCS..... Military Cleanup Sites Listing  
SPILLS 90..... SPILLS 90 data from FirstSearch

## EXECUTIVE SUMMARY

### **Other Ascertainable Records**

DOD.....	Department of Defense Sites
SCRD DRYCLEANERS.....	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR.....	Financial Assurance Information
EPA WATCH LIST.....	EPA WATCH LIST
2020 COR ACTION.....	2020 Corrective Action Program List
TSCA.....	Toxic Substances Control Act
TRIS.....	Toxic Chemical Release Inventory System
SSTS.....	Section 7 Tracking Systems
ROD.....	Records Of Decision
RMP.....	Risk Management Plans
RAATS.....	RCRA Administrative Action Tracking System
PRP.....	Potentially Responsible Parties
PADS.....	PCB Activity Database System
ICIS.....	Integrated Compliance Information System
FTTS.....	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS.....	Material Licensing Tracking System
COAL ASH DOE.....	Steam-Electric Plant Operation Data
COAL ASH EPA.....	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER.....	PCB Transformer Registration Database
RADINFO.....	Radiation Information Database
HIST FTTS.....	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS.....	Incident and Accident Data
CONSENT.....	Superfund (CERCLA) Consent Decrees
INDIAN RESERV.....	Indian Reservations
FUSRAP.....	Formerly Utilized Sites Remedial Action Program
UMTRA.....	Uranium Mill Tailings Sites
LEAD SMELTERS.....	Lead Smelter Sites
US AIRS.....	Aerometric Information Retrieval System Facility Subsystem
US MINES.....	Mines Master Index File
ABANDONED MINES.....	Abandoned Mines
ECHO.....	Enforcement & Compliance History Information
UXO.....	Unexploded Ordnance Sites
DOCKET HWC.....	Hazardous Waste Compliance Docket Listing
FUELS PROGRAM.....	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN.....	Bond Expenditure Plan
CUPA Listings.....	CUPA Resources List
DRYCLEANERS.....	Cleaner Facilities
EMI.....	Emissions Inventory Data
Financial Assurance.....	Financial Assurance Information Listing
HAZNET.....	Facility and Manifest Data
ICE.....	ICE
HWP.....	EnviroStor Permitted Facilities Listing
HWT.....	Registered Hazardous Waste Transporter Database
MINES.....	Mines Site Location Listing
MWMP.....	Medical Waste Management Program Listing
NPDES.....	NPDES Permits Listing
PEST LIC.....	Pesticide Regulation Licenses Listing
PROC.....	Certified Processors Database
Notify 65.....	Proposition 65 Records
UIC.....	UIC Listing
UIC GEO.....	UIC GEO (GEOTRACKER)



## EXECUTIVE SUMMARY

WASTEWATER PITS.....	Oil Wastewater Pits Listing
WIP.....	Well Investigation Program Case List
MILITARY PRIV SITES.....	MILITARY PRIV SITES (GEOTRACKER)
PROJECT.....	PROJECT (GEOTRACKER)
WDR.....	Waste Discharge Requirements Listing
NON-CASE INFO.....	NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS.....	OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS.....	PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT.....	SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ.....	Well Stimulation Project (GEOTRACKER)
MINES MRDS.....	Mineral Resources Data System

### EDR HIGH RISK HISTORICAL RECORDS

#### ***EDR Exclusive Records***

EDR MGP.....	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto.....	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner.....	EDR Exclusive Historical Cleaners

### EDR RECOVERED GOVERNMENT ARCHIVES

#### ***Exclusive Recovered Govt. Archives***

RGA LF.....	Recovered Government Archive Solid Waste Facilities List
RGA LUST.....	Recovered Government Archive Leaking Underground Storage Tank

### SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

### STANDARD ENVIRONMENTAL RECORDS

#### ***Federal CERCLIS list***

SEMS: SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on

## EXECUTIVE SUMMARY

the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the SEMS list, as provided by EDR, and dated 10/25/2019 has revealed that there are 2 SEMS sites within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>CHINO AIRPORT RADIUM</b> Site ID: 0906127 EPA Id: CAN000906127	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D79</b>	<b>187</b>
<b>CHINO AIRPORT NAPALM</b> Site ID: 0908946 EPA Id: CAN000908946	<b>7000 MERRILL AVENUE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D80</b>	<b>189</b>

### ***Federal RCRA generators list***

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 06/24/2019 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>SOUTHERN CALIFORNIA</b> EPA ID:: CAR000220640	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D76</b>	<b>182</b>

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 06/24/2019 has revealed that there are 7 RCRA-SQG sites within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>SAN BERNARDINO COUNT</b> EPA ID:: CAR000068940	<b>7000 MERRILL BLDG M5</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D49</b>	<b>121</b>
<b>FIGHTER REBUILDERS</b> EPA ID:: CAD982473563	<b>7000 MERRILL</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D50</b>	<b>122</b>
<b>AERO TRADER</b> EPA ID:: CAD982473910	<b>7000 MERRILL AVE HAN</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D51</b>	<b>124</b>
<b>FLITE CRAFTENT</b> EPA ID:: CAD982473696	<b>7000 MERRILL</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D53</b>	<b>126</b>
<b>UNLIMITED AIRCRAFT I</b>	<b>7000 MERRILL BOX 27</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D75</b>	<b>181</b>

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EPA ID:: CAD982474066				
BANNER AIRLINES	7000 MERRILL AVE #19	SW 1/8 - 1/4 (0.127 mi.)	D77	184
EPA ID:: CAD982474124				
<b>SO CALIF EDISON AIRC</b>	<b>7000 MERRILL AVE HAN</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D78</b>	<b>185</b>
EPA ID:: CAD981689854				

### **State- and tribal - equivalent CERCLIS**

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 07/29/2019 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CAL-AERO FIELD / ACA Status: Inactive - Needs Evaluation Facility Id: 80000986		SSE 1/8 - 1/4 (0.174 mi.)	82	210
CAL-AERO AIRPORT Status: Inactive - Needs Evaluation Facility Id: 80000207		SSE 1/2 - 1 (0.586 mi.)	H92	248

### **State and tribal landfill and/or solid waste disposal site lists**

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database.

A review of the SWF/LF list, as provided by EDR, has revealed that there are 2 SWF/LF sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>ONTARIO AGRICULTURAL</b> Database: SWF/LF (SWIS), Date of Government Version: 08/12/2019 Facility ID: 36-AA-0496 Operational Status: Active Regulation Status: Notification	<b>7325 EDISON AVE.</b>	<b>N 1/4 - 1/2 (0.496 mi.)</b>	<b>G88</b>	<b>228</b>
<b>RESIDUALS RECOVERY G</b> Database: SWF/LF (SWIS), Date of Government Version: 08/12/2019	<b>7325 EDISON RD.</b>	<b>N 1/4 - 1/2 (0.496 mi.)</b>	<b>G89</b>	<b>229</b>

## EXECUTIVE SUMMARY

Facility ID: 36-AA-0483  
 Operational Status: Active  
 Regulation Status: Notification

### **State and tribal leaking storage tank lists**

LUST: Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the LUST list, as provided by EDR, has revealed that there are 3 LUST sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>J.P. LOUBET</b> Database: LUST REG 8, Date of Government Version: 02/14/2005 Database: LUST, Date of Government Version: 09/09/2019 Global ID: T0607100335 Status: Completed - Case Closed Facility Status: Case Closed Global Id: T0607100335	<b>14211 EUCLID AVE</b>	<b>NNW 1/4 - 1/2 (0.455 mi.)</b>	<b>86</b>	<b>221</b>

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>HEMAN G. STARK YOUTH</b> Database: LUST REG 8, Date of Government Version: 02/14/2005 Global ID: T0607100043 Facility Status: Remedial action (cleanup) Underway	<b>15180</b>	<b>SW 1/4 - 1/2 (0.486 mi.)</b>	<b>F87</b>	<b>227</b>
<b>CHINO YOUTH AUTHORIT</b> Database: LUST, Date of Government Version: 09/09/2019 Status: Completed - Case Closed Global Id: T0607100043	<b>15180 S EUCLID AVE</b>	<b>SW 1/4 - 1/2 (0.496 mi.)</b>	<b>F90</b>	<b>231</b>

CPS-SLIC: Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the CPS-SLIC list, as provided by EDR, has revealed that there are 3 CPS-SLIC sites within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>VAN'S MOBILE TRUCK S</b> Database: CPS-SLIC, Date of Government Version: 09/09/2019 Facility Status: Completed - Case Closed Global Id: T10000002398	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D67</b>	<b>166</b>
<b>KANETIC LTD</b> Database: CPS-SLIC, Date of Government Version: 09/09/2019 Facility Status: Open - Remediation	<b>7000 MERRILL AVE A-3</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D81</b>	<b>190</b>



## EXECUTIVE SUMMARY

### ADDITIONAL ENVIRONMENTAL RECORDS

#### **Local Lists of Hazardous waste / Contaminated Sites**

CERS HAZ WASTE: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

A review of the CERS HAZ WASTE list, as provided by EDR, and dated 08/14/2019 has revealed that there are 9 CERS HAZ WASTE sites within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>SCE CHINO AIRCRAFT O</b>	<b>7000 MERRILL AVE, BO</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D37</b>	<b>92</b>
<b>ENCORE JET CENTER, L</b>	<b>7000 MERRILL AVE BLD</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D40</b>	<b>98</b>
<b>YANKS AIR CORPS</b>	<b>7000 MERRILL AVE HGR</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D44</b>	<b>115</b>
<b>ENCORE JET CENTER</b>	<b>7000 MERRILL AVE A-2</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D56</b>	<b>128</b>
<b>CENTURY AIRCRAFT PAI</b>	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D57</b>	<b>143</b>
<b>INLAND VALLEY AVIATI</b>	<b>7000 MERRILL AVE UNI</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D59</b>	<b>148</b>
<b>SAN BDNO COUNTY/CHIN</b>	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D62</b>	<b>156</b>
<b>AERO TRADER</b>	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D64</b>	<b>160</b>
<b>KANETIC LTD</b>	<b>7000 MERRILL AVE A-3</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D81</b>	<b>190</b>

#### **Local Lists of Registered Storage Tanks**

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 3 SWEEPS UST sites within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>CHINO FIRE DISTRICT</b> Status: A Tank Status: A Comp Number: 55076	<b>7100 MERRILL AVE</b>	<b>SW 0 - 1/8 (0.064 mi.)</b>	<b>C12</b>	<b>33</b>
<b>CHINO AIRPORT</b> Status: A Tank Status: A Comp Number: 10545	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D31</b>	<b>84</b>
<b>COUNTY SAN BERNARDIN</b> Status: A Tank Status: A Comp Number: 8707	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D68</b>	<b>168</b>

## EXECUTIVE SUMMARY

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 6 HIST UST sites within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CHINO FIRE STATION T Facility Id: 00000055076	7100 MERRILL AVE	SW 0 - 1/8 (0.064 mi.)	C11	32
<b>CHINO FIRE DISTRICT</b>	<b>7100 MERRILL AVE</b>	<b>SW 0 - 1/8 (0.064 mi.)</b>	<b>C12</b>	<b>33</b>
CHINO ROAD YARD Facility Id: 00000031581 Facility Id: 00000065869	7000 MERRILL AVE	SW 1/8 - 1/4 (0.127 mi.)	D30	83
<b>CHINO AIRPORT</b> Facility Id: 00000010545	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D31</b>	<b>84</b>
CHINO ROADYARD Facility Id: 00000008707	7000 MERRILL AVE	SW 1/8 - 1/4 (0.127 mi.)	D35	90
<b>COUNTY SAN BERNARDIN</b>	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D68</b>	<b>168</b>

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 2 CA FID UST sites within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>CHINO FIRE DISTRICT</b> Facility Id: 36009142 Status: A	<b>7100 MERRILL AVE</b>	<b>SW 0 - 1/8 (0.064 mi.)</b>	<b>C12</b>	<b>33</b>
<b>COUNTY SAN BERNARDIN</b> Facility Id: 36002274 Status: A	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D68</b>	<b>168</b>

CERS TANKS: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

A review of the CERS TANKS list, as provided by EDR, and dated 08/14/2019 has revealed that there are 6 CERS TANKS sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>CHINO VALLEY DAIRY</b>	<b>7565 EUCALYPTUS AVE</b>	<b>NE 0 - 1/8 (0.069 mi.)</b>	<b>13</b>	<b>34</b>
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>SCE CHINO AIRCRAFT O</b>	<b>7000 MERRILL AVE, BO</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D37</b>	<b>92</b>
<b>ENCORE JET CENTER, L</b>	<b>7000 MERRILL AVE BLD</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D40</b>	<b>98</b>
<b>ENCORE JET CENTER</b>	<b>7000 MERRILL AVE A-2</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D56</b>	<b>128</b>
<b>COUNTY SAN BERNARDIN</b>	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D68</b>	<b>168</b>
<b>KANETIC LTD</b>	<b>7000 MERRILL AVE A-3</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D81</b>	<b>190</b>

## EXECUTIVE SUMMARY

### ***Other Ascertainable Records***

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 06/24/2019 has revealed that there are 15 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
TABRIZI INC D B A RA EPA ID:: CAL000360376	7000 MERRILL AVE BLD	SW 1/8 - 1/4 (0.127 mi.)	D15	64
CONCRETE MOTOR SPORT EPA ID:: CAC003002136	7000 MERRILL AVE., U	SW 1/8 - 1/4 (0.127 mi.)	D16	65
CHINO AIRPORT EPA ID:: CAC002984811	7000 MERRILL AVENUE	SW 1/8 - 1/4 (0.127 mi.)	D17	66
SOUTHERN CALIFORNIA EPA ID:: CAL000258065	7000 MERRILL BLDG 4	SW 1/8 - 1/4 (0.127 mi.)	D18	67
AERO TRADER EPA ID:: CAL000041106	7000 MERRILL AVE HAN	SW 1/8 - 1/4 (0.127 mi.)	D19	68
NAVION CUSTOMS LLC EPA ID:: CAL000371625	7000 MERRILL AVE HNG	SW 1/8 - 1/4 (0.127 mi.)	D20	70
CENTURY AIRCRAFT PAI EPA ID:: CAL000381205	7000 MERRILL AVE HAN	SW 1/8 - 1/4 (0.127 mi.)	D21	71
ENCORE JET CENTER EPA ID:: CAL000395938	7000 MERRILL AVE STE	SW 1/8 - 1/4 (0.127 mi.)	D25	77
A & J ENVIRONMENTAL EPA ID:: CAC003001277	7000 MERRILL	SW 1/8 - 1/4 (0.127 mi.)	D26	78
DUBOIS AVIATION INC. EPA ID:: CAC002970919	7000 MERRILL AVE BOX	SW 1/8 - 1/4 (0.127 mi.)	D27	79
CONCRETE MOTOR SPORT EPA ID:: CAC002980147	7000 MERRILL AVE., U	SW 1/8 - 1/4 (0.127 mi.)	D28	80
CHINO AIRPORT MAINTA EPA ID:: CAL000015018	7000 MERRILL	SW 1/8 - 1/4 (0.127 mi.)	D29	82
CHINO VALLEY INDEPEN EPA ID:: CAL000213586	7000 MERRILL AVE	SW 1/8 - 1/4 (0.127 mi.)	D38	95
YANKS AIR MUSEUM EPA ID:: CAL000221177	7000 MERRILL AVE HAN	SW 1/8 - 1/4 (0.127 mi.)	D39	96
ADVANTAGE AVIATION EPA ID:: CAL000432104	7000 MERRILL AVE	SW 1/8 - 1/4 (0.127 mi.)	D65	164



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FUDS: The Listing includes locations of Formerly Used Defense Sites Properties where the US Army Corps Of Engineers is actively working or will take necessary cleanup actions.

A review of the FUDS list, as provided by EDR, and dated 05/15/2019 has revealed that there is 1 FUDS site within approximately 1 mile of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
CAL-AERO AIRPORT		SSE 1/2 - 1 (0.586 mi.)	H91	247

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 08/12/2019 has revealed that there is 1 FINDS site within approximately 0.001 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
GH DAIRY #2 Registry ID:: 110065377103	7417 EUCALYPTUS	0 - 1/8 (0.001 mi.)	B8	21

Cortese: The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

A review of the Cortese list, as provided by EDR, and dated 09/23/2019 has revealed that there is 1 Cortese site within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
COUNTY SAN BERNARDIN	7000 MERRILL AVE	SW 1/8 - 1/4 (0.127 mi.)	D68	168

ENF: A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

A review of the ENF list, as provided by EDR, and dated 07/19/2019 has revealed that there is 1 ENF site within approximately 0.001 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
GH DAIRY #2 Status: Historical Status: Active Facility Id: 263052	7417 EUCALYPTUS AVEN	0 - 1/8 (0.001 mi.)	B9	21

## EXECUTIVE SUMMARY

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSTATES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 2 HIST CORTESE sites within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>J.P. LOUBET</b> Reg Id: 083602487T	<b>14211 EUCLID AVE</b>	<b>NNW 1/4 - 1/2 (0.455 mi.)</b>	<b>86</b>	<b>221</b>
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>HEMAN G. STARK YOUTH</b> Reg Id: 083600387T	<b>15180</b>	<b>SW 1/4 - 1/2 (0.486 mi.)</b>	<b>F87</b>	<b>227</b>

San Bern. Co. Permit: San Bernardino County Fire Department Hazardous Materials Division.

A review of the San Bern. Co. Permit list, as provided by EDR, and dated 08/29/2019 has revealed that there are 36 San Bern. Co. Permit sites within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>CHINO VALLEY DAIRY 2</b> Facility Status: INACTIVE Facility Id: FA0010956 Facility Id: FA0000694	<b>14389 SULTANA AVENUE</b>	<b>NNW 0 - 1/8 (0.041 mi.)</b>	<b>10</b>	<b>27</b>
<b>CHINO VALLEY DAIRY</b> Facility Status: ACTIVE Facility Status: INACTIVE Facility Id: FA0013590 Facility Id: FA0011040 Facility Id: FA0000529	<b>7565 EUCALYPTUS AVE</b>	<b>NE 0 - 1/8 (0.069 mi.)</b>	<b>13</b>	<b>34</b>
<b>LEGEND DAIRY #1</b> Facility Status: ACTIVE Facility Status: INACTIVE Facility Id: FA0010955 Facility Id: FA0000659	<b>7233 EUCALYPTUS</b>	<b>NW 0 - 1/8 (0.071 mi.)</b>	<b>14</b>	<b>54</b>
<b>CHINO VALLEY TRUCK W</b> Facility Status: ACTIVE Facility Id: FA0012945	<b>14411 EUCLID AVE</b>	<b>NW 1/8 - 1/4 (0.236 mi.)</b>	<b>E83</b>	<b>211</b>
<b>CHINO VALLEY TRUCK W</b> Facility Status: INACTIVE Facility Id: FA0012776	<b>14411 EUCLID AVENUE</b>	<b>NW 1/8 - 1/4 (0.236 mi.)</b>	<b>E84</b>	<b>215</b>
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>FAA CNO ATCT</b> Facility Status: ACTIVE Facility Id: FA0003024	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D22</b>	<b>73</b>
<b>CAL AERO JET CENTER</b> Facility Status: INACTIVE	<b>7000 MERRILL AVE B-3</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D23</b>	<b>76</b>

## EXECUTIVE SUMMARY

Facility Id: FA0006862					
CENTURY AIRCRAFT PAI Facility Status: ACTIVE Facility Id: FA0001669	7000 MERRILL AVE	SW 1/8 - 1/4 (0.127 mi.)	D24	76	
K-M AIR ENTERPRISES Facility Status: INACTIVE Facility Id: FA0004203	7000 MERRILL AVE BLD	SW 1/8 - 1/4 (0.127 mi.)	D32	88	
<b>UCO AVIATION</b> Facility Status: INACTIVE Facility Id: FA0000576	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D34</b>	<b>89</b>	
<b>ENCORE JET CENTER, L</b> Facility Status: ACTIVE Facility Id: FA0002276	<b>7000 MERRILL AVE BLD</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D40</b>	<b>98</b>	
CHINO VALLEY IND FIR Facility Status: INACTIVE Facility Id: FA0012733	7000 MERRILL AVE HNGR	SW 1/8 - 1/4 (0.127 mi.)	D41	114	
BUCKLEY AIRCRAFT MAI Facility Status: INACTIVE Facility Id: FA0001597	7000 MERRILL AVE BLD	SW 1/8 - 1/4 (0.127 mi.)	D42	114	
SCE CHINO AIRCRAFT O Facility Status: ACTIVE Facility Id: FA0014110	7000 MERRILL AVE BX5	SW 1/8 - 1/4 (0.127 mi.)	D43	115	
<b>YANKS AIR CORPS</b> Facility Status: ACTIVE Facility Id: FA0007356	<b>7000 MERRILL AVE HGR</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D44</b>	<b>115</b>	
JET CONNECT SERVICES Facility Status: INACTIVE Facility Id: FA0013010	7000 MERRILL AVE BOX	SW 1/8 - 1/4 (0.127 mi.)	D45	119	
CHAMPION JETS INC Facility Status: INACTIVE Facility Id: FA0010634	7000 MERRILL AVE	SW 1/8 - 1/4 (0.127 mi.)	D46	119	
NU VISTA AVIATION Facility Status: INACTIVE Facility Id: FA0011767	7000 MERRILL AVE BLD	SW 1/8 - 1/4 (0.127 mi.)	D47	120	
AIRCRAFTSMAN, INC Facility Status: INACTIVE Facility Id: FA0012605	7000 MERRILL AVE HNG	SW 1/8 - 1/4 (0.127 mi.)	D48	120	
SQUARE ONE AVIATION Facility Status: INACTIVE Facility Id: FA0006363	7000 MERRILL AVE BX	SW 1/8 - 1/4 (0.127 mi.)	D52	126	
CHINO AVIATION Facility Status: INACTIVE Facility Id: FA0010623	7000 MERRILL AVE	SW 1/8 - 1/4 (0.127 mi.)	D54	127	
ROGERS AVIATION Facility Status: INACTIVE Facility Id: FA0005784	7000 MERRILL AVE HGR	SW 1/8 - 1/4 (0.127 mi.)	D55	128	
<b>ENCORE JET CENTER</b> Facility Status: ACTIVE Facility Id: FA0002968	<b>7000 MERRILL AVE A-2</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D56</b>	<b>128</b>	
SBC/CHINO AIRPORT	7000 MERRILL AVE BLD	SW 1/8 - 1/4 (0.127 mi.)	D58	147	

## EXECUTIVE SUMMARY

Facility Status: INACTIVE Facility Id: FA0007715 Facility Id: FA0012706				
SILVER STATE HELICOP Facility Status: INACTIVE Facility Id: FA0011377	7000 MERRILL AVE A-2	SW 1/8 - 1/4 (0.127 mi.)	D60	155
<b>SAN BDNO COUNTY/CHIN</b> Facility Status: ACTIVE Facility Status: INACTIVE Facility Id: FA0002372	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D62</b>	<b>156</b>
NORTH ORANGE AVIATIO Facility Status: INACTIVE Facility Id: FA0004997	7000 MERRILL AVE HGR	SW 1/8 - 1/4 (0.127 mi.)	D63	160
<b>AERO TRADER</b> Facility Status: ACTIVE Facility Id: FA0000315	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D64</b>	<b>160</b>
<b>VAN'S MOBILE TRUCK S</b> Facility Status: INACTIVE Facility Id: FA0010632 Facility Id: FA0000826	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D67</b>	<b>166</b>
<b>COUNTY SAN BERNARDIN</b> Facility Status: ACTIVE Facility Status: INACTIVE Facility Id: FA0002277	<b>7000 MERRILL AVE</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D68</b>	<b>168</b>
TOM KING AERIAL Facility Status: INACTIVE Facility Id: FA0000313	7000 MERRILL AVE BOX	SW 1/8 - 1/4 (0.127 mi.)	D69	178
CORONA AERO REFINISH Facility Status: INACTIVE Facility Id: FA0002505	7000 MERRILL AVE 24	SW 1/8 - 1/4 (0.127 mi.)	D70	178
EZELL SALES INC Facility Status: INACTIVE Facility Id: FA0002988	7000 E MERRILL AVE B	SW 1/8 - 1/4 (0.127 mi.)	D71	178
MILITARY AIRCRAFT RE Facility Status: INACTIVE Facility Id: FA0004729	7000 MERRILL AVE A48	SW 1/8 - 1/4 (0.127 mi.)	D72	179
AIRCRAFTSMAN Facility Status: INACTIVE Facility Id: FA0000752	7000 MERRILL HGR AVE	SW 1/8 - 1/4 (0.127 mi.)	D74	180
<b>KANETIC LTD</b> Facility Status: ACTIVE Facility Status: INACTIVE Facility Id: FA0017228 Facility Id: FA0003212 Facility Id: FA0017000 Facility Id: FA0012994 Facility Id: FA0012712	<b>7000 MERRILL AVE A-3</b>	<b>SW 1/8 - 1/4 (0.127 mi.)</b>	<b>D81</b>	<b>190</b>

*\*Additional key fields are available in the Map Findings section*

## EXECUTIVE SUMMARY

CIWQS: The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

A review of the CIWQS list, as provided by EDR, and dated 09/03/2019 has revealed that there is 1 CIWQS site within approximately 0.001 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>GH DAIRY #2</i>	<i>7417 EUCALYPTUS AVEN</i>	<i>0 - 1/8 (0.001 mi.)</i>	<i>B9</i>	<i>21</i>

CERS: The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

A review of the CERS list, as provided by EDR, and dated 08/14/2019 has revealed that there is 1 CERS site within approximately 0.001 miles of the target property.

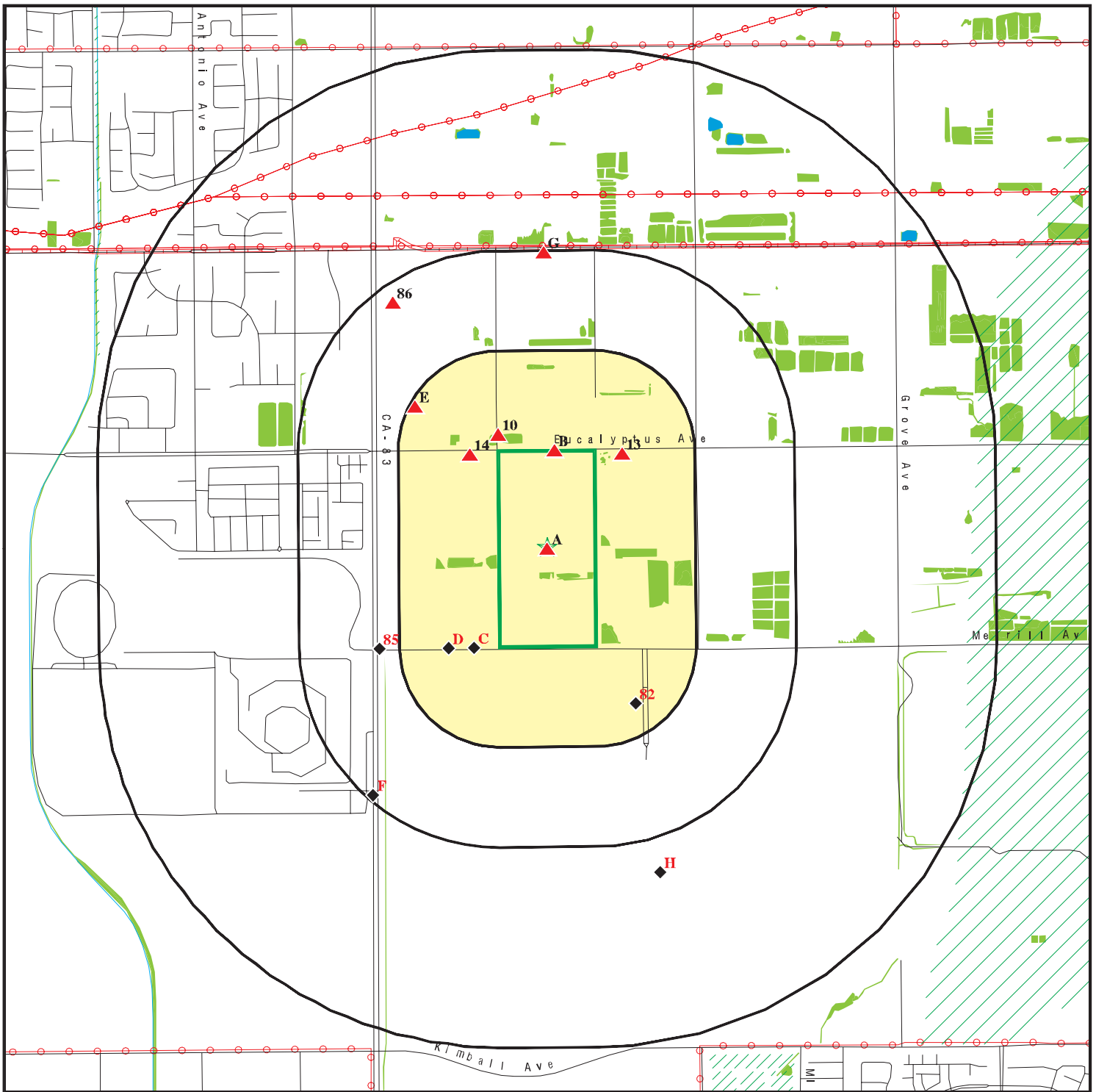
<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
GH DAIRY #2	7417 EUCALYPTUS	0 - 1/8 (0.001 mi.)	B7	16

## EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 11 records.

<u>Site Name</u>	<u>Database(s)</u>
MAC'S SERVICE	LUST, HIST CORTESE CDL CDL CDL CDL CDL CDL
E-Z SERVE	LUST
GEORGE BORBA DAIRY	CA FID UST
GEORGE BORBA & SONS DAIRY	HAZNET
SO CAL GAS/ONTARIO MGP	EDR MGP

# OVERVIEW MAP - 5912552.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

Pipelines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Areas of Concern














This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: James Borba Dairy  
 ADDRESS: 7475 Eucalyptus Avenue  
 Chino CA 91710  
 LAT/LONG: 33.986725 / 117.643247

CLIENT: Citadel Environmental Services  
 CONTACT: Shirley Lee  
 INQUIRY #: 5912552.2s  
 DATE: December 20, 2019 9:21 am

# DETAIL MAP - 5912552.2S



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  Sensitive Receptors
-  National Priority List Sites
-  Dept. Defense Sites
-  Indian Reservations BIA
-  Special Flood Hazard Area (1%)
-  0.2% Annual Chance Flood Hazard
-  National Wetland Inventory
-  State Wetlands
-  Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: James Borba Dairy  
 ADDRESS: 7475 Eucalyptus Avenue  
 Chino CA 91710  
 LAT/LONG: 33.986725 / 117.643247

CLIENT: Citadel Environmental Services  
 CONTACT: Shirley Lee  
 INQUIRY #: 5912552.2s  
 DATE: December 20, 2019 9:21 am



## MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<b>STANDARD ENVIRONMENTAL RECORDS</b>								
<b><i>Federal NPL site list</i></b>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
<b><i>Federal Delisted NPL site list</i></b>								
Delisted NPL	1.000		0	0	0	0	NR	0
<b><i>Federal CERCLIS list</i></b>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	2	0	NR	NR	2
<b><i>Federal CERCLIS NFRAP site list</i></b>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<b><i>Federal RCRA CORRACTS facilities list</i></b>								
CORRACTS	1.000		0	0	0	0	NR	0
<b><i>Federal RCRA non-CORRACTS TSD facilities list</i></b>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<b><i>Federal RCRA generators list</i></b>								
RCRA-LQG	0.250		0	1	NR	NR	NR	1
RCRA-SQG	0.250		0	7	NR	NR	NR	7
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
<b><i>Federal institutional controls / engineering controls registries</i></b>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<b><i>Federal ERNS list</i></b>								
ERNS	0.001		0	NR	NR	NR	NR	0
<b><i>State- and tribal - equivalent NPL RESPONSE</i></b>								
RESPONSE	1.000		0	0	0	0	NR	0
<b><i>State- and tribal - equivalent CERCLIS ENVIROSTOR</i></b>								
ENVIROSTOR	1.000		0	1	0	1	NR	2
<b><i>State and tribal landfill and/or solid waste disposal site lists</i></b>								
SWF/LF	0.500		0	0	2	NR	NR	2
<b><i>State and tribal leaking storage tank lists</i></b>								
LUST	0.500		0	0	3	NR	NR	3

## MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	2	1	NR	NR	3
<b>State and tribal registered storage tank lists</b>								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250	1	0	3	NR	NR	NR	4
AST	0.250		0	4	NR	NR	NR	4
INDIAN UST	0.250		0	0	NR	NR	NR	0
<b>State and tribal voluntary cleanup sites</b>								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
<b>State and tribal Brownfields sites</b>								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<b>ADDITIONAL ENVIRONMENTAL RECORDS</b>								
<b>Local Brownfield lists</b>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<b>Local Lists of Landfill / Solid Waste Disposal Sites</b>								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
<b>Local Lists of Hazardous waste / Contaminated Sites</b>								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250	1	0	9	NR	NR	NR	10
US CDL	0.001		0	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
<b>Local Lists of Registered Storage Tanks</b>								
SWEEPS UST	0.250	1	1	2	NR	NR	NR	4
HIST UST	0.250	1	2	4	NR	NR	NR	7
CA FID UST	0.250	1	1	1	NR	NR	NR	3
CERS TANKS	0.250		1	5	NR	NR	NR	6
<b>Local Land Records</b>								
LIENS	0.001		0	NR	NR	NR	NR	0

## MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
<b>Records of Emergency Release Reports</b>								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
<b>Other Ascertainable Records</b>								
RCRA NonGen / NLR	0.250		0	15	NR	NR	NR	15
FUDS	1.000		0	0	0	1	NR	1
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001	1	1	NR	NR	NR	NR	2
ECHO	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	1	0	NR	NR	1
CUPA Listings	0.250		0	0	NR	NR	NR	0



## MAP FINDINGS SUMMARY

<u>Database</u>	<u>Search Distance (Miles)</u>	<u>Target Property</u>	<u>&lt; 1/8</u>	<u>1/8 - 1/4</u>	<u>1/4 - 1/2</u>	<u>1/2 - 1</u>	<u>&gt; 1</u>	<u>Total Plotted</u>
-----------------	----------------------------------------	----------------------------	-----------------	------------------	------------------	----------------	---------------	--------------------------

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**A1**  
**Target**  
**Property**

**TED MILLER DAIRY**  
**7475 EUCALYPTUS**  
**CHINO, CA 91710**

**HIST UST**

**U001568969**  
**N/A**

**Site 1 of 6 in cluster A**

**Actual:**  
**654 ft.**

HIST UST:

Name: TED MILLER DAIRY  
Address: 7475 EUCALYPTUS  
City,State,Zip: CHINO, CA 91710  
File Number: 0002A756  
URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002A756.pdf>  
Region: STATE  
Facility ID: 00000028489  
Facility Type: Other  
Other Type: DAIRY  
Contact Name: TED MILLER  
Telephone: 7146285521  
Owner Name: TED MILLER  
Owner Address: 13948 S. EUCLID  
Owner City,St,Zip: ONTARIO, CA 91761  
Total Tanks: 0001  
  
Tank Num: 001  
Container Num: 1  
Year Installed: Not reported  
Tank Capacity: 00006000  
Tank Used for: PRODUCT  
Type of Fuel: DIESEL  
Container Construction Thickness: Not reported  
Leak Detection: None

[Click here for Geo Tracker PDF:](#)

**A2**  
**Target**  
**Property**

**AG-BORBA, JOE**  
**7475 EUCALYPTUS AVE**  
**CHINO, CA 91762**

**UST**

**U003785011**  
**N/A**

**Site 2 of 6 in cluster A**

**Actual:**  
**654 ft.**

UST:

Name: AG-BORBA, JOE  
Address: 7475 EUCALYPTUS AVE  
City,State,Zip: CHINO, CA 91762  
Facility ID: 87014337  
Permitting Agency: SAN BERNARDINO COUNTY  
Latitude: 33.99032  
Longitude: -117.64199

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**A3**  
**Target**  
**Property**

**LINDSEY BORBA DAIRY**  
**7475 EUCALYPTUS**  
**CHINO, CA 91710**

**WDS** **S102005973**  
**N/A**

**Site 3 of 6 in cluster A**

**Actual:**  
**654 ft.**

WDS:  
 Name: LINDSEY BORBA DAIRY  
 Address: 7475 EUCALYPTUS  
 City: CHINO  
 Facility ID: Santa Ana River 365684001  
 Facility Type: Agricultural - Facility that treats and/or disposes of the wastes associated with confined and concentrated animal feeding, confined animal feeding, confined animal holding, confined and concentrated aquatic animal production facilities, and aquaculture. the treatment and/or disposal of agricultural return water is included in this category.

Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.

NPDES Number: CAG018001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board

Subregion: 8

Facility Telephone: Not reported  
 Facility Contact: Not reported  
 Agency Name: BORBA JOE & LINDSEY  
 Agency Address: 14651 SO. GROVE  
 Agency City,St,Zip: CHINO 91710  
 Agency Contact: JOE BORBA  
 Agency Telephone: Not reported  
 Agency Type: Private  
 SIC Code: 241  
 SIC Code 2: Not reported

Primary Waste Type: Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).

Primary Waste: SLDWST  
 Waste Type2: N  
 Waste2: Solid Wastes  
 Primary Waste Type: Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).

Secondary Waste: Washwater Waste (Product washwater wastes: E.G., photo reuse wastewater, vegetable washwater)

Secondary Waste Type: Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).

Design Flow: 0  
 Baseline Flow: 0  
 Reclamation: No reclamation requirements associated with this facility.  
 POTW: The facility is not a POTW.  
 Treat To Water: Moderate Threat to Water Quality. A violation could have a major adverse impact on receiving biota, can cause aesthetic impairment to a significant human population, or render unusable a potential domestic

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**LINDSEY BORBA DAIRY (Continued)**

**S102005973**

Complexity: or municipal water supply. Awsthetic impairment would include nuisance from a waste treatment facility.  
Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

**A4  
Target  
Property**

**G H DAIRY #2  
7475 EUCALYPTUS AVE  
ONTARIO, CA 91761**

**CERS HAZ WASTE  
San Bern. Co. Permit  
CERS**

**S104761636  
N/A**

**Site 4 of 6 in cluster A**

**Actual:  
654 ft.**

CERS HAZ WASTE:  
Name: G H DAIRY #2  
Address: 7475 EUCALYPTUS AVE  
City,State,Zip: ONTARIO, CA 91761  
Site ID: 32199  
CERS ID: 10053490  
CERS Description: Hazardous Waste Generator

San Bern. Co. Permit:

Name: G H DAIRY #2  
Address: 7475 EUCALYPTUS AVE  
City,State,Zip: ONTARIO, CA 91761  
Region: SAN BERNARDINO  
Facility ID: FA0011765  
Owner: GH DAIRY (GERBEN HETTINGA)  
Permit Number: PT0020441  
Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS  
Facility Status: ACTIVE  
Expiration Date: 08/31/2020

Name: G H DAIRY #2  
Address: 7475 EUCALYPTUS AVE  
City,State,Zip: ONTARIO, CA 91761  
Region: SAN BERNARDINO  
Facility ID: FA0011765  
Owner: GH DAIRY (GERBEN HETTINGA)  
Permit Number: PT0037882  
Permit Category: HAZWASTE GENERAL ACTIVITY (NB)  
Facility Status: FEE EXEMPT  
Expiration Date: 08/31/2018

Name: LINDSEY DAIRY  
Address: 7475 EUCALYPTUS  
City,State,Zip: ONTARIO, CA 91762  
Region: SAN BERNARDINO  
Facility ID: FA0000361  
Owner: JOSEPH & DOLEEN BORBA ADMIN  
Permit Number: PT0019095  
Permit Category: HAZARDOUS WASTE GENERATOR - 0-10 EMPLOYEES  
Facility Status: INACTIVE  
Expiration Date: 09/30/2009



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**G H DAIRY #2 (Continued)**

**S104761636**

Name: LINDSEY DAIRY  
Address: 7475 EUCALYPTUS  
City,State,Zip: ONTARIO, CA 91762  
Region: SAN BERNARDINO  
Facility ID: FA0000361  
Owner: JOSEPH & DOLEEN BORBA ADMIN  
Permit Number: PT0003516  
Permit Category: HAZMAT HANDLER 0-10 EMPLOYEES (W/GEN PRMT)  
Facility Status: INACTIVE  
Expiration Date: 09/30/2009

Name: LINDSEY DAIRY  
Address: 7475 EUCALYPTUS  
City,State,Zip: ONTARIO, CA 91762  
Region: SAN BERNARDINO  
Facility ID: FA0000361  
Owner: JOSEPH & DOLEEN BORBA ADMIN  
Permit Number: PT0011137  
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)  
Facility Status: INACTIVE  
Expiration Date: 09/30/1990

**CERS:**

Name: G H DAIRY #2  
Address: 7475 EUCALYPTUS AVE  
City,State,Zip: ONTARIO, CA 91761  
Site ID: 32199  
CERS ID: 10053490  
CERS Description: Chemical Storage Facilities

**Violations:**

Site ID: 32199  
Site Name: G H DAIRY #2  
Violation Date: 07-29-2016  
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)  
Violation Description: Failure to complete and electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.  
Violation Notes: Returned to compliance on 08/01/2017.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 32199  
Site Name: G H DAIRY #2  
Violation Date: 07-29-2016  
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
Violation Description: Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.  
Violation Notes: Returned to compliance on 08/01/2017.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**G H DAIRY #2 (Continued)**

**S104761636**

Evaluation:

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 07-29-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE HANDLER INSPECTION-GH DAIRY 2  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Enforcement Action:

Site ID: 32199  
Site Name: G H DAIRY #2  
Site Address: 7475 EUCALYPTUS AVE  
Site City: ONTARIO  
Site Zip: 91761  
Enf Action Date: 07-29-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Affiliation:

Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Parent Corporation  
Entity Name: GH Dairy  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer  
Entity Name: Patricia L Mohr  
Entity Title: Controller  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Operator

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**G H DAIRY #2 (Continued)**

**S104761636**

Entity Name: GH Dairy  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 606-6455

Affiliation Type Desc: Document Preparer  
Entity Name: Patricia L Mohr  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 7475 EUCALYPTUS AVE  
Affiliation City: ONTARIO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91761  
Affiliation Phone: Not reported

Affiliation Type Desc: Environmental Contact  
Entity Name: PATRICIA MOHR  
Entity Title: Not reported  
Affiliation Address: 14651 S GROVE AVE  
Affiliation City: ONTARIO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91762  
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner  
Entity Name: GERBEN HETTINGA  
Entity Title: Not reported  
Affiliation Address: 14651 SOUTH GROVE AVE  
Affiliation City: ONTARIO  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91762  
Affiliation Phone: (909) 606-6455

MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Site

Database(s)

EDR ID Number  
EPA ID Number

**A5**  
**Target**  
**Property**

**TED MILLER DAIRY**  
**7475 EUCALYPTUS**  
**CHINO, CA 91710**

**SWEEPS UST**  
**CA FID UST**

**S101618816**  
**N/A**

**Site 5 of 6 in cluster A**

**Actual:**  
**654 ft.**

**SWEEPS UST:**  
Name: TED MILLER DAIRY  
Address: 7475 EUCALYPTUS  
City: CHINO  
Status: Active  
Comp Number: 28489  
Number: 9  
Board Of Equalization: Not reported  
Referral Date: 08-27-91  
Action Date: 08-27-91  
Created Date: 02-29-88  
Owner Tank Id: 1  
SWRCB Tank Id: 36-000-028489-000001  
Tank Status: A  
Capacity: 6000  
Active Date: 07-01-85  
Tank Use: M.V. FUEL  
STG: P  
Content: DIESEL  
Number Of Tanks: 1

**CA FID UST:**  
Facility ID: 36008852  
Regulated By: UTNKA  
Regulated ID: 00028489  
Cortese Code: Not reported  
SIC Code: Not reported  
Facility Phone: 7146285521  
Mail To: Not reported  
Mailing Address: 13948 S EUCLID  
Mailing Address 2: Not reported  
Mailing City,St,Zip: CHINO 91710  
Contact: Not reported  
Contact Phone: Not reported  
DUNS Number: Not reported  
NPDES Number: Not reported  
EPA ID: Not reported  
Comments: Not reported  
Status: Active

**A6**  
**Target**  
**Property**

**GH DAIRY NO. 2**  
**7475 EUCALYPTUS AVENUE**  
**ONTARIO, CA 91762**

**FINDS** **1023199281**  
**N/A**

**Site 6 of 6 in cluster A**

**Actual:**  
**654 ft.**

**FINDS:**  
Registry ID: 110064646236

Environmental Interest/Information System  
US National Pollutant Discharge Elimination System (NPDES) module of  
the Compliance Information System (ICIS) tracks surface water permits

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**GH DAIRY NO. 2 (Continued)**

**1023199281**

issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

STATE MASTER

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

**B7**  
**< 1/8**  
**0.001 mi.**  
**5 ft.**

**GH DAIRY #2**  
**7417 EUCALYPTUS**  
**ONTARIO, CA 91762**  
**Site 1 of 3 in cluster B**

**CERS S123509542**  
**N/A**

**Relative:**  
**Higher**  
**Actual:**  
**668 ft.**

**CERS:**  
Name: GH DAIRY #2  
Address: 7417 EUCALYPTUS  
City,State,Zip: ONTARIO, CA 91762  
Site ID: 33146  
CERS ID: 263052  
CERS Description: Animal Wastewater Discharge

**Violations:**  
Site ID: 33146  
Site Name: GH Dairy #2  
Violation Date: 01-16-2009  
Citation: California Water Code  
Violation Description: Not reported  
Violation Notes: Did not submit 2008 annual report by 01/15/2009.  
Violation Division: Water Boards  
Violation Program: ANIWSTCOWS  
Violation Source: CIWQS

Site ID: 33146  
Site Name: GH Dairy #2  
Violation Date: 03-17-1998  
Citation: California Water Code  
Violation Description: Not reported  
Violation Notes: WASTEWATER FLOWING OFF SITE  
Violation Division: Water Boards  
Violation Program: NPDNONMUNI  
Violation Source: CIWQS

Site ID: 33146  
Site Name: GH Dairy #2  
Violation Date: 10-23-2008  
Citation: California Water Code  
Violation Description: Not reported  
Violation Notes: A marker was not placed within each pond or containment structure. Discharger has not developed an EWMP acceptable to the Executive Officer & prepared in accordance with the guidelines for the development of EWMMP for CAFOs. Monitoring data were not maintained for at least 5 years and were not made available to Regional Board,

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**GH DAIRY #2 (Continued)**

**S123509542**

Violation Division: SWRCB, USEPA staff  
Violation Program: Water Boards  
Violation Source: ANIWSTCOWS  
CIWQS

Evaluation:  
Eval General Type: Other/Unknown  
Eval Date: 02-13-2001  
Violations Found: No  
Eval Type: Miscellaneous Inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-06-1997  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-07-2013  
Violations Found: Yes  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-08-1989  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-13-1992  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-14-1996  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**GH DAIRY #2 (Continued)**

**S123509542**

Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-16-1995  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Complaint Inspection  
Eval Date: 03-17-1998  
Violations Found: No  
Eval Type: Complaint Inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-22-1994  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 04-15-2015  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 05-02-2001  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 05-07-2012  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**GH DAIRY #2 (Continued)**

**S123509542**

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 05-13-2014  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 06-12-2000  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 06-12-2002  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 08-03-2016  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 10-12-2015  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 10-21-1987  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 10-23-2008  
Violations Found: Yes



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**GH DAIRY #2 (Continued)**

**S123509542**

Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 11-15-2007  
Violations Found: Yes  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

**Enforcement Action:**

Site ID: 33146  
Site Name: GH Dairy #2  
Site Address: 7417 EUCALYPTUS  
Site City: ONTARIO  
Site Zip: 91762  
Enf Action Date: 01-24-2008  
Enf Action Type: Oral Communication  
Enf Action Description: Oral Communication  
Enf Action Notes: Not reported  
Enf Action Division: Water Boards  
Enf Action Program: ANIWSTCOWS  
Enf Action Source: CIWQS

Site ID: 33146  
Site Name: GH Dairy #2  
Site Address: 7417 EUCALYPTUS  
Site City: ONTARIO  
Site Zip: 91762  
Enf Action Date: 01-30-2009  
Enf Action Type: Notice of Violation (Water)  
Enf Action Description: Notice of Violation Letter (Informal)  
Enf Action Notes: Not reported  
Enf Action Division: Water Boards  
Enf Action Program: ANIWSTCOWS  
Enf Action Source: CIWQS

Site ID: 33146  
Site Name: GH Dairy #2  
Site Address: 7417 EUCALYPTUS  
Site City: ONTARIO  
Site Zip: 91762  
Enf Action Date: 03-07-2013  
Enf Action Type: Oral Communication  
Enf Action Description: Oral Communication  
Enf Action Notes: Not reported  
Enf Action Division: Water Boards  
Enf Action Program: ANIWSTCOWS  
Enf Action Source: CIWQS

MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Site

Database(s)

EDR ID Number  
EPA ID Number

**B8**  
  
< 1/8  
0.001 mi.  
5 ft.

**GH DAIRY #2**  
**7417 EUCALYPTUS**  
**ONTARIO, CA 91762**  
  
**Site 2 of 3 in cluster B**

**FINDS** **1023249242**  
**N/A**

**Relative:**  
**Higher**  
  
**Actual:**  
**668 ft.**

**FINDS:**  
  
Registry ID: 110065377103  
  
Environmental Interest/Information System  
STATE MASTER

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

**B9**  
  
< 1/8  
0.001 mi.  
5 ft.

**GH DAIRY #2**  
**7417 EUCALYPTUS AVENUE**  
**ONTARIO, CA 91762**  
  
**Site 3 of 3 in cluster B**

**ENF** **S109692562**  
**CIWQS** **N/A**

**Relative:**  
**Higher**  
  
**Actual:**  
**668 ft.**

**ENF:**  
Name: GH DAIRY #2  
Address: 7417 EUCALYPTUS AVENUE  
City,State,Zip: ONTARIO, CA  
Region: 8  
Facility Id: 263052  
Agency Name: Hettinga, Gerben  
Place Type: Growing  
Place Subtype: Animal Feeding  
Facility Type: Agricultural  
Agency Type: Privately-Owned Business  
# Of Agencies: 1  
Place Latitude: 33.98939  
Place Longitude: -117.64223  
SIC Code 1: 241  
SIC Desc 1: Dairy Farms  
SIC Code 2: Not reported  
SIC Desc 2: Not reported  
SIC Code 3: Not reported  
SIC Desc 3: Not reported  
NAICS Code 1: 11212  
NAICS Desc 1: Dairy Cattle and Milk Production  
NAICS Code 2: Not reported  
NAICS Desc 2: Not reported  
NAICS Code 3: Not reported  
NAICS Desc 3: Not reported  
# Of Places: 1  
Source Of Facility: Reg Meas  
Design Flow: Not reported  
Threat To Water Quality: Not reported  
Complexity: Not reported  
Pretreatment: Not reported  
Facility Waste Type: Solid wastes, NEC  
Facility Waste Type 2: Stormwater runoff  
Facility Waste Type 3: Not reported  
Facility Waste Type 4: Not reported  
Program: ANIWSTCOWS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**GH DAIRY #2 (Continued)**

**S109692562**

Program Category1: ANIMALWASTE  
Program Category2: ANIMALWASTE  
# Of Programs: 1  
WDID: 8 365964001  
Reg Measure Id: 349896  
Reg Measure Type: Enrollee - NPDES  
Region: 8  
Order #: R8-2018-0001  
Npdes# CA#: CAG018001  
Major-Minor: Minor  
Npdes Type: Not reported  
Reclamation: Not reported  
Dredge Fill Fee: Not reported  
301H: Not reported  
Application Fee Amt Received: 2500  
Status: Active  
Status Date: 07/16/2019  
Effective Date: 09/04/2008  
Expiration/Review Date: 03/15/2024  
Termination Date: Not reported  
WDR Review - Amend: Not reported  
WDR Review - Revise/Renew: Not reported  
WDR Review - Rescind: Not reported  
WDR Review - No Action Required: Not reported  
WDR Review - Pending: Not reported  
WDR Review - Planned: Not reported  
Status Enrollee: N  
Individual/General: I  
Fee Code: 10 - Confined animal feeding facility  
Direction/Voice: Passive  
Enforcement Id(EID): 392030  
Region: 8  
Order / Resolution Number: Not reported  
Enforcement Action Type: Oral Communication  
Effective Date: 03/07/2013  
Adoption/Issuance Date: 03/07/2013  
Achieve Date: Not reported  
Termination Date: 03/07/2013  
ACL Issuance Date: Not reported  
EPL Issuance Date: Not reported  
Status: Historical  
Title: Oral Com 03/07/2013 for Hein Hettinga  
Description: Not reported  
Program: ANIWSTCOWS  
Latest Milestone Completion Date: Not reported  
# Of Programs1: 1  
Total Assessment Amount: 0  
Initial Assessed Amount: 0  
Liability \$ Amount: 0  
Project \$ Amount: 0  
Liability \$ Paid: 0  
Project \$ Completed: 0  
Total \$ Paid/Completed Amount: 0  
  
Name: GH DAIRY #2  
Address: 7417 EUCALYPTUS AVENUE  
City,State,Zip: ONTARIO, CA

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**GH DAIRY #2 (Continued)**

**S109692562**

Region:	8
Facility Id:	263052
Agency Name:	Hettinga, Gerben
Place Type:	Growing
Place Subtype:	Animal Feeding
Facility Type:	Agricultural
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	33.98939
Place Longitude:	-117.64223
SIC Code 1:	241
SIC Desc 1:	Dairy Farms
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	11212
NAICS Desc 1:	Dairy Cattle and Milk Production
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Solid wastes, NEC
Facility Waste Type 2:	Stormwater runoff
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	ANIWSTCOWS
Program Category1:	ANIMALWASTE
Program Category2:	ANIMALWASTE
# Of Programs:	1
WDID:	8 365964001
Reg Measure Id:	349896
Reg Measure Type:	Enrollee - NPDES
Region:	8
Order #:	R8-2018-0001
Npdes# CA#:	CAG018001
Major-Minor:	Minor
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	2500
Status:	Active
Status Date:	07/16/2019
Effective Date:	09/04/2008
Expiration/Review Date:	03/15/2024
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**GH DAIRY #2 (Continued)**

**S109692562**

WDR Review - Pending: Not reported  
WDR Review - Planned: Not reported  
Status Enrollee: N  
Individual/General: I  
Fee Code: 10 - Confined animal feeding facility  
Direction/Voice: Passive  
Enforcement Id(EID): 360914  
Region: 8  
Order / Resolution Number: Not reported  
Enforcement Action Type: Notice of Violation  
Effective Date: 01/30/2009  
Adoption/Issuance Date: 01/30/2009  
Achieve Date: Not reported  
Termination Date: 01/30/2009  
ACL Issuance Date: Not reported  
EPL Issuance Date: Not reported  
Status: Historical  
Title: Notice of Violation for Hettinga, Gerben  
Description: Not reported  
Program: ANIWSTCOWS  
Latest Milestone Completion Date: Not reported  
# Of Programs1: 1  
Total Assessment Amount: 0  
Initial Assessed Amount: 0  
Liability \$ Amount: 0  
Project \$ Amount: 0  
Liability \$ Paid: 0  
Project \$ Completed: 0  
Total \$ Paid/Completed Amount: 0

Name: GH DAIRY #2  
Address: 7417 EUCALYPTUS AVENUE  
City,State,Zip: ONTARIO, CA  
Region: 8  
Facility Id: 263052  
Agency Name: Not reported  
Place Type: Growing  
Place Subtype: Animal Feeding  
Facility Type: Agricultural  
Agency Type: Not reported  
# Of Agencies: Not reported  
Place Latitude: 33.98939  
Place Longitude: -117.64223  
SIC Code 1: 241  
SIC Desc 1: Dairy Farms  
SIC Code 2: Not reported  
SIC Desc 2: Not reported  
SIC Code 3: Not reported  
SIC Desc 3: Not reported  
NAICS Code 1: 11212  
NAICS Desc 1: Dairy Cattle and Milk Production  
NAICS Code 2: Not reported  
NAICS Desc 2: Not reported  
NAICS Code 3: Not reported  
NAICS Desc 3: Not reported  
# Of Places: 1  
Source Of Facility: Enf Action

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**GH DAIRY #2 (Continued)**

**S109692562**

Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	Not reported
Program Category1:	Not reported
Program Category2:	ANIMALWASTE
# Of Programs:	Not reported
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Not reported
Enforcement Id(EID):	347109
Region:	8
Order / Resolution Number:	Not reported
Enforcement Action Type:	Oral Communication
Effective Date:	01/24/2008
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	01/24/2008
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Oral Comm..(01/28/08)
Description:	Not reported
Program:	ANIWSTCOWS
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**GH DAIRY #2 (Continued)**

**S109692562**

Liability \$ Amount: 0  
Project \$ Amount: 0  
Liability \$ Paid: 0  
Project \$ Completed: 0  
Total \$ Paid/Completed Amount: 0

**CIWQS:**

Name: GH DAIRY #2  
Address: 7417 EUCALYPTUS AVENUE  
City,State,Zip: ONTARIO, CA 91762  
Agency: Hettinga, Gerben  
Agency Address: 14651 South Grove Avenue, Ontario, CA 91762  
Place/Project Type: Animal Feeding Facility  
SIC/NAICS: 241  
Region: 8  
Program: ANIWSTCOWS  
Regulatory Measure Status: Active  
Regulatory Measure Type: Enrollee - NPDES  
Order Number: R8-2018-0001  
WDID: 8 365964001  
NPDES Number: CAG018001  
Adoption Date: Not reported  
Effective Date: 09/04/2008  
Termination Date: Not reported  
Expiration/Review Date: 03/15/2024  
Design Flow: Not reported  
Major/Minor: Minor  
Complexity: Not reported  
TTWQ: Not reported  
Enforcement Actions within 5 years: 0  
Violations within 5 years: 0  
Latitude: 33.98939  
Longitude: -117.64223

Name: GH DAIRY #2  
Address: 7417 EUCALYPTUS AVENUE  
City,State,Zip: ONTARIO, CA 91762  
Agency: Miller, Ted  
Agency Address: 13948 South Euclid Avenue, Ontario, CA 91761  
Place/Project Type: Animal Feeding Facility  
SIC/NAICS: 241  
Region: 8  
Program: ANIWSTCOWS  
Regulatory Measure Status: Historical  
Regulatory Measure Type: WDR  
Order Number: 81-096  
WDID: 8 365409003  
NPDES Number: Not reported  
Adoption Date: 05/08/1981  
Effective Date: 05/08/1981  
Termination Date: 02/09/1990  
Expiration/Review Date: 05/01/1986  
Design Flow: 0.0001  
Major/Minor: Not reported  
Complexity: C  
TTWQ: 2  
Enforcement Actions within 5 years: 0

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**GH DAIRY #2 (Continued)**

**S109692562**

Violations within 5 years: 0  
 Latitude: 33.98939  
 Longitude: -117.64223

Name: GH DAIRY #2  
 Address: 7417 EUCALYPTUS AVENUE  
 City,State,Zip: ONTARIO, CA 91762  
 Agency: Borba, Joe & Lindsey  
 Agency Address: 14651 South Grove Avenue, Ontario, CA 91762-7708  
 Place/Project Type: Animal Feeding Facility  
 SIC/NAICS: 241  
 Region: 8  
 Program: ANIWSTCOWS  
 Regulatory Measure Status: Historical  
 Regulatory Measure Type: NPDES Permit  
 Order Number: 90-001  
 WDID: 8 365684001  
 NPDES Number: CAG018001  
 Adoption Date: 02/09/1990  
 Effective Date: 02/09/1990  
 Termination Date: Not reported  
 Expiration/Review Date: 02/07/2000  
 Design Flow: 0.043  
 Major/Minor: Minor  
 Complexity: C  
 TTWQ: 2  
 Enforcement Actions within 5 years: 0  
 Violations within 5 years: 0  
 Latitude: 33.98939  
 Longitude: -117.64223

**10  
 NNW  
 < 1/8  
 0.041 mi.  
 219 ft.**

**CHINO VALLEY DAIRY 2  
 14389 SULTANA AVENUE  
 ONTARIO, CA 91710**

**San Bern. Co. Permit  
 ENF  
 CIWQS**

**S108536503  
 N/A**

**Relative:  
 Higher  
 Actual:  
 669 ft.**

ENF:  
 Name: CHINO VALLEY DAIRY 2  
 Address: 14389 SULTANA AVENUE  
 City,State,Zip: ONTARIO, CA 91710  
 Region: 8  
 Facility Id: 259361  
 Agency Name: Not reported  
 Place Type: Growing  
 Place Subtype: Animal Feeding  
 Facility Type: Agricultural  
 Agency Type: Not reported  
 # Of Agencies: Not reported  
 Place Latitude: 33.99296  
 Place Longitude: -117.64537  
 SIC Code 1: 241  
 SIC Desc 1: Dairy Farms  
 SIC Code 2: Not reported  
 SIC Desc 2: Not reported  
 SIC Code 3: Not reported  
 SIC Desc 3: Not reported  
 NAICS Code 1: Not reported



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

CHINO VALLEY DAIRY 2 (Continued)

S108536503

NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Solid wastes, NEC
Facility Waste Type 2:	Stormwater runoff
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	ANIWSTCOWS
Program Category1:	ANIMALWASTE
Program Category2:	ANIMALWASTE
# Of Programs:	1
WDID:	Not reported
Reg Measure Id:	332712
Reg Measure Type:	NPDES Permits
Region:	8
Order #:	R8-2007-0001
Npdes# CA#:	CAG018001
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	12/24/2013
Effective Date:	09/07/2007
Expiration/Review Date:	09/06/2012
Termination Date:	06/06/2013
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	G
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	347328
Region:	8
Order / Resolution Number:	Not reported
Enforcement Action Type:	Oral Communication
Effective Date:	07/01/2004
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	07/01/2004
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY 2 (Continued)**

**S108536503**

Title:	Oral Comm..
Description:	Not reported
Program:	ANIWSTCOWS
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability \$ Amount:	0
Project \$ Amount:	0
Liability \$ Paid:	0
Project \$ Completed:	0
Total \$ Paid/Completed Amount:	0

San Bern. Co. Permit:

Name: SULTANA DAIRY  
Address: 14389 SULTANA  
City,State,Zip: ONTARIO, CA 91761  
Region: SAN BERNARDINO  
Facility ID: FA0010956  
Owner: JORRITSMA, JAMES  
Permit Number: PT0018896  
Permit Category: SPECIAL GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 11/30/2012

Name: SULTANA DAIRY  
Address: 14389 SULTANA  
City,State,Zip: ONTARIO, CA 91761  
Region: SAN BERNARDINO  
Facility ID: FA0010956  
Owner: JORRITSMA, JAMES  
Permit Number: PT0018895  
Permit Category: HAZMAT HANDLER 0-10 EMPLOYEES  
Facility Status: INACTIVE  
Expiration Date: 11/30/2012

Name: VINTAGE DAIRY  
Address: 14389 SULTANA  
City,State,Zip: ONTARIO, CA 91761  
Region: SAN BERNARDINO  
Facility ID: FA0000694  
Owner: ALBERS, RAYMOND J  
Permit Number: PT0008938  
Permit Category: SPECIAL GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 04/30/1997

Name: VINTAGE DAIRY  
Address: 14389 SULTANA  
City,State,Zip: ONTARIO, CA 91761  
Region: SAN BERNARDINO  
Facility ID: FA0000694  
Owner: ALBERS, RAYMOND J  
Permit Number: PT0008937  
Permit Category: SPECIAL HANDLER  
Facility Status: INACTIVE  
Expiration Date: 04/30/1997

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY 2 (Continued)**

**S108536503**

CIWQS:

Name: CHINO VALLEY DAIRY 2  
Address: 14389 SULTANA AVENUE  
City,State,Zip: ONTARIO, CA 91710  
Agency: Anema, Greg  
Agency Address: 8061 Edison Avenue, Chino, CA 91710  
Place/Project Type: Animal Feeding Facility  
SIC/NAICS: 241  
Region: 8  
Program: ANIWSTCOWS  
Regulatory Measure Status: Historical  
Regulatory Measure Type: Enrollee  
Order Number: R8-2007-0001  
WDID: 8 365917001  
NPDES Number: CAG018001  
Adoption Date: Not reported  
Effective Date: 07/01/2004  
Termination Date: 01/10/2013  
Expiration/Review Date: 09/06/2012  
Design Flow: 0  
Major/Minor: Minor  
Complexity: C  
TTWQ: 2  
Enforcement Actions within 5 years: 0  
Violations within 5 years: 0  
Latitude: 33.99296  
Longitude: -117.64537

Name: CHINO VALLEY DAIRY 2  
Address: 14389 SULTANA AVENUE  
City,State,Zip: ONTARIO, CA 91710  
Agency: Moons, Jack & Beatrice  
Agency Address: 6310 Hellman Avenue, Chino, CA 91710  
Place/Project Type: Animal Feeding Facility  
SIC/NAICS: 241  
Region: 8  
Program: WDR  
Regulatory Measure Status: Historical  
Regulatory Measure Type: WDR  
Order Number: 94-41058  
WDID: 8 365653001  
NPDES Number: Not reported  
Adoption Date: 06/03/1994  
Effective Date: 06/03/1994  
Termination Date: Not reported  
Expiration/Review Date: Not reported  
Design Flow: 0  
Major/Minor: Not reported  
Complexity: C  
TTWQ: 3  
Enforcement Actions within 5 years: 0  
Violations within 5 years: 0  
Latitude: 33.99296  
Longitude: -117.64537

Name: CHINO VALLEY DAIRY 2  
Address: 14389 SULTANA AVENUE

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY 2 (Continued)**

**S108536503**

City,State,Zip: ONTARIO, CA 91710  
Agency: Breedyk, Arie  
Agency Address: 4789 Edison Avenue, Chino, CA 91710  
Place/Project Type: Animal Feeding Facility  
SIC/NAICS: 241  
Region: 8  
Program: WDR  
Regulatory Measure Status: Historical  
Regulatory Measure Type: WDR  
Order Number: 88-11501  
WDID: 8 365003001  
NPDES Number: Not reported  
Adoption Date: 10/14/1988  
Effective Date: 10/14/1988  
Termination Date: Not reported  
Expiration/Review Date: Not reported  
Design Flow: 0.0001  
Major/Minor: Not reported  
Complexity: C  
TTWQ: 3  
Enforcement Actions within 5 years: 0  
Violations within 5 years: 0  
Latitude: 33.99296  
Longitude: -117.64537

Name: CHINO VALLEY DAIRY 2  
Address: 14389 SULTANA AVENUE  
City,State,Zip: ONTARIO, CA 91710  
Agency: Dyt, Richard  
Agency Address: 14389 Sultana Avenue, Chino, CA 91710  
Place/Project Type: Animal Feeding Facility  
SIC/NAICS: 241  
Region: 8  
Program: ANIWSTCOWS  
Regulatory Measure Status: Historical  
Regulatory Measure Type: Enrollee  
Order Number: 99-011  
WDID: 8 365833001  
NPDES Number: CAG018001  
Adoption Date: Not reported  
Effective Date: 09/04/2001  
Termination Date: 11/26/2003  
Expiration/Review Date: Not reported  
Design Flow: 0  
Major/Minor: Not reported  
Complexity: C  
TTWQ: 2  
Enforcement Actions within 5 years: 0  
Violations within 5 years: 0  
Latitude: 33.99296  
Longitude: -117.64537

Name: CHINO VALLEY DAIRY 2  
Address: 14389 SULTANA AVENUE  
City,State,Zip: ONTARIO, CA 91710  
Agency: Slegers, Bennett  
Agency Address: 15914 Legacy Court, Bakersfield, CA 93314

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**CHINO VALLEY DAIRY 2 (Continued)**

**S108536503**

Place/Project Type:	Animal Feeding Facility
SIC/NAICS:	241
Region:	8
Program:	ANIWSTCOWS
Regulatory Measure Status:	Active
Regulatory Measure Type:	Enrollee - NPDES
Order Number:	R8-2018-0001
WDID:	8 366003001
NPDES Number:	CAG018001
Adoption Date:	Not reported
Effective Date:	05/16/2013
Termination Date:	Not reported
Expiration/Review Date:	03/15/2024
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	33.99296
Longitude:	-117.64537

**C11**  
**SW**  
 < 1/8  
 0.064 mi.  
 336 ft.

**CHINO FIRE STATION THREE**  
**7100 MERRILL AVE**  
**CHINO, CA 91710**  
 Site 1 of 2 in cluster C

**HIST UST**    **U001568871**  
 N/A

**Relative:**  
**Lower**  
  
**Actual:**  
**640 ft.**

<b>HIST UST:</b>	
Name:	CHINO FIRE STATION THREE
Address:	7100 MERRILL AVE
City,State,Zip:	CHINO, CA 91710
File Number:	Not reported
URL:	Not reported
Region:	STATE
Facility ID:	00000055076
Facility Type:	Other
Other Type:	FIRE STATION
Contact Name:	R. SEWELL
Telephone:	7145919893
Owner Name:	CHINO RURAL FIRE DISTRICT
Owner Address:	13251 CENTRAL AVE.
Owner City,St,Zip:	CHINO, CA 91710
Total Tanks:	0001
Tank Num:	001
Container Num:	3A
Year Installed:	Not reported
Tank Capacity:	00000550
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	Not reported
Leak Detection:	None

MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Site

Database(s)

EDR ID Number  
EPA ID Number

**C12**  
**SW**  
**< 1/8**  
**0.064 mi.**  
**336 ft.**

**CHINO FIRE DISTRICT #3**  
**7100 MERRIL AVE**  
**CHINO, CA 91710**

**SWEEPS UST**  
**HIST UST**  
**CA FID UST**

**S101618764**  
**N/A**

**Site 2 of 2 in cluster C**

**Relative:**  
**Lower**  
**Actual:**  
**640 ft.**

**SWEEPS UST:**  
Name: CHINO FIRE DISTRICT #3  
Address: 7100 MERRIL AVE  
City: CHINO  
Status: Active  
Comp Number: 55076  
Number: 4  
Board Of Equalization: 44-021223  
Referral Date: 08-27-91  
Action Date: 08-27-91  
Created Date: 02-29-88  
Owner Tank Id: 3A  
SWRCB Tank Id: 36-000-055076-000001  
Tank Status: A  
Capacity: 550  
Active Date: 07-01-85  
Tank Use: M.V. FUEL  
STG: P  
Content: DIESEL  
Number Of Tanks: 1

**HIST UST:**  
Name: CHINO FIRE STATION THREE  
Address: 7100 MERRIL AVE  
City,State,Zip: CHINO, CA 91710  
File Number: 00029C0C  
URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00029C0C.pdf>  
Region: Not reported  
Facility ID: Not reported  
Facility Type: Not reported  
Other Type: Not reported  
Contact Name: Not reported  
Telephone: Not reported  
Owner Name: Not reported  
Owner Address: Not reported  
Owner City,St,Zip: Not reported  
Total Tanks: Not reported  
  
Tank Num: Not reported  
Container Num: Not reported  
Year Installed: Not reported  
Tank Capacity: Not reported  
Tank Used for: Not reported  
Type of Fuel: Not reported  
Container Construction Thickness: Not reported  
Leak Detection: Not reported

Click here for Geo Tracker PDF:

**CA FID UST:**  
Facility ID: 36009142  
Regulated By: UTNKA

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**CHINO FIRE DISTRICT #3 (Continued)**

**S101618764**

Regulated ID: 00055076  
 Cortese Code: Not reported  
 SIC Code: Not reported  
 Facility Phone: Not reported  
 Mail To: Not reported  
 Mailing Address: 7100 MERRIL AVE  
 Mailing Address 2: Not reported  
 Mailing City,St,Zip: CHINO 91710  
 Contact: Not reported  
 Contact Phone: Not reported  
 DUNs Number: Not reported  
 NPDES Number: Not reported  
 EPA ID: Not reported  
 Comments: Not reported  
 Status: Active

13  
 NE  
 < 1/8  
 0.069 mi.  
 362 ft.

**CHINO VALLEY DAIRY**  
**7565 EUCALYPTUS AVE**  
**ONTARIO, CA 91762**

**CERS TANKS** S109693846  
**EMI** N/A  
**ENF**  
**San Bern. Co. Permit**  
**CIWQS**  
**CERS**

**Relative:**  
**Higher**  
**Actual:**  
**669 ft.**

**CERS TANKS:**  
 Name: CHINO VALLEY DAIRY #1  
 Address: 7565 EUCALYPTUS AVE  
 City,State,Zip: ONTARIO, CA 91762  
 Site ID: 18632  
 CERS ID: 10311781  
 CERS Description: Aboveground Petroleum Storage

**EMI:**  
 Name: CHINO VALLEY DAIRY  
 Address: 7565 EUCALYPTUS AVE  
 City,State,Zip: ONTARIO, CA 91762  
 Year: 2016  
 County Code: 36  
 Air Basin: SC  
 Facility ID: 178418  
 Air District Name: SC  
 SIC Code: 241  
 Air District Name: SOUTH COAST AQMD  
 Community Health Air Pollution Info System: Not reported  
 Consolidated Emission Reporting Rule: Not reported  
 Total Organic Hydrocarbon Gases Tons/Yr: 67.75  
 Reactive Organic Gases Tons/Yr: 5.42  
 Carbon Monoxide Emissions Tons/Yr: Not reported  
 NOX - Oxides of Nitrogen Tons/Yr: Not reported  
 SOX - Oxides of Sulphur Tons/Yr: Not reported  
 Particulate Matter Tons/Yr: 2.1  
 Part. Matter 10 Micrometers and Smllr Tons/Yr:1.01178

Name: CHINO VALLEY DAIRY  
 Address: 7565 EUCALYPTUS AVE  
 City,State,Zip: ONTARIO, CA 91762  
 Year: 2017  
 County Code: 36

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Air Basin: SC  
Facility ID: 178418  
Air District Name: SC  
SIC Code: 241  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 68.625  
Reactive Organic Gases Tons/Yr: 5.49  
Carbon Monoxide Emissions Tons/Yr: Not reported  
NOX - Oxides of Nitrogen Tons/Yr: Not reported  
SOX - Oxides of Sulphur Tons/Yr: Not reported  
Particulate Matter Tons/Yr: 2.16  
Part. Matter 10 Micrometers and Smllr Tons/Yr:1.040688

**ENF:**

Name: CHINO VALLEY DAIRY #1  
Address: 7565 EUCALYPTUS AVENUE  
City,State,Zip: ONTARIO, CA 91762  
Region: 8  
Facility Id: 234639  
Agency Name: Slegers, Bennett  
Place Type: Growing  
Place Subtype: Animal Feeding  
Facility Type: Agricultural  
Agency Type: Privately-Individual  
# Of Agencies: 1  
Place Latitude: 33.990346  
Place Longitude: -117.639683  
SIC Code 1: 241  
SIC Desc 1: Dairy Farms  
SIC Code 2: Not reported  
SIC Desc 2: Not reported  
SIC Code 3: Not reported  
SIC Desc 3: Not reported  
NAICS Code 1: Not reported  
NAICS Desc 1: Not reported  
NAICS Code 2: Not reported  
NAICS Desc 2: Not reported  
NAICS Code 3: Not reported  
NAICS Desc 3: Not reported  
# Of Places: 1  
Source Of Facility: Reg Meas  
Design Flow: Not reported  
Threat To Water Quality: Not reported  
Complexity: Not reported  
Pretreatment: X - Facility is not a POTW  
Facility Waste Type: Solid wastes, NEC  
Facility Waste Type 2: Stormwater runoff  
Facility Waste Type 3: Not reported  
Facility Waste Type 4: Not reported  
Program: ANIWSTCOWS  
Program Category1: ANIMALWASTE  
Program Category2: ANIMALWASTE  
# Of Programs: 1  
WDID: 8 365981001  
Reg Measure Id: 376727



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Reg Measure Type:	Enrollee - NPDES
Region:	8
Order #:	R8-2018-0001
Npdes# CA#:	CAG018001
Major-Minor:	Minor
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	1839.6
Status:	Active
Status Date:	07/18/2019
Effective Date:	12/02/2010
Expiration/Review Date:	03/15/2024
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	10 - Confined animal feeding facility
Direction/Voice:	Passive
Enforcement Id(EID):	392041
Region:	8
Order / Resolution Number:	Not reported
Enforcement Action Type:	Oral Communication
Effective Date:	03/07/2013
Adoption/Issuance Date:	03/07/2013
Achieve Date:	Not reported
Termination Date:	03/07/2013
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Oral Com 03/07/2013 for Slegers, Bennett
Description:	Not reported
Program:	ANIWSTCOWS
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability \$ Amount:	0
Project \$ Amount:	0
Liability \$ Paid:	0
Project \$ Completed:	0
Total \$ Paid/Completed Amount:	0
Name:	CHINO VALLEY DAIRY #1
Address:	7565 EUCALYPTUS AVENUE
City,State,Zip:	ONTARIO, CA 91762
Region:	8
Facility Id:	234639
Agency Name:	Slegers, Bennett
Place Type:	Growing
Place Subtype:	Animal Feeding

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

CHINO VALLEY DAIRY (Continued)

S109693846

Facility Type:	Agricultural
Agency Type:	Privately-Individual
# Of Agencies:	1
Place Latitude:	33.990346
Place Longitude:	-117.639683
SIC Code 1:	241
SIC Desc 1:	Dairy Farms
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Solid wastes, NEC
Facility Waste Type 2:	Stormwater runoff
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	ANIWSTCOWS
Program Category1:	ANIMALWASTE
Program Category2:	ANIMALWASTE
# Of Programs:	1
WDID:	8 365981001
Reg Measure Id:	376727
Reg Measure Type:	Enrollee - NPDES
Region:	8
Order #:	R8-2018-0001
Npdes# CA#:	CAG018001
Major-Minor:	Minor
Npdes Type:	Not reported
Reclamation:	N - No
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	1839.6
Status:	Active
Status Date:	07/18/2019
Effective Date:	12/02/2010
Expiration/Review Date:	03/15/2024
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	10 - Confined animal feeding facility

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Direction/Voice: Passive  
Enforcement Id(EID): 392040  
Region: 8  
Order / Resolution Number: Not reported  
Enforcement Action Type: Oral Communication  
Effective Date: 03/07/2013  
Adoption/Issuance Date: 03/07/2013  
Achieve Date: Not reported  
Termination Date: 03/07/2013  
ACL Issuance Date: Not reported  
EPL Issuance Date: Not reported  
Status: Historical  
Title: Oral Com 03/07/2013 for Slegers, Bennett  
Description: Not reported  
Program: ANIWSTCOWS  
Latest Milestone Completion Date: Not reported  
# Of Programs1: 1  
Total Assessment Amount: 0  
Initial Assessed Amount: 0  
Liability \$ Amount: 0  
Project \$ Amount: 0  
Liability \$ Paid: 0  
Project \$ Completed: 0  
Total \$ Paid/Completed Amount: 0

San Bern. Co. Permit:

Name: CHINO VALLEY DAIRY  
Address: 7565 EUCALYPTUS AVE  
City,State,Zip: ONTARIO, CA 91762  
Region: SAN BERNARDINO  
Facility ID: FA0013590  
Owner: SLEGGERS, BEN  
Permit Number: PT0023850  
Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS  
Facility Status: ACTIVE  
Expiration Date: 10/31/2019

Name: SOUZA DAIRY  
Address: 7565 EUCALYPTUS AVE  
City,State,Zip: ONTARIO, CA 91762  
Region: SAN BERNARDINO  
Facility ID: FA0011040  
Owner: Frank Souza  
Permit Number: PT0019035  
Permit Category: HAZMAT HANDLER 0-10 EMPLOYEES  
Facility Status: INACTIVE  
Expiration Date: 07/31/2009

Name: SOUZA DAIRY  
Address: 7565 EUCALYPTUS AVE  
City,State,Zip: ONTARIO, CA 91762  
Region: SAN BERNARDINO  
Facility ID: FA0011040  
Owner: Frank Souza  
Permit Number: PT0019036  
Permit Category: SPECIAL GENERATOR  
Facility Status: INACTIVE

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Expiration Date: 07/31/2009

Name: KRASBERGEN DAIRY  
Address: 7565 EUCALYPTUS AVE  
City,State,Zip: ONTARIO, CA 91762  
Region: SAN BERNARDINO  
Facility ID: FA0000529  
Owner: KASBERGEN DAIRY  
Permit Number: PT0018989  
Permit Category: HAZMAT HANDLER 0-10 EMPLOYEES  
Facility Status: INACTIVE  
Expiration Date: 04/30/2007

Name: KRASBERGEN DAIRY  
Address: 7565 EUCALYPTUS AVE  
City,State,Zip: ONTARIO, CA 91762  
Region: SAN BERNARDINO  
Facility ID: FA0000529  
Owner: KASBERGEN DAIRY  
Permit Number: PT0008943  
Permit Category: SPECIAL HANDLER  
Facility Status: INACTIVE  
Expiration Date: 04/30/1997

Name: KRASBERGEN DAIRY  
Address: 7565 EUCALYPTUS AVE  
City,State,Zip: ONTARIO, CA 91762  
Region: SAN BERNARDINO  
Facility ID: FA0000529  
Owner: KASBERGEN DAIRY  
Permit Number: PT0008944  
Permit Category: SPECIAL GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 04/30/1997

**CIWQS:**

Name: CHINO VALLEY DAIRY #1  
Address: 7565 EUCALYPTUS AVENUE  
City,State,Zip: ONTARIO, CA 91762  
Agency: Slegers, Bennett  
Agency Address: 15914 Legacy Court, Bakersfield, CA 93314  
Place/Project Type: Animal Feeding Facility  
SIC/NAICS: 241  
Region: 8  
Program: ANIWSTCOWS  
Regulatory Measure Status: Active  
Regulatory Measure Type: Enrollee - NPDES  
Order Number: R8-2018-0001  
WDID: 8 365981001  
NPDES Number: CAG018001  
Adoption Date: Not reported  
Effective Date: 12/02/2010  
Termination Date: Not reported  
Expiration/Review Date: 03/15/2024  
Design Flow: Not reported  
Major/Minor: Minor  
Complexity: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

TTWQ: Not reported  
Enforcement Actions within 5 years: 0  
Violations within 5 years: 0  
Latitude: 33.990346  
Longitude: -117.639683  
  
Name: CHINO VALLEY DAIRY #1  
Address: 7565 EUCALYPTUS AVENUE  
City,State,Zip: ONTARIO, CA 91762  
Agency: Frank Souza  
Agency Address: 16185 Euclid Avenue, Chino, CA 91708-9118  
Place/Project Type: Animal Feeding Facility  
SIC/NAICS: 241  
Region: 8  
Program: ANIWSTCOWS  
Regulatory Measure Status: Historical  
Regulatory Measure Type: Enrollee  
Order Number: R8-2007-0001  
WDID: 8 365931001  
NPDES Number: CAG018001  
Adoption Date: Not reported  
Effective Date: 05/25/2006  
Termination Date: 11/10/2010  
Expiration/Review Date: Not reported  
Design Flow: Not reported  
Major/Minor: Minor  
Complexity: Not reported  
TTWQ: Not reported  
Enforcement Actions within 5 years: 0  
Violations within 5 years: 0  
Latitude: 33.990346  
Longitude: -117.639683

CERS:  
Name: CHINO VALLEY DAIRY #1  
Address: 7565 EUCALYPTUS AVE  
City,State,Zip: ONTARIO, CA 91762  
Site ID: 18632  
CERS ID: 10311781  
CERS Description: Chemical Storage Facilities

Violations:  
Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Violation Date: 01-11-2017  
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
Violation Description: Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.  
Violation Notes: Returned to compliance on 03/01/2018. A business plan has not been submitted in the CERS system nor has it ever been established.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS  
  
Site ID: 18632

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Site Name: Chino Valley Dairy #1  
Violation Date: 01-11-2017  
Citation: HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507  
Violation Description: Failure to adequately establish and implement a business plan when storing/handling a hazardous material at or above reportable quantities.  
Violation Notes: Returned to compliance on 03/01/2018. A business plan has not been submitted in the CERS system nor has it ever been established.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Violation Date: 08-28-2017  
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)  
Violation Description: Failure to complete and electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.  
Violation Notes: Returned to compliance on 03/01/2018. NON INSPECTION RELATED VIOLATION  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Violation Date: 11-12-2008  
Citation: California Water Code  
Violation Description: Not reported  
Violation Notes: Discharger did not maintain containment structures to retain all wastewater within the facility. A marker was not placed within each pond or containment structure.  
Violation Division: Water Boards  
Violation Program: ANIWSTCOWS  
Violation Source: CIWQS

Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Violation Date: 01-11-2017  
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)  
Violation Description: Failure to complete and electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.  
Violation Notes: Returned to compliance on 03/01/2018. A business plan has not been submitted in the CERS system nor has it ever been established.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Violation Date: 08-16-2013  
Citation: HSC 6.95 25505(a) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Violation Description: Owner/Operator failed to complete and/or submit a Hazardous Materials Business Plan when storing hazardous materials at or above the thresholds quantities of 55 gallons/500 lbs/200 cubic feet.

Violation Notes: Returned to compliance on 03/01/2018.

Violation Division: San Bernardino County Fire Department

Violation Program: HMRRP

Violation Source: CERS

Site ID: 18632

Site Name: Chino Valley Dairy #1

Violation Date: 08-16-2013

Citation: HSC 6.95 25503.5(a) - California Health and Safety Code, Chapter 6.95, Section(s) 25503.5(a)

Violation Description: Owner/Operator failed to establish and implement a Hazardous Materials Business Plan when storing hazardous materials at or above the thresholds quantities of 55 gallons/500 lbs/200 cubic feet.

Violation Notes: Returned to compliance on 03/01/2018.

Violation Division: San Bernardino County Fire Department

Violation Program: HMRRP

Violation Source: CERS

Evaluation:

Eval General Type: Compliance Evaluation Inspection

Eval Date: 01-11-2017

Violations Found: Yes

Eval Type: Routine done by local agency

Eval Notes: Routine inspection

Eval Division: San Bernardino County Fire Department

Eval Program: HMRRP

Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection

Eval Date: 01-26-2017

Violations Found: No

Eval Type: RWQCB Type B compliance inspection

Eval Notes: Not reported

Eval Division: Water Boards

Eval Program: ANIWSTCOWS

Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection

Eval Date: 02-06-2018

Violations Found: No

Eval Type: RWQCB Type B compliance inspection

Eval Notes: Not reported

Eval Division: Water Boards

Eval Program: ANIWSTCOWS

Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection

Eval Date: 02-27-2013

Violations Found: No

Eval Type: RWQCB Type B compliance inspection

Eval Notes: Not reported

Eval Division: Water Boards

Eval Program: ANIWSTCOWS

Eval Source: CIWQS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	03-05-2019
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	03-07-2013
Violations Found:	Yes
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	04-07-2010
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	06-08-2011
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	08-16-2013
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	ROUTINE HANDLER ONLY INSPECTION-CHINO DAIRY
Eval Division:	San Bernardino County Fire Department
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Other/Unknown
Eval Date:	08-28-2017
Violations Found:	Yes
Eval Type:	Other, not routine, done by local agency
Eval Notes:	CERS ENFORCEMENT PROJECT-ENTER VIOLATION
Eval Division:	San Bernardino County Fire Department
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	11-03-2015
Violations Found:	No



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 11-12-2008  
Violations Found: Yes  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 11-27-2007  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 12-08-2011  
Violations Found: Yes  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 12-23-2014  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Enforcement Action:  
Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Site Address: 7565 EUCALYPTUS AVE  
Site City: ONTARIO  
Site Zip: 91762  
Enf Action Date: 01-11-2017  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Site ID: 18632

Map ID  
Direction  
Distance  
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MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Site Name: Chino Valley Dairy #1  
Site Address: 7565 EUCALYPTUS AVE  
Site City: ONTARIO  
Site Zip: 91762  
Enf Action Date: 03-07-2013  
Enf Action Type: Oral Communication  
Enf Action Description: Oral Communication  
Enf Action Notes: Not reported  
Enf Action Division: Water Boards  
Enf Action Program: ANIWSTCOWS  
Enf Action Source: CIWQS

Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Site Address: 7565 EUCALYPTUS AVE  
Site City: ONTARIO  
Site Zip: 91762  
Enf Action Date: 08-16-2013  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Coordinates:  
Site ID: 18632  
Facility Name: Chino Valley Dairy #1  
Env Int Type Code: HMBP  
Program ID: 10311781  
Coord Name: Not reported  
Ref Point Type Desc: Center of a facility or station.  
Latitude: 33.989400  
Longitude: -117.639980

Affiliation:  
Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Identification Signer  
Entity Name: Jason Slegers  
Entity Title: Owner/Operator  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Affiliation Type Desc: Owner and Operator  
Entity Name: Slegers, Bennett  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Document Preparer  
Entity Name: Jason Slegers  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Environmental Contact  
Entity Name: Jason Slegers  
Entity Title: Not reported  
Affiliation Address: 7565 Eucalyptus Ave  
Affiliation City: Ontario  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91762  
Affiliation Phone: Not reported

Affiliation Type Desc: Operator  
Entity Name: FRANK SOUZA  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Parent Corporation  
Entity Name: CHINO DAIRY  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Operator  
Entity Name: Jason Slegers  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Affiliation Zip: Not reported  
Affiliation Phone: (909) 815-1985

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 7565 EUCALYPTUS AVE  
Affiliation City: ONTARIO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91762  
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner  
Entity Name: Slegers, Ben  
Entity Title: Not reported  
Affiliation Address: 7565 EUCALYPTUS AVE  
Affiliation City: ONTARIO  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91762  
Affiliation Phone: (909) 260-0789

Name: CHINO VALLEY DAIRY #1  
Address: 7565 EUCALYPTUS AVE  
City,State,Zip: ONTARIO, CA 91762  
Site ID: 18632  
CERS ID: 234639  
CERS Description: Animal Wastewater Discharge

Violations:

Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Violation Date: 01-11-2017  
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
Violation Description: Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.  
Violation Notes: Returned to compliance on 03/01/2018. A business plan has not been submitted in the CERS system nor has it ever been established.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Violation Date: 01-11-2017  
Citation: HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507  
Violation Description: Failure to adequately establish and implement a business plan when storing/handling a hazardous material at or above reportable quantities.  
Violation Notes: Returned to compliance on 03/01/2018. A business plan has not been submitted in the CERS system nor has it ever been established.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Violation Source: CERS

Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Violation Date: 08-28-2017  
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)  
Violation Description: Failure to complete and electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.  
Violation Notes: Returned to compliance on 03/01/2018. NON INSPECTION RELATED VIOLATION  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Violation Date: 11-12-2008  
Citation: California Water Code  
Violation Description: Not reported  
Violation Notes: Discharger did not maintain containment structures to retain all wastewater within the facility. A marker was not placed within each pond or containment structure.  
Violation Division: Water Boards  
Violation Program: ANIWSTCOWS  
Violation Source: CIWQS

Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Violation Date: 01-11-2017  
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)  
Violation Description: Failure to complete and electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.  
Violation Notes: Returned to compliance on 03/01/2018. A business plan has not been submitted in the CERS system nor has it ever been established.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Violation Date: 08-16-2013  
Citation: HSC 6.95 25505(a) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)  
Violation Description: Owner/Operator failed to complete and/or submit a Hazardous Materials Business Plan when storing hazardous materials at or above the thresholds quantities of 55 gallons/500 lbs/200 cubic feet.  
Violation Notes: Returned to compliance on 03/01/2018.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Violation Date: 08-16-2013

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Citation: HSC 6.95 25503.5(a) - California Health and Safety Code, Chapter 6.95, Section(s) 25503.5(a)  
Violation Description: Owner/Operator failed to establish and implement a Hazardous Materials Business Plan when storing hazardous materials at or above the thresholds quantities of 55 gallons/500 lbs/200 cubic feet.  
Violation Notes: Returned to compliance on 03/01/2018.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Evaluation:  
Eval General Type: Compliance Evaluation Inspection  
Eval Date: 01-11-2017  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: Routine inspection  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 01-26-2017  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 02-06-2018  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 02-27-2013  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-05-2019  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Eval Date:	03-07-2013
Violations Found:	Yes
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	04-07-2010
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	06-08-2011
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	08-16-2013
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	ROUTINE HANDLER ONLY INSPECTION-CHINO DAIRY
Eval Division:	San Bernardino County Fire Department
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Other/Unknown
Eval Date:	08-28-2017
Violations Found:	Yes
Eval Type:	Other, not routine, done by local agency
Eval Notes:	CERS ENFORCEMENT PROJECT-ENTER VIOLATION
Eval Division:	San Bernardino County Fire Department
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	11-03-2015
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	11-12-2008
Violations Found:	Yes
Eval Type:	RWQCB Type B compliance inspection

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS  
  
Eval General Type: Compliance Evaluation Inspection  
Eval Date: 11-27-2007  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 12-08-2011  
Violations Found: Yes  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 12-23-2014  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Enforcement Action:  
Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Site Address: 7565 EUCALYPTUS AVE  
Site City: ONTARIO  
Site Zip: 91762  
Enf Action Date: 01-11-2017  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Site Address: 7565 EUCALYPTUS AVE  
Site City: ONTARIO  
Site Zip: 91762  
Enf Action Date: 03-07-2013  
Enf Action Type: Oral Communication  
Enf Action Description: Oral Communication  
Enf Action Notes: Not reported  
Enf Action Division: Water Boards  
Enf Action Program: ANIWSTCOWS



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Enf Action Source: CIWQS

Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Site Address: 7565 EUCALYPTUS AVE  
Site City: ONTARIO  
Site Zip: 91762  
Enf Action Date: 08-16-2013  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Coordinates:  
Site ID: 18632  
Facility Name: Chino Valley Dairy #1  
Env Int Type Code: HMBP  
Program ID: 10311781  
Coord Name: Not reported  
Ref Point Type Desc: Center of a facility or station.  
Latitude: 33.989400  
Longitude: -117.639980

Affiliation:  
Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Identification Signer  
Entity Name: Jason Slegers  
Entity Title: Owner/Operator  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Owner and Operator  
Entity Name: Slegers, Bennett  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Affiliation Type Desc: Document Preparer  
Entity Name: Jason Slegers  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Environmental Contact  
Entity Name: Jason Slegers  
Entity Title: Not reported  
Affiliation Address: 7565 Eucalyptus Ave  
Affiliation City: Ontario  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91762  
Affiliation Phone: Not reported

Affiliation Type Desc: Operator  
Entity Name: FRANK SOUZA  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Parent Corporation  
Entity Name: CHINO DAIRY  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Operator  
Entity Name: Jason Slegers  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 815-1985

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 7565 EUCALYTPUS AVE  
Affiliation City: ONTARIO  
Affiliation State: CA  
Affiliation Country: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY DAIRY (Continued)**

**S109693846**

Affiliation Zip: 91762  
Affiliation Phone: Not reported  
  
Affiliation Type Desc: Legal Owner  
Entity Name: Slegers, Ben  
Entity Title: Not reported  
Affiliation Address: 7565 EUCALYPTUS AVE  
Affiliation City: ONTARIO  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91762  
Affiliation Phone: (909) 260-0789

14  
NW  
< 1/8  
0.071 mi.  
373 ft.

**LEGEND DAIRY #1**  
**7233 EUCALYPTUS**  
**ONTARIO, CA 91761**

**San Bern. Co. Permit S108536463**  
**CERS N/A**

**Relative:**  
**Higher**  
**Actual:**  
**667 ft.**

San Bern. Co. Permit:  
Name: LEGEND DAIRY #1  
Address: 7233 EUCALYPTUS  
City,State,Zip: ONTARIO, CA 91761  
Region: SAN BERNARDINO  
Facility ID: FA0010955  
Owner: Ronald C. Pietersma  
Permit Number: PT0018892  
Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS  
Facility Status: ACTIVE  
Expiration Date: 11/30/2019

Name: SWAGER & SONS DAIRY #2  
Address: 7233 EUCALYPTUS AVE  
City,State,Zip: ONTARIO, CA 91761  
Region: SAN BERNARDINO  
Facility ID: FA0000659  
Owner: SWAGER, GERBEN ET AL  
Permit Number: PT0008939  
Permit Category: SPECIAL HANDLER  
Facility Status: INACTIVE  
Expiration Date: 04/30/1997

Name: SWAGER & SONS DAIRY #2  
Address: 7233 EUCALYPTUS AVE  
City,State,Zip: ONTARIO, CA 91761  
Region: SAN BERNARDINO  
Facility ID: FA0000659  
Owner: SWAGER, GERBEN ET AL  
Permit Number: PT0008940  
Permit Category: SPECIAL GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 04/30/1997

**CERS:**  
Name: LEGEND DAIRY #1  
Address: 7233 EUCALYPTUS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**LEGEND DAIRY #1 (Continued)**

**S108536463**

City,State,Zip: ONTARIO, CA 91762  
Site ID: 130212  
CERS ID: 10052056  
CERS Description: Chemical Storage Facilities

Violations:  
Site ID: 130212  
Site Name: LEGEND DAIRY #1  
Violation Date: 04-22-2016  
Citation: HSC 6.95 25508.1(a)-(e) - California Health and Safety Code, Chapter 6.95, Section(s) 25508.1(a)-(e)  
Violation Description: Failure to electronically update business plan within 30 days of any one of the following events: A 100 percent or more increase in the quantity of a previously disclosed material. Any handling of a previously undisclosed hazardous materials at or above reportable quantities. A change of business address, business ownership, or business name.  
Violation Notes: Returned to compliance on 05/12/2016. Hazardous materials were observed on site in quantities greater than what is listed in the most current Business Plan inventory. Also, the Site Map submitted into CERS does not have all of the required elements.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 130212  
Site Name: LEGEND DAIRY #1  
Violation Date: 03-14-2007  
Citation: California Water Code  
Violation Description: Not reported  
Violation Notes: Inadequate berms.  
Violation Division: Water Boards  
Violation Program: ANIWSTCOWS  
Violation Source: CIWQS

Site ID: 130212  
Site Name: LEGEND DAIRY #1  
Violation Date: 04-22-2016  
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
Violation Description: Failure to annually review and electronically certify that the business plan is complete, accurate, and up-to-date.  
Violation Notes: Returned to compliance on 05/12/2016. The last Business Plan update submitted by this facility is dated 3/11/2013.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Evaluation:  
Eval General Type: Compliance Evaluation Inspection  
Eval Date: 01-08-1988  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**LEGEND DAIRY #1 (Continued)**

**S108536463**

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	01-10-1991
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	03-08-1989
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	03-13-2014
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	04-18-1991
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	04-19-2016
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	04-22-2016
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	ROUTINE HANDLER INSPECTION-LEGEND DAIRY #1
Eval Division:	San Bernardino County Fire Department
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-09-2012
Violations Found:	Yes

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**LEGEND DAIRY #1 (Continued)**

**S108536463**

Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 07-01-2014  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 07-01-2019  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 07-08-2016  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 12-22-2010  
Violations Found: Yes  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Enforcement Action:  
Site ID: 130212  
Site Name: LEGEND DAIRY #1  
Site Address: 7233 EUCALYPTUS  
Site City: ONTARIO  
Site Zip: 91762  
Enf Action Date: 04-22-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

LEGEND DAIRY #1 (Continued)

S108536463

Coordinates:

Site ID: 130212  
Facility Name: LEGEND DAIRY #1  
Env Int Type Code: CIWQS\_CAFO  
Program ID: 204886  
Coord Name: Not reported  
Ref Point Type Desc: Unknown  
Latitude: 33.988460  
Longitude: -117.646590

Affiliation:

Affiliation Type Desc: Operator  
Entity Name: Ronald Pietersma  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Environmental Contact  
Entity Name: RONALD C. PIETERSMA  
Entity Title: Not reported  
Affiliation Address: P.O. BOX 2500  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91708  
Affiliation Phone: Not reported

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 7233 EUCALYPTUS  
Affiliation City: ONTARIO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91761  
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner  
Entity Name: RONALD C. PIETERSMA  
Entity Title: Not reported  
Affiliation Address: PO BOX 2500  
Affiliation City: CHINO

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**LEGEND DAIRY #1 (Continued)**

**S108536463**

Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91708  
Affiliation Phone: (909) 225-7672

Affiliation Type Desc: Parent Corporation  
Entity Name: LEGEND DAIRY FARMS  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Operator  
Entity Name: RONALD C. PIETERSMA  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 225-7672

Name: LEGEND DAIRY #1  
Address: 7233 EUCALYPTUS  
City,State,Zip: ONTARIO, CA 91762  
Site ID: 130212  
CERS ID: 204886  
CERS Description: Animal Wastewater Discharge

Violations:  
Site ID: 130212  
Site Name: LEGEND DAIRY #1  
Violation Date: 04-22-2016  
Citation: HSC 6.95 25508.1(a)-(e) - California Health and Safety Code, Chapter 6.95, Section(s) 25508.1(a)-(e)  
Violation Description: Failure to electronically update business plan within 30 days of any one of the following events: A 100 percent or more increase in the quantity of a previously disclosed material. Any handling of a previously undisclosed hazardous materials at or above reportable quantities. A change of business address, business ownership, or business name.  
Violation Notes: Returned to compliance on 05/12/2016. Hazardous materials were observed on site in quantities greater than what is listed in the most current Business Plan inventory. Also, the Site Map submitted into CERS does not have all of the required elements.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS  
  
Site ID: 130212  
Site Name: LEGEND DAIRY #1  
Violation Date: 03-14-2007  
Citation: California Water Code  
Violation Description: Not reported



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**LEGEND DAIRY #1 (Continued)**

**S108536463**

Violation Notes: Inadequate berms.  
Violation Division: Water Boards  
Violation Program: ANIWSTCOWS  
Violation Source: CIWQS

Site ID: 130212  
Site Name: LEGEND DAIRY #1  
Violation Date: 04-22-2016  
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
Violation Description: Failure to annually review and electronically certify that the business plan is complete, accurate, and up-to-date.  
Violation Notes: Returned to compliance on 05/12/2016. The last Business Plan update submitted by this facility is dated 3/11/2013.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Evaluation:  
Eval General Type: Compliance Evaluation Inspection  
Eval Date: 01-08-1988  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 01-10-1991  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-08-1989  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-13-2014  
Violations Found: No  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 04-18-1991

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**LEGEND DAIRY #1 (Continued)**

**S108536463**

Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	04-19-2016
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	04-22-2016
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	ROUTINE HANDLER INSPECTION-LEGEND DAIRY #1
Eval Division:	San Bernardino County Fire Department
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-09-2012
Violations Found:	Yes
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	07-01-2014
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	07-01-2019
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	San Bernardino County Fire Department
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	07-08-2016
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**LEGEND DAIRY #1 (Continued)**

**S108536463**

Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS  
  
Eval General Type: Compliance Evaluation Inspection  
Eval Date: 12-22-2010  
Violations Found: Yes  
Eval Type: RWQCB Type B compliance inspection  
Eval Notes: Not reported  
Eval Division: Water Boards  
Eval Program: ANIWSTCOWS  
Eval Source: CIWQS

Enforcement Action:  
Site ID: 130212  
Site Name: LEGEND DAIRY #1  
Site Address: 7233 EUCALYPTUS  
Site City: ONTARIO  
Site Zip: 91762  
Enf Action Date: 04-22-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Coordinates:  
Site ID: 130212  
Facility Name: LEGEND DAIRY #1  
Env Int Type Code: CIWQS\_CAF0  
Program ID: 204886  
Coord Name: Not reported  
Ref Point Type Desc: Unknown  
Latitude: 33.988460  
Longitude: -117.646590

Affiliation:  
Affiliation Type Desc: Operator  
Entity Name: Ronald Pietersma  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**LEGEND DAIRY #1 (Continued)**

**S108536463**

Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Environmental Contact  
Entity Name: RONALD C. PIETERSMA  
Entity Title: Not reported  
Affiliation Address: P.O. BOX 2500  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91708  
Affiliation Phone: Not reported

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 7233 EUCALYPTUS  
Affiliation City: ONTARIO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91761  
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner  
Entity Name: RONALD C. PIETERSMA  
Entity Title: Not reported  
Affiliation Address: PO BOX 2500  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91708  
Affiliation Phone: (909) 225-7672

Affiliation Type Desc: Parent Corporation  
Entity Name: LEGEND DAIRY FARMS  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Operator  
Entity Name: RONALD C. PIETERSMA  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 225-7672

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

D15  
SW  
1/8-1/4  
0.127 mi.  
670 ft.

**TABRIZI INC D B A RAIDER PAINTING COM**  
**7000 MERRILL AVE BLDG 552 STE E2**  
**CHINO, CA 91710**

RCRA NonGen / NLR

1024828553  
CAL000360376

**Site 1 of 67 in cluster D**

**Relative:**  
**Lower**

RCRA NonGen / NLR:

**Actual:**  
**638 ft.**

Date form received by agency: 2011-01-18 00:00:00.0  
Facility name: TABRIZI INC D B A RAIDER PAINTING COM  
Facility address: 7000 MERRILL AVE BLDG 552 STE E2  
CHINO, CA 91710  
EPA ID: CAL000360376  
Mailing address: PO BOX 217  
CATHEYS VALLEY, CA 95360-0000  
Contact: ALLEN TABRIZI  
Contact address: PO BOX 217  
CATHEYS VALLEY, CA 95306-0000  
Contact country: Not reported  
Contact telephone: 714-377-1427  
Contact email: TABIE@RAIDERPAINTING.COM  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: TABRIZI INC  
Owner/operator address: PO BOX 217  
CATHEYS VALLEY, CA 95306  
Owner/operator country: Not reported  
Owner/operator telephone: 714-377-1427  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: ALLEN TABRIZI  
Owner/operator address: PO BOX 217  
CATHEYS VALLEY, CA 95306  
Owner/operator country: Not reported  
Owner/operator telephone: 714-377-1427  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: Yes  
Treater, storer or disposer of HW: No  
Underground injection activity: No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**TABRIZI INC D B A RAIDER PAINTING COM (Continued)**

**1024828553**

On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

**D16  
SW  
1/8-1/4  
0.127 mi.  
670 ft.**

**CONCRETE MOTOR SPORTS LLC  
7000 MERRILL AVE., UNIT B210D  
CHINO, CA 91710**

**RCRA NonGen / NLR**

**1024782159  
CAC003002136**

**Site 2 of 67 in cluster D**

**Relative:  
Lower  
Actual:  
638 ft.**

RCRA NonGen / NLR:  
Date form received by agency: 2019-02-21 00:00:00.0  
Facility name: CONCRETE MOTOR SPORTS LLC  
Facility address: 7000 MERRILL AVE., UNIT B210D  
CHINO, CA 91710  
EPA ID: CAC003002136  
Contact: JERRY FISHER  
Contact address: 7000 MERRILL AVE., UNIT B210D  
CHINO, CA 91710  
Contact country: Not reported  
Contact telephone: 562-743-2646  
Contact email: JFISHER@CONCRETEMOTORSPORTS.COM  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

**Owner/Operator Summary:**

Owner/operator name: JERRY FISHER  
Owner/operator address: 7000 MERRILL AVE., UNIT B210D  
CHINO, CA 91710  
Owner/operator country: Not reported  
Owner/operator telephone: 562-743-2646  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: KEVIN THOMPSON  
Owner/operator address: 7000 MERRILL AVE., UNIT B210D  
CHINO, CA 91710  
Owner/operator country: Not reported  
Owner/operator telephone: 562-743-2646  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CONCRETE MOTOR SPORTS LLC (Continued)**

**1024782159**

Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
Used oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

D17  
SW  
1/8-1/4  
0.127 mi.  
670 ft.

**CHINO AIRPORT  
7000 MERRILL AVENUE  
CHINO, CA 91710**

RCRA NonGen / NLR 1024764943  
CAC002984811

**Site 3 of 67 in cluster D**

Relative:  
Lower  
Actual:  
638 ft.

RCRA NonGen / NLR:  
Date form received by agency: 2018-10-15 00:00:00.0  
Facility name: CHINO AIRPORT  
Facility address: 7000 MERRILL AVENUE  
CHINO, CA 91710  
EPA ID: CAC002984811  
Mailing address: 777 EAST RIALTO AVENUE  
SAN BERNARDINO, CA 92415  
Contact: MAUREEN SNELGROVE  
Contact address: 777 EAST RIALTO AVENUE  
SAN BERNARDINO, CA 92415  
Contact country: Not reported  
Contact telephone: 909-597-3910  
Contact email: MAUREEN.SNELGROVE@SBCOUNTY.GOV  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: SAN BERNARDINO COUNTY  
Owner/operator address: 777 EAST RIALTO AVENUE  
SAN BERNARDINO, CA 92415  
Owner/operator country: Not reported  
Owner/operator telephone: 909-597-3910  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO AIRPORT (Continued)**

**1024764943**

Owner/Op end date: Not reported  
  
Owner/operator name: MAUREEN SNELGROVE  
Owner/operator address: 777 EAST RIALTO AVENUE  
SAN BERNARDINO, CA 92415  
  
Owner/operator country: Not reported  
Owner/operator telephone: 909-597-3910  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

D18  
SW  
1/8-1/4  
0.127 mi.  
670 ft.

**SOUTHERN CALIFORNIA DAIRY EQUIPMENT INC**  
**7000 MERRILL BLDG 4**  
**CHINO, CA 91710**

RCRA NonGen / NLR 1024804413  
CAL000258065

**Site 4 of 67 in cluster D**

Relative:  
Lower  
Actual:  
638 ft.

RCRA NonGen / NLR:  
Date form received by agency: 2002-08-22 00:00:00.0  
Facility name: SOUTHERN CALIFORNIA DAIRY EQUIPMENT INC  
Facility address: 7000 MERRILL BLDG 4  
CHINO, CA 91710  
  
EPA ID: CAL000258065  
Mailing address: 7000 MERRILL AVE STE 12  
CHINO, CA 91710-9027  
  
Contact:  
Contact address: RICHARD RIETKERK  
7000 MERRILL AVE BLDG A320  
CHINO, CA 91710  
  
Contact country: Not reported  
Contact telephone: 909-597-4731  
Contact email: ADMIN@SOCALDAIRY.COM  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SOUTHERN CALIFORNIA DAIRY EQUIPMENT INC (Continued)**

**1024804413**

Owner/Operator Summary:

Owner/operator name: RICHARD RIETKERK  
Owner/operator address: 7000 MERRILL AVE BLDG A320  
CHINO, CA 91710  
Owner/operator country: Not reported  
Owner/operator telephone: 909-597-4731  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: SOUTHERN CAL DAIRY EQUIPMENT INC  
Owner/operator address: 7000 MERRILL BLDG A320  
CHINO, CA 91710  
Owner/operator country: Not reported  
Owner/operator telephone: 909-597-4731  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: Yes  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
Used oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

**D19**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**AERO TRADER**  
**7000 MERRILL AVE HANGAR P300**  
**CHINO, CA 91710**  
**Site 5 of 67 in cluster D**

**RCRA NonGen / NLR** **1024788090**  
**CAL000041106**

**Relative:**  
**Lower**

RCRA NonGen / NLR:  
Date form received by agency: 1991-02-15 00:00:00.0  
Facility name: AERO TRADER  
Facility address: 7000 MERRILL AVE HANGAR P300  
CHINO, CA 91710-0000  
EPA ID: CAL000041106

**Actual:**  
**638 ft.**

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**AERO TRADER (Continued)**

**1024788090**

Mailing address: 7000 MERRILL AVE STE 19  
CHINO, CA 91710-0000  
Contact: TONY RITZMAN  
Contact address: 7000 MERRILL AVE STE 19 HANGAR A-497  
CHINO, CA 91710  
Contact country: Not reported  
Contact telephone: 909-597-4020  
Contact email: AEROTRADER@VERIZON.NET  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: S & R AVIATION SERVICES INC  
Owner/operator address: 7000 MERRILL AVE STE 19 HANGAR A-497  
CHINO, CA 91710  
Owner/operator country: Not reported  
Owner/operator telephone: 909-597-4020  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: TONY RITZMAN  
Owner/operator address: 7000 MERRILL AVE STE 19 HANGAR A-497  
CHINO, CA 91710  
Owner/operator country: Not reported  
Owner/operator telephone: 909-597-4020  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: Yes  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**AERO TRADER (Continued)**

**1024788090**

Violation Status: No violations found

**D20**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**NAVION CUSTOMS LLC**  
**7000 MERRILL AVE HNGR A-385**  
**CHINO, CA 91710**

**RCRA NonGen / NLR**

**1024832996**  
**CAL000371625**

**Site 6 of 67 in cluster D**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

RCRA NonGen / NLR:  
Date form received by agency: 2012-02-09 00:00:00.0  
Facility name: NAVION CUSTOMS LLC  
Facility address: 7000 MERRILL AVE HNGR A-385  
CHINO, CA 91710-9091  
EPA ID: CAL000371625  
Mailing address: 7000 MERRILL AVE STE 95  
CHINO, CA 91710-8800  
Contact: STEPHEN STINIS  
Contact address: 7000 MERRILL AVE STE 95  
CHINO, CA 91710  
Contact country: Not reported  
Contact telephone: 909-395-5360  
Contact email: STEPHEN@NAVIONCUSTOMS.COM  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

**Owner/Operator Summary:**

Owner/operator name: NAVION CUSTOMS LLC  
Owner/operator address: 7000 MERRILL AVE STE 95  
CHINO, CA 91710  
Owner/operator country: Not reported  
Owner/operator telephone: 909-395-5360  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: STEPHEN STINIS  
Owner/operator address: 7000 MERRILL AVE STE 95  
CHINO, CA 91710  
Owner/operator country: Not reported  
Owner/operator telephone: 909-395-5360  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

**Handler Activities Summary:**

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: Yes

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**NAVION CUSTOMS LLC (Continued)**

1024832996

Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
Used oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

D21  
SW  
1/8-1/4  
0.127 mi.  
670 ft.

**CENTURY AIRCRAFT PAINTING**  
**7000 MERRILL AVE HANGAR A440**  
**CHINO, CA 91710**

RCRA NonGen / NLR

1024836807  
CAL000381205

**Site 7 of 67 in cluster D**

Relative:  
Lower

RCRA NonGen / NLR:

Actual:  
638 ft.

Date form received by agency: 2019-05-20 00:00:00.0  
Facility name: CENTURY AIRCRAFT PAINTING  
Facility address: 7000 MERRILL AVE HANGAR A440  
CHINO, CA 91710  
EPA ID: CAL000381205  
Mailing address: 7000 MERRILL AVE  
BOX 83  
CHINO, CA 91710-0000  
Contact: EVELINE VOGEL  
Contact address: 7000 MERRILL AVE BOX 83  
CHINO, CA 91710  
Contact country: US  
Contact telephone: 909-393-3550  
Contact email: CENTURYAIRCRAFTPAINT@GMAIL.COM  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: EVELINE VOGEL  
Owner/operator address: 7000 MERRILL AVE BOX 83  
CHINO, CA 91710

Owner/operator country: Not reported  
Owner/operator telephone: 909-393-3550  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported

Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: EVELINE VOGEL  
Owner/operator address: 7000 MERRILL AVE BOX 83  
CHINO, CA 91710

Owner/operator country: US  
Owner/operator telephone: 909-393-3550

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CENTURY AIRCRAFT PAINTING (Continued)**

**1024836807**

Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: CENTURY AIRCRAFT PAINTING  
Owner/operator address: 7000 MERRILL AVE BOX 83  
CHINO, CA 91710

Owner/operator country: US  
Owner/operator telephone: 909-393-3550  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: CENTURY AIRCRAFT PAINTING  
Owner/operator address: 7000 MERRILL AVE BOX 83  
CHINO, CA 91710

Owner/operator country: Not reported  
Owner/operator telephone: 909-393-3550  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

**Handler Activities Summary:**

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

**Historical Generators:**

Date form received by agency: 2012-12-24 00:00:00.0  
Site name: CENTURY AIRCRAFT PAINTING  
Classification: Not a generator, verified

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CENTURY AIRCRAFT PAINTING (Continued)**

**1024836807**

Violation Status: No violations found

**D22**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**FAA CNO ATCT**  
**7000 MERRILL AVE**  
**CHINO, CA 91710**

**San Bern. Co. Permit**  
**CERS**

**S104766172**  
**N/A**

**Site 8 of 67 in cluster D**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

San Bern. Co. Permit:  
Name: FAA CNO ATCT  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0003024  
Owner: Federal Aviation Administration  
Permit Number: PT0008401  
Permit Category: HAZARDOUS MATERIALS 1-3 CHEMICALS SPECIAL  
Facility Status: ACTIVE  
Expiration Date: 11/30/2019

**CERS:**

Name: FAA CNO ATCT  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 392379  
CERS ID: 10121905  
CERS Description: Chemical Storage Facilities

**Violations:**

Site ID: 392379  
Site Name: FAA CNO ATCT  
Violation Date: 08-21-2017  
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
Violation Description: Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.  
Violation Notes: Returned to compliance on 08/30/2017.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 392379  
Site Name: FAA CNO ATCT  
Violation Date: 07-11-2013  
Citation: HSC 6.95 25505(a) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)  
Violation Description: Owner/Operator failed to complete and/or submit a Hazardous Materials Business Plan when storing hazardous materials at or above the thresholds quantities of 55 gallons/500 lbs/200 cubic feet.  
Violation Notes: Returned to compliance on 09/30/2013.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

**Evaluation:**

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 07-11-2013

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**FAA CNO ATCT (Continued)**

**S104766172**

Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 08-21-2017  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Enforcement Action:  
Site ID: 392379  
Site Name: FAA CNO ATCT  
Site Address: 7000 MERRILL AVE  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 07-11-2013  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Affiliation:  
Affiliation Type Desc: Environmental Contact  
Entity Name: SECM  
Entity Title: Not reported  
Affiliation Address: 9175 Kearny Villa Road  
Affiliation City: San Diego  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92126  
Affiliation Phone: Not reported

Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Document Preparer  
Entity Name: bill bottin  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**FAA CNO ATCT (Continued)**

**S104766172**

Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Operator  
Entity Name: Federal Aviation Administration  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 605-0047

Affiliation Type Desc: Parent Corporation  
Entity Name: FAA- SCT GROUP- ONT SSC  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 1130 South Archibald Avenue  
Affiliation City: Ontario  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91761  
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer  
Entity Name: Bill Bottin  
Entity Title: SECM  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner  
Entity Name: Federal Aviation Administration  
Entity Title: Not reported  
Affiliation Address: 1130 S. Archibald Avenue  
Affiliation City: Ontario  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91761  
Affiliation Phone: (858) 537-5500



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

D23  
SW  
1/8-1/4  
0.127 mi.  
670 ft.

**CAL AERO JET CENTER**  
**7000 MERRILL AVE B-350**  
**CHINO, CA 91710**

San Bern. Co. Permit

S104771510  
N/A

Site 9 of 67 in cluster D

Relative:  
Lower

San Bern. Co. Permit:

Actual:  
638 ft.

Name: CAL AERO JET CENTER  
Address: 7000 MERRILL AVE B-350  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0006862  
Owner: OLDRIDGE, PHILLIP  
Permit Number: PT0010027  
Permit Category: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 11/30/2006

Name: CAL AERO JET CENTER  
Address: 7000 MERRILL AVE B-350  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0006862  
Owner: OLDRIDGE, PHILLIP  
Permit Number: PT0010026  
Permit Category: SPECIAL HANDLER  
Facility Status: INACTIVE  
Expiration Date: 11/30/2005

Name: CAL AERO JET CENTER  
Address: 7000 MERRILL AVE B-350  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0006862  
Owner: OLDRIDGE, PHILLIP  
Permit Number: PT0010480  
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)  
Facility Status: INACTIVE  
Expiration Date: 11/30/2005

D24  
SW  
1/8-1/4  
0.127 mi.  
670 ft.

**CENTURY AIRCRAFT PAINTING**  
**7000 MERRILL AVE**  
**CHINO, CA 91710**

San Bern. Co. Permit

S104764508  
N/A

Site 10 of 67 in cluster D

Relative:  
Lower

San Bern. Co. Permit:

Actual:  
638 ft.

Name: CENTURY AIRCRAFT PAINTING  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0001669  
Owner: ACOSTA, SANDY  
Permit Number: PT0001757  
Permit Category: SMALL QUANTITY GENERATOR  
Facility Status: ACTIVE  
Expiration Date: 11/30/2019

Name: CENTURY AIRCRAFT PAINTING  
Address: 7000 MERRILL AVE

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CENTURY AIRCRAFT PAINTING (Continued)**

**S104764508**

City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0001669  
Owner: ACOSTA, SANDY  
Permit Number: PT0001756  
Permit Category: HAZARDOUS MATERIALS 1-3 CHEMICALS  
Facility Status: ACTIVE  
Expiration Date: 11/30/2019

**D25**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**ENCORE JET CENTER**  
**7000 MERRILL AVE STE B310**  
**CHINO, CA 91710**

**RCRA NonGen / NLR**

**1024843968**  
**CAL000395938**

**Site 11 of 67 in cluster D**

**Relative:**  
**Lower**

RCRA NonGen / NLR:

**Actual:**  
**638 ft.**

Date form received by agency: 2014-04-17 00:00:00.0  
Facility name: ENCORE JET CENTER  
Facility address: 7000 MERRILL AVE STE B310  
CHINO, CA 91710-9091  
EPA ID: CAL000395938  
Contact: JOE ALACRON  
Contact address: 7000 MERRILL AVE STE B310  
CHINO, CA 91710  
Contact country: Not reported  
Contact telephone: 909-597-6566  
Contact email: CHARLEEN@RAMTOX.COM  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

**Owner/Operator Summary:**

Owner/operator name: ENCORE JET CENTER  
Owner/operator address: 7000 MERRILL AVE STE B310  
CHINO, CA 91710

Owner/operator country: Not reported  
Owner/operator telephone: 909-597-6566  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: JOE ALACRON  
Owner/operator address: 7000 MERRILL AVE STE B310  
CHINO, CA 91710

Owner/operator country: Not reported  
Owner/operator telephone: 909-597-6566  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER (Continued)**

**1024843968**

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: Yes  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

**D26**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**A & J ENVIRONMENTAL**  
**7000 MERRILL**  
**CHINO, CA 91710**  
  
**Site 12 of 67 in cluster D**

**RCRA NonGen / NLR**    **1024781310**  
**CAC003001277**

**Relative:**  
**Lower**  
  
**Actual:**  
**638 ft.**

RCRA NonGen / NLR:  
Date form received by agency: 2019-02-15 00:00:00.0  
Facility name: A & J ENVIRONMENTAL  
Facility address: 7000 MERRILL  
B340 - K9  
CHINO, CA 91710  
EPA ID: CAC003001277  
Mailing address: 9036 MISSION BLVD PMB85  
RIVERSIDE, CA 92509  
Contact: ASA COSBY  
Contact address: 9036 MISSION BLVD PMB85  
RIVERSIDE, CA 92509  
Contact country: Not reported  
Contact telephone: 951-377-5997  
Contact email: ASACOSBY.CFI@GMAIL.COM  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: ASA COSBY  
Owner/operator address: 9036 MISSION BLVD PMB85  
RIVERSIDE, CA 92509  
Owner/operator country: Not reported  
Owner/operator telephone: 951-377-5997  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**A & J ENVIRONMENTAL (Continued)**

**1024781310**

Owner/operator name: ASA COSBY  
Owner/operator address: 9036 MISSION BLVD PMB85  
RIVERSIDE, CA 92509  
Owner/operator country: Not reported  
Owner/operator telephone: 951-377-5997  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

**D27**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**DUBOIS AVIATION INC.**  
**7000 MERRILL AVE BOX 39**  
**CHINO, CA 91710**  
**Site 13 of 67 in cluster D**

**RCRA NonGen / NLR** **1024751127**  
**CAC002970919**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

RCRA NonGen / NLR:  
Date form received by agency: 2018-07-15 00:00:00.0  
Facility name: DUBOIS AVIATION INC.  
Facility address: 7000 MERRILL AVE BOX 39  
BUILDING B-110 HANGAR A  
CHINO, CA 91710  
EPA ID: CAC002970919  
Contact: LOU DUBOIS  
Contact address: 7000 MERRILL AVE BOX 39 BUILDING B-110 HANGAR A  
CHINO, CA 91710  
Contact country: Not reported  
Contact telephone: 909-597-6292  
Contact email: LOU@DUBOISAVIATION.COM  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:  
Owner/operator name: LOUIE DUBOIS  
Owner/operator address: 7000 MERRILL AVE BOX 39 BUILDING B-110 HANGAR A

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**DUBOIS AVIATION INC. (Continued)**

**1024751127**

CHINO, CA 91710  
Owner/operator country: Not reported  
Owner/operator telephone: 909-597-6292  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported  
  
Owner/operator name: LOU DUBOIS  
Owner/operator address: 7000 MERRILL AVE BOX 39 BUILDING B-110 HANGAR A  
CHINO, CA 91710  
Owner/operator country: Not reported  
Owner/operator telephone: 909-597-6292  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

**D28**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**CONCRETE MOTOR SPORTS LLC**  
**7000 MERRILL AVE., UNIT B210D**  
**CHINO, CA 91710**

**RCRA NonGen / NLR** **1024760293**  
**CAC002980147**

**Site 14 of 67 in cluster D**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

RCRA NonGen / NLR:  
Date form received by agency: 2018-09-13 00:00:00.0  
Facility name: CONCRETE MOTOR SPORTS LLC  
Facility address: 7000 MERRILL AVE., UNIT B210D  
CHINO, CA 91710  
EPA ID: CAC002980147  
Contact: JERRY FISHER  
Contact address: 7000 MERRILL AVE., UNIT B210D  
CHINO, CA 91710

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CONCRETE MOTOR SPORTS LLC (Continued)**

**1024760293**

Contact country: Not reported  
Contact telephone: 562-743-2646  
Contact email: CATHYW@CALWESTENVIRONMENTAL.COM  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: JERRY FISHER  
Owner/operator address: 7000 MERRILL AVE., UNIT B210D  
CHINO, CA 91710

Owner/operator country: Not reported  
Owner/operator telephone: 562-743-2646  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: KEVIN THOMPSON  
Owner/operator address: 7000 MERRILL AVE., UNIT B210D  
CHINO, CA 91710

Owner/operator country: Not reported  
Owner/operator telephone: 562-743-2646  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

D29  
SW  
1/8-1/4  
0.127 mi.  
670 ft.

**CHINO AIRPORT MAINTANCE SHOP**  
**7000 MERRILL**  
**CHINO, CA 91710**

RCRA NonGen / NLR  
1024786281  
CAL000015018

Site 15 of 67 in cluster D

Relative:  
Lower

RCRA NonGen / NLR:

Actual:  
638 ft.

Date form received by agency: 1989-11-14 00:00:00.0  
Facility name: CHINO AIRPORT MAINTANCE SHOP  
Facility address: 7000 MERRILL  
CHINO, CA 91710-0000  
EPA ID: CAL000015018  
Mailing address: 7000 MERRILL AVENUE BOX 1  
BUILDING A-550  
CHINO, CA 91710-9091  
Contact: JAMES E. JENKINS  
Contact address: 777 EAST RIALTO AVENUE  
SAN BERNARDINO, CA 92415-0831  
Contact country: Not reported  
Contact telephone: 909-387-8810  
Contact email: JJENKINS@AIRPORTS.SBCOUNTY.GOV  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: COUNTY OF SAN BERNARDINO  
Owner/operator address: 777 EAST RIALTO AVENUE  
SAN BERNARDINO, CA 92415  
Owner/operator country: Not reported  
Owner/operator telephone: 909-387-8810  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: JAMES E. JENKINS  
Owner/operator address: 777 EAST RIALTO AVENUE  
SAN BERNARDINO, CA 92415  
Owner/operator country: Not reported  
Owner/operator telephone: 909-387-8810  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: Yes  
Treater, storer or disposer of HW: No

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**CHINO AIRPORT MAINTANCE SHOP (Continued)**

**1024786281**

Underground injection activity: No  
 On-site burner exemption: No  
 Furnace exemption: No  
 Used oil fuel burner: No  
 Used oil processor: No  
 User oil refiner: No  
 Used oil fuel marketer to burner: No  
 Used oil Specification marketer: No  
 Used oil transfer facility: No  
 Used oil transporter: No

Violation Status: No violations found

**D30**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**CHINO ROAD YARD**  
**7000 MERRILL AVE**  
**CHINO, CA 91710**

**HIST UST** **U001568880**  
**N/A**

**Site 16 of 67 in cluster D**

**Relative:**  
**Lower**

HIST UST:

**Actual:**  
**638 ft.**

Name: CHINO ROAD YARD  
 Address: 7000 MERRILL AVE  
 City,State,Zip: CHINO, CA 91710  
 File Number: 00029D37  
 URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00029D37.pdf>  
 Region: STATE  
 Facility ID: 00000031581  
 Facility Type: Other  
 Other Type: COUNTY  
 Contact Name: BOB HIGNIGHT  
 Telephone: 7145976270  
 Owner Name: COUNTY OF SAN BERNARDINO VEHIC  
 Owner Address: 825 EAST THIRD STREET  
 Owner City,St,Zip: SAN BERNARDINO, CA 92415  
 Total Tanks: 0001

Tank Num: 001  
 Container Num: 0077  
 Year Installed: Not reported  
 Tank Capacity: 00000500  
 Tank Used for: PRODUCT  
 Type of Fuel: WASTE OIL  
 Container Construction Thickness: Not reported  
 Leak Detection: Visual

Tank Num: 001  
 Container Num: 1  
 Year Installed: Not reported  
 Tank Capacity: 00000500  
 Tank Used for: WASTE  
 Type of Fuel: 5  
 Container Construction Thickness: X  
 Leak Detection: None

Tank Num: 001  
 Container Num: 1  
 Year Installed: Not reported  
 Tank Capacity: 00000500  
 Tank Used for: WASTE



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO ROAD YARD (Continued)**

**U001568880**

Type of Fuel: 5  
Container Construction Thickness: X  
Leak Detection: None  
  
Tank Num: 001  
Container Num: 0077  
Year Installed: Not reported  
Tank Capacity: 00000500  
Tank Used for: PRODUCT  
Type of Fuel: WASTE OIL  
Container Construction Thickness: Not reported  
Leak Detection: Visual

[Click here for Geo Tracker PDF:](#)

**D31  
SW  
1/8-1/4  
0.127 mi.  
670 ft.**

**CHINO AIRPORT  
7000 MERRILL AVE  
CHINO, CA 91710**

**SWEEPS UST U001568864  
HIST UST N/A**

**Site 17 of 67 in cluster D**

**Relative:  
Lower**

**SWEEPS UST:**  
Name: CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City: CHINO  
Status: Active  
Comp Number: 10545  
Number: 9  
Board Of Equalization: 44-020280  
Referral Date: 03-24-92  
Action Date: 03-24-92  
Created Date: 02-29-88  
Owner Tank Id: 2  
SWRCB Tank Id: 36-000-010545-000001  
Tank Status: A  
Capacity: 10000  
Active Date: 07-01-85  
Tank Use: M.V. FUEL  
STG: P  
Content: Not reported  
Number Of Tanks: 8

**Actual:  
638 ft.**

Name: CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City: CHINO  
Status: Active  
Comp Number: 10545  
Number: 9  
Board Of Equalization: 44-020280  
Referral Date: 03-24-92  
Action Date: 03-24-92  
Created Date: 02-29-88  
Owner Tank Id: 3  
SWRCB Tank Id: 36-000-010545-000002  
Tank Status: A  
Capacity: 10000  
Active Date: 07-01-85  
Tank Use: M.V. FUEL

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO AIRPORT (Continued)**

**U001568864**

STG: P  
Content: Not reported  
Number Of Tanks: Not reported

Name: CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City: CHINO  
Status: Active  
Comp Number: 10545  
Number: 9  
Board Of Equalization: 44-020280  
Referral Date: 03-24-92  
Action Date: 03-24-92  
Created Date: 02-29-88  
Owner Tank Id: 4  
SWRCB Tank Id: 36-000-010545-000003  
Tank Status: A  
Capacity: 10000  
Active Date: 07-01-85  
Tank Use: M.V. FUEL  
STG: P  
Content: Not reported  
Number Of Tanks: Not reported

Name: CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City: CHINO  
Status: Active  
Comp Number: 10545  
Number: 9  
Board Of Equalization: 44-020280  
Referral Date: 03-24-92  
Action Date: 03-24-92  
Created Date: 02-29-88  
Owner Tank Id: 5  
SWRCB Tank Id: 36-000-010545-000004  
Tank Status: A  
Capacity: 10000  
Active Date: 07-01-85  
Tank Use: M.V. FUEL  
STG: P  
Content: Not reported  
Number Of Tanks: Not reported

Name: CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City: CHINO  
Status: Active  
Comp Number: 10545  
Number: 9  
Board Of Equalization: 44-020280  
Referral Date: 03-24-92  
Action Date: 03-24-92  
Created Date: 02-29-88  
Owner Tank Id: 6  
SWRCB Tank Id: 36-000-010545-000005  
Tank Status: A

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO AIRPORT (Continued)**

**U001568864**

Capacity: 10000  
Active Date: 07-01-85  
Tank Use: UNKNOWN  
STG: P  
Content: Not reported  
Number Of Tanks: Not reported

Name: CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City: CHINO  
Status: Active  
Comp Number: 10545  
Number: 9  
Board Of Equalization: 44-020280  
Referral Date: 03-24-92  
Action Date: 03-24-92  
Created Date: 02-29-88  
Owner Tank Id: 7  
SWRCB Tank Id: 36-000-010545-000006  
Tank Status: A  
Capacity: 10000  
Active Date: 07-01-85  
Tank Use: UNKNOWN  
STG: P  
Content: Not reported  
Number Of Tanks: Not reported

Name: CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City: CHINO  
Status: Active  
Comp Number: 10545  
Number: 9  
Board Of Equalization: 44-020280  
Referral Date: 03-24-92  
Action Date: 03-24-92  
Created Date: 02-29-88  
Owner Tank Id: 8  
SWRCB Tank Id: 36-000-010545-000007  
Tank Status: A  
Capacity: 20000  
Active Date: 07-01-85  
Tank Use: M.V. FUEL  
STG: P  
Content: Not reported  
Number Of Tanks: Not reported

Name: CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City: CHINO  
Status: Active  
Comp Number: 10545  
Number: 9  
Board Of Equalization: 44-020280  
Referral Date: 03-24-92  
Action Date: 03-24-92  
Created Date: 02-29-88

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO AIRPORT (Continued)**

**U001568864**

Owner Tank Id: 1  
SWRCB Tank Id: 36-000-010545-000008  
Tank Status: A  
Capacity: 1000  
Active Date: 07-01-85  
Tank Use: M.V. FUEL  
STG: P  
Content: LEADED  
Number Of Tanks: Not reported

**HIST UST:**

Name: CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
File Number: Not reported  
URL: Not reported  
Region: STATE  
Facility ID: 00000010545  
Facility Type: Other  
Other Type: AVIATION  
Contact Name: DAN GROVES, AIRPORT MANAGER  
Telephone: 7145973910  
Owner Name: SAN BERNARDINO COUNTY  
Owner Address: 825 EAST THIRD STREET  
Owner City,St,Zip: SAN BERNARDINO, CA 924150831  
Total Tanks: 0008

Tank Num: 001  
Container Num: 2  
Year Installed: 1965  
Tank Capacity: 00010000  
Tank Used for: PRODUCT  
Type of Fuel: 06  
Container Construction Thickness: Not reported  
Leak Detection: Stock Inventor, Pressure Test

Tank Num: 002  
Container Num: 3  
Year Installed: 1965  
Tank Capacity: 00010000  
Tank Used for: PRODUCT  
Type of Fuel: 06  
Container Construction Thickness: Not reported  
Leak Detection: Stock Inventor, Pressure Test

Tank Num: 003  
Container Num: 4  
Year Installed: 1974  
Tank Capacity: 00010000  
Tank Used for: PRODUCT  
Type of Fuel: 06  
Container Construction Thickness: Not reported  
Leak Detection: Stock Inventor

Tank Num: 004  
Container Num: 5  
Year Installed: 1974

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO AIRPORT (Continued)**

**U001568864**

Tank Capacity: 00010000  
Tank Used for: PRODUCT  
Type of Fuel: 06  
Container Construction Thickness: Not reported  
Leak Detection: Stock Inventor

Tank Num: 005  
Container Num: 6  
Year Installed: Not reported  
Tank Capacity: 00010000  
Tank Used for: Not reported  
Type of Fuel: Not reported  
Container Construction Thickness: Not reported  
Leak Detection: Stock Inventor, Pressure Test

Tank Num: 006  
Container Num: 7  
Year Installed: Not reported  
Tank Capacity: 00010000  
Tank Used for: Not reported  
Type of Fuel: Not reported  
Container Construction Thickness: Not reported  
Leak Detection: Stock Inventor, Pressure Test

Tank Num: 007  
Container Num: 8  
Year Installed: 1979  
Tank Capacity: 00020000  
Tank Used for: PRODUCT  
Type of Fuel: 06  
Container Construction Thickness: Not reported  
Leak Detection: Stock Inventor, Pressure Test

Tank Num: 008  
Container Num: 1  
Year Installed: 1967  
Tank Capacity: 00001000  
Tank Used for: PRODUCT  
Type of Fuel: REGULAR  
Container Construction Thickness: Not reported  
Leak Detection: Stock Inventor

**D32**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**K-M AIR ENTERPRISES INC.**  
**7000 MERRILL AVE BLDG 120/1**  
**CHINO, CA 91710**

**San Bern. Co. Permit S121309622**  
**N/A**

**Site 18 of 67 in cluster D**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

San Bern. Co. Permit:  
Name: K-M AIR ENTERPRISES INC.  
Address: 7000 MERRILL AVE BLDG 120/1  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0004203  
Owner: MORIMOTO, KIYOHARU  
Permit Number: PT0008399  
Permit Category: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR  
Facility Status: INACTIVE

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**K-M AIR ENTERPRISES INC. (Continued)**

**S121309622**

Expiration Date: 07/31/2010

Name: K-M AIR ENTERPRISES INC.  
Address: 7000 MERRILL AVE BLDG 120/1  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0004203  
Owner: MORIMOTO, KIYOHARU  
Permit Number: PT0008400  
Permit Category: SPECIAL HANDLER  
Facility Status: INACTIVE  
Expiration Date: 07/31/2007

**D33**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**ENCORE JET CENTER, LLC**  
**7000 MERRILL AVE BLDG B-310**  
**CHINO, CA 91710**

**UST U004263664**  
**N/A**

**Site 19 of 67 in cluster D**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

UST:  
Name: ENCORE JET CENTER, LLC  
Address: 7000 MERRILL AVE BLDG B-310  
City,State,Zip: CHINO, CA 91710  
Facility ID: FA0002276  
Permitting Agency: San Bernardino County Fire Department  
Latitude: 33.983001  
Longitude: -117.647363

**D34**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**UCO AVIATION**  
**7000 MERRILL AVE**  
**CHINO, CA 91710**

**UST U003784935**  
**San Bern. Co. Permit N/A**

**Site 20 of 67 in cluster D**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

UST:  
Name: AG-MURRAY, DONALD L.  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Facility ID: 87012670  
Permitting Agency: SAN BERNARDINO COUNTY  
Latitude: 33.9821897  
Longitude: -117.6322274  
  
Name: CO-SAN BDNO/CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Facility ID: 87014446  
Permitting Agency: SAN BERNARDINO COUNTY  
Latitude: 33.9821897  
Longitude: -117.6322274  
  
Name: UCO AVIATION  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Facility ID: 95036944  
Permitting Agency: SAN BERNARDINO COUNTY

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

UCO AVIATION (Continued)

U003784935

Latitude: 33.9821897  
Longitude: -117.6322274  
  
Name: ENCORE JET CENTER  
Address: 7000 MERRILL AVE A-235  
City,State,Zip: CHINO, CA 91710  
Facility ID: FA0002968  
Permitting Agency: San Bernardino County Fire Department  
Latitude: 33.983001  
Longitude: -117.647363  
  
Name: CO-CHINO FUEL SERVICE  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Facility ID: 98045919  
Permitting Agency: SAN BERNARDINO COUNTY  
Latitude: 33.9821897  
Longitude: -117.6322274

San Bern. Co. Permit:

Name: MURRAY, DONALD L.  
Address: 7000 MERRILL AVE C-24  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0000576  
Owner: MURRAY, DONALD L.  
Permit Number: PT0011346  
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)  
Facility Status: INACTIVE  
Expiration Date: 05/31/1991

Name: MURRAY, DONALD L.  
Address: 7000 MERRILL AVE C-24  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0000576  
Owner: MURRAY, DONALD L.  
Permit Number: PT0003168  
Permit Category: HAZMAT HANDLER, UST ONLY - PER YEAR  
Facility Status: INACTIVE  
Expiration Date: 05/31/1991

D35  
SW  
1/8-1/4  
0.127 mi.  
670 ft.

CHINO ROADYARD  
7000 MERRILL AVE  
CHINO, CA 91710  
  
Site 21 of 67 in cluster D

HIST UST U001568882  
N/A

Relative:  
Lower  
Actual:  
638 ft.

HIST UST:  
Name: CHINO ROADYARD  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
File Number: 00029D04  
URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00029D04.pdf>  
Region: STATE  
Facility ID: 00000008707  
Facility Type: Other

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO ROADYARD (Continued)**

**U001568882**

Other Type: COUNTY  
Contact Name: BOB HIGNIGHT  
Telephone: 7145976270  
Owner Name: COUNTY OF SAN BERNARDINO  
Owner Address: 825 EAST THIRD ST  
Owner City,St,Zip: SAN BERNARDINO, CA 92415  
Total Tanks: 0003

Tank Num: 001  
Container Num: 0015  
Year Installed: Not reported  
Tank Capacity: 00010000  
Tank Used for: PRODUCT  
Type of Fuel: UNLEADED  
Container Construction Thickness: Not reported  
Leak Detection: Visual, Stock Inventor

Tank Num: 002  
Container Num: 0016  
Year Installed: Not reported  
Tank Capacity: 00010000  
Tank Used for: PRODUCT  
Type of Fuel: REGULAR  
Container Construction Thickness: Not reported  
Leak Detection: Visual, Stock Inventor

Tank Num: 003  
Container Num: 0017  
Year Installed: Not reported  
Tank Capacity: 00010000  
Tank Used for: PRODUCT  
Type of Fuel: DIESEL  
Container Construction Thickness: Not reported  
Leak Detection: Visual, Stock Inventor

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**D36**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**ENCORE JET CENTER, LLC**  
**7000 MERRILL AVE BLDG B-350**  
**CHINO, CA 91710**

**Site 22 of 67 in cluster D**

**UST U004264013**  
**N/A**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

UST:  
Name: ENCORE JET CENTER, LLC  
Address: 7000 MERRILL AVE BLDG B-350  
City,State,Zip: CHINO, CA 91710  
Facility ID: FA0007715  
Permitting Agency: San Bernardino County Fire Department  
Latitude: 33.983001  
Longitude: -117.647363



MAP FINDINGS

Map ID  
Direction  
Distance  
Elevation

Site

Database(s)

EDR ID Number  
EPA ID Number

**D37**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**SCE CHINO AIRCRAFT OPERATIONS**  
**7000 MERRILL AVE, BOX 50, BLDG. A-290**  
**CHINO, CA 91710**

**CERS HAZ WASTE**  
**CERS TANKS**  
**CERS**

**S123533967**  
**N/A**

**Site 23 of 67 in cluster D**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

**CERS HAZ WASTE:**  
Name: SCE CHINO AIRCRAFT OPERATIONS  
Address: 7000 MERRILL AVE, BOX 50, BLDG. A-290  
City,State,Zip: CHINO, CA 91710  
Site ID: 69637  
CERS ID: 10148665  
CERS Description: Hazardous Waste Generator

**CERS TANKS:**  
Name: SCE CHINO AIRCRAFT OPERATIONS  
Address: 7000 MERRILL AVE, BOX 50, BLDG. A-290  
City,State,Zip: CHINO, CA 91710  
Site ID: 69637  
CERS ID: 10148665  
CERS Description: Aboveground Petroleum Storage

**CERS:**  
Name: SCE CHINO AIRCRAFT OPERATIONS  
Address: 7000 MERRILL AVE, BOX 50, BLDG. A-290  
City,State,Zip: CHINO, CA 91710  
Site ID: 69637  
CERS ID: 10148665  
CERS Description: Chemical Storage Facilities

**Evaluation:**  
Eval General Type: Compliance Evaluation Inspection  
Eval Date: 05-22-2019  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: San Bernardino County Fire Department  
Eval Program: APSA  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 05-22-2019  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 05-22-2019  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SCE CHINO AIRCRAFT OPERATIONS (Continued)**

**S123533967**

Eval Date: 07-24-2014  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: Routine Inspection  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 07-24-2014  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: Routine Inspection  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 07-24-2014  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: Routine Inspection  
Eval Division: San Bernardino County Fire Department  
Eval Program: APSA  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 12-19-2017  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: San Bernardino County Fire Department  
Eval Program: APSA  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 12-19-2017  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 12-19-2017  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Affiliation:  
Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SCE CHINO AIRCRAFT OPERATIONS (Continued)**

**S123533967**

Affiliation Address: P.O. Box 5085 (Attn: ESD, Programs & Governance)  
Affiliation City: Rosemead  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91770  
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner  
Entity Name: Southern California Edison  
Entity Title: Not reported  
Affiliation Address: P.O. Box 5085 (Attn: ESD, Programs & Governance)  
Affiliation City: Rosemead  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91770  
Affiliation Phone: (626) 302-1212

Affiliation Type Desc: Parent Corporation  
Entity Name: Southern California Edison, Operations Support Business Unit (OSBU)  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Document Preparer  
Entity Name: Roslyn Woods  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Property Owner  
Entity Name: Southern California Edison  
Entity Title: Not reported  
Affiliation Address: P.O. Box 5085 (Attn: ESD, Programs & Governance)  
Affiliation City: Rosemead  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91770  
Affiliation Phone: (626) 302-1212

Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SCE CHINO AIRCRAFT OPERATIONS (Continued)**

**S123533967**

Affiliation Type Desc: Environmental Contact  
Entity Name: Environmental Notification Center  
Entity Title: Not reported  
Affiliation Address: P.O. Box 5085 (Attn: ESD, Programs & Governance)  
Affiliation City: Rosemead  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91770  
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer  
Entity Name: Roslyn Woods  
Entity Title: Consultant  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Operator  
Entity Name: Southern California Edison  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (626) 302-1212

**D38**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**CHINO VALLEY INDEPENDANT FIRE DIST #3**  
**7000 MERRILL AVE**  
**CHINO, CA 91710**

**RCRA NonGen / NLR**    **1024799728**  
**CAL000213586**

**Site 24 of 67 in cluster D**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

RCRA NonGen / NLR:  
Date form received by agency: 1999-12-29 00:00:00.0  
Facility name: CHINO VALLEY INDEPENDANT FIRE DIST #3  
Facility address: 7000 MERRILL AVE  
CHINO, CA 91710-0000  
EPA ID: CAL000213586  
Mailing address: 14011 CITY CENTER DRIVE  
CHINO HILLS, CA 91709-0000  
Contact: MIKE FAHERTY  
Contact address: 14011 CITY CENTER DR  
CHINO HILLS, CA 91709  
Contact country: Not reported  
Contact telephone: 909-902-5260  
Contact email: MFAHERTY@CHOFIRE.ORG  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:  
Owner/operator name: CHINO VALLEY INDEPENDENT FIRE

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY INDEPENDANT FIRE DIST #3 (Continued)**

**1024799728**

Owner/operator address: 14011 CITY CENTER DRIVE  
CHINO HILLS, CA 91709  
Owner/operator country: Not reported  
Owner/operator telephone: 909-902-5260  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: MIKE FAHERTY  
Owner/operator address: 14011 CITY CENTER DR  
CHINO HILLS, CA 91709  
Owner/operator country: Not reported  
Owner/operator telephone: 909-902-5260  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: Yes  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

**D39**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**YANKS AIR MUSEUM**  
**7000 MERRILL AVE HANGER 23 BOX 35**  
**CHINO, CA 91710**

**RCRA NonGen / NLR** **1024800612**  
**CAL000221177**

**Site 25 of 67 in cluster D**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

RCRA NonGen / NLR:  
Date form received by agency: 2000-06-19 00:00:00.0  
Facility name: YANKS AIR MUSEUM  
Facility address: 7000 MERRILL AVE HANGER 23 BOX 35  
CHINO, CA 91710-0000  
EPA ID: CAL000221177  
Mailing address: 7000 MERRILL AVE HANGER A270 BOX 35  
CHINO, CA 91710-0000

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**YANKS AIR MUSEUM (Continued)**

**1024800612**

Contact: FRANK WRIGHT-MANAGER  
Contact address: 7000 MERRILL AVE BOX 35 HANGER A-27  
CHINO, CA 91710  
Contact country: Not reported  
Contact telephone: 909-597-1734  
Contact email: FRANK@YANKSAIR.COM  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

**Owner/Operator Summary:**

Owner/operator name: YANKS AIR MUSEUM INC  
Owner/operator address: 7000 MERRILL AVE HANGER A270 BOX 35  
CHINO, CA 91710  
Owner/operator country: Not reported  
Owner/operator telephone: 909-597-1735  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: FRANK WRIGHT-MANAGER  
Owner/operator address: 7000 MERRILL AVE BOX 35 HANGER A-27  
CHINO, CA 91710  
Owner/operator country: Not reported  
Owner/operator telephone: 909-597-1734  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

**Handler Activities Summary:**

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: Yes  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

D40  
SW  
1/8-1/4  
0.127 mi.  
670 ft.

**ENCORE JET CENTER, LLC**  
**7000 MERRILL AVE BLDG B-310**  
**CHINO, CA 91710**

**Site 26 of 67 in cluster D**

**CERS HAZ WASTE**  
**CERS TANKS**  
**San Bern. Co. Permit**  
**CERS**

**S122499332**  
**N/A**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

**CERS HAZ WASTE:**  
Name: ENCORE JET CENTER, LLC  
Address: 7000 MERRILL AVE BLDG B-310  
City,State,Zip: CHINO, CA 91710  
Site ID: 114576  
CERS ID: 10037794  
CERS Description: Hazardous Waste Generator

**CERS TANKS:**  
Name: ENCORE JET CENTER, LLC  
Address: 7000 MERRILL AVE BLDG B-310  
City,State,Zip: CHINO, CA 91710  
Site ID: 114576  
CERS ID: 10037794  
CERS Description: Aboveground Petroleum Storage

Name: ENCORE JET CENTER, LLC  
Address: 7000 MERRILL AVE BLDG B-310  
City,State,Zip: CHINO, CA 91710  
Site ID: 114576  
CERS ID: 10037794  
CERS Description: Underground Storage Tank

**San Bern. Co. Permit:**  
Name: ENCORE JET CENTER, LLC  
Address: 7000 MERRILL AVE BLDG B-310  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002276  
Owner: ENCORE JET CENTER, LLC  
Permit Number: PT0026069  
Permit Category: SMALL QUANTITY GENERATOR  
Facility Status: ACTIVE  
Expiration Date: 01/31/2018

Name: ENCORE JET CENTER, LLC  
Address: 7000 MERRILL AVE BLDG B-310  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002276  
Owner: ENCORE JET CENTER, LLC  
Permit Number: PT0010647  
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)  
Facility Status: ACTIVE  
Expiration Date: 01/31/2018

Name: ENCORE JET CENTER, LLC  
Address: 7000 MERRILL AVE BLDG B-310  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002276  
Owner: ENCORE JET CENTER, LLC

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER, LLC (Continued)**

**S122499332**

Permit Number: PT0013626  
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)  
Facility Status: ACTIVE  
Expiration Date: 01/31/2018

Name: ENCORE JET CENTER, LLC  
Address: 7000 MERRILL AVE BLDG B-310  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002276  
Owner: ENCORE JET CENTER, LLC  
Permit Number: PT0009269  
Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS  
Facility Status: ACTIVE  
Expiration Date: 01/31/2018

Name: ENCORE JET CENTER, LLC  
Address: 7000 MERRILL AVE BLDG B-310  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002276  
Owner: ENCORE JET CENTER, LLC  
Permit Number: PT0033816  
Permit Category: APSA 1,320-10,000 GAL FAC CAPACITY  
Facility Status: ACTIVE  
Expiration Date: 01/31/2018

**CERS:**

Name: ENCORE JET CENTER, LLC  
Address: 7000 MERRILL AVE BLDG B-310  
City,State,Zip: CHINO, CA 91710  
Site ID: 114576  
CERS ID: 10037794  
CERS Description: Chemical Storage Facilities

**Violations:**

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 09-17-2018  
Citation: 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)  
Violation Description: Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.  
Violation Notes: NOTED THAT USED OIL DRUMS AND ABSORBENT DRUMS HAD DETERIORATED LABELS, THAT WERE NOT COMPLETED WITH ACCUMULATION START DATES. VERIFY THAT LABELS ARE COMPLETED. SUBMIT SIGNED CERTIFICATE OF COMPLIANCE TO DENOTE COMPLIANCE.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS  
Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-13-2014



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER, LLC (Continued)**

**S122499332**

Citation: HSC 6.7 Multiple Sections - California Health and Safety Code, Chapter 6.7, Section(s) Multiple Sections

Violation Description: UST Program - Administration/Documentation - General

Violation Notes: Returned to compliance on 04/07/2015. Failure to submit a signed Designated UST Operator Statement (23 CCR 2715(a)) OBSERVATION: FACILITY HAS NOT SUBMITTED UST CUPA DOCUMENTATION TO THE CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM (CERS). COMPLIANCE: FACILITY MUST SUBMIT ALL CUPA DOCUMENTATION TO THE CERS WITHIN 30 DAYS. SUBMIT A CERTIFICATE OF COMPLIANCE WITH PROOF OF SUBMITTAL.

Violation Division: San Bernardino County Fire Department

Violation Program: UST

Violation Source: CERS

Site ID: 114576

Site Name: ENCORE JET CENTER, LLC

Violation Date: 03-28-2016

Citation: HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34

Violation Description: Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance.

Violation Notes: Returned to compliance on 10/10/2017. 8/3/16 ISSUED OUTSTANDING VIOLATION LETTER T. CONGDON 6/8/16 CERS data reviewed prior to re-inspection, violations not corrected. T. CONGDON 8/28/16 REVIEWED CERS DATA. CFR FORM AND LETTER ARE EXPIRED. UPDATE AND UPLOAD CURRENT INFORMATION. T. CONGDON

Violation Division: San Bernardino County Fire Department

Violation Program: UST

Violation Source: CERS

Site ID: 114576

Site Name: ENCORE JET CENTER, LLC

Violation Date: 08-25-2017

Citation: 23 CCR 16 2715(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(i)

Violation Description: Failure to have a properly qualified service technician test leak detection equipment as required every 12 months (vapor, pressure, hydrostatic (VPH) system, sensors, line-leak detectors (LLD), automatic tank gauge (ATG), etc.).

Violation Notes: Returned to compliance on 08/25/2017. OBSERVED LAST MONITORING CERTIFICATION COMPLETED ON 3/28/16 AND CURRENT MONITORING CERTIFICATION IS PAST DUE. COMPLIANCE REQUIREMENT: ANNUAL MONITORING CERTIFICATION COMPLETED TODAY. VIOLATION CORRECTED. ENSURE NEXT YEARS MONITORING CERTIFICATION IS COMPLETED BY 3/28/18.

Violation Division: San Bernardino County Fire Department

Violation Program: UST

Violation Source: CERS

Site ID: 114576

Site Name: ENCORE JET CENTER, LLC

Violation Date: 08-25-2017

Citation: 23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665

Violation Description: Failure of the overfill prevention system to meet one of the following requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER, LLC (Continued)**

**S122499332**

when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling.

Violation Notes: Returned to compliance on 09/26/2017. OBSERVED LIGHT AT ANNUNCIATOR NOT PROPERLY FUNCTIONING. COMPLIANCE REQUIREMENT: REPAIR LIGHT AT ANNUNCIATOR AND RETEST WITHIN 10 DAYS. SCHEDULE WITNESSED REINSPECTION.

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 09-17-2018  
Citation: HSC 6.67 25270.4.5(a) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.4.5(a)  
Violation Description: Failure to prepare a Spill Prevention, Control, and Countermeasures (SPCC) Plan.  
Violation Notes: NO SPCC ONSITE  
Violation Division: San Bernardino County Fire Department  
Violation Program: APSA  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-28-2016  
Citation: HSC 6.5 Multiple Sections - California Health and Safety Code, Chapter 6.5, Section(s) Multiple Sections  
Violation Description: Haz Waste Generator Program - Operations/Maintenance - General  
Violation Notes: Returned to compliance on 03/28/2016. Failure to note accumulation start date on labels (CCR 66262.34(f)(2))  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-13-2014  
Citation: HSC 6.7 Multiple Sections - California Health and Safety Code, Chapter 6.7, Section(s) Multiple Sections  
Violation Description: UST Program - Administration/Documentation - General  
Violation Notes: Returned to compliance on 04/07/2015. Failure to have a written monitoring program with monitoring procedures and response plan. (CCR 2632(d)) OBSERVATION: FACILITY HAS NOT SUBMITTED UST CUPA DOCUMENTATION TO THE CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM (CERS). COMPLIANCE: FACILITY MUST SUBMIT ALL CUPA DOCUMENTATION TO THE CERS WITHIN 30 DAYS. SUBMIT A CERTIFICATE OF COMPLIANCE WITH PROOF OF SUBMITTAL.  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER, LLC (Continued)**

**S122499332**

Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-13-2014  
Citation: 23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665  
Violation Description: Failure of the overflow prevention system to meet one of the following requirements: 1. Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or 2. Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or 3. Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or 4. Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling.  
Violation Notes: Returned to compliance on 03/13/2014. OBSERVATION: THE OVERFILL VISUAL ALARM DID NOT FUNCTION WHEN OVERFILL PREVENTION TESTS CONDUCTED. COMPLIANCE: MET ONSITE. CONTRACTOR REPLACED THE BULB AND RETESTED.  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-28-2016  
Citation: 23 CCR 16 2715 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715  
Violation Description: Failure to comply with one or more of the designated operator monthly inspection requirements: failed to inspect the monthly alarm history report; attach a copy of the alarm history; failed to inspect for the presence of liquid or debris in the spill container/spill bucket and under dispenser containment; failed to inspect the under dispenser containment to ensure that monitoring equipment is placed in the proper position; failure to inspect for liquid or debris in the containment sump where an alarm occurred or for which there is no record of a service visit; or failure to check that all testing and maintenance has been completed and documented.  
Violation Notes: Returned to compliance on 06/20/2016. 6/20/16 DO RECORDS ARE NOW BEING MAINTAINED ONSITE. T CONGDON 3/28/16 DESIGNATED OPERATOR RECORDS NOT AVAILABLE FOR REVIEW  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 08-14-2014  
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
Violation Description: Failure to annually review and electronically certify that the business plan is complete, accurate, and up-to-date.  
Violation Notes: Returned to compliance on 10/13/2014. The CERS business plan was submitted in April 2014 however it must be updated to include the inventory noted during the inspection.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER, LLC (Continued)**

**S122499332**

Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 09-17-2018  
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)  
Violation Description: Failure to complete and electronically submit the Business Activities Page and/or Business Owner Operator Identification Page.  
Violation Notes: Noted that the Business Activities page does not show the site is subject to APSA. The facility is subject to the Aboveground Petroleum Storage Act (APSA), due to storing over 1,320 gallons of APSA regulated petroleum based products on site. Please update the answer to the question ?Does your facility own or operate aboveground tanks or containers with regulated storage greater than 1,320 gallons of petroleum products (new or used)?? from ?no? to ?yes?.

Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-28-2016  
Citation: HSC 6.7 25286(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25286(a)  
Violation Description: Failure to submit an complete and accurate application for a permit to operate an underground storage tank, or for renewal of the permit.  
Violation Notes: Returned to compliance on 10/10/2017. 8/3/16 OUTSTANDING VIOLATIONS LETTER ISSUED (RPT 7068) T.CONGDON 6/20/16 UST SUBMITTAL OF 4/8/16 STILL CONTAINS ERRORS AND OMISSIONS. INCLUDING BUT NOT LIMITED TO: EPA ID NUMBER IS INACTIVE. AN ACTIVE EPA ID NUMBER IS REQUIRED. REVIEW TANK AND MONITORING PLAN FOR ACCURACY AND OMISSIONS CORRECT IN CERS. 3/28/2016 CERS DATA IS INACCURATE. REVIEW AND CORRECT. TCONGDON

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-28-2016  
Citation: HSC 6.7 25284 - California Health and Safety Code, Chapter 6.7, Section(s) 25284  
Violation Description: Failure to obtain and maintain a valid operation permit from the CUPA.  
Violation Notes: Returned to compliance on 04/16/2016. Complianc: fees paid 4/14/16 PERMIT IS EXPIRED 12/31/15.

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-28-2016  
Citation: HSC 6.5 Multiple Sections - California Health and Safety Code, Chapter 6.5, Section(s) Multiple Sections  
Violation Description: Haz Waste Generator Program - Operations/Maintenance - General  
Violation Notes: Returned to compliance on 03/28/2016. Failure to keep hazardous waste containers closed when not in active use (CCR 66265.173(a))

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER, LLC (Continued)**

**S122499332**

Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 08-25-2017  
Citation: HSC 6.7 Multiple - California Health and Safety Code, Chapter 6.7, Section(s) Multiple

Violation Description: UST Program - Administration/Documentation - General - Must include violation description, proper statute and regulation citation in the "comment" section.

Violation Notes: Returned to compliance on 10/10/2017. Failure to submit a signed Designated UST Operator Statement (23 CCR 2715(a)) DESIGNATED UST OPERATOR STATEMENT UPLOADED INTO CERS, CLOSE OUT VIOLATION PER P. SAAVVEDRA-PREYES Failure to submit a signed Designated UST Operator Statement (23 CCR 2715(a)) OBSERVED EXPIRED ICC CERTIFICATION FOR DESIGNATED OPERATOR ON CERS SUBMITTAL. COMPLIANCE REQUIERMENT: UPDATE CERS TO REFLECT CURRENT DO INFORMATION.

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 08-25-2017  
Citation: HSC 6.7 Multiple - California Health and Safety Code, Chapter 6.7, Section(s) Multiple

Violation Description: UST Program - Administration/Documentation - General - Must include violation description, proper statute and regulation citation in the "comment" section.

Violation Notes: Failure to have a written monitoring program with monitoring procedures and response plan (CHSC 25286(a)) OBSERVED CERS SUBMITTAL INCORRECT. UPDATE OVERFILL INFORMATION TO REFLECT CORRECT FORMS OF OVERFILL FOR EACH UST. COMPLIANCE REQUIREMENT: UPDATE CERS INFORMATION TO REFLECT CORRECT INFORMATION ON CERS WEBSITE. SUBMIT SIGNED CERTIFICATE OF COMPLIANCE WITHIN 30 DAYS.

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-28-2016  
Citation: HSC 6.5 25201(a) - California Health and Safety Code, Chapter 6.5, Section(s) 25201(a)

Violation Description: Failure of a storage facility, treatment facility, transfer facility, resource recovery facility, or disposal site to accept, treat, store, or dispose of a hazardous waste at the facility, area, or site, without a hazardous waste facilities permit or other grant of authorization from the department, or a permit-by-rule, conditional authorization, or conditional exemption permit from the CUPA.

Violation Notes: Returned to compliance on 03/28/2016. Wrong violation number selected.  
TC

Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER, LLC (Continued)**

**S122499332**

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-28-2016  
Citation: 23 CCR 16 2712(b) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)  
Violation Description: Failure to maintain records of repairs, lining, and upgrades on site, or off site if approved by the CUPA, for the life of the underground storage tank and/or failure to maintain written monitoring and maintenance records on site, or off site if approved by the CUPA, for a period of 3 years, 6 1/2 years for cathodic protection, and 5 years for written performance claims pertaining to release detection systems and calibration and maintenance records for such systems.  
Violation Notes: Returned to compliance on 06/20/2016. Compliance: Binder onsite during reinspection. TC COMPLIANCE BINDER WAS NOT ONSITE  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 08-25-2017  
Citation: HSC 6.7 29291(b) - California Health and Safety Code, Chapter 6.7, Section(s) 29291(b)  
Violation Description: Failure of the UST system to be designed and constructed with a monitoring system capable of detecting the entry of the hazardous substance into the secondary containment.  
Violation Notes: Returned to compliance on 01/19/2018. OBSERVED AV GAS FILL SUMP SENSOR AND ANNULAR SENSOR NOT FUNCTIONING PROPERLY. COMPLIANCE REQUIREMENT: SCHEDULE WITNESSED INSPECTION TO VERIFY FUNCTIONALITY OF FAILED SENSORS WITHIN 10 DAYS. SUBMIT COPY OF WORK ORDER AND RETEST RESULTS TO THIS DIVISION.  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-20-2015  
Citation: Un-Specified  
Violation Description: UST Program - Administration/Documentation - For use of Local Ordinance only  
Violation Notes: Returned to compliance on 04/07/2015. Failure to submit a signed Designated UST Operator Statement (23 CCR 2715(a)) OBSERVATION-SUBMITTED D.O. STATEMENT EXPIRED COMPLIANCE REQUIREMENT: SUBMIT A CURRENT D.O STATEMENT TO CERS.(CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM).  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-28-2016  
Citation: Un-Specified  
Violation Description: UST Program - Administration/Documentation - For use of Local Ordinance only  
Violation Notes: Returned to compliance on 10/10/2017. Failure to have a written

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER, LLC (Continued)**

**S122499332**

monitoring program with monitoring procedures and response plan (CHSC 25286(a)) 8/3/16 OUTSTANDING VIOLATIONS LETTER ISSUED (RPT 71 068)  
T.CONGDON 6/20/16 - Failure to provide correct information. Violation not corrected. TC Failure to have a written monitoring program with monitoring procedures and response plan. (CCR 2632(d)) 3/28/16  
INFORMATION INCORRECT. REVIEW TANK AND MONITORING PLAN FOR ACCURACY AND OMISSIONS CORRECT IN CERS. T.CONGDON

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-28-2016  
Citation: HSC 6.95 25508.1(a)-(e) - California Health and Safety Code, Chapter 6.95, Section(s) 25508.1(a)-(e)  
Violation Description: Failure to electronically update business plan within 30 days of any one of the following events: A 100 percent or more increase in the quantity of a previously disclosed material. Any handling of a previously undisclosed hazardous materials at or above reportable quantities. A change of business address, business ownership, or business name.  
Violation Notes: Returned to compliance on 04/04/2016. 4/4/16 CERS updated to reflect haz waste. TC UPDATE THE INVENTORY TO ACCURATELY REFLECT HAZARDOUS MATERIALS AND HAZARDOUS WASTE

Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-13-2014  
Citation: HSC 6.7 25286(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25286(a)  
Violation Description: Failure to prepare, maintain, and submit accurate CUPA UST Operating Permit Application for Facility information and/or Tank information.  
Violation Notes: Returned to compliance on 04/07/2015. OBSERVATION: FACILITY HAS NOT SUBMITTED UST CUPA DOCUMENTATION TO THE CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM (CERS). COMPLIANCE: FACILITY MUST SUBMIT ALL CUPA DOCUMENTATION TO THE CERS WITHIN 30 DAYS. SUBMIT A CERTIFICATE OF COMPLIANCE WITH PROOF OF SUBMITTAL.

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 08-25-2017  
Citation: HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34  
Violation Description: Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance.  
Violation Notes: Returned to compliance on 10/10/2017. CFR WAS UPLOADED INTO CERS 09/20/17.. CLOSE OUT VIOLATION PER P. SAAVEDRA-PREYES OBSERVED EXPIRED CERTIFICATE OF FINANCIAL RESPONSIBILITY ON CERS SUBMITTAL. COMPLIANCE REQUIREMENT: UPDATE CERS TO REFLECT CURRENT CFR.  
Violation Division: San Bernardino County Fire Department

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER, LLC (Continued)**

**S122499332**

Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-28-2016  
Citation: HSC 6.7 25291 - California Health and Safety Code, Chapter 6.7, Section(s) 25291

Violation Description: Failure to maintain under-dispenser containment, sumps, and/or other secondary containment in good condition and/or free of debris/liquid.

Violation Notes: Returned to compliance on 03/28/2016. MAINTAIN SUMPS IN A CLEAN AND DRY STATE

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-28-2016  
Citation: 23 CCR 16 2632, 2634, 2636, 2666 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632, 2634, 2636, 2666

Violation Description: Failure of the leak detection equipment to have an audible and visual alarm as required.

Violation Notes: Returned to compliance on 09/26/2017. 7/28/16 COMPLIANCE REVIEW: DOCUMENTATION HAS NOT BEEN PROVIDED TO INDICATE VIOLATION CORRECTED. AN OUTSTANDING VIOLATION LETTER (RPT 7068) WILL BE GENERATED TODAY. T. CONGDON 3/28/16 OBSERVATION: OVERFILL ALARM FAILED TO PRODUCE A VISUAL ALARM. COMPLIANCE; WITHIN 10 DAYS REPLACE BULB ON EXTERNAL ALARM - T. CONGDON

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 09-26-2017  
Citation: 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i)

Violation Description: Failure to have a UST Response Plan available on site.

Violation Notes: OBSERVED VIOLATIONS FROM 8/25/17 INSPECTION REPORT REMAIN OUTSTANDING. UPDATE UST INSTALLATION DATE TO REFLECT 1/1/93. -CORRECT 10/10/17 UPDATE CERS TO REFLECT CORRECT OVERFILL PROTECTION, CHECK "YES" TO AUDIBLE VISUAL ALARM FOR AV GAS UST AND JET FUEL UST'S. CHECK "NO" TO JET FUEL UST FOR FILL TUBE SHUT OFF DEVICE. UPDATE AV GAS UST TO REFLECT PRESSURIZED FUEL SYSTEM, CURRENTLY LISTED AS SUCTION SYSTEM. COMPLIANCE REQUIREMENT: UPDATE CERS TO REFLECT CURRENT INFORMATION. SUBMIT COMPLIANCE DOCUMENTATION WITHIN 7 (SEVEN) DAYS.

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-13-2014  
Citation: HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34

Violation Description: Failure to submit and maintain complete and current Certification of



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER, LLC (Continued)**

**S122499332**

Violation Notes: Financial Responsibility or other mechanism of financial assurance.  
Returned to compliance on 04/07/2015. OBSERVATION: FACILITY HAS NOT SUBMITTED UST CUPA DOCUMENTATION TO THE CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM (CERS). COMPLIANCE: FACILITY MUST SUBMIT ALL CUPA DOCUMENTATION TO THE CERS WITHIN 30 DAYS. SUBMIT A CERTIFICATE OF COMPLIANCE WITH PROOF OF SUBMITTAL.

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Violation Date: 03-13-2014  
Citation: HSC 6.7 25284.2 - California Health and Safety Code, Chapter 6.7, Section(s) 25284.2

Violation Description: Failure to test the spill bucket annually.  
Violation Notes: Returned to compliance on 03/30/2015. OBSERVATION: THE FILL BUCKET LOCATED ON THE AVIATION GAS UST FAILED. COMPLIANCE: REPLACE WITH LIKE EQUIPMENT AND RETEST. SUBMIT TEST RESULTS TO THIS DEPARTMENT WITHIN DAYS. WITNESSED INSPECTION IS NOT REQUIRED.

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Evaluation:  
Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-13-2014  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: UST MONITORING CERT  
Eval Division: San Bernardino County Fire Department  
Eval Program: UST  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-20-2015  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ENCORE JET CENTER-B-310- UST MONITORING CERTIFICATION  
Eval Division: San Bernardino County Fire Department  
Eval Program: UST  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-28-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: a310  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-28-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: a310

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER, LLC (Continued)**

**S122499332**

Eval Division: San Bernardino County Fire Department  
Eval Program: UST  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-28-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: a310 10 hour day  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 08-14-2014  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE INSPECTION ENCORE  
Eval Division: San Bernardino County Fire Department  
Eval Program: APSA  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 08-14-2014  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE INSPECTION ENCORE  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 08-14-2014  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE INSPECTION ENCORE  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 08-25-2017  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ANNUAL UST INSPECTION AND CERS REVIEW  
Eval Division: San Bernardino County Fire Department  
Eval Program: UST  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 09-17-2018  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: APSA  
Eval Source: CERS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER, LLC (Continued)**

**S122499332**

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 09-17-2018  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 09-17-2018  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Other/Unknown  
Eval Date: 09-26-2017  
Violations Found: Yes  
Eval Type: Other, not routine, done by local agency  
Eval Notes: UST REINSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: UST  
Eval Source: CERS

**Enforcement Action:**

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Site Address: 7000 MERRILL AVE BLDG B-310  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 03-13-2014  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: UST  
Enf Action Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Site Address: 7000 MERRILL AVE BLDG B-310  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 03-20-2015  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: UST  
Enf Action Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Site Address: 7000 MERRILL AVE BLDG B-310

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER, LLC (Continued)**

**S122499332**

Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 03-28-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Site Address: 7000 MERRILL AVE BLDG B-310  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 03-28-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HW  
Enf Action Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Site Address: 7000 MERRILL AVE BLDG B-310  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 03-28-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: UST  
Enf Action Source: CERS

Site ID: 114576  
Site Name: ENCORE JET CENTER, LLC  
Site Address: 7000 MERRILL AVE BLDG B-310  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 08-14-2014  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Affiliation:  
Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER, LLC (Continued)**

**S122499332**

Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Environmental Contact  
Entity Name: JOE ALACRON  
Entity Title: Not reported  
Affiliation Address: 7000 Merrill Ave Box 31  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Affiliation Type Desc: Parent Corporation  
Entity Name: Encore Jet Center, LLC  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer  
Entity Name: JOE ALACRON  
Entity Title: MANAGER  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner  
Entity Name: Encore Jet Center, LLC  
Entity Title: Not reported  
Affiliation Address: 7000 Merrill Ave Box 31  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91710  
Affiliation Phone: (909) 597-6566

Affiliation Type Desc: UST Tank Operator  
Entity Name: Encore Jet Center  
Entity Title: Not reported  
Affiliation Address: 7000 Merrill Ave Box 31  
Affiliation City: Chino  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91710  
Affiliation Phone: (909) 597-6566

Affiliation Type Desc: Document Preparer  
Entity Name: JOE ALACRON  
Entity Title: Not reported  
Affiliation Address: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER, LLC (Continued)**

**S122499332**

Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Operator  
Entity Name: Encore Jet Center, LLC  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 597-6566

Affiliation Type Desc: UST Permit Applicant  
Entity Name: JOE ALACRON  
Entity Title: Manager  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 597-6566

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE, Box 31  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Affiliation Type Desc: UST Property Owner Name  
Entity Name: ENCORE JET CENTER, LLC  
Entity Title: Not reported  
Affiliation Address: 7000 Merrill Ave Box 31  
Affiliation City: Chino  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91710  
Affiliation Phone: (909) 620-5203

Affiliation Type Desc: UST Tank Owner  
Entity Name: Encore Jet Center  
Entity Title: Not reported  
Affiliation Address: 7000 Merrill Ave Box 31  
Affiliation City: Chino  
Affiliation State: Ca  
Affiliation Country: United States  
Affiliation Zip: 91710  
Affiliation Phone: (909) 597-6566

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

D41  
SW  
1/8-1/4  
0.127 mi.  
670 ft.

**CHINO VALLEY IND FIRE HNGR A330**  
**7000 MERRIL AVE HNGR A330**  
**CHINO, CA 91710**

San Bern. Co. Permit

**S121309825**  
**N/A**

**Site 27 of 67 in cluster D**

**Relative:**  
**Lower**

San Bern. Co. Permit:

**Actual:**  
**638 ft.**

Name: CHINO VALLEY IND FIRE HNGR A330  
Address: 7000 MERRIL AVE HNGR A330  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0012733  
Owner: CHINO VALLEY FIRE DISTRICT  
Permit Number: PT0022234  
Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS  
Facility Status: INACTIVE  
Expiration Date: 10/31/2016

Name: CHINO VALLEY IND FIRE HNGR A330  
Address: 7000 MERRIL AVE HNGR A330  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0012733  
Owner: CHINO VALLEY FIRE DISTRICT  
Permit Number: PT0022233  
Permit Category: SMALL QUANTITY GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 10/31/2016

D42  
SW  
1/8-1/4  
0.127 mi.  
670 ft.

**BUCKLEY AIRCRAFT MAINTENANCE**  
**7000 MERRILL AVE BLDG 49**  
**CHINO, CA 91710**

San Bern. Co. Permit

**S121309577**  
**N/A**

**Site 28 of 67 in cluster D**

**Relative:**  
**Lower**

San Bern. Co. Permit:

**Actual:**  
**638 ft.**

Name: BUCKLEY AIRCRAFT MAINTENANCE  
Address: 7000 MERRILL AVE BLDG 49  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0001597  
Owner: BURNS, BUCK  
Permit Number: PT0008389  
Permit Category: SPECIAL GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 11/30/2012

Name: BUCKLEY AIRCRAFT MAINTENANCE  
Address: 7000 MERRILL AVE BLDG 49  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0001597  
Owner: BURNS, BUCK  
Permit Number: PT0008388  
Permit Category: SPECIAL HANDLER  
Facility Status: INACTIVE  
Expiration Date: 11/30/2012

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**D43**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**SCE CHINO AIRCRAFT OPERATIONS**  
**7000 MERRILL AVE BX50 A-290**  
**CHINO, CA 91710**

**San Bern. Co. Permit** **S121143920**  
**N/A**

**Site 29 of 67 in cluster D**

**Relative:**  
**Lower**

San Bern. Co. Permit:  
Name: SCE CHINO AIRCRAFT OPERATIONS  
Address: 7000 MERRILL AVE BX50 A-290  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0014110  
Owner: Southern California Edison  
Permit Number: PT0024879  
Permit Category: SMALL QUANTITY GENERATOR  
Facility Status: ACTIVE  
Expiration Date: 11/30/2019

**Actual:**  
**638 ft.**

Name: SCE CHINO AIRCRAFT OPERATIONS  
Address: 7000 MERRILL AVE BX50 A-290  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0014110  
Owner: Southern California Edison  
Permit Number: PT0024878  
Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS  
Facility Status: ACTIVE  
Expiration Date: 11/30/2019

Name: SCE CHINO AIRCRAFT OPERATIONS  
Address: 7000 MERRILL AVE BX50 A-290  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0014110  
Owner: Southern California Edison  
Permit Number: PT0025063  
Permit Category: APSA 1,320-10,000 GAL FAC CAPACITY  
Facility Status: ACTIVE  
Expiration Date: 11/30/2019

**D44**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**YANKS AIR CORPS**  
**7000 MERRILL AVE HGR A-270**  
**CHINO, CA 91710**

**CERS HAZ WASTE** **S110656313**  
**San Bern. Co. Permit** **N/A**  
**CERS**

**Site 30 of 67 in cluster D**

**Relative:**  
**Lower**

CERS HAZ WASTE:  
Name: YANKS AIR CORPS  
Address: 7000 MERRILL AVE HGR A-270  
City,State,Zip: CHINO, CA 91710  
Site ID: 86810  
CERS ID: 10046779  
CERS Description: Hazardous Waste Generator

**Actual:**  
**638 ft.**

San Bern. Co. Permit:  
Name: YANKS AIR CORPS  
Address: 7000 MERRILL AVE HGR A-270  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**YANKS AIR CORPS (Continued)**

**S110656313**

Facility ID: FA0007356  
Owner: CHARLES NICHOLS  
Permit Number: PT0008378  
Permit Category: SMALL QUANTITY GENERATOR  
Facility Status: ACTIVE  
Expiration Date: 11/30/2019

Name: YANKS AIR CORPS  
Address: 7000 MERRILL AVE HGR A-270  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0007356  
Owner: CHARLES NICHOLS  
Permit Number: PT0008379  
Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS  
Facility Status: ACTIVE  
Expiration Date: 11/30/2019

**CERS:**

Name: YANKS AIR CORPS  
Address: 7000 MERRILL AVE HGR A-270  
City,State,Zip: CHINO, CA 91710  
Site ID: 86810  
CERS ID: 10046779  
CERS Description: Chemical Storage Facilities

**Violations:**

Site ID: 86810  
Site Name: YANKS AIR CORPS  
Violation Date: 04-16-2014  
Citation: HSC 6.95 25505(a) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)  
Violation Description: Owner/Operator failed to complete and/or submit a Hazardous Materials Business Plan when storing hazardous materials at or above the thresholds quantities of 55 gallons/500 lbs/200 cubic feet.  
Violation Notes: Returned to compliance on 08/28/2014.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 86810  
Site Name: YANKS AIR CORPS  
Violation Date: 09-13-2017  
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
Violation Description: Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.  
Violation Notes: Returned to compliance on 10/06/2017. Submit an update to the business plan before March 1st of every year. Update the quantity of used oil and new oils on site. The last submittal was dated 10/20/2016. Also add the following to the plan inventory: 55 gallon solvent 55 gallon drum waste filters 55 gallon drum diesel  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**YANKS AIR CORPS (Continued)**

**S110656313**

Evaluation:

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 04-16-2014  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: YANKS INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 04-16-2014  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: YANKS INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 09-13-2017  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 09-13-2017  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Enforcement Action:

Site ID: 86810  
Site Name: YANKS AIR CORPS  
Site Address: 7000 MERRILL AVE HGR A-270  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 04-16-2014  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Affiliation:

Affiliation Type Desc: Parent Corporation  
Entity Name: YANKS AIR CORPS  
Entity Title: Not reported  
Affiliation Address: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**YANKS AIR CORPS (Continued)**

**S110656313**

Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner  
Entity Name: CHARLES NICHOLS  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE BOX 35 HANGER A-270  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91710  
Affiliation Phone: (626) 960-4802

Affiliation Type Desc: Operator  
Entity Name: FRANK WRIGHT  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (951) 255-5482

Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Environmental Contact  
Entity Name: FRANK WRIGHT  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE, HANGER A-270, BOX 35  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE, HANGAR A-270, BOX 35  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

D45  
SW  
1/8-1/4  
0.127 mi.  
670 ft.

**JET CONNECT SERVICES INC**  
**7000 MERRILL AVE BOX 31**  
**CHINO, CA 91710**

San Bern. Co. Permit

S110656329  
N/A

Site 31 of 67 in cluster D

Relative:  
Lower

San Bern. Co. Permit:

Actual:  
638 ft.

Name: JET CONNECT SERVICES INC  
Address: 7000 MERRILL AVE BOX 31  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0013010  
Owner: JET CONNECT SERVICES INC  
Permit Number: PT0022847  
Permit Category: APSA 1,320-10,000 GAL FAC CAPACITY  
Facility Status: INACTIVE  
Expiration Date: 02/28/2011

Name: JET CONNECT SERVICES INC  
Address: 7000 MERRILL AVE BOX 31  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0013010  
Owner: JET CONNECT SERVICES INC  
Permit Number: PT0022846  
Permit Category: HAZMAT HANDLER 0-10 EMPLOYEES  
Facility Status: INACTIVE  
Expiration Date: 02/28/2011

D46  
SW  
1/8-1/4  
0.127 mi.  
670 ft.

**CHAMPION JETS INC**  
**7000 MERRILL AVE**  
**CHINO, CA 91710**

San Bern. Co. Permit

S109849235  
N/A

Site 32 of 67 in cluster D

Relative:  
Lower

San Bern. Co. Permit:

Actual:  
638 ft.

Name: CHAMPION JETS INC  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0010634  
Owner: CHAMPIONSHIP JETS MNT, INC  
Permit Number: PT0018108  
Permit Category: SPECIAL GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 10/31/2009

Name: CHAMPION JETS INC  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0010634  
Owner: CHAMPIONSHIP JETS MNT, INC  
Permit Number: PT0018110  
Permit Category: EPCRA FACILITY  
Facility Status: INACTIVE  
Expiration Date: 10/31/2009

Name: CHAMPION JETS INC  
Address: 7000 MERRILL AVE

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHAMPION JETS INC (Continued)**

**S109849235**

City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0010634  
Owner: CHAMPIONSHIP JETS MNT, INC  
Permit Number: PT0018107  
Permit Category: HAZMAT HANDLER 0-10 EMPLOYEES  
Facility Status: INACTIVE  
Expiration Date: 10/31/2008

Name: CHAMPION JETS INC  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0010634  
Owner: CHAMPIONSHIP JETS MNT, INC  
Permit Number: PT0018109  
Permit Category: ABOVEGROUND PETROLEUM STORAGE (AST) (SPCC)  
Facility Status: INACTIVE  
Expiration Date: 10/31/2008

**D47  
SW  
1/8-1/4  
0.127 mi.  
670 ft.**

**NU VISTA AVIATION  
7000 MERRILL AVE BLDG A-230 BOX 23  
CHINO, CA 91710**

**San Bern. Co. Permit S109254406  
N/A**

**Site 33 of 67 in cluster D**

**Relative:  
Lower  
Actual:  
638 ft.**

San Bern. Co. Permit:  
Name: NU VISTA AVIATION  
Address: 7000 MERRILL AVE BLDG A-230 BOX 23  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0011767  
Owner: GAPPMAYER, REED  
Permit Number: PT0020447  
Permit Category: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 08/31/2009

**D48  
SW  
1/8-1/4  
0.127 mi.  
670 ft.**

**AIRCRAFTSMAN, INC  
7000 MERRILL AVE HNGR B350  
CHINO, CA 91710**

**San Bern. Co. Permit S109849294  
N/A**

**Site 34 of 67 in cluster D**

**Relative:  
Lower  
Actual:  
638 ft.**

San Bern. Co. Permit:  
Name: AIRCRAFTSMAN, INC  
Address: 7000 MERRILL AVE HNGR B350  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0012605  
Owner: WILSON, MARK  
Permit Number: PT0022001  
Permit Category: LARGE QUANTITY GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 08/31/2010

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**AIRCRAFTSMAN, INC (Continued)**

**S109849294**

Name: AIRCRAFTSMAN, INC  
Address: 7000 MERRILL AVE HNGR B350  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0012605  
Owner: WILSON, MARK  
Permit Number: PT0022000  
Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS  
Facility Status: INACTIVE  
Expiration Date: 08/31/2010

**D49  
SW  
1/8-1/4  
0.127 mi.  
670 ft.**

**SAN BERNARDINO COUNTY TRANS  
7000 MERRIL BLDG M5  
CHINO, CA 91710**

**RCRA-SQG 1001967430  
FINDS CAR000068940  
ECHO**

**Site 35 of 67 in cluster D**

**Relative:  
Lower  
Actual:  
638 ft.**

RCRA-SQG:  
Date form received by agency: 2000-03-24 00:00:00.0  
Facility name: SAN BERNARDINO COUNTY TRANS  
Facility address: 7000 MERRIL BLDG M5  
CHINO, CA 91710  
EPA ID: CAR000068940  
Contact: ARTHUR DRAZIN  
Contact address: 7000 MERRIL AVE  
CHINO, CA 91710  
Contact country: US  
Contact telephone: 909-597-6270  
Contact email: Not reported  
EPA Region: 09  
Classification: Small Small Quantity Generator  
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:  
Owner/operator name: SAN BERNARDINO COUNTY  
Owner/operator address: 825 E THIRD ST  
SAN BERNARDINO, CA 92415  
Owner/operator country: Not reported  
Owner/operator telephone: 909-387-2599  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: County  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:  
U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SAN BERNARDINO COUNTY TRANS (Continued)**

**1001967430**

Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
Used oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Hazardous Waste Summary:

. Waste code: D001  
. Waste name: IGNITABLE WASTE

Violation Status: No violations found

FINDS:

Registry ID: 110002934362

Environmental Interest/Information System

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid: 1001967430  
Registry ID: 110002934362  
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110002934362>

**D50**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**FIGHTER REBUILDERS**  
**7000 MERRILL**  
**CHINO, CA 91710**  
**Site 36 of 67 in cluster D**

**RCRA-SQG 1000244243**  
**FINDS CAD982473563**  
**ECHO**

**Relative:**  
**Lower**

RCRA-SQG:  
Date form received by agency: 1988-05-06 00:00:00.0  
Facility name: FIGHTER REBUILDERS  
Facility address: 7000 MERRILL  
CHINO, CA 91710  
EPA ID: CAD982473563  
Contact: ENVIRONMENTAL MANAGER

**Actual:**  
**638 ft.**

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**FIGHTER REBUILDERS (Continued)**

1000244243

Contact address: 7000 MERRILL  
CHINO, CA 91710  
Contact country: US  
Contact telephone: 714-597-3514  
Contact email: Not reported  
EPA Region: 09  
Classification: Small Small Quantity Generator  
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name: STEVEN HINTON  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, ME 99999  
Owner/operator country: Not reported  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, ME 99999  
Owner/operator country: Not reported  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No



Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

	Site	Database(s)	EDR ID Number EPA ID Number
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**FIGHTER REBUILDERS (Continued)**

**1000244243**

Violation Status: No violations found

**FINDS:**

Registry ID: 110002821509

**Environmental Interest/Information System**

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

**STATE MASTER**

Registry ID: 110009545947

**Environmental Interest/Information System**

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

**ECHO:**

Envid: 1000244243  
 Registry ID: 110002821509  
 DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110002821509>

Envid: 1000244243  
 Registry ID: 110009545947  
 DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110009545947>

**D51**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**AERO TRADER**  
**7000 MERRILL AVE HANGER P300**  
**CHINO, CA 91710**

**RCRA-SQG 1000327194**  
**CAD982473910**

**Site 37 of 67 in cluster D**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

RCRA-SQG:  
 Date form received by agency: 1988-05-23 00:00:00.0  
 Facility name: AERO TRADER  
 Facility address: 7000 MERRILL AVE HANGER P300  
 CHINO, CA 91710  
 EPA ID: CAD982473910  
 Contact: ENVIRONMENTAL MANAGER  
 Contact address: 7000 MERRILL AVE BOX 19

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**AERO TRADER (Continued)**

**1000327194**

HGR #P300 CHINO, CA 91710  
Contact country: US  
Contact telephone: 714-597-4020  
Contact email: Not reported  
EPA Region: 09  
Classification: Small Small Quantity Generator  
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name: NOT REQUIRED  
Owner/operator address: NOT REQUIRED, ME 99999  
Owner/operator country: Not reported  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: SCHOLL CARL  
Owner/operator address: NOT REQUIRED, ME 99999  
Owner/operator country: Not reported  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**AERO TRADER (Continued)**

**1000327194**

Violation Status: No violations found

**D52**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**SQUARE ONE AVIATION**  
**7000 MERRILL AVE BX 68**  
**CHINO, CA 91710**

**San Bern. Co. Permit** **S106911107**  
**N/A**

**Site 38 of 67 in cluster D**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

San Bern. Co. Permit:  
Name: SQUARE ONE AVIATION  
Address: 7000 MERRILL AVE BX 68  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0006363  
Owner: WARD, ELMER & BRET  
Permit Number: PT0008384  
Permit Category: HAZMAT HANDLER 0-10 EMPLOYEES (W/GEN PRMT)  
Facility Status: INACTIVE  
Expiration Date: 07/31/2005

Name: SQUARE ONE AVIATION  
Address: 7000 MERRILL AVE BX 68  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0006363  
Owner: WARD, ELMER & BRET  
Permit Number: PT0008385  
Permit Category: HAZARDOUS WASTE GENERATOR - 0-10 EMPLOYEES  
Facility Status: INACTIVE  
Expiration Date: 07/31/2005

**D53**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**FLITE CRAFTENT**  
**7000 MERRILL**  
**CHINO, CA 91710**

**RCRA-SQG** **1000397053**  
**CAD982473696**

**Site 39 of 67 in cluster D**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

RCRA-SQG:  
Date form received by agency: 1988-05-23 00:00:00.0  
Facility name: FLITE CRAFTENT  
Facility address: 7000 MERRILL  
CHINO, CA 91710  
EPA ID: CAD982473696  
Contact: ENVIRONMENTAL MANAGER  
Contact address: 7000 MERRILL  
CHINO, CA 91710  
Contact country: US  
Contact telephone: 714-597-1732  
Contact email: Not reported  
EPA Region: 09  
Classification: Small Small Quantity Generator  
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**FLITE CRAFTENT (Continued)**

**1000397053**

Owner/Operator Summary:

Owner/operator name: NOT REQUIRED  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, ME 99999  
Owner/operator country: Not reported  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: DAVE LEWIS  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, ME 99999  
Owner/operator country: Not reported  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

**D54**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**CHINO AVIATION**  
**7000 MERRILL AVE**  
**CHINO, CA 91710**  
**Site 40 of 67 in cluster D**

**San Bern. Co. Permit S108087254**  
**N/A**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

San Bern. Co. Permit:  
Name: CHINO AVIATION  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0010623

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO AVIATION (Continued)**

**S108087254**

Owner: CENDEJAS, AGUSTIN  
Permit Number: PT0018065  
Permit Category: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 09/30/2010

Name: CHINO AVIATION  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0010623  
Owner: CENDEJAS, AGUSTIN  
Permit Number: PT0018064  
Permit Category: HAZMAT HANDLER 0-10 EMPLOYEES  
Facility Status: INACTIVE  
Expiration Date: 09/30/2010

**D55**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**ROGERS AVIATION**  
**7000 MERRILL AVE HGR B130**  
**CHINO, CA 91710**  
**Site 41 of 67 in cluster D**

**San Bern. Co. Permit** **S110656308**  
**N/A**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

San Bern. Co. Permit:  
Name: ROGERS AVIATION  
Address: 7000 MERRILL AVE HGR B130  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0005784  
Owner: ROGERS, DAVID  
Permit Number: PT0008382  
Permit Category: SPECIAL HANDLER  
Facility Status: INACTIVE  
Expiration Date: 11/30/2009

Name: ROGERS AVIATION  
Address: 7000 MERRILL AVE HGR B130  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0005784  
Owner: ROGERS, DAVID  
Permit Number: PT0008383  
Permit Category: SPECIAL GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 11/30/2008

**D56**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**ENCORE JET CENTER**  
**7000 MERRILL AVE A-235**  
**CHINO, CA 91710**  
**Site 42 of 67 in cluster D**

**CERS HAZ WASTE** **S110071569**  
**CERS TANKS** **N/A**  
**San Bern. Co. Permit**  
**CERS**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

CERS HAZ WASTE:  
Name: ENCORE JET CENTER  
Address: 7000 MERRILL AVE A-235  
City,State,Zip: CHINO, CA 91710

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER (Continued)**

**S110071569**

Site ID: 28352  
CERS ID: 10039018  
CERS Description: Hazardous Waste Generator

**CERS TANKS:**

Name: ENCORE JET CENTER  
Address: 7000 MERRILL AVE A-235  
City,State,Zip: CHINO, CA 91710  
Site ID: 28352  
CERS ID: 10039018  
CERS Description: Underground Storage Tank

**San Bern. Co. Permit:**

Name: ENCORE JET CENTER  
Address: 7000 MERRILL AVE A-235  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002968  
Owner: ENCORE JET CENTER, LLC  
Permit Number: PT0010356  
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)  
Facility Status: ACTIVE  
Expiration Date: 11/30/2018

Name: ENCORE JET CENTER  
Address: 7000 MERRILL AVE A-235  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002968  
Owner: ENCORE JET CENTER, LLC  
Permit Number: PT0005296  
Permit Category: HAZMAT HANDLER, UST ONLY - PER YEAR  
Facility Status: ACTIVE  
Expiration Date: 11/30/2018

Name: ENCORE JET CENTER  
Address: 7000 MERRILL AVE A-235  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002968  
Owner: ENCORE JET CENTER, LLC  
Permit Number: PT0005297  
Permit Category: WASTE INCIDENTAL UST OPERATION ONLY -PER YEAR  
Facility Status: ACTIVE  
Expiration Date: 11/30/2018

**CERS:**

Name: ENCORE JET CENTER  
Address: 7000 MERRILL AVE A-235  
City,State,Zip: CHINO, CA 91710  
Site ID: 28352  
CERS ID: 10039018  
CERS Description: Chemical Storage Facilities

**Violations:**

Site ID: 28352

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER (Continued)**

**S110071569**

Site Name: ENCORE JET CENTER  
Violation Date: 08-25-2017  
Citation: 23 CCR 16 2715(a) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(a)  
Violation Description: Failure to notify the CUPA of the designated operator (DO) identification and/or change of the DO within 30 days.  
Violation Notes: Returned to compliance on 09/20/2017. Failure to submit a signed Designated UST Operator Statement (23 CCR 2715(a)) FACILITY SUBMITTED CORRECTED INFORMATION INTO CERS, CLOSE OUT VIOLATIONS PER D. PIANALTO-PREYES Failure to submit a signed Designated UST Operator Statement (23 CCR 2715(a)) OBSERVED EXPIRED ICC CERTIFICATION FOR DESIGNATED OPERATOR ON CERS SUBMITTAL. COMPLIANCE REQUIERMENT: UPDATE CERS TO REFLECT CURRENT DO INFORMATION.  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 08-25-2017  
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)  
Violation Description: Failure to complete and electronically submit a site map with all required content.  
Violation Notes: Returned to compliance on 04/02/2018. OBSERVED SITE MAP MISSING UTILITY SHUTOFF SWITCHES. COMPLIANCE REQUIREMENT: UPDATE CERS HAZARDOUS MATERIALS INVENTORY SITE MAP TO REFLECT CORRECT INFORMATION.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 03-28-2016  
Citation: HSC 6.7 25292.1(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25292.1(a)  
Violation Description: Failure to operate the UST system to prevent spills and/or overfills.  
Violation Notes: Returned to compliance on 04/04/2016. COMPLIANCE ACTIVITY: STATEMENT, TRAINING LOG, SIGNED COC PROVIDED WITHIN 7-DAYS 4/4/16. TC TAMPERING WITH THE UST MONITORING SYSTEM IS A VIOLATION WITH PENALTIES OF UP TO \$5000/DAY. REQUIRED COMPLIANCE: WITHIN 7 DAYS: 1) Provide a written protocol for how Encore personnel will check the Veeder Root monitor to ensure that alarms are responded to at the earliest possibility. This can include activating an autodial out for remote response. 2) Provide a copy of employee training to include at a minimum: alarm response and documentation of response, and hazardous waste handling and labeling requirements. 3) Return a copy of the CERTIFICATE OF COMPLIANCE (last page) as documentation that facility will not remove the power, x-out or lift sensors, or take any action to impede the ability of the leak detection system.  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 08-25-2017

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER (Continued)**

**S110071569**

Citation: 23 CCR 6.7 25284, 25286 - California Code of Regulations, Title 23, Chapter 6.7, Section(s) 25284, 25286

Violation Description: Failure to submit a complete and accurate application for a permit to operate a UST, or for renewal of the permit.

Violation Notes: OBSERVED CERS SUBMITTAL FOR UST ELEMENT INCORRECT. UPDATE UST INSTALLATION DATE TO REFLECT CORRECT DATE. UPDATE UST TANK MANUFACTURER TO REFLECT BROWN MINN UST. UPDATE UST SITE MAP TO REFLECT UST PIPING. COMPLIANCE REQUIREMENT: UPDATE CERS TO REFLECT CORRECT INFORMATION. SUBMIT A SIGNED CERTIFICATE OF COMPLIANCE WITHIN 30 DAYS.

Violation Division: San Bernardino County Fire Department

Violation Program: UST

Violation Source: CERS

Site ID: 28352

Site Name: ENCORE JET CENTER

Violation Date: 08-25-2017

Citation: HSC 6.7 25292(e) - California Health and Safety Code, Chapter 6.7, Section(s) 25292(e)

Violation Description: Failure to install a line leak detector (LLD).

Violation Notes: Returned to compliance on 09/26/2017. OBSERVED MECHANICAL LINE LEAK DETECTOR NOT TESTED DUE TO LOW FUEL LEVEL. COMPLIANCE REQUIREMENT: SCHEDULE WITNESSED INSPECTION TO PERFORM REQUIRED ANNUAL LINE LEAK DETECTOR TESTING WITHIN 10 DAYS. SUBMIT TEST RESULTS TO OUR DIVISION WITHIN 30 DAYS OF TESTING.

Violation Division: San Bernardino County Fire Department

Violation Program: UST

Violation Source: CERS

Site ID: 28352

Site Name: ENCORE JET CENTER

Violation Date: 03-28-2016

Citation: HSC 6.7 29291(b) - California Health and Safety Code, Chapter 6.7, Section(s) 29291(b)

Violation Description: Failure of the UST system to be designed and constructed with a monitoring system capable of detecting the entry of the hazardous substance stored in the primary containment into the secondary containment.

Violation Notes: Returned to compliance on 04/04/2016. COMPLIANCE ACTIVITY: STATEMENT, TRAINING LOG, SIGNED COC PROVIDED WITHIN 7-DAYS 4/4/16 TC SEE VIOLATION 340

Violation Division: San Bernardino County Fire Department

Violation Program: UST

Violation Source: CERS

Site ID: 28352

Site Name: ENCORE JET CENTER

Violation Date: 03-28-2016

Citation: HSC 6.7 25299 - California Health and Safety Code, Chapter 6.7, Section(s) 25299

Violation Description: Failure to comply with one or more of the operating permit conditions.

Violation Notes: Returned to compliance on 04/04/2016. COMPLIANCE ACTIVITY: STATEMENT, TRAINING LOG, SIGNED COC PROVIDED WITHIN 7-DAY 4/4/16 SEE VIOLATION 340

Violation Division: San Bernardino County Fire Department

Violation Program: UST

Violation Source: CERS



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER (Continued)**

**S110071569**

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 03-20-2015  
Citation: HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple  
Violation Description: Haz Waste Generator Program - Administration/Documentation - General  
Violation Notes: Returned to compliance on 04/08/2015. Failure to obtain an EPA ID Number (CCR 66262.12(a)) OBSERVATION- EPA ID NUMBER INACTIVE. COMPLIANCE REQUIREMENT: RE-ACTIVATE EPA ID NUMBER- EPA FORM LEST ON SITE.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 08-25-2017  
Citation: 19 CCR 6.95 25508(a)(1) - California Code of Regulations, Title 19, Chapter 6.95, Section(s) 25508(a)(1)  
Violation Description: Failure to complete and electronically submit the Business Activities Page and/or Business Owner Operator Identification Page.  
Violation Notes: OBSERVED ABOVEGROUND FUEL QUANTITIES ABOVE THRESHOLD FOR ABOVEGROUND PETROLEUM STORAGE ACT REQUIREMENTS AND APSA NOT CHECKED IN BUSINESS ACTIVITIES SECTION OF CERS. COMPLIANCE REQUIREMENT: UPDATE CERS TO REFLECT "YES" TO APSA AND SUBMIT REQUIRED DOCUMENTATION TO CERS.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 03-28-2016  
Citation: Un-Specified  
Violation Description: UST Program - Administration/Documentation - For use of Local Ordinance only  
Violation Notes: Returned to compliance on 08/15/2016. Failure to have a written monitoring program with monitoring procedures and response plan. (CCR 2632(d)) REVIEW FOR ACCURACY  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 03-20-2015  
Citation: HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34  
Violation Description: Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance.  
Violation Notes: Returned to compliance on 03/30/2015. OBSERVATION: FACILITY HAS NOT SUBMITTED THE REQUIRED UST DOCUMENTATION TO THE CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM (CERS) COMPLIANCE REQUIREMENT: SUBMIT UST DOCUMENTATION TO CERS WITHIN 30 DAYS. SIGN DATE AND SUBMIT THE CERTIFICATE OF COMPLIANCE TO THIS DEPARTMENT INDICATING THE DATE OF CERS SUBMITTAL.  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER (Continued)**

**S110071569**

Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 08-25-2017  
Citation: 23 CCR 16 2712 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712  
Violation Description: Failure to comply with any of the applicable requirements of the permit issued for the operation of the UST system.  
Violation Notes: Returned to compliance on 09/26/2017. OBSERVED MECHANICAL LINE LEAK DETECTOR NOT TESTED DUE TO LOW FUEL LEVEL. UNABLE TO PROPERLY TEST EQUIPMENT. COMPLIANCE REQUIREMENT: SCHEDULE WITNESSED INSPECTION TO PERFORM REQUIRED ANNUAL LINE LEAK DETECTOR TESTING WITHIN 10 DAYS. SUBMIT TEST RESULTS TO OUR DIVISION WITHIN 30 DAYS OF TESTING.  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 08-25-2017  
Citation: 23 CCR 16 2715(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(i)  
Violation Description: Failure to have a properly qualified service technician test leak detection equipment as required every 12 months (vapor, pressure, hydrostatic (VPH) system, sensors, line-leak detectors (LLD), automatic tank gauge (ATG), etc.).  
Violation Notes: Returned to compliance on 08/25/2017. OBSERVED LAST MONITORING CERTIFICATION COMPLETED ON 3/28/16 AND IS PAST DUE. COMPLIANCE REQUIREMENT: MONITORING CERTIFICATION WAS COMPLETED TODAY. VIOLATION CORRECTED. ENSURE NEXT ANNUAL INSPECTION IS COMPLETED BY 3/28/18.  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 05-18-2015  
Citation: 23 CCR 16 2637 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2637  
Violation Description: Failure to comply with one or more of the following: conduct secondary containment testing, within six months of installation and every 36 months thereafter, conducted in accordance with proper practices, protocols, or test methods.  
Violation Notes: Returned to compliance on 06/05/2015. SB 989 TESTING PERFORMED WAS AN INCOMPLETE TEST. ALSO LAST COMPLETE SB 989 TEST WAS PERFORMED ON 6/13/11 AND WAS OVERDUE. COMPLIANCE REQUIREMENT: IMMEDIATELY SCHEDULE A SB 989 TEST WITH OUR DIVISION TO COMPLETE TESTING AND REPAIR AND RETESTED FAILED COMPONENTS. CONTACT THIS DIVISION AT (909)386-8430 TO SCHEDULE AN APPOINTMENT FOR INSPECTION. NEXT SB 989 TEST DATE IS 5/18/18. 6/5/15 SB 989 RETEST PERFORMED PS  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER (Continued)**

**S110071569**

Violation Date: 03-20-2015  
Citation: Un-Specified  
Violation Description: UST Program - Administration/Documentation - For use of Local Ordinance only  
Violation Notes: Returned to compliance on 03/30/2015. Failure to submit a signed Designated UST Operator Statement (23 CCR 2715(a)) OBSERVATION: FACILITY HAS NOT SUBMITTED THE REQUIRED UST DOCUMENTATION TO THE CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM (CERS) COMPLIANCE REQUIREMENT: SUBMIT UST DOCUMENTATION TO CERS WITHIN 30 DAYS. SIGN DATE AND SUBMIT THE CERTIFICATE OF COMPLIANCE TO THIS DEPARTMENT INDICATING THE DATE OF CERS SUBMITTAL.  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 03-20-2015  
Citation: HSC 6.7 25284.2 - California Health and Safety Code, Chapter 6.7, Section(s) 25284.2  
Violation Description: Failure to test the spill bucket annually.  
Violation Notes: Returned to compliance on 03/30/2015. OBSERVATION: THE VAPOR OVER SPILL BUCKET FAILED WHEN TESTED. COMPLIANCE REQUIREMENT: SUBMIT A COPY OF THE WORK ORDER SHOWING THE REPAIR/ REPLACEMENT AND FUNCTIONALITY OF THE VAPOR OVERSPILL BUCKET.  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 03-20-2015  
Citation: 23 CCR 16 2637 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2637  
Violation Description: Failure to comply with one or more of the following: conduct secondary containment testing, within six months of installation and every 36 months thereafter, conducted in accordance with proper practices, protocols, or test methods.  
Violation Notes: Returned to compliance on 04/23/2015. OBSERVATION: Secondary containment certification test must be performed every 3 years. Last certification was performed 03/20/2012. COMPLIANCE REQUIREMENT: Within 30 days, contact this department for a witness secondary containment test with a licensed contractor.  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 03-13-2014  
Citation: 23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665  
Violation Description: Failure of the overfill prevention system to meet one of the following requirements: 1. Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or 2. Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER (Continued)**

**S110071569**

restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or 3. Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or 4. Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling.

Violation Notes: Returned to compliance on 03/30/2015. OBSERVATION: THE EXTERNAL AUDIBLE ALARM DID NOT FUNCTION WHEN OVERFILL PREVENTION EQUIPMENT WAS TESTED. COMPLIANCE: FACILITY MUST REPAIR/REPLACE WITHIN 7 DAYS. SUBMIT CERTIFICATE OF COMPLIANCE WITH PROOF OF WORK AND CERTIFICATION FROM THIRD PARTY UST CONTRACTOR. WITNESSED INSPECTION IS NOT REQUIRED.

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 08-25-2017  
Citation: 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i)

Violation Description: Failure to have a UST Response Plan available on site.  
Violation Notes: OBSERVED CERS SUBMITTAL FOR UST ELEMENT INCORRECT. UPDATE UST INSTALLATION DATE TO REFLECT CORRECT DATE. UPDATE UST TANK MANUFACTURER TO REFLECT BROWN MINN UST. UPDATE UST SITE MAP TO REFLECT UST PIPING. COMPLIANCE REQUIREMENT: UPDATE CERS TO REFLECT CORRECT INFORMATION. SUBMIT A SIGNED CERTIFICATE OF COMPLIANCE WITHIN 30 DAYS.

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 03-28-2016  
Citation: HSC 6.7 25286(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25286(a)

Violation Description: Failure to submit an complete and accurate application for a permit to operate an underground storage tank, or for renewal of the permit.  
Violation Notes: Returned to compliance on 09/20/2017. REVIEW CERS FOR ACCURACY

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 06-05-2015  
Citation: Un-Specified  
Violation Description: UST Program - Administration/Documentation - For use of Local Ordinance only

Violation Notes: Returned to compliance on 03/28/2016. Failure to have a written monitoring program with monitoring procedures and response plan. (CCR 2632(d)) CERS SUBMITTAL WAS MISSING INFORMATION FROM UST INFORMATION PAGE AND UST MONITORING PLAN PAGE. COMPLIANCE REQUIREMENT: UPDATE CERS TO REFLECT COMPLETE INFORMATION ON CERS UST SUBMITTAL. SUBMIT A SIGNED CERTIFICATE OF COMPLIANCE WITHIN 30 DAYS.

Violation Division: San Bernardino County Fire Department  
Violation Program: UST

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER (Continued)**

**S110071569**

Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 08-25-2017  
Citation: HSC 6.7 29291(b) - California Health and Safety Code, Chapter 6.7, Section(s) 29291(b)

Violation Description: Failure of the UST system to be designed and constructed with a monitoring system capable of detecting the entry of the hazardous substance into the secondary containment.

Violation Notes: Returned to compliance on 09/26/2017. OBSERVED MECHANICAL LINE LEAK DETECTOR NOT TESTED DUE TO LOW FUEL LEVEL. MONITORING EQUIPMENT NOT MAINTAINED TO MEET MONITORING REQUIREMENT. COMPLIANCE REQUIREMENT: SCHEDULE WITNESSED INSPECTION TO PERFORM REQUIRED ANNUAL LINE LEAK DETECTOR TESTING WITHIN 10 DAYS. SUBMIT TEST RESULTS TO OUR DIVISION WITHIN 30 DAYS OF TESTING.

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 03-20-2015  
Citation: Un-Specified  
Violation Description: UST Program - Administration/Documentation - For use of Local Ordinance only

Violation Notes: Returned to compliance on 03/30/2015. Failure to have a written monitoring program with monitoring procedures and response plan. (CCR 2632(d)) OBSERVATION: FACILITY HAS NOT SUBMITTED THE REQUIRED UST DOCUMENTATION TO THE CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM (CERS) COMPLIANCE REQUIREMENT: SUBMIT UST DOCUMENTATION TO CERS WITHIN 30 DAYS. SIGN DATE AND SUBMIT THE CERTIFICATE OF COMPLIANCE TO THIS DEPARTMENT INDICATING THE DATE OF CERS SUBMITTAL.

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 06-05-2015  
Citation: HSC 6.7 29291(b) - California Health and Safety Code, Chapter 6.7, Section(s) 29291(b)

Violation Description: Failure of the UST system to be designed and constructed with a monitoring system capable of detecting the entry of the hazardous substance stored in the primary containment into the secondary containment.

Violation Notes: Returned to compliance on 06/05/2015. FAILED VENT LINE OBSERVED DURING SB 989 TESTING ON 5/18/15 NOT REPAIRED OR RETESTED. COMPLIANCE REQUIREMENT: ENSURE PROPER FUNCTIONALITY FOR UST COMPONENTS. CONTACT THIS DIVISION FOR REPAIRS (909) 386-8464 OR TO DETERMINE IF PERMITS REQUIRED. SUBMIT COPY OF REPAIR ORDER AND RETEST RESULTS BY 6/17/15. VIOLATION CITED ON 5/18/15 INSPECTION REPORT. 6/5/15 TEST BOOT REPAIRED AND COMPLETED SB 989 RETEST. PS

Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER (Continued)**

**S110071569**

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 05-18-2015  
Citation: HSC 6.7 29291(b) - California Health and Safety Code, Chapter 6.7, Section(s) 29291(b)  
Violation Description: Failure of the UST system to be designed and constructed with a monitoring system capable of detecting the entry of the hazardous substance stored in the primary containment into the secondary containment.  
Violation Notes: Returned to compliance on 06/05/2015. OBSERVED FAILED VENT LINE TEST DURING SB 989 TESTING. COMPLIANCE REQUIREMENT: ENSURE PROPER FUNCTIONALITY FOR UST COMPONENTS. CONTACT THIS DIVISION FOR FOR REPAIRS (909) 386-8464 OR TO DETERMINE OF PERMITS REQUIRED. SUBMIT COPY OF REPAIR ORDER AND RETEST RESULTS WITHIN 30 DAYS. SB 989 RETEST COMPLETED ON 6/5/15 REPAIRS PERFORMED PS  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 09-26-2017  
Citation: 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i)  
Violation Description: Failure to have a UST Response Plan available on site.  
Violation Notes: Per inspection on August 25, 2017, violations remain outstanding. CERS elements were submitted to CERS on 9/20/17, however the tank installation date and manufacturer are still incorrect in CERS. The plan also indicates that there is no fill tube shut off valve. The tank does have a fill tube shut off valve and that must be indicated in CERS.  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 08-25-2017  
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)  
Violation Description: Failure to establish and electronically submit an adequate emergency response plan and procedures for a release or threatened release of a hazardous material.  
Violation Notes: Returned to compliance on 09/20/2017. FACILITY MADE CORRECTION TO 09/20/17 CERS SUBMITTAL, CLOSE OUT VIOLATION PER P. SAAVEDRA-PREYES OBSERVED EMERGENCY RESPONSE SECTION CUPA EMERGENCY PHONE NUMBER INCORRECT. COMPLIANCE REQUIREMENT: UPDATE CERS TO REFELCT CORRECT CUPA EMERGENCY PHONE NUMBER OF (909)386-8425 OR (800) 33-TOXIC.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Violation Date: 08-25-2017  
Citation: HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER (Continued)**

**S110071569**

Violation Description: Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance.  
Violation Notes: Returned to compliance on 09/20/2017. FACILITY MADE CORRECTION TO 09/20/17 CERS SUBMITTAL. CLOSE OUT VIOLATION PER P. SAAVEDRA-PREYES OBSERVED EXPIRED CERTIFICATE OF FINANCIAL RESPONSIBILITY ON CERS SUBMITTAL. COMPLIANCE REQUIREMENT: UPDATE CERS TO REFLECT CURRENT CFR.  
Violation Division: San Bernardino County Fire Department  
Violation Program: UST  
Violation Source: CERS

Evaluation:  
Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-20-2015  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: ENCORE JET CENTER A-235-UST INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-13-2014  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: UST MONIORING CERTIFICATION  
Eval Division: San Bernardino County Fire Department  
Eval Program: UST  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-20-2015  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ENCORE JET CENTER-A235- UST INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-20-2015  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ENCORE JET CENTER-A235- UST MONITORING CERTIFICATION  
Eval Division: San Bernardino County Fire Department  
Eval Program: UST  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-28-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: a235  
Eval Division: San Bernardino County Fire Department  
Eval Program: UST  
Eval Source: CERS

Eval General Type: Other/Unknown

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER (Continued)**

**S110071569**

Eval Date: 05-18-2015  
Violations Found: Yes  
Eval Type: Other, not routine, done by local agency  
Eval Notes: THREE YEAR SB 989 TESTING  
Eval Division: San Bernardino County Fire Department  
Eval Program: UST  
Eval Source: CERS

Eval General Type: Other/Unknown  
Eval Date: 06-05-2015  
Violations Found: Yes  
Eval Type: Other, not routine, done by local agency  
Eval Notes: REINSPECTION FOR SB 989 TESTING. START OF TESTING WAS 5/18/15  
Eval Division: San Bernardino County Fire Department  
Eval Program: UST  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 08-25-2017  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ANNUAL UST INSPECTION AND CERS REVIEW  
Eval Division: San Bernardino County Fire Department  
Eval Program: UST  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 08-25-2017  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: HAZMAT HANDLER INSPECTION UST ONLY  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Other/Unknown  
Eval Date: 09-26-2017  
Violations Found: Yes  
Eval Type: Other, not routine, done by local agency  
Eval Notes: UST re-inspection  
Eval Division: San Bernardino County Fire Department  
Eval Program: UST  
Eval Source: CERS

Enforcement Action:  
Site ID: 28352  
Site Name: ENCORE JET CENTER  
Site Address: 7000 MERRILL AVE A-235  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 03-13-2014  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: UST  
Enf Action Source: CERS



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER (Continued)**

**S110071569**

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Site Address: 7000 MERRILL AVE A-235  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 03-20-2015  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HW  
Enf Action Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Site Address: 7000 MERRILL AVE A-235  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 03-20-2015  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: UST  
Enf Action Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Site Address: 7000 MERRILL AVE A-235  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 03-28-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: UST  
Enf Action Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Site Address: 7000 MERRILL AVE A-235  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 05-18-2015  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: UST  
Enf Action Source: CERS

Site ID: 28352  
Site Name: ENCORE JET CENTER  
Site Address: 7000 MERRILL AVE A-235  
Site City: CHINO  
Site Zip: 91710

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER (Continued)**

**S110071569**

Enf Action Date: 06-05-2015  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: UST  
Enf Action Source: CERS

**Affiliation:**

Affiliation Type Desc: Parent Corporation  
Entity Name: Encore Jet Center, LLC  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: UST Property Owner Name  
Entity Name: COUNTY OF SAN BERNARDINO  
Entity Title: Not reported  
Affiliation Address: 777 East Rialto Ave  
Affiliation City: San Bernardino  
Affiliation State: Ca  
Affiliation Country: United States  
Affiliation Zip: 92415  
Affiliation Phone: (909) 387-8810

Affiliation Type Desc: Operator  
Entity Name: Encore Jet Center  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 597-6566

Affiliation Type Desc: UST Permit Applicant  
Entity Name: JOE ALACRON  
Entity Title: Manager  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 597-6566

Affiliation Type Desc: UST Tank Operator  
Entity Name: Encore Jet Center  
Entity Title: Not reported  
Affiliation Address: 7000 Merrill Ave Box 31  
Affiliation City: Chino  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91710

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER (Continued)**

**S110071569**

Affiliation Phone: (909) 597-6566

Affiliation Type Desc: Document Preparer  
Entity Name: JOSEPH ALACRON  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Environmental Contact  
Entity Name: JOE ALVAREZ  
Entity Title: Not reported  
Affiliation Address: 7000 Merrill Ave Box 31  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE, Box 31  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710-9171  
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer  
Entity Name: JOSEPH ALACRON  
Entity Title: MANAGER  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: UST Tank Owner  
Entity Name: Encore Jet Center  
Entity Title: Not reported  
Affiliation Address: 7000 Merrill Ave Box 31  
Affiliation City: Chino  
Affiliation State: Ca  
Affiliation Country: United States  
Affiliation Zip: 91701  
Affiliation Phone: (909) 597-6566

Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ENCORE JET CENTER (Continued)**

**S110071569**

Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401  
  
Affiliation Type Desc: Legal Owner  
Entity Name: Encore Jet Center, LLC  
Entity Title: Not reported  
Affiliation Address: 7000 Merrill Ave Box 31  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91710  
Affiliation Phone: (909) 597-6566

**D57**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**CENTURY AIRCRAFT PAINTING**  
**7000 MERRILL AVE**  
**CHINO, CA 91710**  
**Site 43 of 67 in cluster D**

**CERS HAZ WASTE** **S113155905**  
**HAZNET** **N/A**  
**CERS**

**Relative:**  
**Lower**  
  
**Actual:**  
**638 ft.**

**CERS HAZ WASTE:**  
Name: CENTURY AIRCRAFT PAINTING  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 17729  
CERS ID: 10036696  
CERS Description: Hazardous Waste Generator

**HAZNET:**  
Name: CENTURY AIRCRAFT PAINTING  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Year: 2009  
GEPaid: CAL000342475  
Contact: KENT PIELEMEIER  
Telephone: 9093933550  
Mailing Name: Not reported  
Mailing Address: 7000 MERRILL AVE STE 83  
Mailing City,St,Zip: CHINO, CA 917100000  
Gen County: San Bernardino  
TSD EPA ID: CAD008252405  
TSD County: Los Angeles  
Tons: 0.6948  
CA Waste Code: 214-Unspecified solvent mixture  
Method: H020-Solvents Recovery  
Facility County: San Bernardino

Name: CENTURY AIRCRAFT PAINTING  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Year: 2009  
GEPaid: CAL000342475  
Contact: KENT PIELEMEIER  
Telephone: 9093933550  
Mailing Name: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CENTURY AIRCRAFT PAINTING (Continued)**

**S113155905**

Mailing Address: 7000 MERRILL AVE STE 83  
Mailing City,St,Zip: CHINO, CA 917100000  
Gen County: San Bernardino  
TSD EPA ID: CAT080013352  
TSD County: Los Angeles  
Tons: 0.76  
CA Waste Code: 221-Waste oil and mixed oil  
Method: H039-Other Recovery Of Reclamation For Reuse Including Acid  
Regeneration, Organics Recovery Ect  
Facility County: San Bernardino

**CERS:**

Name: CENTURY AIRCRAFT PAINTING  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 17729  
CERS ID: 10036696  
CERS Description: Chemical Storage Facilities

**Violations:**

Site ID: 17729  
Site Name: CENTURY AIRCRAFT PAINTING  
Violation Date: 06-23-2016  
Citation: HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5,  
Section(s) Multiple  
Violation Description: Hazardous Waste Generator Program - Operations/Maintenance - General  
Violation Notes: Returned to compliance on 06/23/2016. Failure to note accumulation  
start date on labels (CCR 66262.34(f)(2)) Accumulation start date  
missing from waste paint booth filters and waste paint drums.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 17729  
Site Name: CENTURY AIRCRAFT PAINTING  
Violation Date: 07-02-2013  
Citation: HSC 6.95 25505(a) - California Health and Safety Code, Chapter 6.95,  
Section(s) 25505(a)  
Violation Description: Owner/Operator failed to complete and/or submit a Hazardous Materials  
Business Plan when storing hazardous materials at or above the  
thresholds quantities of 55 gallons/500 lbs/200 cubic feet.  
Violation Notes: Returned to compliance on 07/30/2013.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

**Evaluation:**

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 06-23-2016  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE HANDLER INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CENTURY AIRCRAFT PAINTING (Continued)**

**S113155905**

Eval Date: 06-23-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE GENERATOR INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 07-02-2013  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 07-02-2013  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

**Enforcement Action:**

Site ID: 17729  
Site Name: CENTURY AIRCRAFT PAINTING  
Site Address: 7000 MERRILL AVE  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 06-23-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HW  
Enf Action Source: CERS

Site ID: 17729  
Site Name: CENTURY AIRCRAFT PAINTING  
Site Address: 7000 MERRILL AVE  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 07-02-2013  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

**Affiliation:**

Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CENTURY AIRCRAFT PAINTING (Continued)**

**S113155905**

Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE, BX 83  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Affiliation Type Desc: Parent Corporation  
Entity Name: CENTURY AIRCRAFT PAINTING  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Property Owner  
Entity Name: County of San Bernardino Airports Department  
Entity Title: Not reported  
Affiliation Address: 777 East Rialto Avenue  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 92415-0831  
Affiliation Phone: (909) 597-3910

Affiliation Type Desc: Identification Signer  
Entity Name: Sandy Acosta  
Entity Title: OWNER  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Environmental Contact  
Entity Name: Sandy Acosta  
Entity Title: Not reported  
Affiliation Address: 7000 Merrill Ave Box 83  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CENTURY AIRCRAFT PAINTING (Continued)**

**S113155905**

Affiliation Type Desc: Legal Owner  
Entity Name: Sandy Acosta  
Entity Title: Not reported  
Affiliation Address: 7000 MERRIL AVE BOX 83  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91710-9171  
Affiliation Phone: (909) 393-3550

Affiliation Type Desc: Operator  
Entity Name: CENTURY AIRCRAFT PAINTING  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 393-3550

Affiliation Type Desc: Document Preparer  
Entity Name: Sandy Acosta  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

**D58**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**SBC/CHINO AIRPORT**  
**7000 MERRILL AVE BLDG B-350**  
**CHINO, CA 91710**

**San Bern. Co. Permit** **S107448049**  
**N/A**

**Site 44 of 67 in cluster D**

**Relative:**  
**Lower**

San Bern. Co. Permit:

**Actual:**  
**638 ft.**

Name: SBC/CHINO AIRPORT  
Address: 7000 MERRILL AVE BLDG B-350  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0007715  
Owner: SB COUNTY DEPT OF AIRPORTS  
Permit Number: PT0013287  
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)  
Facility Status: INACTIVE  
Expiration Date: 12/31/2015

Name: SBC/CHINO AIRPORT  
Address: 7000 MERRILL AVE BLDG B-350  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0007715  
Owner: SB COUNTY DEPT OF AIRPORTS  
Permit Number: PT0013286  
Permit Category: HAZMAT HANDLER, UST ONLY - PER YEAR  
Facility Status: INACTIVE



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SBC/CHINO AIRPORT (Continued)**

**S107448049**

Expiration Date: 12/31/2014

Name: SBC/CHINO AIRPORT  
Address: 7000 MERRILL AVE BLDG B-350  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0007715  
Owner: SB COUNTY DEPT OF AIRPORTS  
Permit Number: PT0016136  
Permit Category: WASTE INCIDENTAL UST OPERATION ONLY -PER YEAR  
Facility Status: INACTIVE  
Expiration Date: 12/31/2014

Name: CHINO AIRCRAFT SALES INC  
Address: 7000 MERRILL AVE BLDG B-350  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0012706  
Owner: THE CHARLESTON GROUP/ROBERT L. CASHMAN  
Permit Number: PT0022163  
Permit Category: SMALL QUANTITY GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 09/30/2011

Name: CHINO AIRCRAFT SALES INC  
Address: 7000 MERRILL AVE BLDG B-350  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0012706  
Owner: THE CHARLESTON GROUP/ROBERT L. CASHMAN  
Permit Number: PT0022164  
Permit Category: HAZARDOUS MATERIALS 1-3 CHEMICALS  
Facility Status: INACTIVE  
Expiration Date: 09/30/2011

**D59**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**INLAND VALLEY AVIATION INC**  
**7000 MERRILL AVE UNIT A335**  
**CHINO, CA 91710**

**CERS HAZ WASTE** **S109849349**  
**CERS** **N/A**

**Site 45 of 67 in cluster D**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

**CERS HAZ WASTE:**  
Name: INLAND VALLEY AVIATION INC  
Address: 7000 MERRILL AVE UNIT A335  
City,State,Zip: CHINO, CA 91710  
Site ID: 124362  
CERS ID: 10055428  
CERS Description: Hazardous Waste Generator

**CERS:**  
Name: INLAND VALLEY AVIATION INC  
Address: 7000 MERRILL AVE UNIT A335  
City,State,Zip: CHINO, CA 91710  
Site ID: 124362  
CERS ID: 10055428  
CERS Description: Chemical Storage Facilities

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**INLAND VALLEY AVIATION INC (Continued)**

**S109849349**

Violations:

Site ID: 124362  
Site Name: INLAND VALLEY AVIATION INC  
Violation Date: 04-05-2016  
Citation: HSC 6.95 25508(d) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(d)  
Violation Description: Failure to complete and/or electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.  
Violation Notes: Returned to compliance on 04/19/2019. Business Plan not submitted to CERS.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 124362  
Site Name: INLAND VALLEY AVIATION INC  
Violation Date: 04-05-2016  
Citation: HSC 6.5 Multiple Sections - California Health and Safety Code, Chapter 6.5, Section(s) Multiple Sections  
Violation Description: Haz Waste Generator Program - Operations/Maintenance - General  
Violation Notes: Returned to compliance on 07/01/2016. Failure to keep hazardous waste containers closed when not in active use (CCR 66265.173(a)) Hazardous waste containers closed.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 124362  
Site Name: INLAND VALLEY AVIATION INC  
Violation Date: 04-05-2016  
Citation: HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple  
Violation Description: Haz Waste Generator Program - Administration/Documentation - General  
Violation Notes: Returned to compliance on 07/01/2016. Failure to obtain an EPA ID Number (CCR 66262.12(a)) EPA ID number not active.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 124362  
Site Name: INLAND VALLEY AVIATION INC  
Violation Date: 03-26-2019  
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)  
Violation Description: Failure to complete and electronically submit a site map with all required content.  
Violation Notes: Returned to compliance on 04/19/2019. OBSERVATION: The site map uploaded into CERS is missing the following information: North orientation, loading areas (if applicable to the operation), storm and sewer drains (if applicable to the facility layout), access and exit points, emergency shutoffs (electricity, water, gas), evacuation staging areas, hazardous material handling and storage areas, and emergency response equipment. CORRECTIVE ACTION: Submit an accurate and complete site map into CERS.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**INLAND VALLEY AVIATION INC (Continued)**

**S109849349**

Violation Source: CERS

Site ID: 124362  
Site Name: INLAND VALLEY AVIATION INC  
Violation Date: 03-26-2019  
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)  
Violation Description: Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.  
Violation Notes: Returned to compliance on 04/19/2019. OBSERVATION: Hazardous materials were observed on site that were not reported into CERS or reported in lesser quantities. Refer to the inventory section of this report for more details. CORRECTIVE ACTION: Submit an accurate and complete hazardous materials inventory into CERS.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 124362  
Site Name: INLAND VALLEY AVIATION INC  
Violation Date: 03-26-2019  
Citation: HSC 6.5 25250.22 - California Health and Safety Code, Chapter 6.5, Section(s) 25250.22  
Violation Description: Failure to properly manage used oil and/or fuel filters in accordance with the requirements.  
Violation Notes: Returned to compliance on 03/26/2019. OBSERVATION: (1) 55 gallon drum of drained used oil filters was observed without a proper label and open when not in use. CORRECTED ON SITE: The 55 gallon drum of drained used oil filters was properly labeled and closed during the inspection.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 124362  
Site Name: INLAND VALLEY AVIATION INC  
Violation Date: 04-05-2016  
Citation: HSC 6.5 Multiple Sections - California Health and Safety Code, Chapter 6.5, Section(s) Multiple Sections  
Violation Description: Haz Waste Generator Program - Operations/Maintenance - General  
Violation Notes: Returned to compliance on 07/01/2016. Failure to operate and maintain facility to prevent a fire, spill or release (CCR 66265.31) Old absorbent and oil spill residual observed throughout facility.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 124362  
Site Name: INLAND VALLEY AVIATION INC  
Violation Date: 03-26-2019  
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
Violation Description: Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.  
Violation Notes: Returned to compliance on 04/19/2019. OBSERVATION: Facility failed to

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**INLAND VALLEY AVIATION INC (Continued)**

**S109849349**

annually submit a complete business plan via CERS. Last submittal dated 03/04/2018. CORRECTIVE ACTION: Review and certify the business plan via CERS. Your CERS ID number is 10055428.

Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 124362  
Site Name: INLAND VALLEY AVIATION INC  
Violation Date: 03-26-2019  
Citation: 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)

Violation Description: Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.

Violation Notes: Returned to compliance on 03/26/2019. OBSERVATION: (3) 55 gallon drums of used oil were observed with an incomplete hazardous waste label. CORRECTED ON SITE: The hazardous waste labels on the used oil drums mentioned were properly filled out during the inspection.

Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 124362  
Site Name: INLAND VALLEY AVIATION INC  
Violation Date: 04-05-2016  
Citation: HSC 6.5 Multiple Sections - California Health and Safety Code, Chapter 6.5, Section(s) Multiple Sections

Violation Description: Haz Waste Generator Program - Operations/Maintenance - General  
Violation Notes: Returned to compliance on 07/01/2016. Failure to note accumulation start date on labels (CCR 66262.34(f)(2)) Accumulation start date missing on hazardous waste label.

Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 124362  
Site Name: INLAND VALLEY AVIATION INC  
Violation Date: 03-26-2019  
Citation: 22 CCR 12 66262.12 - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.12

Violation Description: Failure to obtain an Identification Number prior to treating, storing, disposing of, transporting or offering for transportation any hazardous waste.

Violation Notes: Returned to compliance on 04/09/2019. OBSERVATION: The generator's EPA ID number is inactive. A hazardous waste generator shall not treat, store, dispose of, transport or offer for transportation, hazardous waste without an active EPA ID number. CORRECTIVE ACTION: Submit documentation to the CUPA demonstrating that you have reactivated the facility's EPA ID number.

Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 124362

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**INLAND VALLEY AVIATION INC (Continued)**

**S109849349**

Site Name: INLAND VALLEY AVIATION INC  
Violation Date: 04-05-2016  
Citation: 22 CCR 16 66266.130 - California Code of Regulations, Title 22, Chapter 16, Section(s) 66266.130  
Violation Description: Failure to properly handle, manage, label, and recycle used oil and fuel filters.  
Violation Notes: Returned to compliance on 07/01/2016. Used oil filters missing required label.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 124362  
Site Name: INLAND VALLEY AVIATION INC  
Violation Date: 03-26-2019  
Citation: 22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)  
Violation Description: Failure to keep a copy of each properly signed manifest for at least three years from the date the waste was accepted by the initial transporter. The manifest signed at the time the waste was accepted for transport shall be kept until receiving a signed copy from the designated facility which received the waste.  
Violation Notes: Returned to compliance on 04/15/2019. OBSERVATION: Hazardous Waste Manifests were not available at the time of inspection. CORRECTIVE ACTION: Locate a copy of all manifests and submit copies of the manifest records to this Division.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Evaluation:  
Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-26-2019  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 03-26-2019  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 04-05-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE GENERATOR INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**INLAND VALLEY AVIATION INC (Continued)**

**S109849349**

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 04-05-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE HANDLER INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

**Enforcement Action:**

Site ID: 124362  
Site Name: INLAND VALLEY AVIATION INC  
Site Address: 7000 MERRILL AVE UNIT A335  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 04-05-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Site ID: 124362  
Site Name: INLAND VALLEY AVIATION INC  
Site Address: 7000 MERRILL AVE UNIT A335  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 04-05-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HW  
Enf Action Source: CERS

**Affiliation:**

Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Document Preparer  
Entity Name: Stacy Trevino  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**INLAND VALLEY AVIATION INC (Continued)**

**S109849349**

Affiliation Type Desc: Legal Owner  
Entity Name: INLAND VALLEY AVIATION INC  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE UNIT A335  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91710  
Affiliation Phone: (909) 597-1904

Affiliation Type Desc: Parent Corporation  
Entity Name: INLAND VALLEY AVIATION INC  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer  
Entity Name: STACY TREVINO  
Entity Title: MGR  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE , BOX 87  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Affiliation Type Desc: Operator  
Entity Name: Dennis Trevino  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 597-1904

Affiliation Type Desc: Environmental Contact  
Entity Name: STACY TREVINO  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE, BOX 87  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**INLAND VALLEY AVIATION INC (Continued)**

**S109849349**

Affiliation Zip: 91710  
Affiliation Phone: Not reported

**D60**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**SILVER STATE HELICOPTERS**  
**7000 MERRILL AVE A-230**  
**CHINO, CA 91710**

**San Bern. Co. Permit**

**S108985858**  
**N/A**

**Site 46 of 67 in cluster D**

**Relative:**  
**Lower**

San Bern. Co. Permit:

**Actual:**  
**638 ft.**

Name: SILVER STATE HELICOPTERS  
Address: 7000 MERRILL AVE A-230  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0011377  
Owner: ARIOLA, S. JERRY  
Permit Number: PT0019666  
Permit Category: HAZARDOUS WASTE GENERATOR - 26-50 EMPLOYEES  
Facility Status: INACTIVE  
Expiration Date: 01/31/2009

Name: SILVER STATE HELICOPTERS  
Address: 7000 MERRILL AVE A-230  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0011377  
Owner: ARIOLA, S. JERRY  
Permit Number: PT0019665  
Permit Category: HAZMAT HANDLER 26-50 EMPLOYEES (W/GEN PRMT)  
Facility Status: INACTIVE  
Expiration Date: 01/31/2009

**D61**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**CHAMPIONSHIP AVIATION MAINT**  
**7000 MERRILL AVE HGR A385**  
**CHINO, CA**

**AST**

**S108087253**  
**N/A**

**Site 47 of 67 in cluster D**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

AST:

Name: CHAMPIONSHIP AVIATION MAINT  
Address: 7000 MERRILL AVE HGR A385  
City/Zip: CHINO,  
Certified Unified Program Agencies: San Bernardino  
Owner: CHAMPIONSHIP AVIATION MNT, INC  
Total Gallons: 19,050  
CERSID: Not reported  
Facility ID: Not reported  
Business Name: Not reported  
Phone: Not reported  
Fax: Not reported  
Mailing Address: Not reported  
Mailing Address City: Not reported  
Mailing Address State: Not reported  
Mailing Address Zip Code: Not reported  
Operator Name: Not reported



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHAMPIONSHIP AVIATION MAINT (Continued)**

**S108087253**

Operator Phone: Not reported  
Owner Phone: Not reported  
Owner Mail Address: Not reported  
Owner State: Not reported  
Owner Zip Code: Not reported  
Owner Country: Not reported  
Property Owner Name: Not reported  
Property Owner Phone: Not reported  
Property Owner Mailing Address: Not reported  
Property Owner City: Not reported  
Property Owner Stat : Not reported  
Property Owner Zip Code: Not reported  
Property Owner Country: Not reported  
EPAID: Not reported

**D62  
SW  
1/8-1/4  
0.127 mi.  
670 ft.**

**SAN BDNO COUNTY/CHINO AIRPORT  
7000 MERRILL AVE  
CHINO, CA 91710**

**CERS HAZ WASTE  
San Bern. Co. Permit  
CERS**

**S109254297  
N/A**

**Site 48 of 67 in cluster D**

**Relative:  
Lower**

**CERS HAZ WASTE:**

**Actual:  
638 ft.**

Name: SAN BDNO COUNTY/CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 64328  
CERS ID: 10037986  
CERS Description: Hazardous Waste Generator

**San Bern. Co. Permit:**

Name: SAN BDNO COUNTY/CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002372  
Owner: SB COUNTY DEPT OF AIRPORTS  
Permit Number: PT0003549  
Permit Category: SMALL QUANTITY GENERATOR  
Facility Status: ACTIVE  
Expiration Date: 09/30/2020

Name: SAN BDNO COUNTY/CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002372  
Owner: SB COUNTY DEPT OF AIRPORTS  
Permit Number: PT0003548  
Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS  
Facility Status: ACTIVE  
Expiration Date: 09/30/2020

Name: SAN BDNO COUNTY/CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002372

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SAN BDNO COUNTY/CHINO AIRPORT (Continued)**

**S109254297**

Owner: SB COUNTY DEPT OF AIRPORTS  
Permit Number: PT0011180  
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)  
Facility Status: INACTIVE  
Expiration Date: 09/30/2007

Name: SAN BDNO COUNTY/CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002372  
Owner: SB COUNTY DEPT OF AIRPORTS  
Permit Number: PT0011181  
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)  
Facility Status: INACTIVE  
Expiration Date: 09/30/2007

Name: SAN BDNO COUNTY/CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002372  
Owner: SB COUNTY DEPT OF AIRPORTS  
Permit Number: PT0011182  
Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)  
Facility Status: INACTIVE  
Expiration Date: 09/30/2007

CERS:  
Name: SAN BDNO COUNTY/CHINO AIRPORT  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 64328  
CERS ID: 10037986  
CERS Description: Chemical Storage Facilities

Violations:  
Site ID: 64328  
Site Name: SAN BDNO COUNTY/CHINO AIRPORT  
Violation Date: 05-11-2016  
Citation: 22 CCR 16 66266.130 - California Code of Regulations, Title 22, Chapter 16, Section(s) 66266.130  
Violation Description: Failure to properly handle, manage, label, and recycle used oil and fuel filters.  
Violation Notes: Returned to compliance on 05/11/2016. Accumulation start date missing on used oil filter container at time of visit.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 64328  
Site Name: SAN BDNO COUNTY/CHINO AIRPORT  
Violation Date: 05-11-2016  
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
Violation Description: Failure to annually review and electronically certify that the business plan is complete, accurate, and up-to-date.

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SAN BDNO COUNTY/CHINO AIRPORT (Continued)**

**S109254297**

Violation Notes: Returned to compliance on 06/23/2016. Hazardous Materials Business Plan is not current or up to date.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Evaluation:  
Eval General Type: Compliance Evaluation Inspection  
Eval Date: 05-11-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE GENERATOR INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 05-11-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE HANDLER INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Enforcement Action:  
Site ID: 64328  
Site Name: SAN BDNO COUNTY/CHINO AIRPORT  
Site Address: 7000 MERRILL AVE  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 05-11-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Site ID: 64328  
Site Name: SAN BDNO COUNTY/CHINO AIRPORT  
Site Address: 7000 MERRILL AVE  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 05-11-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HW  
Enf Action Source: CERS

Affiliation:  
Affiliation Type Desc: Legal Owner  
Entity Name: SB COUNTY DEPT OF AIRPORTS  
Entity Title: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SAN BDNO COUNTY/CHINO AIRPORT (Continued)**

**S109254297**

Affiliation Address: 777 E RIALTO AVE  
Affiliation City: SAN BERNARDINO  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 92415-9241  
Affiliation Phone: (909) 387-7802

Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Document Preparer  
Entity Name: W. Mitchell Kinser  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer  
Entity Name: W. Mitchell Kinser  
Entity Title: Airport Maintenance Supervisor  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Parent Corporation  
Entity Name: SAN BDNO COUNTY/CHINO AIRPORT  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Environmental Contact  
Entity Name: W. MITCHELL KINSER  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE, BOX 1  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710-9027  
Affiliation Phone: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SAN BDNO COUNTY/CHINO AIRPORT (Continued)**

**S109254297**

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE, BOX 1  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Affiliation Type Desc: Operator  
Entity Name: County of San Bernardino Department of Airports-Chino Airport  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 597-3910

**D63**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**NORTH ORANGE AVIATION**  
**7000 MERRILL AVE HGR 3**  
**CHINO, CA 91710**

**San Bern. Co. Permit**

**S110656305**  
**N/A**

**Site 49 of 67 in cluster D**

**Relative:**  
**Lower**

San Bern. Co. Permit:

**Actual:**  
**638 ft.**

Name: NORTH ORANGE AVIATION  
Address: 7000 MERRILL AVE HGR 3  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0004997  
Owner: REID, KEITH  
Permit Number: PT0008396  
Permit Category: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 07/31/2002

**D64**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**AERO TRADER**  
**7000 MERRILL AVE**  
**CHINO, CA 91710**

**CERS HAZ WASTE**  
**San Bern. Co. Permit**  
**CERS**

**S109254290**  
**N/A**

**Site 50 of 67 in cluster D**

**Relative:**  
**Lower**

CERS HAZ WASTE:

**Actual:**  
**638 ft.**

Name: AERO TRADER  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 3351  
CERS ID: 10034542  
CERS Description: Hazardous Waste Generator

San Bern. Co. Permit:

Name: AERO TRADER  
Address: 7000 MERRILL AVE

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**AERO TRADER (Continued)**

**S109254290**

City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0000315  
Owner: S&R AVIATION SERVICES, INC.  
Permit Number: PT0004347  
Permit Category: SMALL QUANTITY GENERATOR  
Facility Status: ACTIVE  
Expiration Date: 04/30/2020

Name: AERO TRADER  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0000315  
Owner: S&R AVIATION SERVICES, INC.  
Permit Number: PT0004346  
Permit Category: HAZARDOUS MATERIALS 11-30 CHEMICALS  
Facility Status: ACTIVE  
Expiration Date: 04/30/2020

**CERS:**

Name: AERO TRADER  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 3351  
CERS ID: 10034542  
CERS Description: Chemical Storage Facilities

**Violations:**

Site ID: 3351  
Site Name: AERO TRADER  
Violation Date: 06-23-2016  
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
Violation Description: Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.  
Violation Notes: Returned to compliance on 08/14/2016. Facility did not update Business Plan via CERS.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS  
  
Site ID: 3351  
Site Name: AERO TRADER  
Violation Date: 06-23-2016  
Citation: HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple  
Violation Description: Hazardous Waste Generator Program - Operations/Maintenance - General  
Violation Notes: Returned to compliance on 08/14/2016. Failure to label hazardous waste containers (CCR 66262.34(f)(3)) Hazardous waste containers missing the proper label.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS  
  
Site ID: 3351

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**AERO TRADER (Continued)**

**S109254290**

Site Name: AERO TRADER  
Violation Date: 06-23-2016  
Citation: HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple  
Violation Description: Hazardous Waste Generator Program - Operations/Maintenance - General  
Violation Notes: Returned to compliance on 08/14/2016. Failure to note accumulation start date on labels (CCR 66262.34(f)(2)) Accumulation start date missing on hazardous waste label.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 3351  
Site Name: AERO TRADER  
Violation Date: 06-23-2016  
Citation: HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple  
Violation Description: Hazardous Waste Generator Program - Operations/Maintenance - General  
Violation Notes: Returned to compliance on 08/14/2016. Failure to complete hazardous waste labels (CCR 66262.34(f)(3)) Information missing on the hazardous waste label.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Evaluation:  
Eval General Type: Compliance Evaluation Inspection  
Eval Date: 06-23-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE GENERATOR INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 06-23-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE HANDLER INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Enforcement Action:  
Site ID: 3351  
Site Name: AERO TRADER  
Site Address: 7000 MERRILL AVE  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 06-23-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**AERO TRADER (Continued)**

**S109254290**

Enf Action Source: CERS  
  
Site ID: 3351  
Site Name: AERO TRADER  
Site Address: 7000 MERRILL AVE  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 06-23-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HW  
Enf Action Source: CERS

Affiliation:

Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE #19  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner  
Entity Name: S&R AVIATION SERVICES, INC.  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE #19  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91710  
Affiliation Phone: (909) 597-4020

Affiliation Type Desc: Parent Corporation  
Entity Name: AERO TRADER  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Environmental Contact



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**AERO TRADER (Continued)**

**S109254290**

Entity Name: TONY RITZMAN  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE #19  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer  
Entity Name: Tony Ritzman  
Entity Title: Secretary/Treasurer  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Operator  
Entity Name: TONY RITZMAN  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 597-4020

**D65**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**ADVANTAGE AVIATION**  
**7000 MERRILL AVE**  
**CHINO, CA 91710**

**RCRA NonGen / NLR** **1024863558**  
**CAL000432104**

**Site 51 of 67 in cluster D**

**Relative:**  
**Lower**

RCRA NonGen / NLR:

**Actual:**  
**638 ft.**

Date form received by agency: 2017-11-15 00:00:00.0  
Facility name: ADVANTAGE AVIATION  
Facility address: 7000 MERRILL AVE  
BOX 20 HANGAR A-240  
CHINO, CA 91710  
EPA ID: CAL000432104  
Contact: KEVIN KANE  
Contact address: 7000 MERRILL AVE BOX 20 HANGAR A-240  
CHINO, CA 91710  
Contact country: Not reported  
Contact telephone: 909-606-0220  
Contact email: INFO@ADVANTAGEAVIONICS.COM  
EPA Region: 09  
Classification: Non-Generator  
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: MARK KRUEGER  
Owner/operator address: 7000 MERRILL AVE BOX 20 HANGAR A-240  
CHINO, CA 91710

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ADVANTAGE AVIATION (Continued)**

**1024863558**

Owner/operator country: Not reported  
Owner/operator telephone: 909-606-0220  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: KEVIN KANE  
Owner/operator address: 7000 MERRILL AVE BOX 20 HANGAR A-240  
CHINO, CA 91710

Owner/operator country: Not reported  
Owner/operator telephone: 909-606-0220  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Other  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: Yes  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

**D66**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**SOUTHERN CALIFORNIA EDISON: AIR OPERATIONS - CHINO**  
**7000 MERRILL AVE, BOX 50, BLDG. A-290**  
**CHINO, CA 91710**  
**Site 52 of 67 in cluster D**

**AST A100424710**  
**N/A**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

AST:  
Name: SOUTHERN CALIFORNIA EDISON: AIR OPERATIONS - CHINO AIRPORT  
Address: 7000 MERRILL AVE, BOX 50, BLDG. A-290  
City/Zip: CHINO,91710  
Certified Unified Program Agencies: Not reported  
Owner: Southern California Edison  
Total Gallons: Not reported  
CERSID: 10148665  
Facility ID: FA0014110  
Business Name: Southern California Edison, Operations Support Business Unit (OSBU)

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**SOUTHERN CALIFORNIA EDISON: AIR OPERATIONS - CHINO AIRPORT (Continued)**

**A100424710**

Phone: 909-974-4691  
 Fax: 909-974-4686  
 Mailing Address: P.O. Box 800 (Attn: CEH&S Compliance - MOB)  
 Mailing Address City: Rosemead  
 Mailing Address State: CA  
 Mailing Address Zip Code: 91770  
 Operator Name: Southern California Edison Co. - Aircraft Operations  
 Operator Phone: 909-974-4691  
 Owner Phone: (626) 302-1212  
 Owner Mail Address: P.O. Box 800 (Attn: CEH&S Compliance - MOB)  
 Owner State: CA  
 Owner Zip Code: 91770  
 Owner Country: United States  
 Property Owner Name: Southern California Edison  
 Property Owner Phone: (626) 302-1212  
 Property Owner Mailing Address: P.O. Box 800 (Attn: CEH&S Compliance - MOB)  
 Property Owner City: Rosemead  
 Property Owner Stat : CA  
 Property Owner Zip Code: 91770  
 Property Owner Country: United States  
 EPAID: CAR000220640

**D67**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**VAN'S MOBILE TRUCK SERVICE, INC.**  
**7000 MERRILL AVE**  
**CHINO, CA 91710**  
**Site 53 of 67 in cluster D**

**CPS-SLIC**  
**San Bern. Co. Permit**  
**CERS**

**S103956204**  
**N/A**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

**CPS-SLIC:**  
 Name: CHINO AIRPORT - BURIED DRUMS AREA  
 Address: 7000 MERRILL AVENUE  
 City,State,Zip: CHINO, CA 91710  
 Region: STATE  
**Facility Status: Completed - Case Closed**  
 Status Date: 03/17/2011  
 Global Id: T10000002398  
 Lead Agency: SANTA ANA RWQCB (REGION 8)  
 Lead Agency Case Number: Not reported  
 Latitude: 33.9771752582545  
 Longitude: -117.647438049316  
 Case Type: Cleanup Program Site  
 Case Worker: PAH  
 Local Agency: Not reported  
 RB Case Number: Not reported  
 File Location: Regional Board  
 Potential Media Affected: Soil  
 Potential Contaminants of Concern: Benzene, Toluene, Xylene, Other Petroleum  
 Site History: In the afternoon of July 22, 2010, three buried drums were discovered during trenching for installation of a storm drain pipeline for a new facility for SCE. Additional drums were discovered during the response activities. By sunset, eight buried drums had been removed from the excavation. The drums did not have lids and contained soil that had been placed on top of other materials. The contents of the drums were field tested using a HazCat chemical identification kit, and determined to be a non-explosive, flammable, non-corrosive, organic resin-type material. The eight drums were placed in a roll-off bin. Two more drums were visible in the excavation, but were left in place due to limited remaining daylight. Samples were

MAP FINDINGS

**VAN'S MOBILE TRUCK SERVICE, INC. (Continued)**

**S103956204**

collected of the soil, the material in the drums, and the liquid in one of the drums. The samples were delivered to Microbac Laboratory in Riverside, and analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH) carbon range, polynuclear aromatic hydrocarbons (PAHs), CAM17 metals, and flashpoint (only the liquid sample). The analytical results indicated that high concentrations of benzene were present in all of the samples. Also detected were toluene, ethylbenzene, xylene, styrene, 1,2,4-trimethylbenzene, and naphthalene. On July 28, 2010, a geophysical survey was conducted in an effort to locate any additional buried drums. During the survey, several areas to the east and west of the original excavation were marked as possible targets for further investigation. Excavation and removal of additional drums was conducted between August 16 and August 25, 2010. A total of 51 drums, several aluminum canisters and pieces of wood were removed from the excavation and placed in roll-off-bins. Excavated soil was stockpiled and covered with plastic sheeting. Additional soil was excavated from beneath the drums, placed in stockpiles and covered. The resulting excavation measured approximately 100 feet from east to west and 20 feet from north to south. The bottom of the excavation varied from 10 to 15 feet below ground surface. Patricia Hannon of Board Staff observed the collection of the final confirmation soil samples on August 26, 2010. Staff from the U.S. EPA and the California Department of Toxic Substances Control were also present. The samples were submitted to a California certified laboratory for analysis as per the TCRAP. The analytical results for the soil samples showed only very low concentrations of benzene (<1 to 1.28 micrograms/kilogram (a%g/kg)), ethylbenzene (<1 to 2.24 a%g/kg), xylene (<1 to 28.8 a%g/kg), 1,3,5 trimethylbenzene (<5 to 55.4 a%g/kg), naphthalene (<5 to 10.9 a%g/kg), TPH gasoline range (<1 to 4.71 milligrams/kilogram (mg/kg)), TPH diesel range <1 to 123 mg/kg, and TPH motor oil range (<1 to 355 mg/kg).

[Click here to access the California GeoTracker records for this facility:](#)

**San Bern. Co. Permit:**

Name: VAN'S MOBILE TRUCK SERVICE, INC.  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0010632  
Owner: VAN'S MOBILE TRUCK SERVICE INC  
Permit Number: PT0018102  
Permit Category: SPECIAL GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 08/31/2010

Name: VAN'S MOBILE TRUCK SERVICE, INC.  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0010632  
Owner: VAN'S MOBILE TRUCK SERVICE INC  
Permit Number: PT0018103  
Permit Category: SPECIAL HANDLER  
Facility Status: INACTIVE  
Expiration Date: 08/31/2010

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**VAN'S MOBILE TRUCK SERVICE, INC. (Continued)**

**S103956204**

Name: ALL COAST FOREST PROD INC  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0000826  
Owner: AERO RESTORATION INC  
Permit Number: PT0008391  
Permit Category: SPECIAL GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 11/30/2001

Name: ALL COAST FOREST PROD INC  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0000826  
Owner: AERO RESTORATION INC  
Permit Number: PT0008390  
Permit Category: SPECIAL HANDLER  
Facility Status: INACTIVE  
Expiration Date: 11/30/2001

**CERS:**

Name: CHINO AIRPORT - BURIED DRUMS AREA  
Address: 7000 MERRILL AVENUE  
City,State,Zip: CHINO, CA 91710  
Site ID: 218707  
CERS ID: T10000002398  
CERS Description: Cleanup Program Site

**Affiliation:**

Affiliation Type Desc: Regional Board Caseworker  
Entity Name: PATRICIA HANNON - SANTA ANA RWQCB (REGION 8)  
Entity Title: Not reported  
Affiliation Address: 3737 MAIN STREET, SUITE 500  
Affiliation City: RIVERSIDE  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

**D68**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**  
**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

**COUNTY SAN BERNARDINO - AIRPORT/CORNERSTONE FUELS**  
**7000 MERRILL AVE**  
**CHINO, CA 91710**

**Site 54 of 67 in cluster D**

**AST** **S101618757**  
**SWEEPS UST** **N/A**  
**HIST UST**  
**CERS TANKS**  
**CA FID UST**  
**Cortese**  
**EMI**  
**San Bern. Co. Permit**  
**CERS**

**AST:**

Name: SB COUNTY MAINTENANCE YARD  
Address: 7000 E MERRILL AVE  
City/Zip: CHINO,91710  
Certified Unified Program Agencies: Not reported  
Owner: SAN BERNARDINO COUNTY FLEET MANAGEMENT

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

COUNTY SAN BERNARDINO - AIRPORT/CORNERSTONE FUELS (Continued)

S101618757

Total Gallons: Not reported  
CERSID: 10037797  
Facility ID: FA0002277  
Business Name: FLEET MANAGEMENT  
Phone: (909) 597-3910  
Fax: (909) 387-8001  
Mailing Address: 7000 E. MERRILL AVE BOX 4  
Mailing Address City: CHINO  
Mailing Address State: CA  
Mailing Address Zip Code: 91710  
Operator Name: Not reported  
Operator Phone: Not reported  
Owner Phone: (909) 387-7855  
Owner Mail Address: 210 N LENA RD  
Owner State: CA  
Owner Zip Code: Not reported  
Owner Country: United States  
Property Owner Name: Not reported  
Property Owner Phone: Not reported  
Property Owner Mailing Address: Not reported  
Property Owner City: Not reported  
Property Owner Stat : Not reported  
Property Owner Zip Code: Not reported  
Property Owner Country: Not reported  
EPAID: Not reported

SWEEPS UST:

Name: COUNTY SAN BERNARDINO - AIRPORT/CORNERSTONE FUELS  
Address: 7000 MERRILL AVE  
City: CHINO  
Status: Active  
Comp Number: 8707  
Number: 5  
Board Of Equalization: 44-020093  
Referral Date: 03-24-92  
Action Date: 03-24-92  
Created Date: 02-29-88  
Owner Tank Id: 15  
SWRCB Tank Id: 36-000-008707-000001  
Tank Status: A  
Capacity: 10000  
Active Date: 07-01-85  
Tank Use: M.V. FUEL  
STG: P  
Content: REG UNLEADED  
Number Of Tanks: 5

Name: COUNTY SAN BERNARDINO - AIRPORT/CORNERSTONE FUELS  
Address: 7000 MERRILL AVE  
City: CHINO  
Status: Active  
Comp Number: 8707  
Number: 5  
Board Of Equalization: 44-020093  
Referral Date: 03-24-92  
Action Date: 03-24-92  
Created Date: 02-29-88

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

COUNTY SAN BERNARDINO - AIRPORT/CORNERSTONE FUELS (Continued)

S101618757

Owner Tank Id: 16  
SWRCB Tank Id: 36-000-008707-000002  
Tank Status: A  
Capacity: 10000  
Active Date: 07-01-85  
Tank Use: M.V. FUEL  
STG: P  
Content: LEADED  
Number Of Tanks: Not reported

Name: COUNTY SAN BERNARDINO - AIRPORT/CORNERSTONE FUELS  
Address: 7000 MERRILL AVE  
City: CHINO  
Status: Active  
Comp Number: 8707  
Number: 5  
Board Of Equalization: 44-020093  
Referral Date: 03-24-92  
Action Date: 03-24-92  
Created Date: 02-29-88  
Owner Tank Id: 17  
SWRCB Tank Id: 36-000-008707-000003  
Tank Status: A  
Capacity: 10000  
Active Date: 07-01-85  
Tank Use: M.V. FUEL  
STG: P  
Content: DIESEL  
Number Of Tanks: Not reported

Name: COUNTY SAN BERNARDINO - AIRPORT/CORNERSTONE FUELS  
Address: 7000 MERRILL AVE  
City: CHINO  
Status: Active  
Comp Number: 8707  
Number: 5  
Board Of Equalization: 44-020093  
Referral Date: 03-24-92  
Action Date: 03-24-92  
Created Date: 02-29-88  
Owner Tank Id: AVGAS1  
SWRCB Tank Id: 36-000-008707-000004  
Tank Status: A  
Capacity: 12000  
Active Date: 06-29-94  
Tank Use: M.V. FUEL  
STG: P  
Content: AVIA. GAS  
Number Of Tanks: Not reported

Name: COUNTY SAN BERNARDINO - AIRPORT/CORNERSTONE FUELS  
Address: 7000 MERRILL AVE  
City: CHINO  
Status: Active  
Comp Number: 8707  
Number: 5  
Board Of Equalization: 44-020093

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

COUNTY SAN BERNARDINO - AIRPORT/CORNERSTONE FUELS (Continued)

S101618757

Referral Date: 03-24-92  
Action Date: 03-24-92  
Created Date: 02-29-88  
Owner Tank Id: JET-A1  
SWRCB Tank Id: 36-000-008707-000005  
Tank Status: A  
Capacity: 12000  
Active Date: 06-29-94  
Tank Use: M.V. FUEL  
STG: P  
Content: JET FUEL  
Number Of Tanks: Not reported

HIST UST:

Name: CHINO AIRPORT  
Address: 7000 MERRILL AVENUE  
City,State,Zip: CHINO, CA 91710  
File Number: 0002A5A7  
URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002A5A7.pdf>  
Region: Not reported  
Facility ID: Not reported  
Facility Type: Not reported  
Other Type: Not reported  
Contact Name: Not reported  
Telephone: Not reported  
Owner Name: Not reported  
Owner Address: Not reported  
Owner City,St,Zip: Not reported  
Total Tanks: Not reported

Tank Num: Not reported  
Container Num: Not reported  
Year Installed: Not reported  
Tank Capacity: Not reported  
Tank Used for: Not reported  
Type of Fuel: Not reported  
Container Construction Thickness: Not reported  
Leak Detection: Not reported

[Click here for Geo Tracker PDF:](#)

CERS TANKS:

Name: SB COUNTY MAINTENANCE YARD  
Address: 7000 E MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 151349  
CERS ID: 10037797  
CERS Description: Aboveground Petroleum Storage

CA FID UST:

Facility ID: 36002274  
Regulated By: UTKA  
Regulated ID: 00008707  
Cortese Code: Not reported  
SIC Code: Not reported  
Facility Phone: Not reported



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

COUNTY SAN BERNARDINO - AIRPORT/CORNERSTONE FUELS (Continued)

S101618757

Mail To: Not reported  
Mailing Address: 825 E 003RD ST  
Mailing Address 2: Not reported  
Mailing City,St,Zip: CHINO 91710  
Contact: Not reported  
Contact Phone: Not reported  
DUNs Number: Not reported  
NPDES Number: Not reported  
EPA ID: Not reported  
Comments: Not reported  
Status: Active

Facility ID: 36002274  
Regulated By: UTNKA  
Regulated ID: 00010545  
Cortese Code: Not reported  
SIC Code: Not reported  
Facility Phone: Not reported  
Mail To: Not reported  
Mailing Address: 7000 MERRILL AVENUE BOX  
Mailing Address 2: Not reported  
Mailing City,St,Zip: CHINO 91710  
Contact: Not reported  
Contact Phone: Not reported  
DUNs Number: Not reported  
NPDES Number: Not reported  
EPA ID: Not reported  
Comments: Not reported  
Status: Active

CORTESE:

Name: SAN BERNARDINO CNTY CHINO AIRP  
Address: 7000 MERRILL AVE STE 1  
City,State,Zip: CHINO, CA 91710  
Region: CORTESE  
Envirostor Id: Not reported  
Global ID: Not reported  
Site/Facility Type: Not reported  
Cleanup Status: Not reported  
Status Date: Not reported  
Site Code: Not reported  
Latitude: Not reported  
Longitude: Not reported  
Owner: Not reported  
Enf Type: Not reported  
Swat R: Not reported  
Flag: CORTESE  
Order No: Not reported  
Waste Discharge System No: Not reported  
Effective Date: Not reported  
Region 2: Not reported  
WID Id: Not reported  
Solid Waste Id No: Not reported  
Waste Management Uit Name: Not reported  
File Name: Cease Desist Orders & Cleanup Abatement Orders

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

COUNTY SAN BERNARDINO - AIRPORT/CORNERSTONE FUELS (Continued)

S101618757

EMI:

Name: CORONA AERO REFINISHERS,JAMES W HATFIELD  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Year: 2002  
County Code: 36  
Air Basin: SC  
Facility ID: 101972  
Air District Name: SC  
SIC Code: 7699  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1  
Reactive Organic Gases Tons/Yr: 1  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Name: CORONA AERO REFINISHERS,JAMES W HATFIELD  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Year: 2003  
County Code: 36  
Air Basin: SC  
Facility ID: 101972  
Air District Name: SC  
SIC Code: 7699  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1  
Reactive Organic Gases Tons/Yr: 1  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Name: CORONA AERO REFINISHERS,JAMES W HATFIELD  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Year: 2004  
County Code: 36  
Air Basin: SC  
Facility ID: 101972  
Air District Name: SC  
SIC Code: 7699  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1.07122  
Reactive Organic Gases Tons/Yr: 1.01  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

COUNTY SAN BERNARDINO - AIRPORT/CORNERSTONE FUELS (Continued)

S101618757

SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0.13  
Part. Matter 10 Micrometers and Smllr Tons/Yr:0.09

San Bern. Co. Permit:

Name: SB COUNTY MAINTENANCE YARD  
Address: 7000 E MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002277  
Owner: SB Co FLEET MANAGEMENT DEPT  
Permit Number: PT0003396  
Permit Category: APSA 1,320-10,000 GAL FAC CAPACITY  
Facility Status: ACTIVE  
Expiration Date: 09/30/2019

Name: SB COUNTY MAINTENANCE YARD  
Address: 7000 E MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002277  
Owner: SB Co FLEET MANAGEMENT DEPT  
Permit Number: PT0003384  
Permit Category: HAZARDOUS MATERIALS 1-3 CHEMICALS SPECIAL  
Facility Status: ACTIVE  
Expiration Date: 09/30/2019

Name: SB COUNTY MAINTENANCE YARD  
Address: 7000 E MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002277  
Owner: SB Co FLEET MANAGEMENT DEPT  
Permit Number: PT0018682  
Permit Category: EPCRA FACILITY  
Facility Status: INACTIVE  
Expiration Date: 09/30/2013

Name: SB COUNTY MAINTENANCE YARD  
Address: 7000 E MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0002277  
Owner: SB Co FLEET MANAGEMENT DEPT  
Permit Number: PT0014399  
Permit Category: CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 09/30/2008

CERS:

Name: CHINO AIRPORT  
Address: 7000 MERRILL AVENUE  
City,State,Zip: CHINO, CA 91710  
Site ID: 202150  
CERS ID: SL208634049  
CERS Description: Cleanup Program Site

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

COUNTY SAN BERNARDINO - AIRPORT/CORNERSTONE FUELS (Continued)

S101618757

Affiliation:

Affiliation Type Desc: Regional Board Caseworker  
Entity Name: PATRICIA HANNON - SANTA ANA RWQCB (REGION 8)  
Entity Title: Not reported  
Affiliation Address: 3737 MAIN STREET, SUITE 500  
Affiliation City: RIVERSIDE  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Name: SB COUNTY MAINTENANCE YARD  
Address: 7000 E MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 151349  
CERS ID: 10037797  
CERS Description: Chemical Storage Facilities

Violations:

Site ID: 151349  
Site Name: SB COUNTY MAINTENANCE YARD  
Violation Date: 06-23-2016  
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)  
Violation Description: Failure to complete and electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.  
Violation Notes: Facility did not make a complete submittal to CERS.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 151349  
Site Name: SB COUNTY MAINTENANCE YARD  
Violation Date: 06-23-2016  
Citation: HSC 6.67 Multiple - California Health and Safety Code, Chapter 6.67, Section(s) Multiple  
Violation Description: APSA Program - Administration/Documentation - General  
Violation Notes: SPCC Tier II plan not prepared and implemented.  
Violation Division: San Bernardino County Fire Department  
Violation Program: APSA  
Violation Source: CERS

Evaluation:

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 06-23-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE GENERATOR INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: APSA  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 06-23-2016  
Violations Found: Yes

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

COUNTY SAN BERNARDINO - AIRPORT/CORNERSTONE FUELS (Continued)

S101618757

Eval Type: Routine done by local agency  
Eval Notes: ROUTINE HANDLER INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Enforcement Action:

Site ID: 151349  
Site Name: SB COUNTY MAINTENANCE YARD  
Site Address: 7000 E MERRILL AVE  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 06-23-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: APSA  
Enf Action Source: CERS

Site ID: 151349  
Site Name: SB COUNTY MAINTENANCE YARD  
Site Address: 7000 E MERRILL AVE  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 06-23-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Affiliation:

Affiliation Type Desc: Environmental Contact  
Entity Name: Lauren Finwall  
Entity Title: Not reported  
Affiliation Address: 210 N LENA RD  
Affiliation City: SAN BERNARDINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0842  
Affiliation Phone: Not reported

Affiliation Type Desc: Document Preparer  
Entity Name: Lauren Finwall  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Operator  
Entity Name: San Bernardino County / Fleet Management Dept

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

COUNTY SAN BERNARDINO - AIRPORT/CORNERSTONE FUELS (Continued)

S101618757

Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 387-8755

Affiliation Type Desc: Parent Corporation  
Entity Name: SBCO FIRE DIVISION 6  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 7000 E. MERRILL AVE BOX 4  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner  
Entity Name: SAN BERNARDINO COUNTY FLEET MANAGEMENT  
Entity Title: Not reported  
Affiliation Address: 210 N LENA RD  
Affiliation City: SAN BERNARDINO  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 92415-0842  
Affiliation Phone: (909) 387-7855

Affiliation Type Desc: Identification Signer  
Entity Name: Lauren Finwall  
Entity Title: Regulatory Environmental Specialist  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

MAP FINDINGS

Map ID  
 Direction  
 Distance  
 Elevation

Site

Database(s)

EDR ID Number  
 EPA ID Number

**D69**      **TOM KING AERIAL**      **San Bern. Co. Permit**      **S104763314**  
**SW**      **7000 MERRILL AVE BOX 3**           **N/A**  
**1/8-1/4**      **CHINO, CA 91710**  
**0.127 mi.**  
**670 ft.**      **Site 55 of 67 in cluster D**

**Relative:**      San Bern. Co. Permit:  
**Lower**      Name:      TOM KING AERIAL  
 Address:      7000 MERRILL AVE BOX 3  
**Actual:**      City,State,Zip:      CHINO, CA 91710  
**638 ft.**      Region:      SAN BERNARDINO  
 Facility ID:      FA0000313  
 Owner:      KING, VIRGINIA  
 Permit Number:      PT0008392  
 Permit Category:      CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR  
 Facility Status:      INACTIVE  
 Expiration Date:      11/30/2007

**D70**      **CORONA AERO REFINISHERS**      **San Bern. Co. Permit**      **S106910777**  
**SW**      **7000 MERRILL AVE 24**           **N/A**  
**1/8-1/4**      **CHINO, CA 91710**  
**0.127 mi.**  
**670 ft.**      **Site 56 of 67 in cluster D**

**Relative:**      San Bern. Co. Permit:  
**Lower**      Name:      CORONA AERO REFINISHERS  
 Address:      7000 MERRILL AVE 24  
**Actual:**      City,State,Zip:      CHINO, CA 91710  
**638 ft.**      Region:      SAN BERNARDINO  
 Facility ID:      FA0002505  
 Owner:      HATFIELD, JIM & BRASS, PATRICK  
 Permit Number:      PT0008405  
 Permit Category:      SPECIAL HANDLER  
 Facility Status:      INACTIVE  
 Expiration Date:      07/31/2004

Name:      CORONA AERO REFINISHERS  
 Address:      7000 MERRILL AVE 24  
 City,State,Zip:      CHINO, CA 91710  
 Region:      SAN BERNARDINO  
 Facility ID:      FA0002505  
 Owner:      HATFIELD, JIM & BRASS, PATRICK  
 Permit Number:      PT0008406  
 Permit Category:      CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR  
 Facility Status:      INACTIVE  
 Expiration Date:      07/31/2004

**D71**      **EZELL SALES INC**      **San Bern. Co. Permit**      **S104766138**  
**SW**      **7000 E MERRILL AVE BLDG 4**           **N/A**  
**1/8-1/4**      **CHINO, CA 91710**  
**0.127 mi.**  
**670 ft.**      **Site 57 of 67 in cluster D**

**Relative:**      San Bern. Co. Permit:  
**Lower**      Name:      EZELL SALES INC  
 Address:      7000 E MERRILL AVE BLDG 4  
**Actual:**      City,State,Zip:      CHINO, CA 91710  
**638 ft.**      Region:      SAN BERNARDINO

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**EZELL SALES INC (Continued)**

**S104766138**

Facility ID: FA0002988  
Owner: SYBERSMA, CHARLES  
Permit Number: PT0008377  
Permit Category: HAZMAT HANDLER 0-10 EMPLOYEES  
Facility Status: INACTIVE  
Expiration Date: 11/30/2006

**D72  
SW  
1/8-1/4  
0.127 mi.  
670 ft.**

**MILITARY AIRCRAFT RESTORATION  
7000 MERRILL AVE A485  
CHINO, CA 91710**

**San Bern. Co. Permit**

**S106910992  
N/A**

**Site 58 of 67 in cluster D**

**Relative:  
Lower  
Actual:  
638 ft.**

San Bern. Co. Permit:  
Name: MILITARY AIRCRAFT RESTORATION  
Address: 7000 MERRILL AVE A485  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0004729  
Owner: MILITARY AIRCRAFT RESTORATION  
Permit Number: PT0008398  
Permit Category: SPECIAL GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 11/30/2003

Name: MILITARY AIRCRAFT RESTORATION  
Address: 7000 MERRILL AVE A485  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0004729  
Owner: MILITARY AIRCRAFT RESTORATION  
Permit Number: PT0008397  
Permit Category: SPECIAL HANDLER  
Facility Status: INACTIVE  
Expiration Date: 11/30/2003

**D73  
SW  
1/8-1/4  
0.127 mi.  
670 ft.**

**SB COUNTY MAINTENANCE YARD  
7000 MERRILL AVE.  
CHINO, CA**

**AST A100346032  
N/A**

**Site 59 of 67 in cluster D**

**Relative:  
Lower  
Actual:  
638 ft.**

AST:  
Name: SB COUNTY MAINTENANCE YARD  
Address: 7000 MERRILL AVE.  
City/Zip: CHINO,  
Certified Unified Program Agencies: San Bernardino  
Owner: SB COUNTY DEPT PUBLIC WORKS  
Total Gallons: 9,000  
CERSID: Not reported  
Facility ID: Not reported  
Business Name: Not reported  
Phone: Not reported  
Fax: Not reported  
Mailing Address: Not reported  
Mailing Address City: Not reported



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SB COUNTY MAINTENANCE YARD (Continued)**

**A100346032**

Mailing Address State: Not reported  
Mailing Address Zip Code: Not reported  
Operator Name: Not reported  
Operator Phone: Not reported  
Owner Phone: Not reported  
Owner Mail Address: Not reported  
Owner State: Not reported  
Owner Zip Code: Not reported  
Owner Country: Not reported  
Property Owner Name: Not reported  
Property Owner Phone: Not reported  
Property Owner Mailing Address: Not reported  
Property Owner City: Not reported  
Property Owner Stat : Not reported  
Property Owner Zip Code: Not reported  
Property Owner Country: Not reported  
EPAID: Not reported

**D74  
SW  
1/8-1/4  
0.127 mi.  
670 ft.**

**AIRCRAFTSMAN  
7000 MERRILL HGR AVE HGR A-245 BOX 100  
CHINO, CA 91710**

**San Bern. Co. Permit S104763384  
N/A**

**Site 60 of 67 in cluster D**

**Relative:  
Lower**

San Bern. Co. Permit:

**Actual:  
638 ft.**

Name: AIRCRAFTSMAN  
Address: 7000 MERRILL HGR AVE HGR A-245 BOX 100  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0000752  
Owner: NAAZMA MANTARA  
Permit Number: PT0015147  
Permit Category: SPECIAL HANDLER  
Facility Status: INACTIVE  
Expiration Date: 09/30/2008

Name: AIRCRAFTSMAN  
Address: 7000 MERRILL HGR AVE HGR A-245 BOX 100  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0000752  
Owner: NAAZMA MANTARA  
Permit Number: PT0007880  
Permit Category: SPECIAL GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 09/30/2008

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

D75  
SW  
1/8-1/4  
0.127 mi.  
670 ft.

UNLIMITED AIRCRAFT INC  
7000 MERRILL BOX 27 HGR4  
CHINO, CA 91710

Site 61 of 67 in cluster D

RCRA-SQG 1000255008  
FINDS CAD982474066  
ECHO

Relative:  
Lower

RCRA-SQG:

Actual:  
638 ft.

Date form received by agency: 1988-05-23 00:00:00.0  
Facility name: UNLIMITED AIRCRAFT INC  
Facility address: 7000 MERRILL BOX 27 HGR4  
CHINO, CA 91710  
EPA ID: CAD982474066  
Mailing address: MERRILL BOX 27 HGR4  
CHINO, CA 91710  
Contact: ENVIRONMENTAL MANAGER  
Contact address: 7000 MERRILL BOX 27 HGR4  
CHINO, CA 91710  
Contact country: US  
Contact telephone: 714-597-2188  
Contact email: Not reported  
EPA Region: 09  
Classification: Small Small Quantity Generator  
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name: BRUCE GOESSLING  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, ME 99999  
Owner/operator country: Not reported  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, ME 99999  
Owner/operator country: Not reported  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**UNLIMITED AIRCRAFT INC (Continued)**

**1000255008**

Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

**FINDS:**

Registry ID: 110009545965

**Environmental Interest/Information System**

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

**ECHO:**

Envid: 1000255008  
Registry ID: 110009545965  
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110009545965>

**D76**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**SOUTHERN CALIFORNIA EDISON CHINO AIR OPS**  
**7000 MERRILL AVE**  
**CHINO, CA 91710**

**RCRA-LQG 1014915623**  
**CAR000220640**

**Site 62 of 67 in cluster D**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

**RCRA-LQG:**  
Date form received by agency: 2011-07-19 00:00:00.0  
Facility name: SOUTHERN CALIFORNIA EDISON CHINO AIR OPS  
Facility address: 7000 MERRILL AVE  
MAILBOX 50 BLDG A 290  
CHINO, CA 91710-9097  
EPA ID: CAR000220640  
Mailing address: PO BOX 800  
ROSEMEAD, CA 91770  
Contact: SARA M DUVALL  
Contact address: PO BOX 800  
ROSEMEAD, CA 91770  
Contact country: US  
Contact telephone: 626-462-8714  
Contact email: SARA.DUVALL@SCE.COM

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SOUTHERN CALIFORNIA EDISON CHINO AIR OPS (Continued)**

**1014915623**

EPA Region: 09  
Classification: Large Quantity Generator  
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name: COUNTY OF SAN BERNARDINO  
Owner/operator address: 7000 MERRILL AVE BOX 1  
CHINO, CA 91710  
Owner/operator country: US  
Owner/operator telephone: 909-597-3910  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: County  
Owner/Operator Type: Owner  
Owner/Op start date: 1949-06-28 00:00:00.0  
Owner/Op end date: Not reported

Owner/operator name: SOUTHERN CALIFORNIA EDISON  
Owner/operator address: Not reported  
Not reported  
Owner/operator country: US  
Owner/operator telephone: Not reported  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: 2009-10-29 00:00:00.0  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SOUTHERN CALIFORNIA EDISON CHINO AIR OPS (Continued)**

**1014915623**

Used oil transfer facility: No  
Used oil transporter: No

Hazardous Waste Summary:

. Waste code: 214  
. Waste name: Unspecified solvent mixture  
  
. Waste code: D001  
. Waste name: IGNITABLE WASTE  
  
. Waste code: D018  
. Waste name: BENZENE

Violation Status: No violations found

**D77**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**BANNER AIRLINES**  
**7000 MERRILL AVE #19**  
**CHINO, CA 91710**  
  
**Site 63 of 67 in cluster D**

**RCRA-SQG 1000313303**  
**CAD982474124**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

RCRA-SQG:  
Date form received by agency: 1988-05-23 00:00:00.0  
Facility name: BANNER AIRLINES  
Facility address: 7000 MERRILL AVE #19  
CHINO, CA 91710  
  
EPA ID: CAD982474124  
Contact: ENVIRONMENTAL MANAGER  
Contact address: 7000 MERRILL AVE #19  
CHINO AIRPORT BOX 30, CA 91710  
  
Contact country: US  
Contact telephone: 714-597-1886  
Contact email: Not reported  
EPA Region: 09  
Classification: Small Small Quantity Generator  
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name: HUNTER LEE  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, ME 99999  
  
Owner/operator country: Not reported  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported  
  
Owner/operator name: NOT REQUIRED  
Owner/operator address: NOT REQUIRED

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**BANNER AIRLINES (Continued)**

**1000313303**

NOT REQUIRED, ME 99999

Owner/operator country: Not reported  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Violation Status: No violations found

**D78**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**SO CALIF EDISON AIRCRAFT OPER**  
**7000 MERRILL AVE HANGAR A ST**  
**CHINO, CA 91710**

**RCRA-SQG 1000167621**  
**FINDS CAD981689854**  
**ECHO**

**Site 64 of 67 in cluster D**

**Relative:**  
**Lower**

RCRA-SQG:

Date form received by agency: 1996-09-01 00:00:00.0

**Actual:**  
**638 ft.**

Facility name: SO CALIF EDISON AIRCRAFT OPER  
Facility address: 7000 MERRILL AVE HANGAR A ST  
CHINO, CA 91710

EPA ID: CAD981689854  
Mailing address: ENVIRON AFFAIRS PO BOX 800  
ROSEMEAD, CA 91770

Contact: Not reported  
Contact address: Not reported  
Not reported

Contact country: US  
Contact telephone: Not reported  
Contact email: Not reported

EPA Region: 09

Classification: Small Small Quantity Generator

Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SO CALIF EDISON AIRCRAFT OPER (Continued)**

**1000167621**

Owner/Operator Summary:

Owner/operator name: NOT REQUIRED  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, ME 99999  
Owner/operator country: Not reported  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Operator  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Owner/operator name: SO CAL EDISON  
Owner/operator address: NOT REQUIRED  
NOT REQUIRED, ME 99999  
Owner/operator country: Not reported  
Owner/operator telephone: 415-555-1212  
Owner/operator email: Not reported  
Owner/operator fax: Not reported  
Owner/operator extension: Not reported  
Legal status: Private  
Owner/Operator Type: Owner  
Owner/Op start date: Not reported  
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No  
Mixed waste (haz. and radioactive): No  
Recycler of hazardous waste: No  
Transporter of hazardous waste: No  
Treater, storer or disposer of HW: No  
Underground injection activity: No  
On-site burner exemption: No  
Furnace exemption: No  
Used oil fuel burner: No  
Used oil processor: No  
User oil refiner: No  
Used oil fuel marketer to burner: No  
Used oil Specification marketer: No  
Used oil transfer facility: No  
Used oil transporter: No

Historical Generators:

Date form received by agency: 1986-11-26 00:00:00.0  
Site name: SO CALIF EDISON AIRCRAFT OPER  
Classification: Large Quantity Generator

Violation Status: No violations found

FINDS:

Registry ID: 110002753949

Environmental Interest/Information System

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**SO CALIF EDISON AIRCRAFT OPER (Continued)**

**1000167621**

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

[Click this hyperlink](#) while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

**ECHO:**

Envid: 1000167621  
Registry ID: 110002753949  
DFR URL: <http://echo.epa.gov/detailed-facility-report?fid=110002753949>

**D79**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**CHINO AIRPORT RADIUM DIALS**  
**7000 MERRILL AVE**  
**CHINO, CA 91710**

**SEMS 1008341524**  
**PRP CAN000906127**

**Site 65 of 67 in cluster D**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

**SEMS:**  
Site ID: 0906127  
EPA ID: CAN000906127  
Cong District: Not reported  
FIPS Code: 06071  
Latitude: Not reported  
Longitude: Not reported  
FF: N  
NPL: Not on the NPL  
Non NPL Status: Removal Only Site (No Site Assessment Work Needed)

**SEMS Detail:**

Region: 09  
Site ID: 0906127  
EPA ID: CAN000906127  
Site Name: CHINO AIRPORT RADIUM DIALS  
NPL: N  
FF: N  
OU: 00  
Action Code: RV  
Action Name: RMVL  
SEQ: 1  
Start Date: 2005-03-10 05:00:00  
Finish Date: 10/4/2006 4:00:00 AM  
Qual: C  
Current Action Lead: EPA Perf

Region: 09  
Site ID: 0906127  
EPA ID: CAN000906127  
Site Name: CHINO AIRPORT RADIUM DIALS  
NPL: N  
FF: N  
OU: 00  
Action Code: BB  
Action Name: PRP RV



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO AIRPORT RADIUM DIALS (Continued)**

**1008341524**

SEQ: 1  
Start Date: 2005-05-11 04:00:00  
Finish Date: 10/5/2006 4:00:00 AM  
Qual: C  
Current Action Lead: EPA Ovrsght

Region: 09  
Site ID: 0906127  
EPA ID: CAN000906127  
Site Name: CHINO AIRPORT RADIUM DIALS  
NPL: N  
FF: N  
OU: 00  
Action Code: AW  
Action Name: ASGN OSC  
SEQ: 1  
Start Date: Not reported  
Finish Date: 4/7/2005 4:00:00 AM  
Qual: Not reported  
Current Action Lead: EPA Perf

**PRP:**

EPAID: CAN000906127  
Site ID: 0906127  
Name: CHINO AIRPORT RADIUM DIALS  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
NPL Status: Not on the NPL  
NPL Status Short Name: Removal Only Site (No Site Assessment Work Needed)  
PRP Name: CHINO DEVELOPMENT LEAGUE, INC.  
PRP Address: Not reported  
PRP City: Not reported  
PRP State: Not reported  
PRP Zip: Not reported  
Data Type: SETTLEMENT DATE  
Action Date: 4/12/2005  
Settlement Code: UA-1  
Settlement: UNL ORDR

PRP Name: PRESERVATION AVIATION, INC  
PRP Address: Not reported  
PRP City: Not reported  
PRP State: Not reported  
PRP Zip: Not reported  
Data Type: SETTLEMENT DATE  
Action Date: 4/12/2005  
Settlement Code: UA-1  
Settlement: UNL ORDR

PRP Name: JEFFREY PEARSON  
PRP Address: Not reported  
PRP City: Not reported  
PRP State: Not reported  
PRP Zip: Not reported  
Data Type: SETTLEMENT DATE  
Action Date: 4/12/2005

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO AIRPORT RADIUM DIALS (Continued)**

**1008341524**

Settlement Code: UA-1  
Settlement: UNL ORDR

PRP Name: HERITAGE AERO, INC.  
PRP Address: Not reported  
PRP City: Not reported  
PRP State: Not reported  
PRP Zip: Not reported  
Data Type: SETTLEMENT DATE  
Action Date: 4/12/2005  
Settlement Code: UA-1  
Settlement: UNL ORDR

PRP Name: COUNTY OF SAN BERNARDINO  
PRP Address: Not reported  
PRP City: Not reported  
PRP State: Not reported  
PRP Zip: Not reported  
Data Type: SETTLEMENT DATE  
Action Date: 4/12/2005  
Settlement Code: UA-1  
Settlement: UNL ORDR

PRP Name: COUNTY OF SAN BERNARDINO  
PRP Address: Not reported  
PRP City: Not reported  
PRP State: Not reported  
PRP Zip: Not reported  
Data Type: SETTLEMENT DATE  
Action Date: 7/15/2008  
Settlement Code: CA-1  
Settlement: CON AGMT

**D80**  
**SW**  
**1/8-1/4**  
**0.127 mi.**  
**670 ft.**

**CHINO AIRPORT NAPALM WASTE**  
**7000 MERRILL AVENUE**  
**CHINO, CA 91710**  
**Site 66 of 67 in cluster D**

**SEMS 1014202332**  
**CAN000908946**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

SEMS:  
Site ID: 0908946  
EPA ID: CAN000908946  
Cong District: Not reported  
FIPS Code: 06071  
Latitude: Not reported  
Longitude: Not reported  
FF: N  
NPL: Not on the NPL  
Non NPL Status: Removal Only Site (No Site Assessment Work Needed)

SEMS Detail:  
Region: 09  
Site ID: 0908946  
EPA ID: CAN000908946  
Site Name: CHINO AIRPORT NAPALM WASTE  
NPL: N  
FF: N  
OU: 00

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**CHINO AIRPORT NAPALM WASTE (Continued)**

**1014202332**

Action Code: PJ  
 Action Name: RP EM REM  
 SEQ: 1  
 Start Date: 2010-08-26 04:00:00  
 Finish Date: 10/26/2010 4:00:00 AM  
 Qual: C  
 Current Action Lead: EPA Ovrsght

**D81  
 SW  
 1/8-1/4  
 0.127 mi.  
 670 ft.**

**KANETIC LTD  
 7000 MERRILL AVE A-330  
 CHINO, CA 91710  
 Site 67 of 67 in cluster D**

**CPS-SLIC S103948886  
 CERS HAZ WASTE N/A  
 CERS TANKS  
 EMI  
 San Bern. Co. Permit  
 CERS**

**Relative:  
 Lower**

**Actual:  
 638 ft.**

**CPS-SLIC:**  
 Name: CHINO AIRPORT  
 Address: 7000 MERRILL AVENUE  
 City,State,Zip: CHINO, CA 91710  
 Region: STATE  
**Facility Status: Open - Remediation**  
 Status Date: 05/16/2017  
 Global Id: SL208634049  
 Lead Agency: SANTA ANA RWQCB (REGION 8)  
 Lead Agency Case Number: Not reported  
 Latitude: 33.9804492902876  
 Longitude: -117.645871639252  
 Case Type: Cleanup Program Site  
 Case Worker: PAH  
 Local Agency: Not reported  
 RB Case Number: 2086300  
 File Location: Regional Board  
 Potential Media Affected: Aquifer used for drinking water supply  
 Potential Contaminants of Concern: 1,2,3-Trichloropropane (TCP), Dichloroethene (DCE), Trichloroethylene (TCE)  
 Site History: The primary chemicals of concern in the groundwater at the site are trichloroethene, 1,2,3-trichloropropane, cis-1,2-dichloroethene, 1,2-dichloroethane, and 1,1-dichloroethene. Offsite plume characterization field activities were initiated in 2007. Twelve cone penetrometer testing (CPT)/direct push borings were advanced to investigate the below grade lithology, and to determine the horizontal and vertical extent of the VOCs in the groundwater in the vicinity of the site. Eleven additional direct push borings were also advanced, and water samples were collected. The soils encountered consisted of silts, sands, gravels and some clay lenses. The depth to groundwater ranged from 25 to 50 feet below ground surface (bgs), with the depth to water decreasing toward the south. Groundwater was detected at approximately 50 feet bgs at the Kimball Avenue boring location, approximately 30 to 45 feet bgs at the Bickmore Avenue boring locations and approximately 25 to 35 feet bgs at the Pine Avenue boring locations. The local groundwater flow direction is toward the southeast. Based on the results of the investigation in 2007, nine nested groundwater monitoring wells were installed in 2008 at three locations along the axis of the plume. Three wells were installed at each location to monitor the shallow (approximately 35 to 96 feet bgs), intermediate (approximately 91 to 146 feet bgs) and deep (approximately 206 to 309 feet bgs) groundwater zones.

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**KANETIC LTD (Continued)**

**S103948886**

[Click here to access the California GeoTracker records for this facility:](#)

**CERS HAZ WASTE:**

Name: FIGHTER REBUILDERS/PLANES  
Address: 7000 MERRILL AVE STE 17  
City,State,Zip: CHINO, CA 91710  
Site ID: 116408  
CERS ID: 10039237  
CERS Description: Hazardous Waste Generator

Name: SOUTHERN CALIFORNIA DAIRY EQUIP.  
Address: 7000 MERRILL AVE A320 STE 1  
City,State,Zip: CHINO, CA 91710  
Site ID: 155047  
CERS ID: 10047139  
CERS Description: Hazardous Waste Generator

Name: SUPERIOR SOD 1, L.P.  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 158347  
CERS ID: 10484215  
CERS Description: Hazardous Waste Generator

**CERS TANKS:**

Name: SUPERIOR SOD 1, L.P.  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 158347  
CERS ID: 10484215  
CERS Description: Aboveground Petroleum Storage

**EMI:**

Name: CAL-AIR MAINTENANCE  
Address: 7000 MERRILL AV  
City,State,Zip: CHINO, CA 917100000  
Year: 1987  
County Code: 36  
Air Basin: SC  
Facility ID: 45213  
Air District Name: SC  
SIC Code: 5199  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 2  
Reactive Organic Gases Tons/Yr: 2  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smlr Tons/Yr: 0  
  
Name: CAL-AIR MAINTENANCE  
Address: 7000 MERRILL AVE, HANGAR #15

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**KANETIC LTD (Continued)**

**S103948886**

City,State,Zip: CHINO, CA 917100000  
Year: 1990  
County Code: 36  
Air Basin: SC  
Facility ID: 45213  
Air District Name: SC  
SIC Code: 1711  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 2  
Reactive Organic Gases Tons/Yr: 2  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Name: AERO TRADER  
Address: 7000 MERRILL AVE #19  
City,State,Zip: CHINO, CA 917100000  
Year: 1990  
County Code: 36  
Air Basin: SC  
Facility ID: 55101  
Air District Name: SC  
SIC Code: 4581  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 0  
Reactive Organic Gases Tons/Yr: 0  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Name: AERO TRADER  
Address: 7000 MERRILL AV, #19  
City,State,Zip: CHINO, CA 917100000  
Year: 1993  
County Code: 36  
Air Basin: SC  
Facility ID: 55101  
Air District Name: SC  
SIC Code: 4581  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1  
Reactive Organic Gases Tons/Yr: 0  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 1  
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**KANETIC LTD (Continued)**

**S103948886**

Name: AERO TRADER  
Address: 7000 MERRILL AV, #19  
City,State,Zip: CHINO, CA 917100000  
Year: 1995  
County Code: 36  
Air Basin: SC  
Facility ID: 55101  
Air District Name: SC  
SIC Code: 4581  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1  
Reactive Organic Gases Tons/Yr: 0  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 1  
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Name: AERO TRADER  
Address: 7000 MERRILL AVE #19  
City,State,Zip: CHINO, CA 917100000  
Year: 1996  
County Code: 36  
Air Basin: SC  
Facility ID: 55101  
Air District Name: SC  
SIC Code: 4581  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1  
Reactive Organic Gases Tons/Yr: 0  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 1  
Part. Matter 10 Micrometers and Smlr Tons/Yr:1

Name: AERO TRADER  
Address: 7000 MERRILL AV, #19  
City,State,Zip: CHINO, CA 917100000  
Year: 1997  
County Code: 36  
Air Basin: SC  
Facility ID: 55101  
Air District Name: SC  
SIC Code: 4581  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1  
Reactive Organic Gases Tons/Yr: 0  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**KANETIC LTD (Continued)**

**S103948886**

Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Name: AERO TRADER  
Address: 7000 MERRILL AV, #19  
City,State,Zip: CHINO, CA 917100000  
Year: 1998  
County Code: 36  
Air Basin: SC  
Facility ID: 55101  
Air District Name: SC  
SIC Code: 4581  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1  
Reactive Organic Gases Tons/Yr: 0  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Name: AERO TRADER  
Address: 7000 MERRILL AV, #19  
City,State,Zip: CHINO, CA 917100000  
Year: 1999  
County Code: 36  
Air Basin: SC  
Facility ID: 55101  
Air District Name: SC  
SIC Code: 4581  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1  
Reactive Organic Gases Tons/Yr: 0  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Name: AERO TRADER  
Address: 7000 MERRILL AV, #19  
City,State,Zip: CHINO, CA 917100000  
Year: 2000  
County Code: 36  
Air Basin: SC  
Facility ID: 55101  
Air District Name: SC  
SIC Code: 4581  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1  
Reactive Organic Gases Tons/Yr: 0

Map ID  
Direction  
Distance  
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MAP FINDINGS

Site

Database(s)

EDR ID Number  
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**KANETIC LTD (Continued)**

**S103948886**

Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Name: AERO TRADER  
Address: 7000 MERRILL AV, #19  
City,State,Zip: CHINO, CA 917100000  
Year: 2001  
County Code: 36  
Air Basin: SC  
Facility ID: 55101  
Air District Name: SC  
SIC Code: 4581  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 2  
Reactive Organic Gases Tons/Yr: 1  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 1  
Part. Matter 10 Micrometers and Smllr Tons/Yr:1

Name: AERO TRADER  
Address: 7000 MERRILL AVE #19  
City,State,Zip: CHINO, CA 917100000  
Year: 2002  
County Code: 36  
Air Basin: SC  
Facility ID: 55101  
Air District Name: SC  
SIC Code: 4581  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1  
Reactive Organic Gases Tons/Yr: 1  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Name: AERO TRADER  
Address: 7000 MERRILL AVE #19  
City,State,Zip: CHINO, CA 917100000  
Year: 2003  
County Code: 36  
Air Basin: SC  
Facility ID: 55101  
Air District Name: SC  
SIC Code: 4581  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported



Map ID  
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MAP FINDINGS

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Database(s)

EDR ID Number  
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**KANETIC LTD (Continued)**

**S103948886**

Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1  
Reactive Organic Gases Tons/Yr: 1  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Name: AERO TRADER  
Address: 7000 MERRILL AVE #19  
City,State,Zip: CHINO, CA 917100000  
Year: 2004  
County Code: 36  
Air Basin: SC  
Facility ID: 55101  
Air District Name: SC  
SIC Code: 4581  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1.4188  
Reactive Organic Gases Tons/Yr: 0.77  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0.325  
Part. Matter 10 Micrometers and Smlr Tons/Yr:0.28

Name: AERO TRADER  
Address: 7000 MERRILL AVE #19  
City,State,Zip: CHINO, CA 917100000  
Year: 2005  
County Code: 36  
Air Basin: SC  
Facility ID: 55101  
Air District Name: SC  
SIC Code: 4581  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: .9856  
Reactive Organic Gases Tons/Yr: .67271826  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 0  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: .1  
Part. Matter 10 Micrometers and Smlr Tons/Yr:.086

San Bern. Co. Permit:

Name: KANETIC LTD  
Address: 7000 MERRILL AVE A-330  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0017228  
Owner: JOHN SPRUCE  
Permit Number: PT0036683

Map ID  
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Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**KANETIC LTD (Continued)**

**S103948886**

Permit Category: CONDITIONALLY EXEMPT SM QTY GENERATOR  
Facility Status: ACTIVE  
Expiration Date: 12/31/2019

Name: KANETIC LTD  
Address: 7000 MERRILL AVE A-330  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0017228  
Owner: JOHN SPRUCE  
Permit Number: PT0036682  
Permit Category: HAZARDOUS MATERIALS 1-3 CHEMICALS  
Facility Status: ACTIVE  
Expiration Date: 12/31/2019

Name: FIGHTER REBUILDERS/PLANES  
Address: 7000 MERRILL AVE STE 17  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0003212  
Owner: HINTON, STEVE  
Permit Number: PT0008403  
Permit Category: SMALL QUANTITY GENERATOR  
Facility Status: ACTIVE  
Expiration Date: 11/30/2019

Name: FIGHTER REBUILDERS/PLANES  
Address: 7000 MERRILL AVE STE 17  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0003212  
Owner: HINTON, STEVE  
Permit Number: PT0008402  
Permit Category: HAZARDOUS MATERIALS 11-30 CHEMICALS  
Facility Status: ACTIVE  
Expiration Date: 11/30/2019

Name: SUPERIOR SOD 1, L.P.  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0017000  
Owner: Richard Considine  
Permit Number: PT0037350  
Permit Category: SMALL QUANTITY GENERATOR  
Facility Status: ACTIVE  
Expiration Date: 10/31/2019

Name: SUPERIOR SOD 1, L.P.  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0017000  
Owner: Richard Considine  
Permit Number: PT0036343  
Permit Category: APSA 10,001-100,000 GAL FAC CAPACITY  
Facility Status: ACTIVE

Map ID  
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Distance  
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MAP FINDINGS

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Database(s)

EDR ID Number  
EPA ID Number

**KANETIC LTD (Continued)**

**S103948886**

Expiration Date: 10/31/2019

Name: SUPERIOR SOD 1, L.P.  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0017000  
Owner: Richard Considine  
Permit Number: PT0036342  
Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS  
Facility Status: ACTIVE  
Expiration Date: 10/31/2019

Name: AERO SUPPORT GROUPE  
Address: 7000 MERRILL A385/A390 AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0012994  
Owner: AERO SUPPORT GROUPE  
Permit Number: PT0022816  
Permit Category: HAZMAT HANDLER 0-10 EMPLOYEES  
Facility Status: INACTIVE  
Expiration Date: 01/31/2011

Name: AERO SUPPORT GROUPE  
Address: 7000 MERRILL A385/A390 AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0012994  
Owner: AERO SUPPORT GROUPE  
Permit Number: PT0022817  
Permit Category: APSA 1,320-10,000 GAL FAC CAPACITY  
Facility Status: INACTIVE  
Expiration Date: 01/31/2011

Name: AFFORDABLE AVIONICS INC.  
Address: 7000 MERRILL AVE UNIT A335  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0012712  
Owner: AFFORDABLE AVIONICS INC.  
Permit Number: PT0022180  
Permit Category: HAZARDOUS MATERIALS 1-3 CHEMICALS  
Facility Status: ACTIVE  
Expiration Date: 09/30/2019

Name: AFFORDABLE AVIONICS INC.  
Address: 7000 MERRILL AVE UNIT A335  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0012712  
Owner: AFFORDABLE AVIONICS INC.  
Permit Number: PT0022179  
Permit Category: SMALL QUANTITY GENERATOR  
Facility Status: ACTIVE  
Expiration Date: 09/30/2019

Map ID  
Direction  
Distance  
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MAP FINDINGS

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Database(s)

EDR ID Number  
EPA ID Number

**KANETIC LTD (Continued)**

**S103948886**

Name: SOUTHERN CALIFORNIA DAIRY EQUIP.  
Address: 7000 MERRILL AVE A320 STE 1 AVE STE 1  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0007572  
Owner: JERRY STUEVE SR  
Permit Number: PT0018137  
Permit Category: SMALL QUANTITY GENERATOR  
Facility Status: ACTIVE  
Expiration Date: 01/31/2020

Name: SOUTHERN CALIFORNIA DAIRY EQUIP.  
Address: 7000 MERRILL AVE A320 STE 1 AVE STE 1  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0007572  
Owner: JERRY STUEVE SR  
Permit Number: PT0013001  
Permit Category: HAZARDOUS MATERIALS 11-30 CHEMICALS  
Facility Status: ACTIVE  
Expiration Date: 01/31/2020

Name: SOUTHERN CALIFORNIA DAIRY EQUIP.  
Address: 7000 MERRILL AVE A320 STE 1 AVE STE 1  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0007572  
Owner: JERRY STUEVE SR  
Permit Number: PT0018405  
Permit Category: EPCRA FACILITY  
Facility Status: INACTIVE  
Expiration Date: 01/31/2014

**CERS:**

Name: SUPERIOR SOD 1, L.P.  
Address: 7000 MERRILL AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 158347  
CERS ID: 10484215  
CERS Description: Chemical Storage Facilities

**Violations:**

Site ID: 158347  
Site Name: Superior Sod 1, L.P.  
Violation Date: 06-08-2017  
Citation: HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple  
Violation Description: Hazardous Waste Generator Program - Operations/Maintenance - General  
Violation Notes: Returned to compliance on 09/26/2017. Failure to establish a Contingency Plan (CCR 66265.51(a)) Contingency plan not established at this facility.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS  
Site ID: 158347  
Site Name: Superior Sod 1, L.P.

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**KANETIC LTD (Continued)**

**S103948886**

Violation Date: 06-08-2017  
Citation: HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507  
Violation Description: Failure to adequately establish and implement a business plan when storing/handling a hazardous material at or above reportable quantities.  
Violation Notes: Returned to compliance on 09/26/2017. Business Plan not established with this Division.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 158347  
Site Name: Superior Sod 1, L.P.  
Violation Date: 06-08-2017  
Citation: HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple  
Violation Description: Hazardous Waste Generator Program - Operations/Maintenance - General  
Violation Notes: Returned to compliance on 07/31/2017. Failure to determine if waste is hazardous waste (CCR 66262.11) (3) 55 gal drums of unknown observed at time of inspection.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 158347  
Site Name: Superior Sod 1, L.P.  
Violation Date: 06-08-2017  
Citation: HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple  
Violation Description: Hazardous Waste Generator Program - Administration/Documentation - General  
Violation Notes: Returned to compliance on 09/26/2017. Failure to obtain a CUPA Hazardous Waste Generator Permit (SBCC 23.0602(b)(1)) Hazardous waste generator permit not obtained.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 158347  
Site Name: Superior Sod 1, L.P.  
Violation Date: 06-08-2017  
Citation: HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple  
Violation Description: Hazardous Waste Generator Program - Operations/Maintenance - General  
Violation Notes: Returned to compliance on 07/31/2017. Failure to complete hazardous waste labels (CCR 66262.34(f)(3)) Hazardous waste containers not labeled.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 158347  
Site Name: Superior Sod 1, L.P.  
Violation Date: 06-08-2017  
Citation: HSC 6.5 Multiple - California Health and Safety Code, Chapter 6.5, Section(s) Multiple

Map ID  
Direction  
Distance  
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MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**KANETIC LTD (Continued)**

**S103948886**

Violation Description: Hazardous Waste Generator Program - Operations/Maintenance - General  
Violation Notes: Returned to compliance on 07/31/2017. Failure to note accumulation start date on labels (CCR 66262.34(f)(2)) Accumulation start date missing on hazardous waste containers.

Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 158347  
Site Name: Superior Sod 1, L.P.  
Violation Date: 06-08-2017  
Citation: HSC 6.5 25250.22 - California Health and Safety Code, Chapter 6.5, Section(s) 25250.22

Violation Description: Failure to properly manage used oil and/or fuel filters in accordance with the requirements.  
Violation Notes: Returned to compliance on 07/31/2017. Used oil filters not lawfully managed.

Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 158347  
Site Name: Superior Sod 1, L.P.  
Violation Date: 06-08-2017  
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)

Violation Description: Failure to complete and electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.  
Violation Notes: Returned to compliance on 09/26/2017. Business plan not submitted to CERS.

Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Evaluation:  
Eval General Type: Compliance Evaluation Inspection  
Eval Date: 06-08-2017  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE APSA INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: APSA  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 06-08-2017  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE GENERATOR INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 06-08-2017  
Violations Found: Yes

Map ID  
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Database(s)

EDR ID Number  
EPA ID Number

**KANETIC LTD (Continued)**

**S103948886**

Eval Type: Routine done by local agency  
Eval Notes: ROUTINE MATERIALS HANDLER INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Enforcement Action:

Site ID: 158347  
Site Name: Superior Sod 1, L.P.  
Site Address: 7000 MERRILL AVE  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 06-08-2017  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Site ID: 158347  
Site Name: Superior Sod 1, L.P.  
Site Address: 7000 MERRILL AVE  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 06-08-2017  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HW  
Enf Action Source: CERS

Coordinates:

Site ID: 158347  
Facility Name: Superior Sod 1, L.P.  
Env Int Type Code: HMBP  
Program ID: 10484215  
Coord Name: Not reported  
Ref Point Type Desc: Center of a facility or station.  
Latitude: 33.979150  
Longitude: -117.634530

Affiliation:

Affiliation Type Desc: Identification Signer  
Entity Name: Lilia Castro  
Entity Title: Office Manager  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Environmental Contact  
Entity Name: Jose Dorardor

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MAP FINDINGS

Site

Database(s)

EDR ID Number  
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**KANETIC LTD (Continued)**

**S103948886**

Entity Title: Not reported  
Affiliation Address: 7000 Merrill Ave Bldg A310  
Affiliation City: Chino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner  
Entity Name: RICHARD CONSIDINE  
Entity Title: Not reported  
Affiliation Address: 17821 E 17th St Ste 165  
Affiliation City: Tustin  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 92780  
Affiliation Phone: (661) 886-4714

Affiliation Type Desc: Operator  
Entity Name: Superior Sod  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 923-5068

Affiliation Type Desc: Parent Corporation  
Entity Name: Superior Sod  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Document Preparer  
Entity Name: Lilia Castro  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 17821 E 17th St Ste 165  
Affiliation City: Tustin  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92780  
Affiliation Phone: Not reported



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MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**KANETIC LTD (Continued)**

**S103948886**

Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Name: AERO TRADER  
Address: 7000 MERRILL AVE UNIT 19  
City,State,Zip: CHINO, CA 91710-9084  
Site ID: 449820  
CERS ID: 110002415306  
CERS Description: US EPA Air Emission Inventory System (EIS)

Affiliation:  
Affiliation Type Desc: Environmental Contact  
Entity Name: TONY RITZMAN  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE 19  
Affiliation City: CHINO  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Environmental Contact  
Entity Name: ENVIR MGMT  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE BOX 19  
Affiliation City: HGRP300CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Name: FIGHTER REBUILDERS/PLANES  
Address: 7000 MERRILL AVE STE 17  
City,State,Zip: CHINO, CA 91710  
Site ID: 116408  
CERS ID: 10039237  
CERS Description: Chemical Storage Facilities

Violations:  
Site ID: 116408  
Site Name: FIGHTER REBUILDERS/PLANES  
Violation Date: 07-06-2016  
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
Violation Description: Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.  
Violation Notes: Returned to compliance on 08/22/2016.  
Violation Division: San Bernardino County Fire Department

Map ID  
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MAP FINDINGS

Site

Database(s)

EDR ID Number  
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**KANETIC LTD (Continued)**

**S103948886**

Violation Program: HMRRP  
Violation Source: CERS

Evaluation:  
Eval General Type: Compliance Evaluation Inspection  
Eval Date: 07-06-2016  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: FIGHTER REBUILD INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 07-06-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: FIGHTER REBUILD INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Enforcement Action:  
Site ID: 116408  
Site Name: FIGHTER REBUILDERS/PLANES  
Site Address: 7000 MERRILL AVE STE 17  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 07-06-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Affiliation:  
Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 14998 Cal Areo Drive  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**KANETIC LTD (Continued)**

**S103948886**

Affiliation Type Desc: Identification Signer  
Entity Name: Robert Patterson  
Entity Title: Shop Foreman  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner  
Entity Name: HINTON, STEVE  
Entity Title: Not reported  
Affiliation Address: 14998 Cal Areo Drive  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91710  
Affiliation Phone: (909) 597-4754

Affiliation Type Desc: Operator  
Entity Name: Steven J. Hinton  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 597-4754

Affiliation Type Desc: Parent Corporation  
Entity Name: FIGHTER REBUILDERS/PLANES  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Document Preparer  
Entity Name: Robert Patterson  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Environmental Contact  
Entity Name: JOHN D MALONEY  
Entity Title: Not reported  
Affiliation Address: 14998 Cal Areo Drive  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**KANETIC LTD (Continued)**

**S103948886**

Affiliation Zip: 91710  
Affiliation Phone: Not reported

Name: SOUTHERN CALIFORNIA DAIRY EQUIP.  
Address: 7000 MERRILL AVE A320 STE 1  
City,State,Zip: CHINO, CA 91710  
Site ID: 155047  
CERS ID: 10047139  
CERS Description: Chemical Storage Facilities

Violations:  
Site ID: 155047  
Site Name: SOUTHERN CALIFORNIA DAIRY EQUIP.  
Violation Date: 04-25-2016  
Citation: HSC 6.5 Multiple Sections - California Health and Safety Code, Chapter 6.5, Section(s) Multiple Sections  
Violation Description: Haz Waste Generator Program - Operations/Maintenance - General  
Violation Notes: Returned to compliance on 05/25/2016. Hazardous waste accumulation time exceeded (CCR 66262.34(a))  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 155047  
Site Name: SOUTHERN CALIFORNIA DAIRY EQUIP.  
Violation Date: 04-25-2016  
Citation: HSC 6.5 Multiple Sections - California Health and Safety Code, Chapter 6.5, Section(s) Multiple Sections  
Violation Description: Haz Waste Generator Program - Operations/Maintenance - General  
Violation Notes: Returned to compliance on 05/25/2016. Failure to operate and maintain facility to prevent a fire, spill or release (CCR 66265.31)  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW  
Violation Source: CERS

Site ID: 155047  
Site Name: SOUTHERN CALIFORNIA DAIRY EQUIP.  
Violation Date: 04-25-2016  
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
Violation Description: Failure to annually review and electronically certify that the business plan is complete, accurate, and up-to-date.  
Violation Notes: Returned to compliance on 05/25/2016.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 155047  
Site Name: SOUTHERN CALIFORNIA DAIRY EQUIP.  
Violation Date: 04-25-2016  
Citation: 22 CCR 16 66266.130 - California Code of Regulations, Title 22, Chapter 16, Section(s) 66266.130  
Violation Description: Failure to properly handle, manage, label, and recycle used oil and fuel filters.  
Violation Notes: Returned to compliance on 05/25/2016.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HW

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**KANETIC LTD (Continued)**

**S103948886**

Violation Source: CERS

Evaluation:  
Eval General Type: Compliance Evaluation Inspection  
Eval Date: 04-25-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: So Cal Dairy Inspection with Mike  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 04-25-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: So Cal Dairy inspection with Mike  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Enforcement Action:  
Site ID: 155047  
Site Name: SOUTHERN CALIFORNIA DAIRY EQUIP.  
Site Address: 7000 MERRILL AVE A320 STE 1  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 04-25-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Site ID: 155047  
Site Name: SOUTHERN CALIFORNIA DAIRY EQUIP.  
Site Address: 7000 MERRILL AVE A320 STE 1  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 04-25-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HW  
Enf Action Source: CERS

Affiliation:  
Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**KANETIC LTD (Continued)**

**S103948886**

Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Document Preparer  
Entity Name: RICHARD RIETKERK  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE, BOX12 A-320. STE. 1  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner  
Entity Name: JERRY STUEVE SR  
Entity Title: Not reported  
Affiliation Address: 2135 S. HELEN AVE  
Affiliation City: ONTARIO  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91762  
Affiliation Phone: (909) 815-0344

Affiliation Type Desc: Operator  
Entity Name: JERRY STUEVE  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 597-4731

Affiliation Type Desc: Parent Corporation  
Entity Name: SOUTHERN CALIFORNIA DAIRY EQUIP.  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Environmental Contact  
Entity Name: JERRY STUEVE  
Entity Title: Not reported  
Affiliation Address: 7000 MERRILL AVE BOX 12

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**KANETIC LTD (Continued)**

**S103948886**

Affiliation City: CHINO  
 Affiliation State: CA  
 Affiliation Country: Not reported  
 Affiliation Zip: 91710  
 Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer  
 Entity Name: JERRY R. STUEVE, SR.  
 Entity Title: OWNER  
 Affiliation Address: Not reported  
 Affiliation City: Not reported  
 Affiliation State: Not reported  
 Affiliation Country: Not reported  
 Affiliation Zip: Not reported  
 Affiliation Phone: Not reported

Affiliation Type Desc: Property Owner  
 Entity Name: CO. OF SAN BERNARDINO - DEPT. OF AIRPORTS  
 Entity Title: Not reported  
 Affiliation Address: 7000 MERRILL AVE BOX 1  
 Affiliation City: CHINO  
 Affiliation State: CA  
 Affiliation Country: United States  
 Affiliation Zip: 91710  
 Affiliation Phone: (909) 597-3910

82  
 SSE  
 1/8-1/4  
 0.174 mi.  
 917 ft.

**CAL-AERO FIELD / ACADEMY**  
**CHINO, CA**

**ENVIROSTOR S107735994**  
**N/A**

**Relative:**  
**Lower**  
**Actual:**  
**638 ft.**

ENVIROSTOR:  
 Name: CAL-AERO FIELD / ACADEMY  
 Address: Not reported  
 City,State,Zip: CHINO, CA  
 Facility ID: 80000986  
 Status: Inactive - Needs Evaluation  
 Status Date: 07/01/2005  
 Site Code: Not reported  
 Site Type: Military Evaluation  
 Site Type Detailed: FUDS  
 Acres: 0  
 NPL: NO  
 Regulatory Agencies: SMBRP  
 Lead Agency: SMBRP  
 Program Manager: Not reported  
 Supervisor: Douglas Bautista  
 Division Branch: Cleanup Cypress  
 Assembly: 52  
 Senate: 20  
 Special Program: Not reported  
 Restricted Use: NO  
 Site Mgmt Req: NONE SPECIFIED  
 Funding: DERA  
 Latitude: 33.98111  
 Longitude: -117.6394

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CAL-AERO FIELD / ACADEMY (Continued)**

**S107735994**

APN: NONE SPECIFIED  
Past Use: NONE SPECIFIED  
Potential COC: NONE SPECIFIED  
Confirmed COC: NONE SPECIFIED  
Potential Description: NONE SPECIFIED  
Alias Name: CA99799FA37100  
Alias Type: Federal Facility ID  
Alias Name: J09CA7342 & J0CA7341  
Alias Type: INPR  
Alias Name: 80000986  
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE  
Completed Sub Area Name: Not reported  
Completed Document Type: Inventory Project Report (INPR)  
Completed Date: 05/28/1999  
Comments: Not reported

Completed Area Name: PROJECT WIDE  
Completed Sub Area Name: Not reported  
Completed Document Type: Inventory Project Report (INPR)  
Completed Date: 05/28/1999  
Comments: Not reported

Future Area Name: Not reported  
Future Sub Area Name: Not reported  
Future Document Type: Not reported  
Future Due Date: Not reported  
Schedule Area Name: Not reported  
Schedule Sub Area Name: Not reported  
Schedule Document Type: Not reported  
Schedule Due Date: Not reported  
Schedule Revised Date: Not reported

**E83  
NW  
1/8-1/4  
0.236 mi.  
1245 ft.**

**CHINO VALLEY TRUCK WASH, INC.  
14411 EUCLID AVE  
ONTARIO, CA 91762**

**San Bern. Co. Permit  
CERS S113133671  
N/A**

**Site 1 of 2 in cluster E**

**Relative:  
Higher  
Actual:  
672 ft.**

San Bern. Co. Permit:  
Name: CHINO VALLEY TRUCK WASH, INC.  
Address: 14411 EUCLID AVE  
City,State,Zip: ONTARIO, CA 91762  
Region: SAN BERNARDINO  
Facility ID: FA0012945  
Owner: Theresa Loureiro  
Permit Number: PT0022639  
Permit Category: HAZARDOUS MATERIALS 1-3 CHEMICALS SPECIAL  
Facility Status: ACTIVE  
Expiration Date: 05/31/2020

CERS:

Name: CHINO VALLEY TRUCK WASH, INC.  
Address: 14411 EUCLID AVE  
City,State,Zip: ONTARIO, CA 91762  
Site ID: 105168



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY TRUCK WASH, INC. (Continued)**

**S113133671**

CERS ID: 10615966  
CERS Description: Chemical Storage Facilities

Violations:  
Site ID: 105168  
Site Name: Chino Valley Truck Wash, Inc.  
Violation Date: 04-06-2015  
Citation: HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple  
Violation Description: Business Plan Program - Administration/Documentation - General  
Violation Notes: Returned to compliance on 06/17/2015. Failure to obtain a CUPA Hazardous Materials Handler permit (SBCC 23.0602(a))  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 105168  
Site Name: Chino Valley Truck Wash, Inc.  
Violation Date: 04-06-2015  
Citation: HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple  
Violation Description: Business Plan Program - Administration/Documentation - General  
Violation Notes: Returned to compliance on 05/06/2015. Failure to obtain a CUPA Hazardous Materials Handler permit (SBCC 23.0602(a))  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Evaluation:  
Eval General Type: Compliance Evaluation Inspection  
Eval Date: 04-06-2015  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: Inspection and follow up in response to new submittal to CERS. Possible reactivate permit.  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 04-06-2015  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: New facility inspection-business re-activated permit  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 08-24-2018  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: Not reported  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY TRUCK WASH, INC. (Continued)**

**S113133671**

Enforcement Action:

Site ID: 105168  
Site Name: Chino Valley Truck Wash, Inc.  
Site Address: 14411 EUCLID AVE  
Site City: ONTARIO  
Site Zip: 91762  
Enf Action Date: 04-06-2015  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Coordinates:

Site ID: 105168  
Facility Name: Chino Valley Truck Wash, Inc.  
Env Int Type Code: HMBP  
Program ID: 10615966  
Coord Name: Not reported  
Ref Point Type Desc: Center of a facility or station.  
Latitude: 33.991870  
Longitude: -117.648990

Affiliation:

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 14411 Euclid Ave.  
Affiliation City: Ontario  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91762  
Affiliation Phone: Not reported

Affiliation Type Desc: Property Owner  
Entity Name: Abe Devries  
Entity Title: Not reported  
Affiliation Address: 1717 Elderberry Ct.  
Affiliation City: Ontario  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91762  
Affiliation Phone: (909) 986-9744

Affiliation Type Desc: Document Preparer  
Entity Name: Theresa Loureiro  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY TRUCK WASH, INC. (Continued)**

**S113133671**

Entity Name: Theresa Loureiro  
Entity Title: Office Manager  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Environmental Contact  
Entity Name: Theresa Loureiro  
Entity Title: Not reported  
Affiliation Address: 14411 Euclid Ave  
Affiliation City: Ontario  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91762  
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner  
Entity Name: Theresa Loureiro  
Entity Title: Not reported  
Affiliation Address: 14411 Euclid Ave  
Affiliation City: Ontario  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91762  
Affiliation Phone: (909) 606-4180

Affiliation Type Desc: Operator  
Entity Name: Chino Valley Truck Wash, Inc.  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 519-8085

Affiliation Type Desc: Parent Corporation  
Entity Name: Chino Valley Truck Wash, Inc.  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**CHINO VALLEY TRUCK WASH, INC. (Continued)**

**S113133671**

Affiliation Phone: Not reported

**E84  
 NW  
 1/8-1/4  
 0.236 mi.  
 1245 ft.**

**CHINO VALLEY TRUCK WASH  
 14411 EUCLID AVENUE  
 ONTARIO, CA 91761  
 Site 2 of 2 in cluster E**

**San Bern. Co. Permit  
 ENF  
 CIWQS**

**S108201486  
 N/A**

**Relative:  
 Higher  
 Actual:  
 672 ft.**

ENF:  
 Name: CHINO VALLEY TRUCK WASH  
 Address: 14411 EUCLID AVENUE  
 City,State,Zip: ONTARIO, CA 91761  
 Region: 8  
 Facility Id: 645496  
 Agency Name: Not reported  
 Place Type: Facility  
 Place Subtype: Not reported  
 Facility Type: Industrial  
 Agency Type: Not reported  
 # Of Agencies: Not reported  
 Place Latitude: 33.99187  
 Place Longitude: -117.648993  
 SIC Code 1: Not reported  
 SIC Desc 1: Not reported  
 SIC Code 2: Not reported  
 SIC Desc 2: Not reported  
 SIC Code 3: Not reported  
 SIC Desc 3: Not reported  
 NAICS Code 1: Not reported  
 NAICS Desc 1: Not reported  
 NAICS Code 2: Not reported  
 NAICS Desc 2: Not reported  
 NAICS Code 3: Not reported  
 NAICS Desc 3: Not reported  
 # Of Places: 1  
 Source Of Facility: Reg Meas  
 Design Flow: Not reported  
 Threat To Water Quality: Not reported  
 Complexity: Not reported  
 Pretreatment: Not reported  
 Facility Waste Type: Not reported  
 Facility Waste Type 2: Not reported  
 Facility Waste Type 3: Not reported  
 Facility Waste Type 4: Not reported  
 Program: CONSTW  
 Program Category1: NPDESSW  
 Program Category2: NPDESSW  
 # Of Programs: 1  
 WDID: 8 36N000839  
 Reg Measure Id: 336472  
 Reg Measure Type: Unregulated  
 Region: 8  
 Order #: Not reported  
 Npdes# CA#: Not reported  
 Major-Minor: Not reported  
 Npdes Type: Not reported  
 Reclamation: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY TRUCK WASH (Continued)**

**S108201486**

Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Never Active
Status Date:	01/18/2013
Effective Date:	11/16/2006
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	347673
Region:	8
Order / Resolution Number:	Not reported
Enforcement Action Type:	Oral Communication
Effective Date:	01/04/2007
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	01/04/2007
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Oral Communication on 01/04/2007 on lack of BMPs
Description:	Facility requested a 2nd inspection NONA approval. On arrival, all the requested vehicle parts, oil drums, and open trash containers are not placed under roof, or under covers. Tires had been moved into large containers, but a few tires are still sitting outside. NONA approval denied until the requested clean-ups are completed.
Program:	CONSTW
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability \$ Amount:	0
Project \$ Amount:	0
Liability \$ Paid:	0
Project \$ Completed:	0
Total \$ Paid/Completed Amount:	0
Name:	CHINO VALLEY TRUCK WASH
Address:	14411 EUCLID AVENUE
City,State,Zip:	ONTARIO, CA 91761
Region:	8
Facility Id:	645496
Agency Name:	Not reported
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Industrial
Agency Type:	Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

CHINO VALLEY TRUCK WASH (Continued)

S108201486

# Of Agencies:	Not reported
Place Latitude:	33.99187
Place Longitude:	-117.648993
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	CONSTW
Program Category1:	NPDESSW
Program Category2:	NPDESSW
# Of Programs:	1
WDID:	8 36N000839
Reg Measure Id:	336472
Reg Measure Type:	Unregulated
Region:	8
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Never Active
Status Date:	01/18/2013
Effective Date:	11/16/2006
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	345970

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY TRUCK WASH (Continued)**

**S108201486**

Region: 8  
Order / Resolution Number: Not reported  
Enforcement Action Type: Oral Communication  
Effective Date: 05/08/2008  
Adoption/Issuance Date: Not reported  
Achieve Date: Not reported  
Termination Date: 05/08/2008  
ACL Issuance Date: Not reported  
EPL Issuance Date: Not reported  
Status: Historical  
Title: Oral Communication on 05/08/2008 for Lack of BMPs and Housekeeping  
Description: There are still 55-gal drums, partially filled with mix fluids (waste oils, waste detergents, and unknown fluid), two 5,500-gal totes filled with waste oil, without secondary containment nor under cover. Waste water from the washing areas collected along the south side of the property, pooling all the way to the front side of the property.  
Program: CONSTW  
Latest Milestone Completion Date: Not reported  
# Of Programs: 1  
Total Assessment Amount: 0  
Initial Assessed Amount: 0  
Liability \$ Amount: 0  
Project \$ Amount: 0  
Liability \$ Paid: 0  
Project \$ Completed: 0  
Total \$ Paid/Completed Amount: 0  
Name: CHINO VALLEY TRUCK WASH  
Address: 14411 EUCLID AVENUE  
City,State,Zip: ONTARIO, CA 91761  
Region: 8  
Facility Id: 645496  
Agency Name: Not reported  
Place Type: Facility  
Place Subtype: Not reported  
Facility Type: Industrial  
Agency Type: Not reported  
# Of Agencies: Not reported  
Place Latitude: 33.99187  
Place Longitude: -117.648993  
SIC Code 1: Not reported  
SIC Desc 1: Not reported  
SIC Code 2: Not reported  
SIC Desc 2: Not reported  
SIC Code 3: Not reported  
SIC Desc 3: Not reported  
NAICS Code 1: Not reported  
NAICS Desc 1: Not reported  
NAICS Code 2: Not reported  
NAICS Desc 2: Not reported  
NAICS Code 3: Not reported  
NAICS Desc 3: Not reported  
# Of Places: 1  
Source Of Facility: Reg Meas  
Design Flow: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY TRUCK WASH (Continued)**

**S108201486**

Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	CONSTW
Program Category1:	NPDESSW
Program Category2:	NPDESSW
# Of Programs:	1
WDID:	8 36N000839
Reg Measure Id:	336472
Reg Measure Type:	Unregulated
Region:	8
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Never Active
Status Date:	01/18/2013
Effective Date:	11/16/2006
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	Not reported
Direction/Voice:	Passive
Enforcement Id(EID):	336473
Region:	8
Order / Resolution Number:	Not reported
Enforcement Action Type:	Oral Communication
Effective Date:	11/16/2006
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	11/16/2006
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Oral Communication on 11/16/2006 for lack of BMPs
Description:	Poor housekeeping and no BMPs. Exposed automotive fluids, tires, and engine parts.
Program:	CONSTW
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO VALLEY TRUCK WASH (Continued)**

**S108201486**

Liability \$ Amount: 0  
Project \$ Amount: 0  
Liability \$ Paid: 0  
Project \$ Completed: 0  
Total \$ Paid/Completed Amount: 0

San Bern. Co. Permit:

Name: CHINO VALLEY DISTRIBUTION INC  
Address: 14411 EUCLID AVE  
City,State,Zip: ONTARIO, CA 91762  
Region: SAN BERNARDINO  
Facility ID: FA0012776  
Owner: VAN DIEST, CURTIS  
Permit Number: PT0022304  
Permit Category: SMALL QUANTITY GENERATOR  
Facility Status: INACTIVE  
Expiration Date: 10/31/2013

Name: CHINO VALLEY DISTRIBUTION INC  
Address: 14411 EUCLID AVE  
City,State,Zip: ONTARIO, CA 91762  
Region: SAN BERNARDINO  
Facility ID: FA0012776  
Owner: VAN DIEST, CURTIS  
Permit Number: PT0022303  
Permit Category: HAZARDOUS MATERIALS 1-3 CHEMICALS  
Facility Status: INACTIVE  
Expiration Date: 10/31/2013

CIWQS:

Name: CHINO VALLEY TRUCK WASH  
Address: 14411 EUCLID AVENUE  
City,State,Zip: ONTARIO, CA 91761  
Agency: Van Diest, Curt  
Agency Address: 1377 Upland Hills Drive, Upland, CA 91784-9169  
Place/Project Type: Other  
SIC/NAICS: Not reported  
Region: 8  
Program: LNDISPOTH  
Regulatory Measure Status: Active  
Regulatory Measure Type: WDR  
Order Number: R8-2013-0035  
WDID: 8 362949001  
NPDES Number: Not reported  
Adoption Date: 07/19/2013  
Effective Date: 07/19/2013  
Termination Date: Not reported  
Expiration/Review Date: 07/19/2023  
Design Flow: Not reported  
Major/Minor: Not reported  
Complexity: C  
TTWQ: 3  
Enforcement Actions within 5 years: 0  
Violations within 5 years: 0  
Latitude: 33.99187  
Longitude: -117.648993

MAP FINDINGS

Map ID			EDR ID Number
Direction			EPA ID Number
Distance			
Elevation	Site	Database(s)	

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<b>85</b> <b>WSW</b> <b>1/4-1/2</b> <b>0.300 mi.</b> <b>1584 ft.</b>	<b>CHINO AIRPORT</b> <b>700 MERRILL AVENUE</b> <b>CHINO, CA</b>	<b>CPS-SLIC</b>	<b>S101541252</b> <b>N/A</b>
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<b>Relative:</b> <b>Lower</b>	<b>SLIC REG 8:</b> Name: CHINO AIRPORT Address: 700 MERRILL AVENUE City: CHINO Type: Groundwater Facility Status: Additional Characterization Underway Staff: John Broderick, Tel 909-782-4494, SPECIAL PROJECTS Substance: SOLVENTS Lead Agency: Regional Board Location Code: Not reported Thomas Bros Code: Not reported
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<b>86</b> <b>NNW</b> <b>1/4-1/2</b> <b>0.455 mi.</b> <b>2401 ft.</b>	<b>J.P. LOUBET</b> <b>14211 EUCLID AVE</b> <b>CHINO, CA 91710</b>	<b>LUST</b> <b>SWEEPS UST</b> <b>HIST CORTESE</b> <b>CERS</b>	<b>S100926655</b> <b>N/A</b>
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<b>Relative:</b> <b>Higher</b>	<b>LUST REG 8:</b> Name: J.P. LOUBET Address: 14211 EUCLID AVE City: CHINO Region: 8 County: San Bernardino Regional Board: Santa Ana Region Facility Status: Case Closed Case Number: 083602487T Local Case Num: 94016 Case Type: Soil only Substance: Diesel Qty Leaked: Not reported Abate Method: Excavate and Treat - remove contaminated soil and treat (includes spreading or land farming)  Cross Street: Not reported Enf Type: CLOS Funding: Not reported How Discovered: Tank Closure How Stopped: Not reported Leak Cause: UNK Leak Source: UNK Global ID: T0607100335 How Stopped Date: 2/25/1994 Enter Date: 8/29/1994 Date Confirmation of Leak Began: Not reported Date Preliminary Assessment Began: Not reported Discover Date: 2/25/1994 Enforcement Date: Not reported Close Date: 10/19/1994 Date Prelim Assessment Workplan Submitted: 3/4/1994 Date Pollution Characterization Began: Not reported Date Remediation Plan Submitted: Not reported Date Remedial Action Underway: Not reported Date Post Remedial Action Monitoring: Not reported Enter Date: 8/29/1994
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Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**J.P. LOUBET (Continued)**

**S100926655**

GW Qualifies: Not reported  
Soil Qualifies: Not reported  
Operator: Not reported  
Facility Contact: Not reported  
Interim: Not reported  
Oversite Program: LUST  
Latitude: 33.995453  
Longitude: -117.6501702  
MTBE Date: Not reported  
Max MTBE GW: Not reported  
MTBE Concentration: 0  
Max MTBE Soil: Not reported  
MTBE Fuel: 0  
MTBE Tested: Not Required to be Tested.  
MTBE Class: \*  
Staff: RS  
Staff Initials: BM7  
Lead Agency: Local Agency  
Local Agency: 36000L  
Hydr Basin #: UPPER SANTA ANA VALL  
Beneficial: Not reported  
Priority: Not reported  
Cleanup Fund Id: Not reported  
Work Suspended: Not reported  
Summary: Not reported

**LUST:**

Name: J.P. LOUBET  
Address: 14211 EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Lead Agency: SAN BERNARDINO COUNTY  
Case Type: LUST Cleanup Site  
Geo Track: [http://geotracker.waterboards.ca.gov/profile\\_report.asp?global\\_id=T0607100335](http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607100335)  
Global Id: T0607100335  
Latitude: 33.995635  
Longitude: -117.649955  
Status: Completed - Case Closed  
Status Date: 10/19/1994  
Case Worker: Not reported  
RB Case Number: 083602487T  
Local Agency: Not reported  
File Location: Local Agency  
Local Case Number: 94016  
Potential Media Affect: Soil  
Potential Contaminants of Concern: Diesel  
Site History: Not reported

**LUST:**

Global Id: T0607100335  
Contact Type: Regional Board Caseworker  
Contact Name: ROSE SCOTT  
Organization Name: SANTA ANA RWQCB (REGION 8)  
Address: 3737 MAIN STREET, SUITE 500  
City: RIVERSIDE  
Email: [rose.scott@waterboards.ca.gov](mailto:rose.scott@waterboards.ca.gov)  
Phone Number: 9513206375

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**J.P. LOUBET (Continued)**

**S100926655**

LUST:

Global Id: T0607100335  
Action Type: Other  
Date: 02/25/1994  
Action: Leak Discovery

Global Id: T0607100335  
Action Type: Other  
Date: 02/25/1994  
Action: Leak Stopped

Global Id: T0607100335  
Action Type: REMEDIATION  
Date: 06/21/1994  
Action: Excavation

Global Id: T0607100335  
Action Type: ENFORCEMENT  
Date: 10/19/1994  
Action: Closure/No Further Action Letter

Global Id: T0607100335  
Action Type: Other  
Date: 03/04/1994  
Action: Leak Reported

LUST:

Global Id: T0607100335  
Status: Open - Case Begin Date  
Status Date: 02/25/1994

Global Id: T0607100335  
Status: Open - Site Assessment  
Status Date: 03/04/1994

Global Id: T0607100335  
Status: Completed - Case Closed  
Status Date: 10/19/1994

SWEEPS UST:

Name: GEORGE BORBA/JP LOUBET  
Address: 14211 EUCLID AVE  
City: CHINO  
Status: Active  
Comp Number: 8353  
Number: 2  
Board Of Equalization: Not reported  
Referral Date: 03-24-92  
Action Date: 06-23-94  
Created Date: 02-29-88  
Owner Tank Id: Not reported  
SWRCB Tank Id: Not reported  
Tank Status: Not reported  
Capacity: Not reported  
Active Date: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**J.P. LOUBET (Continued)**

**S100926655**

Tank Use: Not reported  
STG: Not reported  
Content: Not reported  
Number Of Tanks: Not reported

Name: GEORGE BORBA/JP LOUBET  
Address: 14211 EUCLID AVE  
City: CHINO  
Status: Not reported  
Comp Number: 8353  
Number: Not reported  
Board Of Equalization: Not reported  
Referral Date: Not reported  
Action Date: Not reported  
Created Date: Not reported  
Owner Tank Id: Not reported  
SWRCB Tank Id: 36-000-008353-000001  
Tank Status: Not reported  
Capacity: 10000  
Active Date: Not reported  
Tank Use: M.V. FUEL  
STG: PRODUCT  
Content: DIESEL  
Number Of Tanks: 5

Name: GEORGE BORBA/JP LOUBET  
Address: 14211 EUCLID AVE  
City: CHINO  
Status: Not reported  
Comp Number: 8353  
Number: Not reported  
Board Of Equalization: Not reported  
Referral Date: Not reported  
Action Date: Not reported  
Created Date: Not reported  
Owner Tank Id: Not reported  
SWRCB Tank Id: 36-000-008353-000002  
Tank Status: Not reported  
Capacity: 5000  
Active Date: Not reported  
Tank Use: M.V. FUEL  
STG: PRODUCT  
Content: REG UNLEADED  
Number Of Tanks: Not reported

Name: GEORGE BORBA/JP LOUBET  
Address: 14211 EUCLID AVE  
City: CHINO  
Status: Not reported  
Comp Number: 8353  
Number: Not reported  
Board Of Equalization: Not reported  
Referral Date: Not reported  
Action Date: Not reported  
Created Date: Not reported  
Owner Tank Id: Not reported  
SWRCB Tank Id: 36-000-008353-000003

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**J.P. LOUBET (Continued)**

**S100926655**

Tank Status: Not reported  
Capacity: 500  
Active Date: Not reported  
Tank Use: UNKNOWN  
STG: PRODUCT  
Content: Not reported  
Number Of Tanks: Not reported

Name: GEORGE BORBA/JP LOUBET  
Address: 14211 EUCLID AVE  
City: CHINO  
Status: Not reported  
Comp Number: 8353  
Number: Not reported  
Board Of Equalization: Not reported  
Referral Date: Not reported  
Action Date: Not reported  
Created Date: Not reported  
Owner Tank Id: Not reported  
SWRCB Tank Id: 36-000-008353-000005  
Tank Status: Not reported  
Capacity: 300  
Active Date: Not reported  
Tank Use: UNKNOWN  
STG: PRODUCT  
Content: Not reported  
Number Of Tanks: Not reported

Name: GEORGE BORBA/JP LOUBET  
Address: 14211 EUCLID AVE  
City: CHINO  
Status: Not reported  
Comp Number: 8353  
Number: Not reported  
Board Of Equalization: Not reported  
Referral Date: Not reported  
Action Date: Not reported  
Created Date: Not reported  
Owner Tank Id: Not reported  
SWRCB Tank Id: 36-000-008353-000006  
Tank Status: Not reported  
Capacity: 10000  
Active Date: Not reported  
Tank Use: M.V. FUEL  
STG: PRODUCT  
Content: DIESEL  
Number Of Tanks: Not reported

Name: BILL ADKINS TRUCKING  
Address: 14211 EUCLID AVE  
City: CHINO  
Status: Not reported  
Comp Number: 30597  
Number: Not reported  
Board Of Equalization: Not reported  
Referral Date: Not reported  
Action Date: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**J.P. LOUBET (Continued)**

**S100926655**

Created Date: Not reported  
Owner Tank Id: Not reported  
SWRCB Tank Id: 36-000-030597-000001  
Tank Status: Not reported  
Capacity: 12000  
Active Date: Not reported  
Tank Use: M.V. FUEL  
STG: PRODUCT  
Content: DIESEL  
Number Of Tanks: 2

Name: BILL ADKINS TRUCKING  
Address: 14211 EUCLID AVE  
City: CHINO  
Status: Not reported  
Comp Number: 30597  
Number: Not reported  
Board Of Equalization: Not reported  
Referral Date: Not reported  
Action Date: Not reported  
Created Date: Not reported  
Owner Tank Id: Not reported  
SWRCB Tank Id: 36-000-030597-000002  
Tank Status: Not reported  
Capacity: 550  
Active Date: Not reported  
Tank Use: M.V. FUEL  
STG: PRODUCT  
Content: REG UNLEADED  
Number Of Tanks: Not reported

**HIST CORTESE:**

edr\_fname: J.P. LOUBET  
edr\_fadd1: 14211 EUCLID  
City,State,Zip: CHINO, CA 91708  
Region: CORTESE  
Facility County Code: 36  
Reg By: LTNKA  
Reg Id: 083602487T

**CERS:**

Name: J.P. LOUBET  
Address: 14211 EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 205225  
CERS ID: T0607100335  
CERS Description: Leaking Underground Storage Tank Cleanup Site

**Affiliation:**

Affiliation Type Desc: Regional Board Caseworker  
Entity Name: ROSE SCOTT - SANTA ANA RWQCB (REGION 8)  
Entity Title: Not reported  
Affiliation Address: 3737 MAIN STREET, SUITE 500  
Affiliation City: RIVERSIDE  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**J.P. LOUBET (Continued)**

**S100926655**

Affiliation Phone: 9513206375

**F87**  
**SW**  
**1/4-1/2**  
**0.486 mi.**  
**2568 ft.**

**HEMAN G. STARK YOUTH TRAI**  
**15180**  
**CHINO, CA 91710**

**LUST** **S101301118**  
**HIST CORTESE** **N/A**

**Site 1 of 2 in cluster F**

**Relative:**  
**Lower**

LUST REG 8:

**Actual:**  
**623 ft.**

Name: HEMAN G. STARK YOUTH TRAINING  
Address: 15180 EUCLID AVE  
City: CHINO  
Region: 8  
County: San Bernardino  
Regional Board: Santa Ana Region  
Facility Status: Remedial action (cleanup) Underway  
Case Number: 083600387T  
Local Case Num: 90119  
Case Type: Soil only  
Substance: Gasoline  
Qty Leaked: Not reported  
Abate Method: Vapor Extraction  
Cross Street: MERRILL  
Enf Type: Not reported  
Funding: Not reported  
How Discovered: Tank Test  
How Stopped: Not reported  
Leak Cause: UNK  
Leak Source: UNK  
Global ID: T0607100043  
How Stopped Date: Not reported  
Enter Date: 4/6/1987  
Date Confirmation of Leak Began: Not reported  
Date Preliminary Assessment Began: 8/9/1989  
Discover Date: 9/12/1986  
Enforcement Date: Not reported  
Close Date: 6/21/2000  
Date Prelim Assessment Workplan Submitted: Not reported  
Date Pollution Characterization Began: Not reported  
Date Remediation Plan Submitted: 9/16/1991  
Date Remedial Action Underway: 1/2/1991  
Date Post Remedial Action Monitoring: Not reported  
Enter Date: 4/6/1987  
GW Qualifies: Not reported  
Soil Qualifies: Not reported  
Operator: Not reported  
Facility Contact: Not reported  
Interim: Not reported  
Oversite Program: LUST  
Latitude: 33.9809873  
Longitude: -117.6507299  
MTBE Date: Not reported  
Max MTBE GW: Not reported  
MTBE Concentration: 0  
Max MTBE Soil: Not reported  
MTBE Fuel: 1  
MTBE Tested: Site NOT Tested for MTBE. Includes Unknown and Not Analyzed.



Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**HEMAN G. STARK YOUTH TRAI (Continued)**

**S101301118**

MTBE Class: \*  
 Staff: TME  
 Staff Initials: LH6  
 Lead Agency: Local Agency  
 Local Agency: 36000L  
 Hydr Basin #: UPPER SANTA ANA VALL  
 Beneficial: Not reported  
 Priority: Not reported  
 Cleanup Fund Id: Not reported  
 Work Suspended: Not reported  
 Summary: 2000 AND 1000 GALLON TANKS ON SITE.

**HIST CORTESE:**

edr\_fname: HEMAN G. STARK YOUTH TRAI  
 edr\_fadd1: 15180  
 City,State,Zip: CHINO, CA 91710  
 Region: CORTESE  
 Facility County Code: 36  
 Reg By: LTNKA  
 Reg Id: 083600387T

**G88**  
**North**  
**1/4-1/2**  
**0.496 mi.**  
**2617 ft.**

**ONTARIO AGRICULTURAL COMMODITIES/REGREEN**  
**7325 EDISON AVE.**  
**ONTARIO, CA**

**SWF/LF** **S119777635**  
**CERS** **N/A**

**Site 1 of 2 in cluster G**

**Relative:**  
**Higher**  
**Actual:**  
**694 ft.**

**SWF/LF (SWIS):**  
 Name: ONTARIO AGRICULTURAL COMMODITIES/REGREEN  
 Address: 7325 EDISON AVE.  
 City,State,Zip: ONTARIO, CA  
 Facility ID: 36-AA-0496  
 Lat/Long: 33.99685 / -117.6444  
 Owner Name: Golden Ontario Holdings  
 Owner Telephone: 9517886042  
 Owner Address: Gary Dou  
 Owner Address2: 14240 Sapphire Hill Lane  
 Owner City,St,Zip: Chino Hills, CA 91709  
 Operational Status: Active  
 Operator: Ontario Agricultural Commodities  
 Operator Phone: 9517886042  
 Operator Address: Robert Feenstra  
 Operator Address2: PO Box 79200  
 Operator City,St,Zip: Corona, CA 92877  
 Permit Date: 09/27/2016  
 Permit Status: Notification  
 Permitted Acreage: \$0.50  
 Activity: Composting Operation (Research)  
 Regulation Status: Notification  
 Landuse Name: Not reported  
 GIS Source: Map  
 Category: Composting  
 Unit Number: 01  
 Inspection Frequency: Quarterly  
 Accepted Waste: Food Wastes,Green Materials  
 Closure Date: Not reported  
 Closure Type: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**ONTARIO AGRICULTURAL COMMODITIES/REGREEN (Continued)**

**S11977635**

Disposal Acreage: Not reported  
SWIS Num: 36-AA-0496  
Waste Discharge Requirement Num: Not reported  
Program Type: Not reported  
Permitted Throughput with Units: 100  
Actual Throughput with Units: Tons/day  
Permitted Capacity with Units: 30000  
Remaining Capacity: Not reported  
Remaining Capacity with Units: Tons/year  
Lat/Long: 33.99685 / -117.6444

**CERS:**

Name: ONTARIO AGRICULTURAL COMMODITIES/REGREEN  
Address: 7325 EDISON AVE.  
City,State,Zip: ONTARIO, CA  
Site ID: 510678  
CERS ID: 36-AA-0496  
CERS Description: Solid Waste and Recycle Sites

**Affiliation:**

Affiliation Type Desc: Legal Owner  
Entity Name: Golden Ontario Holdings  
Entity Title: Not reported  
Affiliation Address: Gary Dou14240 Sapphire Hill Lane  
Affiliation City: Chino Hills  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91709  
Affiliation Phone: 9517886042

Affiliation Type Desc: Legal Operator  
Entity Name: Ontario Agricultural Commodities  
Entity Title: Not reported  
Affiliation Address: Robert FeenstraPO Box 79200  
Affiliation City: Corona  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92877  
Affiliation Phone: 9517886042

**G89**  
**North**  
**1/4-1/2**  
**0.496 mi.**  
**2617 ft.**

**RESIDUALS RECOVERY GROUP, INC.**  
**7325 EDISON RD.**  
**ONTARIO, CA**

**SWF/LF** **S117347578**  
**CERS** **N/A**

**Site 2 of 2 in cluster G**

**Relative:**  
**Higher**  
**Actual:**  
**694 ft.**

SWF/LF (SWIS):  
Name: RESIDUALS RECOVERY GROUP, INC.  
Address: 7325 EDISON RD.  
City,State,Zip: ONTARIO, CA  
Facility ID: 36-AA-0483  
Lat/Long: 33.9966 / -117.6434  
Owner Name: Golden Ontario Hills  
Owner Telephone: 9095916389  
Owner Address: Gary Dov  
Owner Address2: 14240 Sapphire Hill Ln.  
Owner City,St,Zip: Chino Hills, CA 91709

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**RESIDUALS RECOVERY GROUP, INC. (Continued)**

**S117347578**

Operational Status: Active  
Operator: Residuals Recovery Group, Inc.  
Operator Phone: 9099020408  
Operator Address: Allen Shelby  
Operator Address2: P.O. Box 17482  
Operator City,St,Zip: Anaheim Hills, CA 92817  
Permit Date: 10/24/2014  
Permit Status: Notification  
Permitted Acreage: \$21.00  
Activity: Composting Operation (Ag)  
Regulation Status: Notification  
Landuse Name: Not reported  
GIS Source: Map  
Category: Composting  
Unit Number: 01  
Inspection Frequency: Quarterly  
Accepted Waste: Manure  
Closure Date: Not reported  
Closure Type: Not reported  
Disposal Acreage: Not reported  
SWIS Num: 36-AA-0483  
Waste Discharge Requirement Num: Not reported  
Program Type: Not reported  
Permitted Throughput with Units: 350  
Actual Throughput with Units: Tons/day  
Permitted Capacity with Units: 70000  
Remaining Capacity: Not reported  
Remaining Capacity with Units: Tons/year  
Lat/Long: 33.9966 / -117.6434

**CERS:**

Name: RESIDUALS RECOVERY GROUP, INC.  
Address: 7325 EDISON RD.  
City,State,Zip: ONTARIO, CA  
Site ID: 511347  
CERS ID: 36-AA-0483  
CERS Description: Solid Waste and Recycle Sites

**Affiliation:**

Affiliation Type Desc: Legal Owner  
Entity Name: Golden Ontario Hills  
Entity Title: Not reported  
Affiliation Address: Gary Dov14240 Sapphire Hill Ln.  
Affiliation City: Chino Hills  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91709  
Affiliation Phone: 9095916389

Affiliation Type Desc: Legal Operator  
Entity Name: Residuals Recovery Group, Inc.  
Entity Title: Not reported  
Affiliation Address: Allen Shelby P.O. Box 17482  
Affiliation City: Anaheim Hills  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92817

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**RESIDUALS RECOVERY GROUP, INC. (Continued)**

**S117347578**

Affiliation Phone: 9099020408

**F90**  
**SW**  
**1/4-1/2**  
**0.496 mi.**  
**2620 ft.**  
  
**Relative:**  
**Lower**  
  
**Actual:**  
**622 ft.**

**CHINO YOUTH AUTHORITY**  
**15180 S EUCLID AVE**  
**CHINO, CA 91710**  
  
**Site 2 of 2 in cluster F**

**LUST** **S101590922**  
**CERS HAZ WASTE** **N/A**  
**SWEEPS UST**  
**HIST UST**  
**CA FID UST**  
**CERS TANKS**  
**EMI**  
**HAZNET**  
**San Bern. Co. Permit**  
**CERS**

LUST:

Name: HEMAN G. STARK YOUTH TRAINING  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Lead Agency: SAN BERNARDINO COUNTY  
Case Type: LUST Cleanup Site  
Geo Track: [http://geotracker.waterboards.ca.gov/profile\\_report.asp?global\\_id=T0607100043](http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607100043)  
Global Id: T0607100043  
Latitude: 33.9778169  
Longitude: -117.6508672  
Status: Completed - Case Closed  
Status Date: 06/21/2000  
Case Worker: Not reported  
RB Case Number: 083600387T  
Local Agency: Not reported  
File Location: Local Agency  
Local Case Number: 90119  
Potential Media Affect: Soil  
Potential Contaminants of Concern: Gasoline  
Site History: Not reported

LUST:

Global Id: T0607100043  
Contact Type: Regional Board Caseworker  
Contact Name: MIGUEL OVIEDO  
Organization Name: SANTA ANA RWQCB (REGION 8)  
Address: 3737 Main Street, Suite 500  
City: RIVERSIDE  
Email: miguel.oviedo@waterboards.ca.gov  
Phone Number: 9517823238

LUST:

Global Id: T0607100043  
Action Type: REMEDIATION  
Date: 01/02/1991  
Action: Soil Vapor Extraction (SVE)

Global Id: T0607100043  
Action Type: Other  
Date: 10/09/1986  
Action: Leak Reported

Global Id: T0607100043  
Action Type: Other

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO YOUTH AUTHORITY (Continued)**

**S101590922**

Date: 09/12/1986  
Action: Leak Discovery

**LUST:**

Global Id: T0607100043  
Status: Open - Case Begin Date  
Status Date: 09/12/1986

Global Id: T0607100043  
Status: Open - Site Assessment  
Status Date: 08/09/1989

Global Id: T0607100043  
Status: Open - Remediation  
Status Date: 01/02/1991

Global Id: T0607100043  
Status: Open - Remediation  
Status Date: 09/16/1991

Global Id: T0607100043  
Status: Completed - Case Closed  
Status Date: 06/21/2000

**CERS HAZ WASTE:**

Name: CDCR-HERMAN G. STARK YTH CORRNL FA  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 36019  
CERS ID: 10045183  
CERS Description: Hazardous Waste Generator

**SWEEPS UST:**

Name: CHINO YOUTH AUTHORITY  
Address: 15180 S EUCLID AVE  
City: CHINO  
Status: Not reported  
Comp Number: 38309  
Number: Not reported  
Board Of Equalization: Not reported  
Referral Date: Not reported  
Action Date: Not reported  
Created Date: Not reported  
Owner Tank Id: Not reported  
SWRCB Tank Id: 36-000-038309-000001  
Tank Status: Not reported  
Capacity: 10000  
Active Date: Not reported  
Tank Use: UNKNOWN  
STG: PRODUCT  
Content: Not reported  
Number Of Tanks: 4

Name: CHINO YOUTH AUTHORITY  
Address: 15180 S EUCLID AVE

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO YOUTH AUTHORITY (Continued)**

**S101590922**

City: CHINO  
Status: Not reported  
Comp Number: 38309  
Number: Not reported  
Board Of Equalization: Not reported  
Referral Date: Not reported  
Action Date: Not reported  
Created Date: Not reported  
Owner Tank Id: Not reported  
SWRCB Tank Id: 36-000-038309-000002  
Tank Status: Not reported  
Capacity: 10000  
Active Date: Not reported  
Tank Use: UNKNOWN  
STG: PRODUCT  
Content: Not reported  
Number Of Tanks: Not reported

Name: CHINO YOUTH AUTHORITY  
Address: 15180 S EUCLID AVE  
City: CHINO  
Status: Not reported  
Comp Number: 38309  
Number: Not reported  
Board Of Equalization: Not reported  
Referral Date: Not reported  
Action Date: Not reported  
Created Date: Not reported  
Owner Tank Id: Not reported  
SWRCB Tank Id: 36-000-038309-000003  
Tank Status: Not reported  
Capacity: 750  
Active Date: Not reported  
Tank Use: UNKNOWN  
STG: WASTE  
Content: Not reported  
Number Of Tanks: Not reported

Name: CHINO YOUTH AUTHORITY  
Address: 15180 S EUCLID AVE  
City: CHINO  
Status: Not reported  
Comp Number: 38309  
Number: Not reported  
Board Of Equalization: Not reported  
Referral Date: Not reported  
Action Date: Not reported  
Created Date: Not reported  
Owner Tank Id: Not reported  
SWRCB Tank Id: 36-000-038309-000004  
Tank Status: Not reported  
Capacity: 1  
Active Date: Not reported  
Tank Use: M.V. FUEL  
STG: PRODUCT  
Content: LEADED  
Number Of Tanks: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO YOUTH AUTHORITY (Continued)**

**S101590922**

**HIST UST:**

Name: YOUTH TRAINING SCHOOL  
Address: 15180 S EUCLID AVENUE  
City,State,Zip: CHINO, CA 91710  
File Number: 0002A71E  
URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002A71E.pdf>  
Region: Not reported  
Facility ID: Not reported  
Facility Type: Not reported  
Other Type: Not reported  
Contact Name: Not reported  
Telephone: Not reported  
Owner Name: Not reported  
Owner Address: Not reported  
Owner City,St,Zip: Not reported  
Total Tanks: Not reported

Tank Num: Not reported  
Container Num: Not reported  
Year Installed: Not reported  
Tank Capacity: Not reported  
Tank Used for: Not reported  
Type of Fuel: Not reported  
Container Construction Thickness: Not reported  
Leak Detection: Not reported

[Click here for Geo Tracker PDF:](#)

**CA FID UST:**

Facility ID: 36000238  
Regulated By: UTKI  
Regulated ID: 00038309  
Cortese Code: Not reported  
SIC Code: Not reported  
Facility Phone: 7145919822  
Mail To: Not reported  
Mailing Address: 15180 S EUCLID AVE  
Mailing Address 2: Not reported  
Mailing City,St,Zip: CHINO 91710  
Contact: Not reported  
Contact Phone: Not reported  
DUNS Number: Not reported  
NPDES Number: Not reported  
EPA ID: Not reported  
Comments: Not reported  
Status: Inactive

**CERS TANKS:**

Name: CDCR-HERMAN G. STARK YTH CORRNL FA  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 36019  
CERS ID: 10045183  
CERS Description: Aboveground Petroleum Storage

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO YOUTH AUTHORITY (Continued)**

**S101590922**

EMI:

Name: CYA TRAINING SCH  
Address: 15180 S EUCLID AV  
City,State,Zip: CHINO, CA 91710  
Year: 1987  
County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 8221  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 0  
Reactive Organic Gases Tons/Yr: 0  
Carbon Monoxide Emissions Tons/Yr: 0  
NOX - Oxides of Nitrogen Tons/Yr: 7  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Name: HEMAN G. STARK YOUTH TRAINING  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Year: 1990  
County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 11  
Reactive Organic Gases Tons/Yr: 8  
Carbon Monoxide Emissions Tons/Yr: 69  
NOX - Oxides of Nitrogen Tons/Yr: 4  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Name: CYA TRAINING SCHOOL  
Address: 15180 S EUCLID AV  
City,State,Zip: CHINO, CA 91710  
Year: 1993  
County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 4  
Reactive Organic Gases Tons/Yr: 3  
Carbon Monoxide Emissions Tons/Yr: 2  
NOX - Oxides of Nitrogen Tons/Yr: 5



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO YOUTH AUTHORITY (Continued)**

**S101590922**

SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Name: CYA TRAINING SCHOOL  
Address: 15180 S EUCLID AV  
City,State,Zip: CHINO, CA 91710  
Year: 1995  
County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 4  
Reactive Organic Gases Tons/Yr: 3  
Carbon Monoxide Emissions Tons/Yr: 2  
NOX - Oxides of Nitrogen Tons/Yr: 5  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Name: CYA TRAINING SCHOOL  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Year: 1996  
County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 3  
Reactive Organic Gases Tons/Yr: 2  
Carbon Monoxide Emissions Tons/Yr: 2  
NOX - Oxides of Nitrogen Tons/Yr: 9  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Name: HEMAN G STARK YOUTH CORRECTION  
Address: 15180 S EUCLID AV  
City,State,Zip: CHINO, CA 91710  
Year: 1997  
County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 5

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO YOUTH AUTHORITY (Continued)**

**S101590922**

Reactive Organic Gases Tons/Yr: 3  
Carbon Monoxide Emissions Tons/Yr: 2  
NOX - Oxides of Nitrogen Tons/Yr: 8  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Name: HEMAN G STARK YOUTH CORRECTION  
Address: 15180 S EUCLID AV  
City,State,Zip: CHINO, CA 91710  
Year: 1998  
County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 5  
Reactive Organic Gases Tons/Yr: 3  
Carbon Monoxide Emissions Tons/Yr: 2  
NOX - Oxides of Nitrogen Tons/Yr: 8  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Name: HEMAN G STARK YOUTH CORRECTION  
Address: 15180 S EUCLID AV  
City,State,Zip: CHINO, CA 91710  
Year: 1999  
County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 5  
Reactive Organic Gases Tons/Yr: 3  
Carbon Monoxide Emissions Tons/Yr: 2  
NOX - Oxides of Nitrogen Tons/Yr: 8  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Name: HEMAN G STARK YOUTH CORRECTION  
Address: 15180 S EUCLID AV  
City,State,Zip: CHINO, CA 91710  
Year: 2000  
County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO YOUTH AUTHORITY (Continued)**

**S101590922**

Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 5  
Reactive Organic Gases Tons/Yr: 3  
Carbon Monoxide Emissions Tons/Yr: 2  
NOX - Oxides of Nitrogen Tons/Yr: 8  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Name: HEMAN G STARK YOUTH CORRECTION  
Address: 15180 S EUCLID AV  
City,State,Zip: CHINO, CA 91710  
Year: 2001  
County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 4  
Reactive Organic Gases Tons/Yr: 2  
Carbon Monoxide Emissions Tons/Yr: 4  
NOX - Oxides of Nitrogen Tons/Yr: 5  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Name: HEMAN G STARK YOUTH CORRECTIONAL FAC  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Year: 2002  
County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1  
Reactive Organic Gases Tons/Yr: 1  
Carbon Monoxide Emissions Tons/Yr: 3  
NOX - Oxides of Nitrogen Tons/Yr: 4  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smlr Tons/Yr:0

Name: HEMAN G STARK YOUTH CORRECTIONAL FAC  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Year: 2003  
County Code: 36  
Air Basin: SC  
Facility ID: 3716

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO YOUTH AUTHORITY (Continued)**

**S101590922**

Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1  
Reactive Organic Gases Tons/Yr: 1  
Carbon Monoxide Emissions Tons/Yr: 3  
NOX - Oxides of Nitrogen Tons/Yr: 4  
SOX - Oxides of Sulphur Tons/Yr: 0  
Particulate Matter Tons/Yr: 0  
Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Name: HEMAN G STARK YOUTH CORRECTIONAL FAC  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Year: 2004  
County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1.28839401  
Reactive Organic Gases Tons/Yr: 0.74  
Carbon Monoxide Emissions Tons/Yr: 3.17919  
NOX - Oxides of Nitrogen Tons/Yr: 3.85349  
SOX - Oxides of Sulphur Tons/Yr: 0.0238435  
Particulate Matter Tons/Yr: 0.292216  
Part. Matter 10 Micrometers and Smllr Tons/Yr:0.3

Name: HEMAN G STARK YOUTH CORRECTIONAL FAC  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Year: 2005  
County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: .693325  
Reactive Organic Gases Tons/Yr: .335582453  
Carbon Monoxide Emissions Tons/Yr: 3.1764  
NOX - Oxides of Nitrogen Tons/Yr: 3.8825  
SOX - Oxides of Sulphur Tons/Yr: .02449  
Particulate Matter Tons/Yr: .29375  
Part. Matter 10 Micrometers and Smllr Tons/Yr:.2934923

Name: HEMAN G STARK YOUTH CORRECTIONAL FAC  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Year: 2006

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO YOUTH AUTHORITY (Continued)**

**S101590922**

County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1.558079565145308105  
Reactive Organic Gases Tons/Yr: 1.015  
Carbon Monoxide Emissions Tons/Yr: 2.711  
NOX - Oxides of Nitrogen Tons/Yr: 3.354  
SOX - Oxides of Sulphur Tons/Yr: .022  
Particulate Matter Tons/Yr: .253  
Part. Matter 10 Micrometers and Smlr Tons/Yr: .252988

Name: HEMAN G STARK YOUTH CORRECTIONAL FAC  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Year: 2007  
County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 1.523861920639336267  
Reactive Organic Gases Tons/Yr: 1.015  
Carbon Monoxide Emissions Tons/Yr: 2.711  
NOX - Oxides of Nitrogen Tons/Yr: 3.354  
SOX - Oxides of Sulphur Tons/Yr: .022  
Particulate Matter Tons/Yr: .253  
Part. Matter 10 Micrometers and Smlr Tons/Yr: .252988

Name: HEMAN G STARK YOUTH CORRECTIONAL FAC  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Year: 2008  
County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 3.126074366605469410  
Reactive Organic Gases Tons/Yr: 1.65815  
Carbon Monoxide Emissions Tons/Yr: 5.28  
NOX - Oxides of Nitrogen Tons/Yr: 5.32  
SOX - Oxides of Sulphur Tons/Yr: .041575  
Particulate Matter Tons/Yr: .33075  
Part. Matter 10 Micrometers and Smlr Tons/Yr: .3306855

Name: HEMAN G STARK YOUTH CORRECTION

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO YOUTH AUTHORITY (Continued)**

**S101590922**

Address: 15180 S EUCLID AV  
City,State,Zip: CHINO, CA 91710  
Year: 2009  
County Code: 36  
Air Basin: SC  
Facility ID: 3716  
Air District Name: SC  
SIC Code: 9223  
Air District Name: SOUTH COAST AQMD  
Community Health Air Pollution Info System: Not reported  
Consolidated Emission Reporting Rule: Not reported  
Total Organic Hydrocarbon Gases Tons/Yr: 3.2708509792611502  
Reactive Organic Gases Tons/Yr: 1.802  
Carbon Monoxide Emissions Tons/Yr: 5.2800000000000002  
NOX - Oxides of Nitrogen Tons/Yr: 5.3200000000000003  
SOX - Oxides of Sulphur Tons/Yr: 4.1575000000000001E-2  
Particulate Matter Tons/Yr: 0.3307499999999999  
Part. Matter 10 Micrometers and Smllr Tons/Yr:0.3287654999999999

**HAZNET:**

Name: HEMAN G STARK CORRECTIONAL FACILITY  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 917100000  
Year: 2012  
GEPaid: CAD981388192  
Contact: ANTHONY KOLATH CPM-I  
Telephone: 9096065004  
Mailing Name: Not reported  
Mailing Address: 15180 S EUCLID AVE  
Mailing City,St,Zip: CHINO, CA 917100800  
Gen County: San Bernardino  
TSD EPA ID: NVT330010000  
TSD County: 99  
Tons: 0.209  
CA Waste Code: 221-Waste oil and mixed oil  
Method: H039-Other Recovery Of Reclamation For Reuse Including Acid  
Regeneration, Organics Recovery Ect  
Facility County: San Bernardino

Name: HEMAN G STARK CORRECTIONAL FACILITY  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 917100000  
Year: 2012  
GEPaid: CAD981388192  
Contact: ANTHONY KOLATH CPM-I  
Telephone: 9096065004  
Mailing Name: Not reported  
Mailing Address: 15180 S EUCLID AVE  
Mailing City,St,Zip: CHINO, CA 917100800  
Gen County: San Bernardino  
TSD EPA ID: CAT080013352  
TSD County: Los Angeles  
Tons: 0.532  
CA Waste Code: 221-Waste oil and mixed oil  
Method: H039-Other Recovery Of Reclamation For Reuse Including Acid  
Regeneration, Organics Recovery Ect  
Facility County: San Bernardino

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO YOUTH AUTHORITY (Continued)**

**S101590922**

Name: HEMAN G STARK CORRECTIONAL FACILITY  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 917100000  
Year: 2012  
GEPaid: CAD981388192  
Contact: ANTHONY KOLATH CPM-I  
Telephone: 9096065004  
Mailing Name: Not reported  
Mailing Address: 15180 S EUCLID AVE  
Mailing City,St,Zip: CHINO, CA 917100800  
Gen County: San Bernardino  
TSD EPA ID: AZR000501510  
TSD County: 99  
Tons: 0.187  
CA Waste Code: 343-Unspecified organic liquid mixture  
Method: H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery  
(H010-H129) Or (H131-H135)  
Facility County: San Bernardino

Name: HEMAN G STARK CORRECTIONAL FACILITY  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 917100000  
Year: 2012  
GEPaid: CAD981388192  
Contact: ANTHONY KOLATH CPM-I  
Telephone: 9096065004  
Mailing Name: Not reported  
Mailing Address: 15180 S EUCLID AVE  
Mailing City,St,Zip: CHINO, CA 917100800  
Gen County: San Bernardino  
TSD EPA ID: AZR000501510  
TSD County: 99  
Tons: 0.05  
CA Waste Code: 223-Unspecified oil-containing waste  
Method: H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery  
(H010-H129) Or (H131-H135)  
Facility County: San Bernardino

Name: HEMAN G STARK CORRECTIONAL FACILITY  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 917100000  
Year: 2012  
GEPaid: CAD981388192  
Contact: ANTHONY KOLATH CPM-I  
Telephone: 9096065004  
Mailing Name: Not reported  
Mailing Address: 15180 S EUCLID AVE  
Mailing City,St,Zip: CHINO, CA 917100800  
Gen County: San Bernardino  
TSD EPA ID: AZR000501510  
TSD County: 99  
Tons: 0.125  
CA Waste Code: 352-Other organic solids  
Method: H141-Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery  
(H010-H129) Or (H131-H135)  
Facility County: San Bernardino

**CHINO YOUTH AUTHORITY (Continued)**

**S101590922**

[Click this hyperlink](#) while viewing on your computer to access 176 additional CA\_HAZNET: record(s) in the EDR Site Report.

San Bern. Co. Permit:

Name: CDCR-HERMAN G. STARK YTH CORRTNL FA  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0006421  
Owner: CDCR/DJJ  
Permit Number: PT0016771  
Permit Category: HAZARDOUS MATERIALS 11-30 CHEMICALS  
Facility Status: ACTIVE  
Expiration Date: 09/30/2019

Name: CDCR-HERMAN G. STARK YTH CORRTNL FA  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0006421  
Owner: CDCR/DJJ  
Permit Number: PT0003126  
Permit Category: APSA 10,001-100,000 GAL FAC CAPACITY  
Facility Status: ACTIVE  
Expiration Date: 09/30/2019

Name: CDCR-HERMAN G. STARK YTH CORRTNL FA  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0006421  
Owner: CDCR/DJJ  
Permit Number: PT0003122  
Permit Category: SMALL QUANTITY GENERATOR  
Facility Status: ACTIVE  
Expiration Date: 09/30/2019

Name: CDCR-HERMAN G. STARK YTH CORRTNL FA  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0006421  
Owner: CDCR/DJJ  
Permit Number: PT0016770  
Permit Category: EPCRA FACILITY  
Facility Status: INACTIVE  
Expiration Date: 09/30/2013

Name: CDCR-HERMAN G. STARK YTH CORRTNL FA  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0006421  
Owner: CDCR/DJJ  
Permit Number: PT0003124  
Permit Category: HAZARDOUS WASTE GENERATOR - 0-10 EMPLOYEES  
Facility Status: INACTIVE



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO YOUTH AUTHORITY (Continued)**

**S101590922**

Expiration Date: 09/30/2005

Name: CDCR-HERMAN G. STARK YTH CORRTNL FA  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Region: SAN BERNARDINO  
Facility ID: FA0006421  
Owner: CDCR/DJJ  
Permit Number: PT0003123  
Permit Category: CALARP FACILITY PERMIT  
Facility Status: INACTIVE  
Expiration Date: 09/30/2003

**CERS:**

Name: CDCR-HERMAN G. STARK YTH CORRTNL FA  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 36019  
CERS ID: 10045183  
CERS Description: Chemical Storage Facilities

**Violations:**

Site ID: 36019  
Site Name: CDCR-HERMAN G. STARK YTH CORRTNL FA  
Violation Date: 02-18-2016  
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
Violation Description: Failure to annually review and electronically certify that the business plan is complete, accurate, and up-to-date.  
Violation Notes: Returned to compliance on 03/07/2016. The business plan submitted via CERS on 10/01/2015 requires revision. Observed hazardous materials inventory to be missing the location and applicable information such as CAS numbers and or mixture components. Furthermore, observed site map to be missing access and exit points, emergency shutoffs, evacuation staging areas, and emergency response equipment.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS

Site ID: 36019  
Site Name: CDCR-HERMAN G. STARK YTH CORRTNL FA  
Violation Date: 02-18-2016  
Citation: HSC 6.67 Multiple - California Health and Safety Code, Chapter 6.67, Section(s) Multiple  
Violation Description: APSA Program - Administration/Documentation - General  
Violation Notes: Returned to compliance on 02/18/2016. Observed (2) 55 gallon drums of mineral oil with missing secondary containment spill pallet. The violation was corrected at the time of the inspection by operator. Operator provided a new secondary containment spill pallet with sufficient capacity to contain the size of the biggest container (plus precipitation) to the drums of mineral oil at the time of the inspection.  
Violation Division: San Bernardino County Fire Department  
Violation Program: APSA  
Violation Source: CERS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO YOUTH AUTHORITY (Continued)**

**S101590922**

Evaluation:

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 02-18-2016  
Violations Found: No  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HW  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 02-18-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: APSA  
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
Eval Date: 02-18-2016  
Violations Found: Yes  
Eval Type: Routine done by local agency  
Eval Notes: ROUTINE INSPECTION  
Eval Division: San Bernardino County Fire Department  
Eval Program: HMRRP  
Eval Source: CERS

Enforcement Action:

Site ID: 36019  
Site Name: CDCR-HERMAN G. STARK YTH CORRNL FA  
Site Address: 15180 S EUCLID AVE  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 02-18-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: APSA  
Enf Action Source: CERS

Site ID: 36019  
Site Name: CDCR-HERMAN G. STARK YTH CORRNL FA  
Site Address: 15180 S EUCLID AVE  
Site City: CHINO  
Site Zip: 91710  
Enf Action Date: 02-18-2016  
Enf Action Type: Notice of Violation (Unified Program)  
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
Enf Action Notes: Not reported  
Enf Action Division: San Bernardino County Fire Department  
Enf Action Program: HMRRP  
Enf Action Source: CERS

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO YOUTH AUTHORITY (Continued)**

**S101590922**

Affiliation:

Affiliation Type Desc: CUPA District  
Entity Name: San Bernardino County Fire  
Entity Title: Not reported  
Affiliation Address: 620 South E Street  
Affiliation City: San Bernardino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 92415-0153  
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Document Preparer  
Entity Name: Mike Thompson  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer  
Entity Name: MIKE THOMPSON  
Entity Title: CORRECTIONAL PLANT MANAGER  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner  
Entity Name: CDCR/DJJ  
Entity Title: Not reported  
Affiliation Address: 15180 SOUTH EUCLID AVE  
Affiliation City: CHINO  
Affiliation State: CA  
Affiliation Country: United States  
Affiliation Zip: 91710  
Affiliation Phone: (909) 606-5004

Affiliation Type Desc: Environmental Contact  
Entity Name: Mike Thompson  
Entity Title: Not reported  
Affiliation Address: 15180 EUCLID AVE  
Affiliation City: Chino  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Affiliation Type Desc: Facility Mailing Address  
Entity Name: Mailing Address  
Entity Title: Not reported  
Affiliation Address: 15180 SOUTH EUCLID AVE  
Affiliation City: CHINO  
Affiliation State: CA

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CHINO YOUTH AUTHORITY (Continued)**

**S101590922**

Affiliation Country: Not reported  
Affiliation Zip: 91710  
Affiliation Phone: Not reported

Affiliation Type Desc: Parent Corporation  
Entity Name: CDCR - California Department of Corrections and Rehabilitation  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: Not reported

Affiliation Type Desc: Operator  
Entity Name: Mike Thompson  
Entity Title: Not reported  
Affiliation Address: Not reported  
Affiliation City: Not reported  
Affiliation State: Not reported  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: (909) 606-5004

Name: HEMAN G. STARK YOUTH TRAINING  
Address: 15180 S EUCLID AVE  
City,State,Zip: CHINO, CA 91710  
Site ID: 260249  
CERS ID: T0607100043  
CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:  
Affiliation Type Desc: Regional Board Caseworker  
Entity Name: MIGUEL OVIEDO - SANTA ANA RWQCB (REGION 8)  
Entity Title: Not reported  
Affiliation Address: 3737 Main Street, Suite 500  
Affiliation City: RIVERSIDE  
Affiliation State: CA  
Affiliation Country: Not reported  
Affiliation Zip: Not reported  
Affiliation Phone: 9517823238

**H91**  
**SSE**  
**1/2-1**  
**0.586 mi.**  
**3093 ft.**

**CAL-AERO AIRPORT**  
**CHINO, CA**  
**Site 1 of 2 in cluster H**

**FUDS 1024903499**  
**N/A**

**Relative:**  
**Lower**  
**Actual:**  
**625 ft.**

FUDS:  
EPA Region: 9  
Installation ID: CA99799F538900  
Congressional District Number: 35  
Facility Name: CAL-AERO AIRPORT  
FUDS Number: J09CA0264  
City: CHINO  
State: CA

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CAL-AERO AIRPORT (Continued)**

**1024903499**

County: SAN BERNARDINO  
Telephone: 213-452-3920  
USACE Division: South Pacific Division (SPD)  
USACE District: Los Angeles District (SPL)  
Status: Properties without projects  
Current Owner: Private Sector  
X Coord: -117.638333330218  
Y Coord: 33.974999999651097  
Latitude: 33.975000000000001  
Longitude: -117.63833332999999

**H92**  
**SSE**  
**1/2-1**  
**0.586 mi.**  
**3096 ft.**

**CAL-AERO AIRPORT**  
**CHINO, CA**  
**Site 2 of 2 in cluster H**

**ENVIROSTOR** **S107735993**  
**N/A**

**Relative:**  
**Lower**  
**Actual:**  
**625 ft.**

**ENVIROSTOR:**  
Name: CAL-AERO AIRPORT  
Address: Not reported  
City,State,Zip: CHINO, CA  
Facility ID: 80000207  
Status: Inactive - Needs Evaluation  
Status Date: 07/01/2005  
Site Code: Not reported  
Site Type: Military Evaluation  
Site Type Detailed: FUDS  
Acres: 0  
NPL: NO  
Regulatory Agencies: SMBRP  
Lead Agency: SMBRP  
Program Manager: Not reported  
Supervisor: Douglas Bautista  
Division Branch: Cleanup Cypress  
Assembly: 52  
Senate: 20  
Special Program: Not reported  
Restricted Use: NO  
Site Mgmt Req: NONE SPECIFIED  
Funding: DERA  
Latitude: 33.975  
Longitude: -117.6383  
APN: NONE SPECIFIED  
Past Use: NONE SPECIFIED  
Potential COC: NONE SPECIFIED  
Confirmed COC: NONE SPECIFIED  
Potential Description: NONE SPECIFIED  
Alias Name: CA99799F538900  
Alias Type: Federal Facility ID  
Alias Name: J09CA0264  
Alias Type: INPR  
Alias Name: 80000207  
Alias Type: Envirostor ID Number

**Completed Info:**  
Completed Area Name: PROJECT WIDE  
Completed Sub Area Name: Not reported  
Completed Document Type: Inventory Project Report (INPR)

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

**CAL-AERO AIRPORT (Continued)**

**S107735993**

Completed Date: 09/20/2002  
Comments: Not reported  
  
Future Area Name: Not reported  
Future Sub Area Name: Not reported  
Future Document Type: Not reported  
Future Due Date: Not reported  
Schedule Area Name: Not reported  
Schedule Sub Area Name: Not reported  
Schedule Document Type: Not reported  
Schedule Due Date: Not reported  
Schedule Revised Date: Not reported

Count: 11 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CHINO	S112865856	GEORGE BORBA & SONS DAIRY	7955 EUCALYPTUS AVE	91710	HAZNET
CHINO	S101591831	GEORGE BORBA DAIRY	7955 EUCALYPTUS	91710	CA FID UST
ONTARIO	S107533176		3500 BLOCK OF EUCALYPTUS	91761	CDL
ONTARIO	S107538085		CLEVELAND, NORTH OF EUCALYPTUS		CDL
ONTARIO	1009508586	SO CAL GAS/ONTARIO MGP	CORNER OF CAMPUS, MARTLAND, MO	91761	EDR MGP
ONTARIO	S107538467		EUCALYPTUS ST/SUMNER ST		CDL
ONTARIO	S107538463		EUCALYPTUS AND MILLIKEN ST	91762	CDL
ONTARIO	S107538468		EUCALYPTUS W OF BON VIEW	91761	CDL
ONTARIO	S107539821		ON EUCALYPTUS, 3/4 MI E OF ARC	91762	CDL
ONTARIO	S105693873	E-Z SERVE	903 EUCLID AVE	91762	LUST
ONTARIO	S103669757	MAC'S SERVICE	703 EUCLID AVE	91761	LUST, HIST CORTESE

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

**Number of Days to Update:** Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

## **STANDARD ENVIRONMENTAL RECORDS**

### ***Federal NPL site list***

#### **NPL: National Priority List**

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: N/A
Date Made Active in Reports: 11/20/2019	Last EDR Contact: 12/10/2019
Number of Days to Update: 13	Next Scheduled EDR Contact: 01/13/2020
	Data Release Frequency: Quarterly

#### **NPL Site Boundaries**

##### **Sources:**

EPA's Environmental Photographic Interpretation Center (EPIC)  
Telephone: 202-564-7333

EPA Region 1  
Telephone 617-918-1143

EPA Region 6  
Telephone: 214-655-6659

EPA Region 3  
Telephone 215-814-5418

EPA Region 7  
Telephone: 913-551-7247

EPA Region 4  
Telephone 404-562-8033

EPA Region 8  
Telephone: 303-312-6774

EPA Region 5  
Telephone 312-886-6686

EPA Region 9  
Telephone: 415-947-4246

EPA Region 10  
Telephone 206-553-8665

#### **Proposed NPL: Proposed National Priority List Sites**

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: N/A
Date Made Active in Reports: 11/20/2019	Last EDR Contact: 12/09/2019
Number of Days to Update: 13	Next Scheduled EDR Contact: 01/13/2020
	Data Release Frequency: Quarterly

#### **NPL LIENS: Federal Superfund Liens**

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/15/1991  
Date Data Arrived at EDR: 02/02/1994  
Date Made Active in Reports: 03/30/1994  
Number of Days to Update: 56

Source: EPA  
Telephone: 202-564-4267  
Last EDR Contact: 08/15/2011  
Next Scheduled EDR Contact: 11/28/2011  
Data Release Frequency: No Update Planned

## ***Federal Delisted NPL site list***

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/25/2019  
Date Data Arrived at EDR: 11/07/2019  
Date Made Active in Reports: 11/20/2019  
Number of Days to Update: 13

Source: EPA  
Telephone: N/A  
Last EDR Contact: 12/10/2019  
Next Scheduled EDR Contact: 01/13/2020  
Data Release Frequency: Quarterly

## ***Federal CERCLIS list***

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019  
Date Data Arrived at EDR: 04/05/2019  
Date Made Active in Reports: 05/14/2019  
Number of Days to Update: 39

Source: Environmental Protection Agency  
Telephone: 703-603-8704  
Last EDR Contact: 10/04/2019  
Next Scheduled EDR Contact: 01/13/2020  
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2019  
Date Data Arrived at EDR: 11/07/2019  
Date Made Active in Reports: 11/21/2019  
Number of Days to Update: 14

Source: EPA  
Telephone: 800-424-9346  
Last EDR Contact: 12/09/2019  
Next Scheduled EDR Contact: 01/27/2020  
Data Release Frequency: Quarterly

## ***Federal CERCLIS NFRAP site list***

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: 800-424-9346
Date Made Active in Reports: 11/21/2019	Last EDR Contact: 12/09/2019
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/27/2020
	Data Release Frequency: Quarterly

## ***Federal RCRA CORRACTS facilities list***

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/24/2019	Source: EPA
Date Data Arrived at EDR: 06/26/2019	Telephone: 800-424-9346
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 113	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

## ***Federal RCRA non-CORRACTS TSD facilities list***

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/24/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/26/2019	Telephone: (415) 495-8895
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 113	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

## ***Federal RCRA generators list***

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/24/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/26/2019	Telephone: (415) 495-8895
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 113	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/24/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/26/2019	Telephone: (415) 495-8895
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 113	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

### RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/24/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/26/2019	Telephone: (415) 495-8895
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 113	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

### ***Federal institutional controls / engineering controls registries***

#### LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/13/2019	Source: Department of the Navy
Date Data Arrived at EDR: 08/20/2019	Telephone: 843-820-7326
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 11/07/2019
Number of Days to Update: 6	Next Scheduled EDR Contact: 02/24/2020
	Data Release Frequency: Varies

#### US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/19/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/20/2019	Telephone: 703-603-0695
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 11/22/2019
Number of Days to Update: 6	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

#### US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/19/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/20/2019	Telephone: 703-603-0695
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 11/22/2019
Number of Days to Update: 6	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## **Federal ERNS list**

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/09/2019  
Date Data Arrived at EDR: 09/09/2019  
Date Made Active in Reports: 09/23/2019  
Number of Days to Update: 14

Source: National Response Center, United States Coast Guard  
Telephone: 202-267-2180  
Last EDR Contact: 12/19/2019  
Next Scheduled EDR Contact: 04/06/2020  
Data Release Frequency: Quarterly

## **State- and tribal - equivalent NPL**

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 07/29/2019  
Date Data Arrived at EDR: 07/31/2019  
Date Made Active in Reports: 10/08/2019  
Number of Days to Update: 69

Source: Department of Toxic Substances Control  
Telephone: 916-323-3400  
Last EDR Contact: 10/29/2019  
Next Scheduled EDR Contact: 02/10/2020  
Data Release Frequency: Quarterly

## **State- and tribal - equivalent CERCLIS**

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 07/29/2019  
Date Data Arrived at EDR: 07/31/2019  
Date Made Active in Reports: 10/08/2019  
Number of Days to Update: 69

Source: Department of Toxic Substances Control  
Telephone: 916-323-3400  
Last EDR Contact: 10/29/2019  
Next Scheduled EDR Contact: 02/10/2020  
Data Release Frequency: Quarterly

## **State and tribal landfill and/or solid waste disposal site lists**

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/12/2019  
Date Data Arrived at EDR: 08/13/2019  
Date Made Active in Reports: 10/09/2019  
Number of Days to Update: 57

Source: Department of Resources Recycling and Recovery  
Telephone: 916-341-6320  
Last EDR Contact: 11/12/2019  
Next Scheduled EDR Contact: 02/24/2020  
Data Release Frequency: Quarterly

## **State and tribal leaking storage tank lists**

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/09/2019	Source: State Water Resources Control Board
Date Data Arrived at EDR: 09/09/2019	Telephone: see region list
Date Made Active in Reports: 10/31/2019	Last EDR Contact: 12/10/2019
Number of Days to Update: 52	Next Scheduled EDR Contact: 03/23/2020
	Data Release Frequency: Quarterly

## LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001	Source: California Regional Water Quality Control Board San Diego Region (9)
Date Data Arrived at EDR: 04/23/2001	Telephone: 858-637-5595
Date Made Active in Reports: 05/21/2001	Last EDR Contact: 09/26/2011
Number of Days to Update: 28	Next Scheduled EDR Contact: 01/09/2012
	Data Release Frequency: No Update Planned

## LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005	Source: California Regional Water Quality Control Board Santa Ana Region (8)
Date Data Arrived at EDR: 02/15/2005	Telephone: 909-782-4496
Date Made Active in Reports: 03/28/2005	Last EDR Contact: 08/15/2011
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

## LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004	Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Date Data Arrived at EDR: 02/26/2004	Telephone: 760-776-8943
Date Made Active in Reports: 03/24/2004	Last EDR Contact: 08/01/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 11/14/2011
	Data Release Frequency: No Update Planned

## LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008	Source: California Regional Water Quality Control Board Central Valley Region (5)
Date Data Arrived at EDR: 07/22/2008	Telephone: 916-464-4834
Date Made Active in Reports: 07/31/2008	Last EDR Contact: 07/01/2011
Number of Days to Update: 9	Next Scheduled EDR Contact: 10/17/2011
	Data Release Frequency: No Update Planned

## LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004	Source: California Regional Water Quality Control Board Los Angeles Region (4)
Date Data Arrived at EDR: 09/07/2004	Telephone: 213-576-6710
Date Made Active in Reports: 10/12/2004	Last EDR Contact: 09/06/2011
Number of Days to Update: 35	Next Scheduled EDR Contact: 12/19/2011
	Data Release Frequency: No Update Planned

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003	Source: California Regional Water Quality Control Board Central Coast Region (3)
Date Data Arrived at EDR: 05/19/2003	Telephone: 805-542-4786
Date Made Active in Reports: 06/02/2003	Last EDR Contact: 07/18/2011
Number of Days to Update: 14	Next Scheduled EDR Contact: 10/31/2011
	Data Release Frequency: No Update Planned

## LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004	Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Date Data Arrived at EDR: 10/20/2004	Telephone: 510-622-2433
Date Made Active in Reports: 11/19/2004	Last EDR Contact: 09/19/2011
Number of Days to Update: 30	Next Scheduled EDR Contact: 01/02/2012
	Data Release Frequency: No Update Planned

## LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001	Source: California Regional Water Quality Control Board North Coast (1)
Date Data Arrived at EDR: 02/28/2001	Telephone: 707-570-3769
Date Made Active in Reports: 03/29/2001	Last EDR Contact: 08/01/2011
Number of Days to Update: 29	Next Scheduled EDR Contact: 11/14/2011
	Data Release Frequency: No Update Planned

## LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005	Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Date Data Arrived at EDR: 06/07/2005	Telephone: 760-241-7365
Date Made Active in Reports: 06/29/2005	Last EDR Contact: 09/12/2011
Number of Days to Update: 22	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

## LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003	Source: California Regional Water Quality Control Board Lahontan Region (6)
Date Data Arrived at EDR: 09/10/2003	Telephone: 530-542-5572
Date Made Active in Reports: 10/07/2003	Last EDR Contact: 09/12/2011
Number of Days to Update: 27	Next Scheduled EDR Contact: 12/26/2011
	Data Release Frequency: No Update Planned

## INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/08/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/29/2019	Telephone: 415-972-3372
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

## INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/01/2019	Source: EPA Region 6
Date Data Arrived at EDR: 07/29/2019	Telephone: 214-665-6597
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/25/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land  
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/16/2019	Source: EPA Region 10
Date Data Arrived at EDR: 07/29/2019	Telephone: 206-553-2857
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land  
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 07/02/2019	Source: EPA Region 7
Date Data Arrived at EDR: 10/16/2019	Telephone: 913-551-7003
Date Made Active in Reports: 10/24/2019	Last EDR Contact: 12/16/2020
Number of Days to Update: 8	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land  
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/12/2019	Source: EPA Region 4
Date Data Arrived at EDR: 07/29/2019	Telephone: 404-562-8677
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/03/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land  
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/08/2019	Source: EPA, Region 5
Date Data Arrived at EDR: 07/30/2019	Telephone: 312-886-7439
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 79	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land  
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/02/2019	Source: EPA Region 8
Date Data Arrived at EDR: 10/22/2019	Telephone: 303-312-6271
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 20	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land  
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/11/2019	Source: EPA Region 1
Date Data Arrived at EDR: 07/29/2019	Telephone: 617-918-1313
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)

Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/09/2019	Source: State Water Resources Control Board
Date Data Arrived at EDR: 09/09/2019	Telephone: 866-480-1028
Date Made Active in Reports: 11/06/2019	Last EDR Contact: 12/10/2019
Number of Days to Update: 58	Next Scheduled EDR Contact: 03/23/2020
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003  
Date Data Arrived at EDR: 04/07/2003  
Date Made Active in Reports: 04/25/2003  
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)  
Telephone: 707-576-2220  
Last EDR Contact: 08/01/2011  
Next Scheduled EDR Contact: 11/14/2011  
Data Release Frequency: No Update Planned

## SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004  
Date Data Arrived at EDR: 10/20/2004  
Date Made Active in Reports: 11/19/2004  
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)  
Telephone: 510-286-0457  
Last EDR Contact: 09/19/2011  
Next Scheduled EDR Contact: 01/02/2012  
Data Release Frequency: No Update Planned

## SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006  
Date Data Arrived at EDR: 05/18/2006  
Date Made Active in Reports: 06/15/2006  
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)  
Telephone: 805-549-3147  
Last EDR Contact: 07/18/2011  
Next Scheduled EDR Contact: 10/31/2011  
Data Release Frequency: No Update Planned

## SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004  
Date Data Arrived at EDR: 11/18/2004  
Date Made Active in Reports: 01/04/2005  
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)  
Telephone: 213-576-6600  
Last EDR Contact: 07/01/2011  
Next Scheduled EDR Contact: 10/17/2011  
Data Release Frequency: No Update Planned

## SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005  
Date Data Arrived at EDR: 04/05/2005  
Date Made Active in Reports: 04/21/2005  
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)  
Telephone: 916-464-3291  
Last EDR Contact: 09/12/2011  
Next Scheduled EDR Contact: 12/26/2011  
Data Release Frequency: No Update Planned

## SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005  
Date Data Arrived at EDR: 05/25/2005  
Date Made Active in Reports: 06/16/2005  
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch  
Telephone: 619-241-6583  
Last EDR Contact: 08/15/2011  
Next Scheduled EDR Contact: 11/28/2011  
Data Release Frequency: No Update Planned



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004  
Date Data Arrived at EDR: 09/07/2004  
Date Made Active in Reports: 10/12/2004  
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region  
Telephone: 530-542-5574  
Last EDR Contact: 08/15/2011  
Next Scheduled EDR Contact: 11/28/2011  
Data Release Frequency: No Update Planned

## SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004  
Date Data Arrived at EDR: 11/29/2004  
Date Made Active in Reports: 01/04/2005  
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region  
Telephone: 760-346-7491  
Last EDR Contact: 08/01/2011  
Next Scheduled EDR Contact: 11/14/2011  
Data Release Frequency: No Update Planned

## SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008  
Date Data Arrived at EDR: 04/03/2008  
Date Made Active in Reports: 04/14/2008  
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)  
Telephone: 951-782-3298  
Last EDR Contact: 09/12/2011  
Next Scheduled EDR Contact: 12/26/2011  
Data Release Frequency: No Update Planned

## SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007  
Date Data Arrived at EDR: 09/11/2007  
Date Made Active in Reports: 09/28/2007  
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)  
Telephone: 858-467-2980  
Last EDR Contact: 08/08/2011  
Next Scheduled EDR Contact: 11/21/2011  
Data Release Frequency: No Update Planned

## **State and tribal registered storage tank lists**

### FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 08/27/2019  
Date Data Arrived at EDR: 08/28/2019  
Date Made Active in Reports: 11/11/2019  
Number of Days to Update: 75

Source: FEMA  
Telephone: 202-646-5797  
Last EDR Contact: 10/11/2019  
Next Scheduled EDR Contact: 01/20/2020  
Data Release Frequency: Varies

### UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/09/2019  
Date Data Arrived at EDR: 09/09/2019  
Date Made Active in Reports: 10/31/2019  
Number of Days to Update: 52

Source: SWRCB  
Telephone: 916-341-5851  
Last EDR Contact: 12/10/2019  
Next Scheduled EDR Contact: 03/23/2020  
Data Release Frequency: Semi-Annually

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 09/06/2019	Source: State Water Resources Control Board
Date Data Arrived at EDR: 09/09/2019	Telephone: 916-327-7844
Date Made Active in Reports: 10/31/2019	Last EDR Contact: 12/10/2019
Number of Days to Update: 52	Next Scheduled EDR Contact: 03/23/2020
	Data Release Frequency: Varies

## MILITARY UST SITES: Military UST Sites (GEOTRACKER)

Military ust sites

Date of Government Version: 09/09/2019	Source: State Water Resources Control Board
Date Data Arrived at EDR: 09/09/2019	Telephone: 866-480-1028
Date Made Active in Reports: 11/01/2019	Last EDR Contact: 12/10/2019
Number of Days to Update: 53	Next Scheduled EDR Contact: 03/23/2020
	Data Release Frequency: Varies

## AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 07/12/2016	Telephone: 916-327-5092
Date Made Active in Reports: 09/19/2016	Last EDR Contact: 12/11/2019
Number of Days to Update: 69	Next Scheduled EDR Contact: 03/30/2020
	Data Release Frequency: Varies

## INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/08/2019	Source: EPA Region 9
Date Data Arrived at EDR: 07/29/2019	Telephone: 415-972-3368
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

## INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/02/2019	Source: EPA Region 8
Date Data Arrived at EDR: 10/22/2019	Telephone: 303-312-6137
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 20	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

## INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/01/2019	Source: EPA Region 6
Date Data Arrived at EDR: 07/29/2019	Telephone: 214-665-7591
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/08/2019	Source: EPA Region 5
Date Data Arrived at EDR: 07/29/2019	Telephone: 312-886-6136
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

### INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/12/2019	Source: EPA Region 4
Date Data Arrived at EDR: 07/29/2019	Telephone: 404-562-9424
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/03/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

### INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/02/2019	Source: EPA Region 7
Date Data Arrived at EDR: 07/29/2019	Telephone: 913-551-7003
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

### INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/11/2019	Source: EPA, Region 1
Date Data Arrived at EDR: 07/30/2019	Telephone: 617-918-1313
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 79	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

### INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/16/2019	Source: EPA Region 10
Date Data Arrived at EDR: 07/30/2019	Telephone: 206-553-2857
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 79	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

### ***State and tribal voluntary cleanup sites***

#### VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/29/2019  
Date Data Arrived at EDR: 07/31/2019  
Date Made Active in Reports: 10/08/2019  
Number of Days to Update: 69

Source: Department of Toxic Substances Control  
Telephone: 916-323-3400  
Last EDR Contact: 10/29/2019  
Next Scheduled EDR Contact: 02/10/2020  
Data Release Frequency: Quarterly

## INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015  
Date Data Arrived at EDR: 09/29/2015  
Date Made Active in Reports: 02/18/2016  
Number of Days to Update: 142

Source: EPA, Region 1  
Telephone: 617-918-1102  
Last EDR Contact: 12/17/2019  
Next Scheduled EDR Contact: 04/06/2020  
Data Release Frequency: Varies

## INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008  
Date Data Arrived at EDR: 04/22/2008  
Date Made Active in Reports: 05/19/2008  
Number of Days to Update: 27

Source: EPA, Region 7  
Telephone: 913-551-7365  
Last EDR Contact: 04/20/2009  
Next Scheduled EDR Contact: 07/20/2009  
Data Release Frequency: Varies

## **State and tribal Brownfields sites**

### BROWNFIELDS: Considered Brownfields Sites Listing

A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 09/23/2019  
Date Data Arrived at EDR: 09/24/2019  
Date Made Active in Reports: 11/06/2019  
Number of Days to Update: 43

Source: State Water Resources Control Board  
Telephone: 916-323-7905  
Last EDR Contact: 12/19/2019  
Next Scheduled EDR Contact: 04/06/2020  
Data Release Frequency: Quarterly

## **ADDITIONAL ENVIRONMENTAL RECORDS**

### **Local Brownfield lists**

#### US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/03/2019  
Date Data Arrived at EDR: 06/04/2019  
Date Made Active in Reports: 08/26/2019  
Number of Days to Update: 83

Source: Environmental Protection Agency  
Telephone: 202-566-2777  
Last EDR Contact: 12/16/2019  
Next Scheduled EDR Contact: 03/30/2020  
Data Release Frequency: Semi-Annually

### **Local Lists of Landfill / Solid Waste Disposal Sites**

#### WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/01/2000  
Date Data Arrived at EDR: 04/10/2000  
Date Made Active in Reports: 05/10/2000  
Number of Days to Update: 30

Source: State Water Resources Control Board  
Telephone: 916-227-4448  
Last EDR Contact: 10/25/2019  
Next Scheduled EDR Contact: 02/10/2020  
Data Release Frequency: No Update Planned

## SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 09/09/2019  
Date Data Arrived at EDR: 09/09/2019  
Date Made Active in Reports: 11/07/2019  
Number of Days to Update: 59

Source: Department of Conservation  
Telephone: 916-323-3836  
Last EDR Contact: 12/10/2019  
Next Scheduled EDR Contact: 03/23/2020  
Data Release Frequency: Quarterly

## HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 03/26/2019  
Date Data Arrived at EDR: 03/27/2019  
Date Made Active in Reports: 04/30/2019  
Number of Days to Update: 34

Source: Integrated Waste Management Board  
Telephone: 916-341-6422  
Last EDR Contact: 11/07/2019  
Next Scheduled EDR Contact: 02/24/2020  
Data Release Frequency: Varies

## INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998  
Date Data Arrived at EDR: 12/03/2007  
Date Made Active in Reports: 01/24/2008  
Number of Days to Update: 52

Source: Environmental Protection Agency  
Telephone: 703-308-8245  
Last EDR Contact: 10/28/2019  
Next Scheduled EDR Contact: 02/10/2020  
Data Release Frequency: Varies

## DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009  
Date Data Arrived at EDR: 05/07/2009  
Date Made Active in Reports: 09/21/2009  
Number of Days to Update: 137

Source: EPA, Region 9  
Telephone: 415-947-4219  
Last EDR Contact: 10/17/2019  
Next Scheduled EDR Contact: 02/03/2020  
Data Release Frequency: No Update Planned

## ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985  
Date Data Arrived at EDR: 08/09/2004  
Date Made Active in Reports: 09/17/2004  
Number of Days to Update: 39

Source: Environmental Protection Agency  
Telephone: 800-424-9346  
Last EDR Contact: 06/09/2004  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

## IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014  
Date Data Arrived at EDR: 08/06/2014  
Date Made Active in Reports: 01/29/2015  
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service  
Telephone: 301-443-1452  
Last EDR Contact: 11/01/2019  
Next Scheduled EDR Contact: 02/10/2020  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## **Local Lists of Hazardous waste / Contaminated Sites**

### **US HIST CDL: National Clandestine Laboratory Register**

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 06/11/2019	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 06/13/2019	Telephone: 202-307-1000
Date Made Active in Reports: 09/03/2019	Last EDR Contact: 11/20/2019
Number of Days to Update: 82	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: No Update Planned

### **HIST CAL-SITES: Calsites Database**

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005	Source: Department of Toxic Substance Control
Date Data Arrived at EDR: 08/03/2006	Telephone: 916-323-3400
Date Made Active in Reports: 08/24/2006	Last EDR Contact: 02/23/2009
Number of Days to Update: 21	Next Scheduled EDR Contact: 05/25/2009
	Data Release Frequency: No Update Planned

### **SCH: School Property Evaluation Program**

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 07/29/2019	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 07/31/2019	Telephone: 916-323-3400
Date Made Active in Reports: 10/08/2019	Last EDR Contact: 10/29/2019
Number of Days to Update: 69	Next Scheduled EDR Contact: 02/10/2020
	Data Release Frequency: Quarterly

### **CDL: Clandestine Drug Labs**

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2018	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 07/16/2019	Telephone: 916-255-6504
Date Made Active in Reports: 09/24/2019	Last EDR Contact: 09/24/2019
Number of Days to Update: 70	Next Scheduled EDR Contact: 01/20/2020
	Data Release Frequency: Varies

### **TOXIC PITS: Toxic Pits Cleanup Act Sites**

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995	Source: State Water Resources Control Board
Date Data Arrived at EDR: 08/30/1995	Telephone: 916-227-4364
Date Made Active in Reports: 09/26/1995	Last EDR Contact: 01/26/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 04/27/2009
	Data Release Frequency: No Update Planned

### **CERS HAZ WASTE: CERS HAZ WASTE**

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/14/2019  
Date Data Arrived at EDR: 08/14/2019  
Date Made Active in Reports: 08/21/2019  
Number of Days to Update: 7

Source: CalEPA  
Telephone: 916-323-2514  
Last EDR Contact: 10/22/2019  
Next Scheduled EDR Contact: 02/03/2020  
Data Release Frequency: Quarterly

## US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 06/11/2019  
Date Data Arrived at EDR: 06/13/2019  
Date Made Active in Reports: 09/03/2019  
Number of Days to Update: 82

Source: Drug Enforcement Administration  
Telephone: 202-307-1000  
Last EDR Contact: 11/20/2019  
Next Scheduled EDR Contact: 03/09/2020  
Data Release Frequency: Quarterly

## PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 09/09/2019  
Date Data Arrived at EDR: 09/09/2019  
Date Made Active in Reports: 11/05/2019  
Number of Days to Update: 57

Source: State Water Resources Control Board  
Telephone: 866-480-1028  
Last EDR Contact: 12/10/2019  
Next Scheduled EDR Contact: 03/23/2020  
Data Release Frequency: Varies

## Local Lists of Registered Storage Tanks

### SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994  
Date Data Arrived at EDR: 07/07/2005  
Date Made Active in Reports: 08/11/2005  
Number of Days to Update: 35

Source: State Water Resources Control Board  
Telephone: N/A  
Last EDR Contact: 06/03/2005  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

### UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 08/20/2019  
Date Data Arrived at EDR: 09/09/2019  
Date Made Active in Reports: 10/31/2019  
Number of Days to Update: 52

Source: Department of Public Health  
Telephone: 707-463-4466  
Last EDR Contact: 11/20/2019  
Next Scheduled EDR Contact: 03/09/2020  
Data Release Frequency: Annually

### HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990  
Date Data Arrived at EDR: 01/25/1991  
Date Made Active in Reports: 02/12/1991  
Number of Days to Update: 18

Source: State Water Resources Control Board  
Telephone: 916-341-5851  
Last EDR Contact: 07/26/2001  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## SAN FRANCISCO AST: Aboveground Storage Tank Site Listing Aboveground storage tank sites

Date of Government Version: 08/01/2019	Source: San Francisco County Department of Public Health
Date Data Arrived at EDR: 08/02/2019	Telephone: 415-252-3896
Date Made Active in Reports: 10/11/2019	Last EDR Contact: 10/31/2019
Number of Days to Update: 70	Next Scheduled EDR Contact: 02/17/2020
	Data Release Frequency: Varies

## CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 09/05/1995	Telephone: 916-341-5851
Date Made Active in Reports: 09/29/1995	Last EDR Contact: 12/28/1998
Number of Days to Update: 24	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

## CERS TANKS: California Environmental Reporting System (CERS) Tanks

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 08/14/2019	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 08/14/2019	Telephone: 916-323-2514
Date Made Active in Reports: 08/21/2019	Last EDR Contact: 10/22/2019
Number of Days to Update: 7	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Quarterly

## **Local Land Records**

### LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 08/29/2019	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 08/30/2019	Telephone: 916-323-3400
Date Made Active in Reports: 10/29/2019	Last EDR Contact: 12/02/2019
Number of Days to Update: 60	Next Scheduled EDR Contact: 03/16/2020
	Data Release Frequency: Varies

### LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 10/25/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/07/2019	Telephone: 202-564-6023
Date Made Active in Reports: 11/20/2019	Last EDR Contact: 12/10/2019
Number of Days to Update: 13	Next Scheduled EDR Contact: 01/13/2020
	Data Release Frequency: Semi-Annually

### DEED: Deed Restriction Listing



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 09/03/2019	Source: DTSC and SWRCB
Date Data Arrived at EDR: 09/04/2019	Telephone: 916-323-3400
Date Made Active in Reports: 11/05/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 62	Next Scheduled EDR Contact: 03/16/2020
	Data Release Frequency: Semi-Annually

## **Records of Emergency Release Reports**

### **HMIRS: Hazardous Materials Information Reporting System**

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/24/2019	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 06/26/2019	Telephone: 202-366-4555
Date Made Active in Reports: 09/23/2019	Last EDR Contact: 12/06/2019
Number of Days to Update: 89	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

### **CHMIRS: California Hazardous Material Incident Report System**

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 05/15/2019	Source: Office of Emergency Services
Date Data Arrived at EDR: 06/24/2019	Telephone: 916-845-8400
Date Made Active in Reports: 08/21/2019	Last EDR Contact: 10/25/2019
Number of Days to Update: 58	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Semi-Annually

### **LDS: Land Disposal Sites Listing (GEOTRACKER)**

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/09/2019	Source: State Water Quality Control Board
Date Data Arrived at EDR: 09/09/2019	Telephone: 866-480-1028
Date Made Active in Reports: 11/05/2019	Last EDR Contact: 12/10/2019
Number of Days to Update: 57	Next Scheduled EDR Contact: 03/23/2020
	Data Release Frequency: Quarterly

### **MCS: Military Cleanup Sites Listing (GEOTRACKER)**

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/09/2019	Source: State Water Resources Control Board
Date Data Arrived at EDR: 09/09/2019	Telephone: 866-480-1028
Date Made Active in Reports: 11/05/2019	Last EDR Contact: 12/10/2019
Number of Days to Update: 57	Next Scheduled EDR Contact: 03/23/2020
	Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 02/22/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 50	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

## Other Ascertainable Records

### RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/24/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/26/2019	Telephone: (415) 495-8895
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 113	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

### FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 05/15/2019	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 05/21/2019	Telephone: 202-528-4285
Date Made Active in Reports: 08/08/2019	Last EDR Contact: 11/19/2019
Number of Days to Update: 79	Next Scheduled EDR Contact: 03/02/2020
	Data Release Frequency: Varies

### DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 10/11/2019
Number of Days to Update: 62	Next Scheduled EDR Contact: 01/20/2020
	Data Release Frequency: Semi-Annually

### FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018	Source: U.S. Geological Survey
Date Data Arrived at EDR: 04/11/2018	Telephone: 888-275-8747
Date Made Active in Reports: 11/06/2019	Last EDR Contact: 10/07/2019
Number of Days to Update: 574	Next Scheduled EDR Contact: 01/20/2020
	Data Release Frequency: N/A

### SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/01/2017  
Date Data Arrived at EDR: 02/03/2017  
Date Made Active in Reports: 04/07/2017  
Number of Days to Update: 63

Source: Environmental Protection Agency  
Telephone: 615-532-8599  
Last EDR Contact: 12/02/2019  
Next Scheduled EDR Contact: 02/24/2020  
Data Release Frequency: Varies

## US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 06/24/2019  
Date Data Arrived at EDR: 06/26/2019  
Date Made Active in Reports: 09/23/2019  
Number of Days to Update: 89

Source: Environmental Protection Agency  
Telephone: 202-566-1917  
Last EDR Contact: 12/19/2019  
Next Scheduled EDR Contact: 04/06/2020  
Data Release Frequency: Quarterly

## EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013  
Date Data Arrived at EDR: 03/21/2014  
Date Made Active in Reports: 06/17/2014  
Number of Days to Update: 88

Source: Environmental Protection Agency  
Telephone: 617-520-3000  
Last EDR Contact: 10/31/2019  
Next Scheduled EDR Contact: 02/17/2020  
Data Release Frequency: Quarterly

## 2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017  
Date Data Arrived at EDR: 05/08/2018  
Date Made Active in Reports: 07/20/2018  
Number of Days to Update: 73

Source: Environmental Protection Agency  
Telephone: 703-308-4044  
Last EDR Contact: 11/08/2019  
Next Scheduled EDR Contact: 02/17/2020  
Data Release Frequency: Varies

## TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016  
Date Data Arrived at EDR: 06/21/2017  
Date Made Active in Reports: 01/05/2018  
Number of Days to Update: 198

Source: EPA  
Telephone: 202-260-5521  
Last EDR Contact: 09/19/2019  
Next Scheduled EDR Contact: 12/30/2019  
Data Release Frequency: Every 4 Years

## TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2017  
Date Data Arrived at EDR: 11/16/2018  
Date Made Active in Reports: 11/21/2019  
Number of Days to Update: 370

Source: EPA  
Telephone: 202-566-0250  
Last EDR Contact: 11/22/2019  
Next Scheduled EDR Contact: 03/02/2020  
Data Release Frequency: Annually

## SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 09/30/2018  
Date Data Arrived at EDR: 04/24/2019  
Date Made Active in Reports: 08/08/2019  
Number of Days to Update: 106

Source: EPA  
Telephone: 202-564-4203  
Last EDR Contact: 10/23/2019  
Next Scheduled EDR Contact: 02/03/2020  
Data Release Frequency: Annually

## ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/25/2019  
Date Data Arrived at EDR: 11/07/2019  
Date Made Active in Reports: 11/20/2019  
Number of Days to Update: 13

Source: EPA  
Telephone: 703-416-0223  
Last EDR Contact: 12/09/2019  
Next Scheduled EDR Contact: 03/16/2020  
Data Release Frequency: Annually

## RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 04/25/2019  
Date Data Arrived at EDR: 05/02/2019  
Date Made Active in Reports: 05/23/2019  
Number of Days to Update: 21

Source: Environmental Protection Agency  
Telephone: 202-564-8600  
Last EDR Contact: 10/21/2019  
Next Scheduled EDR Contact: 02/03/2020  
Data Release Frequency: Varies

## RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995  
Date Data Arrived at EDR: 07/03/1995  
Date Made Active in Reports: 08/07/1995  
Number of Days to Update: 35

Source: EPA  
Telephone: 202-564-4104  
Last EDR Contact: 06/02/2008  
Next Scheduled EDR Contact: 09/01/2008  
Data Release Frequency: No Update Planned

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: 202-564-6023
Date Made Active in Reports: 11/21/2019	Last EDR Contact: 12/09/2019
Number of Days to Update: 14	Next Scheduled EDR Contact: 02/17/2020
	Data Release Frequency: Quarterly

## PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/20/2019	Source: EPA
Date Data Arrived at EDR: 04/10/2019	Telephone: 202-566-0500
Date Made Active in Reports: 05/14/2019	Last EDR Contact: 10/11/2019
Number of Days to Update: 34	Next Scheduled EDR Contact: 01/20/2020
	Data Release Frequency: Annually

## ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 10/07/2019
Number of Days to Update: 79	Next Scheduled EDR Contact: 01/20/2020
	Data Release Frequency: Quarterly

## FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: No Update Planned

## FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: No Update Planned

## MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 06/20/2019	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 06/20/2019	Telephone: 301-415-7169
Date Made Active in Reports: 08/08/2019	Last EDR Contact: 10/25/2019
Number of Days to Update: 49	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005	Source: Department of Energy
Date Data Arrived at EDR: 08/07/2009	Telephone: 202-586-8719
Date Made Active in Reports: 10/22/2009	Last EDR Contact: 12/04/2019
Number of Days to Update: 76	Next Scheduled EDR Contact: 03/16/2020
	Data Release Frequency: Varies

## COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/05/2019	Telephone: N/A
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 11/25/2019
Number of Days to Update: 251	Next Scheduled EDR Contact: 03/16/2020
	Data Release Frequency: Varies

## PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/30/2017	Telephone: 202-566-0517
Date Made Active in Reports: 12/15/2017	Last EDR Contact: 11/06/2019
Number of Days to Update: 15	Next Scheduled EDR Contact: 02/17/2020
	Data Release Frequency: Varies

## RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/01/2019	Telephone: 202-343-9775
Date Made Active in Reports: 09/23/2019	Last EDR Contact: 11/12/2019
Number of Days to Update: 84	Next Scheduled EDR Contact: 01/13/2020
	Data Release Frequency: Quarterly

## HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

## HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006  
Date Data Arrived at EDR: 03/01/2007  
Date Made Active in Reports: 04/10/2007  
Number of Days to Update: 40

Source: Environmental Protection Agency  
Telephone: 202-564-2501  
Last EDR Contact: 12/17/2008  
Next Scheduled EDR Contact: 03/17/2008  
Data Release Frequency: No Update Planned

## DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/01/2019  
Date Data Arrived at EDR: 07/31/2019  
Date Made Active in Reports: 10/24/2019  
Number of Days to Update: 85

Source: Department of Transportation, Office of Pipeline Safety  
Telephone: 202-366-4595  
Last EDR Contact: 10/29/2019  
Next Scheduled EDR Contact: 02/10/2020  
Data Release Frequency: Quarterly

## CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2019  
Date Data Arrived at EDR: 07/16/2019  
Date Made Active in Reports: 10/02/2019  
Number of Days to Update: 78

Source: Department of Justice, Consent Decree Library  
Telephone: Varies  
Last EDR Contact: 10/02/2019  
Next Scheduled EDR Contact: 01/20/2020  
Data Release Frequency: Varies

## BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015  
Date Data Arrived at EDR: 02/22/2017  
Date Made Active in Reports: 09/28/2017  
Number of Days to Update: 218

Source: EPA/NTIS  
Telephone: 800-424-9346  
Last EDR Contact: 12/16/2019  
Next Scheduled EDR Contact: 04/06/2020  
Data Release Frequency: Biennially

## INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014  
Date Data Arrived at EDR: 07/14/2015  
Date Made Active in Reports: 01/10/2017  
Number of Days to Update: 546

Source: USGS  
Telephone: 202-208-3710  
Last EDR Contact: 10/06/2019  
Next Scheduled EDR Contact: 01/19/2020  
Data Release Frequency: Semi-Annually

## FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017  
Date Data Arrived at EDR: 09/11/2018  
Date Made Active in Reports: 09/14/2018  
Number of Days to Update: 3

Source: Department of Energy  
Telephone: 202-586-3559  
Last EDR Contact: 11/04/2019  
Next Scheduled EDR Contact: 02/17/2020  
Data Release Frequency: Varies

## UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/01/2019  
Date Data Arrived at EDR: 08/21/2019  
Date Made Active in Reports: 11/11/2019  
Number of Days to Update: 82

Source: Department of Energy  
Telephone: 505-845-0011  
Last EDR Contact: 11/15/2019  
Next Scheduled EDR Contact: 03/02/2020  
Data Release Frequency: Varies

## LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 10/25/2019  
Date Data Arrived at EDR: 11/07/2019  
Date Made Active in Reports: 11/20/2019  
Number of Days to Update: 13

Source: Environmental Protection Agency  
Telephone: 703-603-8787  
Last EDR Contact: 12/09/2019  
Next Scheduled EDR Contact: 01/13/2020  
Data Release Frequency: Varies

## LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001  
Date Data Arrived at EDR: 10/27/2010  
Date Made Active in Reports: 12/02/2010  
Number of Days to Update: 36

Source: American Journal of Public Health  
Telephone: 703-305-6451  
Last EDR Contact: 12/02/2009  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

## US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016  
Date Data Arrived at EDR: 10/26/2016  
Date Made Active in Reports: 02/03/2017  
Number of Days to Update: 100

Source: EPA  
Telephone: 202-564-2496  
Last EDR Contact: 09/26/2017  
Next Scheduled EDR Contact: 01/08/2018  
Data Release Frequency: Annually

## US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016  
Date Data Arrived at EDR: 10/26/2016  
Date Made Active in Reports: 02/03/2017  
Number of Days to Update: 100

Source: EPA  
Telephone: 202-564-2496  
Last EDR Contact: 09/26/2017  
Next Scheduled EDR Contact: 01/08/2018  
Data Release Frequency: Annually

## US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2019  
Date Data Arrived at EDR: 08/27/2019  
Date Made Active in Reports: 11/11/2019  
Number of Days to Update: 76

Source: Department of Labor, Mine Safety and Health Administration  
Telephone: 303-231-5959  
Last EDR Contact: 08/27/2019  
Next Scheduled EDR Contact: 12/09/2019  
Data Release Frequency: Semi-Annually

## MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/17/2019  
Date Data Arrived at EDR: 09/18/2019  
Date Made Active in Reports: 12/03/2019  
Number of Days to Update: 76

Source: DOL, Mine Safety & Health Admi  
Telephone: 202-693-9424  
Last EDR Contact: 12/02/2019  
Next Scheduled EDR Contact: 03/16/2020  
Data Release Frequency: Quarterly

## US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005  
Date Data Arrived at EDR: 02/29/2008  
Date Made Active in Reports: 04/18/2008  
Number of Days to Update: 49

Source: USGS  
Telephone: 703-648-7709  
Last EDR Contact: 11/22/2019  
Next Scheduled EDR Contact: 03/09/2020  
Data Release Frequency: Varies

## US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011  
Date Data Arrived at EDR: 06/08/2011  
Date Made Active in Reports: 09/13/2011  
Number of Days to Update: 97

Source: USGS  
Telephone: 703-648-7709  
Last EDR Contact: 11/22/2019  
Next Scheduled EDR Contact: 03/09/2020  
Data Release Frequency: Varies

## ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/10/2019  
Date Data Arrived at EDR: 09/10/2019  
Date Made Active in Reports: 10/17/2019  
Number of Days to Update: 37

Source: Department of Interior  
Telephone: 202-208-2609  
Last EDR Contact: 12/04/2019  
Next Scheduled EDR Contact: 03/23/2020  
Data Release Frequency: Quarterly

## FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 08/12/2019  
Date Data Arrived at EDR: 09/04/2019  
Date Made Active in Reports: 12/03/2019  
Number of Days to Update: 90

Source: EPA  
Telephone: (415) 947-8000  
Last EDR Contact: 12/04/2019  
Next Scheduled EDR Contact: 03/16/2020  
Data Release Frequency: Quarterly

## ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 07/06/2019  
Date Data Arrived at EDR: 07/09/2019  
Date Made Active in Reports: 10/02/2019  
Number of Days to Update: 85

Source: Environmental Protection Agency  
Telephone: 202-564-2280  
Last EDR Contact: 10/08/2019  
Next Scheduled EDR Contact: 01/20/2020  
Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017	Source: Department of Defense
Date Data Arrived at EDR: 01/17/2019	Telephone: 703-704-1564
Date Made Active in Reports: 04/01/2019	Last EDR Contact: 10/10/2019
Number of Days to Update: 74	Next Scheduled EDR Contact: 01/27/2020
	Data Release Frequency: Varies

## DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/26/2018	Telephone: 202-564-0527
Date Made Active in Reports: 10/05/2018	Last EDR Contact: 11/20/2019
Number of Days to Update: 71	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

## FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/19/2019	Source: EPA
Date Data Arrived at EDR: 08/20/2019	Telephone: 800-385-6164
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 11/19/2019
Number of Days to Update: 83	Next Scheduled EDR Contact: 03/02/2020
	Data Release Frequency: Quarterly

## CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989	Source: Department of Health Services
Date Data Arrived at EDR: 07/27/1994	Telephone: 916-255-2118
Date Made Active in Reports: 08/02/1994	Last EDR Contact: 05/31/1994
Number of Days to Update: 6	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

## CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 09/23/2019	Source: CAL EPA/Office of Emergency Information
Date Data Arrived at EDR: 09/24/2019	Telephone: 916-323-3400
Date Made Active in Reports: 11/06/2019	Last EDR Contact: 09/24/2019
Number of Days to Update: 43	Next Scheduled EDR Contact: 01/06/2020
	Data Release Frequency: Quarterly

## CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 10/31/2019	Source: San Francisco County Department of Environmental Health
Date Data Arrived at EDR: 11/01/2019	Telephone: 415-252-3896
Date Made Active in Reports: 12/11/2019	Last EDR Contact: 10/31/2019
Number of Days to Update: 40	Next Scheduled EDR Contact: 02/17/2020
	Data Release Frequency: Varies

## CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/01/2019  
Date Data Arrived at EDR: 05/14/2019  
Date Made Active in Reports: 07/17/2019  
Number of Days to Update: 64

Source: Livermore-Pleasanton Fire Department  
Telephone: 925-454-2361  
Last EDR Contact: 11/14/2019  
Next Scheduled EDR Contact: 02/24/2020  
Data Release Frequency: Varies

**DRYCLEAN SOUTH COAST:** South Coast Air Quality Management District Drycleaner Listing  
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 09/27/2019  
Date Data Arrived at EDR: 10/01/2019  
Date Made Active in Reports: 11/07/2019  
Number of Days to Update: 37

Source: South Coast Air Quality Management District  
Telephone: 909-396-3211  
Last EDR Contact: 11/20/2019  
Next Scheduled EDR Contact: 03/09/2020  
Data Release Frequency: Varies

**DRYCLEAN AVAQMD:** Antelope Valley Air Quality Management District Drycleaner Listing  
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 08/28/2019  
Date Data Arrived at EDR: 08/30/2019  
Date Made Active in Reports: 10/29/2019  
Number of Days to Update: 60

Source: Antelope Valley Air Quality Management District  
Telephone: 661-723-8070  
Last EDR Contact: 12/02/2019  
Next Scheduled EDR Contact: 03/16/2020  
Data Release Frequency: Varies

**DRYCLEANERS:** Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 09/06/2019  
Date Data Arrived at EDR: 10/11/2019  
Date Made Active in Reports: 12/12/2019  
Number of Days to Update: 62

Source: Department of Toxic Substance Control  
Telephone: 916-327-4498  
Last EDR Contact: 12/02/2019  
Next Scheduled EDR Contact: 03/16/2020  
Data Release Frequency: Annually

**EMI:** Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2017  
Date Data Arrived at EDR: 06/24/2019  
Date Made Active in Reports: 08/22/2019  
Number of Days to Update: 59

Source: California Air Resources Board  
Telephone: 916-322-2990  
Last EDR Contact: 09/18/2019  
Next Scheduled EDR Contact: 12/30/2019  
Data Release Frequency: Varies

**ENF:** Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 07/19/2019  
Date Data Arrived at EDR: 07/22/2019  
Date Made Active in Reports: 09/26/2019  
Number of Days to Update: 66

Source: State Water Resources Control Board  
Telephone: 916-445-9379  
Last EDR Contact: 10/30/2019  
Next Scheduled EDR Contact: 02/02/2020  
Data Release Frequency: Varies

**Financial Assurance 1:** Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 07/19/2019  
Date Data Arrived at EDR: 07/23/2019  
Date Made Active in Reports: 09/30/2019  
Number of Days to Update: 69

Source: Department of Toxic Substances Control  
Telephone: 916-255-3628  
Last EDR Contact: 10/17/2019  
Next Scheduled EDR Contact: 02/03/2020  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/16/2019	Source: California Integrated Waste Management Board
Date Data Arrived at EDR: 08/20/2019	Telephone: 916-341-6066
Date Made Active in Reports: 10/18/2019	Last EDR Contact: 11/07/2019
Number of Days to Update: 59	Next Scheduled EDR Contact: 02/24/2020
	Data Release Frequency: Varies

## HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2017	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 05/29/2019	Telephone: 916-255-1136
Date Made Active in Reports: 07/22/2019	Last EDR Contact: 10/11/2019
Number of Days to Update: 54	Next Scheduled EDR Contact: 01/20/2020
	Data Release Frequency: Annually

## ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 08/19/2019	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 08/20/2019	Telephone: 877-786-9427
Date Made Active in Reports: 10/18/2019	Last EDR Contact: 11/19/2019
Number of Days to Update: 59	Next Scheduled EDR Contact: 03/02/2020
	Data Release Frequency: Quarterly

## HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 01/22/2009	Telephone: 916-323-3400
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 01/22/2009
Number of Days to Update: 76	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

## HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/19/2019	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 08/20/2019	Telephone: 916-323-3400
Date Made Active in Reports: 10/18/2019	Last EDR Contact: 11/19/2019
Number of Days to Update: 59	Next Scheduled EDR Contact: 03/02/2020
	Data Release Frequency: Quarterly

## HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 10/07/2019	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 10/08/2019	Telephone: 916-440-7145
Date Made Active in Reports: 11/07/2019	Last EDR Contact: 10/08/2019
Number of Days to Update: 30	Next Scheduled EDR Contact: 01/20/2020
	Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 09/09/2019	Source: Department of Conservation
Date Data Arrived at EDR: 09/09/2019	Telephone: 916-322-1080
Date Made Active in Reports: 11/05/2019	Last EDR Contact: 12/10/2019
Number of Days to Update: 57	Next Scheduled EDR Contact: 03/23/2020
	Data Release Frequency: Quarterly

## MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 07/19/2019	Source: Department of Public Health
Date Data Arrived at EDR: 09/04/2019	Telephone: 916-558-1784
Date Made Active in Reports: 11/05/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 62	Next Scheduled EDR Contact: 03/16/2020
	Data Release Frequency: Varies

## NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 08/12/2019	Source: State Water Resources Control Board
Date Data Arrived at EDR: 08/13/2019	Telephone: 916-445-9379
Date Made Active in Reports: 10/16/2019	Last EDR Contact: 11/12/2019
Number of Days to Update: 64	Next Scheduled EDR Contact: 02/24/2020
	Data Release Frequency: Quarterly

## PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 09/03/2019	Source: Department of Pesticide Regulation
Date Data Arrived at EDR: 09/04/2019	Telephone: 916-445-4038
Date Made Active in Reports: 11/05/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 62	Next Scheduled EDR Contact: 03/16/2020
	Data Release Frequency: Quarterly

## PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 09/09/2019	Source: Department of Conservation
Date Data Arrived at EDR: 09/09/2019	Telephone: 916-323-3836
Date Made Active in Reports: 11/05/2019	Last EDR Contact: 12/10/2019
Number of Days to Update: 57	Next Scheduled EDR Contact: 03/23/2020
	Data Release Frequency: Quarterly

## NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 09/16/2019	Source: State Water Resources Control Board
Date Data Arrived at EDR: 09/18/2019	Telephone: 916-445-3846
Date Made Active in Reports: 11/06/2019	Last EDR Contact: 12/11/2019
Number of Days to Update: 49	Next Scheduled EDR Contact: 03/30/2020
	Data Release Frequency: No Update Planned

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 08/20/2019	Source: Department of Conservation
Date Data Arrived at EDR: 08/20/2019	Telephone: 916-445-2408
Date Made Active in Reports: 11/18/2019	Last EDR Contact: 12/10/2019
Number of Days to Update: 90	Next Scheduled EDR Contact: 03/23/2020
	Data Release Frequency: Varies

## UIC GEO: Underground Injection Control Sites (GEOTRACKER)

Underground control injection sites

Date of Government Version: 09/09/2019	Source: State Water Resource Control Board
Date Data Arrived at EDR: 09/09/2019	Telephone: 866-480-1028
Date Made Active in Reports: 11/01/2019	Last EDR Contact: 12/10/2019
Number of Days to Update: 53	Next Scheduled EDR Contact: 03/23/2020
	Data Release Frequency: Varies

## WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 05/08/2018	Source: RWQCB, Central Valley Region
Date Data Arrived at EDR: 07/11/2018	Telephone: 559-445-5577
Date Made Active in Reports: 09/13/2018	Last EDR Contact: 10/11/2019
Number of Days to Update: 64	Next Scheduled EDR Contact: 01/20/2020
	Data Release Frequency: Varies

## WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007	Source: State Water Resources Control Board
Date Data Arrived at EDR: 06/20/2007	Telephone: 916-341-5227
Date Made Active in Reports: 06/29/2007	Last EDR Contact: 11/14/2019
Number of Days to Update: 9	Next Scheduled EDR Contact: 03/02/2020
	Data Release Frequency: No Update Planned

## WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009	Source: Los Angeles Water Quality Control Board
Date Data Arrived at EDR: 07/21/2009	Telephone: 213-576-6726
Date Made Active in Reports: 08/03/2009	Last EDR Contact: 12/17/2019
Number of Days to Update: 13	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: No Update Planned

## MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)

Military privatized sites

Date of Government Version: 09/09/2019	Source: State Water Resources Control Board
Date Data Arrived at EDR: 09/09/2019	Telephone: 866-480-1028
Date Made Active in Reports: 11/01/2019	Last EDR Contact: 12/10/2019
Number of Days to Update: 53	Next Scheduled EDR Contact: 03/23/2020
	Data Release Frequency: Varies

## PROJECT: Project Sites (GEOTRACKER)

Projects sites

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/09/2019  
Date Data Arrived at EDR: 09/09/2019  
Date Made Active in Reports: 11/01/2019  
Number of Days to Update: 53

Source: State Water Resources Control Board  
Telephone: 866-480-1028  
Last EDR Contact: 12/10/2019  
Next Scheduled EDR Contact: 03/23/2020  
Data Release Frequency: Varies

## WDR: Waste Discharge Requirements Listing

In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 09/09/2019  
Date Data Arrived at EDR: 09/09/2019  
Date Made Active in Reports: 11/06/2019  
Number of Days to Update: 58

Source: State Water Resources Control Board  
Telephone: 916-341-5810  
Last EDR Contact: 12/10/2019  
Next Scheduled EDR Contact: 03/23/2020  
Data Release Frequency: Quarterly

## CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 09/03/2019  
Date Data Arrived at EDR: 09/04/2019  
Date Made Active in Reports: 11/05/2019  
Number of Days to Update: 62

Source: State Water Resources Control Board  
Telephone: 866-794-4977  
Last EDR Contact: 12/04/2019  
Next Scheduled EDR Contact: 03/16/2020  
Data Release Frequency: Varies

## CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 08/14/2019  
Date Data Arrived at EDR: 08/14/2019  
Date Made Active in Reports: 08/21/2019  
Number of Days to Update: 7

Source: California Environmental Protection Agency  
Telephone: 916-323-2514  
Last EDR Contact: 10/22/2019  
Next Scheduled EDR Contact: 02/03/2020  
Data Release Frequency: Varies

## NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 09/09/2019  
Date Data Arrived at EDR: 09/09/2019  
Date Made Active in Reports: 11/01/2019  
Number of Days to Update: 53

Source: State Water Resources Control Board  
Telephone: 866-480-1028  
Last EDR Contact: 12/10/2019  
Next Scheduled EDR Contact: 03/23/2020  
Data Release Frequency: Varies

## OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 09/09/2019  
Date Data Arrived at EDR: 09/09/2019  
Date Made Active in Reports: 11/01/2019  
Number of Days to Update: 53

Source: State Water Resources Control Board  
Telephone: 866-480-1028  
Last EDR Contact: 12/10/2019  
Next Scheduled EDR Contact: 03/23/2020  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 09/09/2019

Date Data Arrived at EDR: 09/09/2019

Date Made Active in Reports: 11/01/2019

Number of Days to Update: 53

Source: State Water Resources Control Board

Telephone: 866-480-1028

Last EDR Contact: 12/10/2019

Next Scheduled EDR Contact: 03/23/2020

Data Release Frequency: Varies

## SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 09/09/2019

Date Data Arrived at EDR: 09/09/2019

Date Made Active in Reports: 11/01/2019

Number of Days to Update: 53

Source: State Water Resources Control Board

Telephone: 866-480-1028

Last EDR Contact: 12/10/2019

Next Scheduled EDR Contact: 03/23/2020

Data Release Frequency: Varies

## WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)

Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 09/09/2019

Date Data Arrived at EDR: 09/09/2019

Date Made Active in Reports: 11/01/2019

Number of Days to Update: 53

Source: State Water Resources Control Board

Telephone: 866-480-1028

Last EDR Contact: 12/10/2019

Next Scheduled EDR Contact: 03/23/2020

Data Release Frequency: Varies

## MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 04/06/2018

Date Data Arrived at EDR: 10/21/2019

Date Made Active in Reports: 10/24/2019

Number of Days to Update: 3

Source: USGS

Telephone: 703-648-6533

Last EDR Contact: 11/22/2019

Next Scheduled EDR Contact: 03/09/2020

Data Release Frequency: Varies

## EDR HIGH RISK HISTORICAL RECORDS

### ***EDR Exclusive Records***

#### EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A

Date Data Arrived at EDR: N/A

Date Made Active in Reports: N/A

Number of Days to Update: N/A

Source: EDR, Inc.

Telephone: N/A

Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

#### EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

## EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

## EDR RECOVERED GOVERNMENT ARCHIVES

### *Exclusive Recovered Govt. Archives*

#### RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A  
Date Data Arrived at EDR: 07/01/2013  
Date Made Active in Reports: 01/13/2014  
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery  
Telephone: N/A  
Last EDR Contact: 06/01/2012  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

#### RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A  
Date Data Arrived at EDR: 07/01/2013  
Date Made Active in Reports: 12/30/2013  
Number of Days to Update: 182

Source: State Water Resources Control Board  
Telephone: N/A  
Last EDR Contact: 06/01/2012  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

## COUNTY RECORDS

### ALAMEDA COUNTY:

#### CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019  
Date Data Arrived at EDR: 01/11/2019  
Date Made Active in Reports: 03/05/2019  
Number of Days to Update: 53

Source: Alameda County Environmental Health Services  
Telephone: 510-567-6700  
Last EDR Contact: 10/02/2019  
Next Scheduled EDR Contact: 01/20/2020  
Data Release Frequency: Semi-Annually

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 10/02/2019  
Date Data Arrived at EDR: 10/03/2019  
Date Made Active in Reports: 11/06/2019  
Number of Days to Update: 34

Source: Alameda County Environmental Health Services  
Telephone: 510-567-6700  
Last EDR Contact: 10/02/2019  
Next Scheduled EDR Contact: 04/24/2047  
Data Release Frequency: Semi-Annually

## AMADOR COUNTY:

### CUPA AMADOR: CUPA Facility List Cupa Facility List

Date of Government Version: 09/06/2019  
Date Data Arrived at EDR: 09/10/2019  
Date Made Active in Reports: 10/31/2019  
Number of Days to Update: 51

Source: Amador County Environmental Health  
Telephone: 209-223-6439  
Last EDR Contact: 12/02/2019  
Next Scheduled EDR Contact: 03/16/2020  
Data Release Frequency: Varies

## BUTTE COUNTY:

### CUPA BUTTE: CUPA Facility Listing Cupa facility list.

Date of Government Version: 04/21/2017  
Date Data Arrived at EDR: 04/25/2017  
Date Made Active in Reports: 08/09/2017  
Number of Days to Update: 106

Source: Public Health Department  
Telephone: 530-538-7149  
Last EDR Contact: 10/02/2019  
Next Scheduled EDR Contact: 01/20/2020  
Data Release Frequency: No Update Planned

## CALVERAS COUNTY:

### CUPA CALVERAS: CUPA Facility Listing Cupa Facility Listing

Date of Government Version: 08/05/2019  
Date Data Arrived at EDR: 08/07/2019  
Date Made Active in Reports: 10/09/2019  
Number of Days to Update: 63

Source: Calveras County Environmental Health  
Telephone: 209-754-6399  
Last EDR Contact: 12/03/2019  
Next Scheduled EDR Contact: 04/06/2020  
Data Release Frequency: Quarterly

## COLUSA COUNTY:

### CUPA COLUSA: CUPA Facility List Cupa facility list.

Date of Government Version: 08/14/2019  
Date Data Arrived at EDR: 08/20/2019  
Date Made Active in Reports: 10/18/2019  
Number of Days to Update: 59

Source: Health & Human Services  
Telephone: 530-458-0396  
Last EDR Contact: 10/31/2019  
Next Scheduled EDR Contact: 02/17/2020  
Data Release Frequency: Semi-Annually

## CONTRA COSTA COUNTY:

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## SL CONTRA COSTA: Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/20/2019  
Date Data Arrived at EDR: 08/23/2019  
Date Made Active in Reports: 10/22/2019  
Number of Days to Update: 60

Source: Contra Costa Health Services Department  
Telephone: 925-646-2286  
Last EDR Contact: 10/28/2019  
Next Scheduled EDR Contact: 02/10/2020  
Data Release Frequency: Semi-Annually

## DEL NORTE COUNTY:

### CUPA DEL NORTE: CUPA Facility List Cupa Facility list

Date of Government Version: 10/11/2019  
Date Data Arrived at EDR: 10/29/2019  
Date Made Active in Reports: 12/11/2019  
Number of Days to Update: 43

Source: Del Norte County Environmental Health Division  
Telephone: 707-465-0426  
Last EDR Contact: 10/25/2019  
Next Scheduled EDR Contact: 02/10/2020  
Data Release Frequency: Varies

## EL DORADO COUNTY:

### CUPA EL DORADO: CUPA Facility List CUPA facility list.

Date of Government Version: 09/06/2019  
Date Data Arrived at EDR: 09/12/2019  
Date Made Active in Reports: 10/31/2019  
Number of Days to Update: 49

Source: El Dorado County Environmental Management Department  
Telephone: 530-621-6623  
Last EDR Contact: 10/28/2019  
Next Scheduled EDR Contact: 02/10/2020  
Data Release Frequency: Varies

## FRESNO COUNTY:

### CUPA FRESNO: CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 10/08/2019  
Date Data Arrived at EDR: 10/10/2019  
Date Made Active in Reports: 12/11/2019  
Number of Days to Update: 62

Source: Dept. of Community Health  
Telephone: 559-445-3271  
Last EDR Contact: 10/09/2019  
Next Scheduled EDR Contact: 01/13/2020  
Data Release Frequency: Semi-Annually

## GLENN COUNTY:

### CUPA GLENN: CUPA Facility List Cupa facility list

Date of Government Version: 01/22/2018  
Date Data Arrived at EDR: 01/24/2018  
Date Made Active in Reports: 03/14/2018  
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District  
Telephone: 830-934-6500  
Last EDR Contact: 10/17/2019  
Next Scheduled EDR Contact: 02/03/2020  
Data Release Frequency: No Update Planned

## HUMBOLDT COUNTY:

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## CUPA HUMBOLDT: CUPA Facility List CUPA facility list.

Date of Government Version: 07/08/2019  
Date Data Arrived at EDR: 07/10/2019  
Date Made Active in Reports: 09/20/2019  
Number of Days to Update: 72

Source: Humboldt County Environmental Health  
Telephone: N/A  
Last EDR Contact: 10/30/2019  
Next Scheduled EDR Contact: 03/02/2020  
Data Release Frequency: Semi-Annually

## IMPERIAL COUNTY:

### CUPA IMPERIAL: CUPA Facility List Cupa facility list.

Date of Government Version: 07/19/2019  
Date Data Arrived at EDR: 07/23/2019  
Date Made Active in Reports: 09/26/2019  
Number of Days to Update: 65

Source: San Diego Border Field Office  
Telephone: 760-339-2777  
Last EDR Contact: 10/17/2019  
Next Scheduled EDR Contact: 02/03/2020  
Data Release Frequency: Varies

## INYO COUNTY:

### CUPA INYO: CUPA Facility List Cupa facility list.

Date of Government Version: 04/02/2018  
Date Data Arrived at EDR: 04/03/2018  
Date Made Active in Reports: 06/14/2018  
Number of Days to Update: 72

Source: Inyo County Environmental Health Services  
Telephone: 760-878-0238  
Last EDR Contact: 11/14/2019  
Next Scheduled EDR Contact: 06/04/2018  
Data Release Frequency: Varies

## KERN COUNTY:

### UST KERN: Underground Storage Tank Sites & Tank Listing Kern County Sites and Tanks Listing.

Date of Government Version: 08/01/2019  
Date Data Arrived at EDR: 08/06/2019  
Date Made Active in Reports: 10/08/2019  
Number of Days to Update: 63

Source: Kern County Environment Health Services Department  
Telephone: 661-862-8700  
Last EDR Contact: 10/31/2019  
Next Scheduled EDR Contact: 02/17/2020  
Data Release Frequency: Quarterly

## KINGS COUNTY:

### CUPA KINGS: CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/14/2019  
Date Data Arrived at EDR: 08/20/2019  
Date Made Active in Reports: 10/18/2019  
Number of Days to Update: 59

Source: Kings County Department of Public Health  
Telephone: 559-584-1411  
Last EDR Contact: 11/25/2019  
Next Scheduled EDR Contact: 03/02/2020  
Data Release Frequency: Varies

## LAKE COUNTY:

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## CUPA LAKE: CUPA Facility List Cupa facility list

Date of Government Version: 08/16/2019  
Date Data Arrived at EDR: 08/20/2019  
Date Made Active in Reports: 10/18/2019  
Number of Days to Update: 59

Source: Lake County Environmental Health  
Telephone: 707-263-1164  
Last EDR Contact: 10/15/2019  
Next Scheduled EDR Contact: 01/27/2020  
Data Release Frequency: Varies

## LASSEN COUNTY:

### CUPA LASSEN: CUPA Facility List Cupa facility list

Date of Government Version: 07/22/2019  
Date Data Arrived at EDR: 07/23/2019  
Date Made Active in Reports: 09/26/2019  
Number of Days to Update: 65

Source: Lassen County Environmental Health  
Telephone: 530-251-8528  
Last EDR Contact: 10/17/2019  
Next Scheduled EDR Contact: 02/03/2020  
Data Release Frequency: Varies

## LOS ANGELES COUNTY:

### AOCONCERN: Key Areas of Concerns in Los Angeles County

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009  
Date Data Arrived at EDR: 03/31/2009  
Date Made Active in Reports: 10/23/2009  
Number of Days to Update: 206

Source: N/A  
Telephone: N/A  
Last EDR Contact: 12/11/2019  
Next Scheduled EDR Contact: 03/30/2020  
Data Release Frequency: No Update Planned

### HMS LOS ANGELES: HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 09/26/2019  
Date Data Arrived at EDR: 10/04/2019  
Date Made Active in Reports: 11/07/2019  
Number of Days to Update: 34

Source: Department of Public Works  
Telephone: 626-458-3517  
Last EDR Contact: 10/02/2019  
Next Scheduled EDR Contact: 01/20/2020  
Data Release Frequency: Semi-Annually

### LF LOS ANGELES: List of Solid Waste Facilities Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/15/2019  
Date Data Arrived at EDR: 10/16/2019  
Date Made Active in Reports: 12/12/2019  
Number of Days to Update: 57

Source: La County Department of Public Works  
Telephone: 818-458-5185  
Last EDR Contact: 10/16/2019  
Next Scheduled EDR Contact: 01/27/2020  
Data Release Frequency: Varies

### LF LOS ANGELES CITY: City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2019  
Date Data Arrived at EDR: 01/15/2019  
Date Made Active in Reports: 03/07/2019  
Number of Days to Update: 51

Source: Engineering & Construction Division  
Telephone: 213-473-7869  
Last EDR Contact: 10/09/2019  
Next Scheduled EDR Contact: 01/27/2020  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## LOS ANGELES AST: Active & Inactive AST Inventory

A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019	Source: Los Angeles Fire Department
Date Data Arrived at EDR: 06/25/2019	Telephone: 213-978-3800
Date Made Active in Reports: 08/22/2019	Last EDR Contact: 09/27/2019
Number of Days to Update: 58	Next Scheduled EDR Contact: 01/06/2020
	Data Release Frequency: Varies

## LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/30/2012	Source: Los Angeles County Department of Public Works
Date Data Arrived at EDR: 04/17/2019	Telephone: 626-458-6973
Date Made Active in Reports: 05/29/2019	Last EDR Contact: 10/18/2019
Number of Days to Update: 42	Next Scheduled EDR Contact: 01/27/2020
	Data Release Frequency: No Update Planned

## LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory

A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019	Source: Los Angeles Fire Department
Date Data Arrived at EDR: 06/25/2019	Telephone: 213-978-3800
Date Made Active in Reports: 08/22/2019	Last EDR Contact: 09/27/2019
Number of Days to Update: 58	Next Scheduled EDR Contact: 01/06/2020
	Data Release Frequency: Varies

## LOS ANGELES UST: Active & Inactive UST Inventory

A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/01/2019	Source: Los Angeles Fire Department
Date Data Arrived at EDR: 06/25/2019	Telephone: 213-978-3800
Date Made Active in Reports: 08/22/2019	Last EDR Contact: 09/27/2019
Number of Days to Update: 58	Next Scheduled EDR Contact: 01/06/2020
	Data Release Frequency: Varies

## SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 07/15/2019	Source: Community Health Services
Date Data Arrived at EDR: 07/17/2019	Telephone: 323-890-7806
Date Made Active in Reports: 08/05/2019	Last EDR Contact: 10/29/2019
Number of Days to Update: 19	Next Scheduled EDR Contact: 01/27/2020
	Data Release Frequency: Annually

## UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017	Source: City of El Segundo Fire Department
Date Data Arrived at EDR: 04/19/2017	Telephone: 310-524-2236
Date Made Active in Reports: 05/10/2017	Last EDR Contact: 10/09/2019
Number of Days to Update: 21	Next Scheduled EDR Contact: 01/27/2020
	Data Release Frequency: No Update Planned

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST LONG BEACH: City of Long Beach Underground Storage Tank  
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019	Source: City of Long Beach Fire Department
Date Data Arrived at EDR: 04/23/2019	Telephone: 562-570-2563
Date Made Active in Reports: 06/27/2019	Last EDR Contact: 10/17/2019
Number of Days to Update: 65	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank  
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/27/2019	Source: City of Torrance Fire Department
Date Data Arrived at EDR: 07/30/2019	Telephone: 310-618-2973
Date Made Active in Reports: 10/02/2019	Last EDR Contact: 10/17/2019
Number of Days to Update: 64	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/22/2019	Source: Madera County Environmental Health
Date Data Arrived at EDR: 08/26/2019	Telephone: 559-675-7823
Date Made Active in Reports: 10/29/2019	Last EDR Contact: 11/14/2019
Number of Days to Update: 64	Next Scheduled EDR Contact: 03/02/2020
	Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites  
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018	Source: Public Works Department Waste Management
Date Data Arrived at EDR: 10/04/2018	Telephone: 415-473-6647
Date Made Active in Reports: 11/02/2018	Last EDR Contact: 12/19/2019
Number of Days to Update: 29	Next Scheduled EDR Contact: 04/13/2020
	Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List  
CUPA facility list.

Date of Government Version: 05/29/2019	Source: Merced County Environmental Health
Date Data Arrived at EDR: 05/30/2019	Telephone: 209-381-1094
Date Made Active in Reports: 07/22/2019	Last EDR Contact: 11/14/2019
Number of Days to Update: 53	Next Scheduled EDR Contact: 03/02/2020
	Data Release Frequency: Varies

MONO COUNTY:

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## CUPA MONO: CUPA Facility List CUPA Facility List

Date of Government Version: 08/21/2019  
Date Data Arrived at EDR: 09/03/2019  
Date Made Active in Reports: 10/31/2019  
Number of Days to Update: 58

Source: Mono County Health Department  
Telephone: 760-932-5580  
Last EDR Contact: 11/20/2019  
Next Scheduled EDR Contact: 03/09/2020  
Data Release Frequency: Varies

## MONTEREY COUNTY:

### CUPA MONTEREY: CUPA Facility Listing

CUPA Program listing from the Environmental Health Division.

Date of Government Version: 07/25/2019  
Date Data Arrived at EDR: 07/30/2019  
Date Made Active in Reports: 09/30/2019  
Number of Days to Update: 58

Source: Monterey County Health Department  
Telephone: 831-796-1297  
Last EDR Contact: 12/19/2019  
Next Scheduled EDR Contact: 04/13/2020  
Data Release Frequency: Varies

## NAPA COUNTY:

### LUST NAPA: Sites With Reported Contamination

A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017  
Date Data Arrived at EDR: 01/11/2017  
Date Made Active in Reports: 03/02/2017  
Number of Days to Update: 50

Source: Napa County Department of Environmental Management  
Telephone: 707-253-4269  
Last EDR Contact: 11/20/2019  
Next Scheduled EDR Contact: 03/09/2020  
Data Release Frequency: No Update Planned

### UST NAPA: Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019  
Date Data Arrived at EDR: 09/09/2019  
Date Made Active in Reports: 10/31/2019  
Number of Days to Update: 52

Source: Napa County Department of Environmental Management  
Telephone: 707-253-4269  
Last EDR Contact: 11/20/2019  
Next Scheduled EDR Contact: 03/09/2020  
Data Release Frequency: No Update Planned

## NEVADA COUNTY:

### CUPA NEVADA: CUPA Facility List

CUPA facility list.

Date of Government Version: 10/30/2019  
Date Data Arrived at EDR: 10/30/2019  
Date Made Active in Reports: 12/11/2019  
Number of Days to Update: 42

Source: Community Development Agency  
Telephone: 530-265-1467  
Last EDR Contact: 10/25/2019  
Next Scheduled EDR Contact: 02/10/2020  
Data Release Frequency: Varies

## ORANGE COUNTY:

### IND\_SITE ORANGE: List of Industrial Site Cleanups

Petroleum and non-petroleum spills.



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/10/2019  
Date Data Arrived at EDR: 08/07/2019  
Date Made Active in Reports: 10/09/2019  
Number of Days to Update: 63

Source: Health Care Agency  
Telephone: 714-834-3446  
Last EDR Contact: 11/04/2019  
Next Scheduled EDR Contact: 02/17/2020  
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups  
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 07/10/2019  
Date Data Arrived at EDR: 08/09/2019  
Date Made Active in Reports: 10/09/2019  
Number of Days to Update: 61

Source: Health Care Agency  
Telephone: 714-834-3446  
Last EDR Contact: 11/04/2019  
Next Scheduled EDR Contact: 02/17/2020  
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities  
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 07/10/2019  
Date Data Arrived at EDR: 08/06/2019  
Date Made Active in Reports: 10/09/2019  
Number of Days to Update: 64

Source: Health Care Agency  
Telephone: 714-834-3446  
Last EDR Contact: 11/05/2019  
Next Scheduled EDR Contact: 02/17/2020  
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 09/03/2019  
Date Data Arrived at EDR: 09/05/2019  
Date Made Active in Reports: 11/05/2019  
Number of Days to Update: 61

Source: Placer County Health and Human Services  
Telephone: 530-745-2363  
Last EDR Contact: 12/02/2019  
Next Scheduled EDR Contact: 03/16/2020  
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List

Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019  
Date Data Arrived at EDR: 04/23/2019  
Date Made Active in Reports: 06/26/2019  
Number of Days to Update: 64

Source: Plumas County Environmental Health  
Telephone: 530-283-6355  
Last EDR Contact: 10/17/2019  
Next Scheduled EDR Contact: 02/03/2020  
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites  
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 10/17/2019  
Date Data Arrived at EDR: 10/22/2019  
Date Made Active in Reports: 12/13/2019  
Number of Days to Update: 52

Source: Department of Environmental Health  
Telephone: 951-358-5055  
Last EDR Contact: 12/16/2019  
Next Scheduled EDR Contact: 03/30/2020  
Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## UST RIVERSIDE: Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 07/10/2019  
Date Data Arrived at EDR: 07/11/2019  
Date Made Active in Reports: 09/23/2019  
Number of Days to Update: 74

Source: Department of Environmental Health  
Telephone: 951-358-5055  
Last EDR Contact: 12/16/2019  
Next Scheduled EDR Contact: 03/30/2020  
Data Release Frequency: Quarterly

## SACRAMENTO COUNTY:

### CS SACRAMENTO: Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 08/06/2019  
Date Data Arrived at EDR: 10/01/2019  
Date Made Active in Reports: 11/07/2019  
Number of Days to Update: 37

Source: Sacramento County Environmental Management  
Telephone: 916-875-8406  
Last EDR Contact: 10/01/2019  
Next Scheduled EDR Contact: 01/13/2020  
Data Release Frequency: Quarterly

### ML SACRAMENTO: Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/07/2019  
Date Data Arrived at EDR: 10/01/2019  
Date Made Active in Reports: 11/08/2019  
Number of Days to Update: 38

Source: Sacramento County Environmental Management  
Telephone: 916-875-8406  
Last EDR Contact: 10/01/2019  
Next Scheduled EDR Contact: 01/13/2020  
Data Release Frequency: Quarterly

## SAN BENITO COUNTY:

### CUPA SAN BENITO: CUPA Facility List

Cupa facility list

Date of Government Version: 07/16/2019  
Date Data Arrived at EDR: 07/16/2019  
Date Made Active in Reports: 09/24/2019  
Number of Days to Update: 70

Source: San Benito County Environmental Health  
Telephone: N/A  
Last EDR Contact: 11/14/2019  
Next Scheduled EDR Contact: 02/17/2020  
Data Release Frequency: Varies

## SAN BERNARDINO COUNTY:

### PERMITS SAN BERNARDINO: Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 08/29/2019  
Date Data Arrived at EDR: 08/30/2019  
Date Made Active in Reports: 10/29/2019  
Number of Days to Update: 60

Source: San Bernardino County Fire Department Hazardous Materials Division  
Telephone: 909-387-3041  
Last EDR Contact: 11/04/2019  
Next Scheduled EDR Contact: 02/17/2020  
Data Release Frequency: Quarterly

## SAN DIEGO COUNTY:

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/03/2019  
Date Data Arrived at EDR: 09/04/2019  
Date Made Active in Reports: 11/05/2019  
Number of Days to Update: 62

Source: Hazardous Materials Management Division  
Telephone: 619-338-2268  
Last EDR Contact: 12/04/2019  
Next Scheduled EDR Contact: 03/16/2020  
Data Release Frequency: Quarterly

## LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018  
Date Data Arrived at EDR: 04/24/2018  
Date Made Active in Reports: 06/19/2018  
Number of Days to Update: 56

Source: Department of Health Services  
Telephone: 619-338-2209  
Last EDR Contact: 10/31/2019  
Next Scheduled EDR Contact: 02/03/2020  
Data Release Frequency: Varies

## SAN DIEGO CO LOP: Local Oversight Program Listing

A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 10/16/2019  
Date Data Arrived at EDR: 10/22/2019  
Date Made Active in Reports: 12/13/2019  
Number of Days to Update: 52

Source: Department of Environmental Health  
Telephone: 858-505-6874  
Last EDR Contact: 10/17/2019  
Next Scheduled EDR Contact: 02/03/2020  
Data Release Frequency: Varies

## SAN DIEGO CO SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010  
Date Data Arrived at EDR: 06/15/2010  
Date Made Active in Reports: 07/09/2010  
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health  
Telephone: 619-338-2371  
Last EDR Contact: 11/25/2019  
Next Scheduled EDR Contact: 03/16/2020  
Data Release Frequency: No Update Planned

## SAN FRANCISCO COUNTY:

### LUST SAN FRANCISCO: Local Oversight Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008  
Date Data Arrived at EDR: 09/19/2008  
Date Made Active in Reports: 09/29/2008  
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County  
Telephone: 415-252-3920  
Last EDR Contact: 10/31/2019  
Next Scheduled EDR Contact: 02/17/2020  
Data Release Frequency: No Update Planned

### UST SAN FRANCISCO: Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/01/2019  
Date Data Arrived at EDR: 08/02/2019  
Date Made Active in Reports: 10/08/2019  
Number of Days to Update: 67

Source: Department of Public Health  
Telephone: 415-252-3920  
Last EDR Contact: 10/31/2019  
Next Scheduled EDR Contact: 02/17/2020  
Data Release Frequency: Quarterly

## SAN JOAQUIN COUNTY:

### UST SAN JOAQUIN: San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018  
Date Data Arrived at EDR: 06/26/2018  
Date Made Active in Reports: 07/11/2018  
Number of Days to Update: 15

Source: Environmental Health Department  
Telephone: N/A  
Last EDR Contact: 12/11/2019  
Next Scheduled EDR Contact: 03/30/2020  
Data Release Frequency: Semi-Annually

## SAN LUIS OBISPO COUNTY:

### CUPA SAN LUIS OBISPO: CUPA Facility List Cupa Facility List.

Date of Government Version: 08/14/2019  
Date Data Arrived at EDR: 08/20/2019  
Date Made Active in Reports: 10/18/2019  
Number of Days to Update: 59

Source: San Luis Obispo County Public Health Department  
Telephone: 805-781-5596  
Last EDR Contact: 12/11/2019  
Next Scheduled EDR Contact: 03/02/2020  
Data Release Frequency: Varies

## SAN MATEO COUNTY:

### BI SAN MATEO: Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 09/03/2019  
Date Data Arrived at EDR: 09/09/2019  
Date Made Active in Reports: 11/05/2019  
Number of Days to Update: 57

Source: San Mateo County Environmental Health Services Division  
Telephone: 650-363-1921  
Last EDR Contact: 12/10/2019  
Next Scheduled EDR Contact: 03/23/2020  
Data Release Frequency: Annually

### LUST SAN MATEO: Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019  
Date Data Arrived at EDR: 03/29/2019  
Date Made Active in Reports: 05/29/2019  
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division  
Telephone: 650-363-1921  
Last EDR Contact: 12/05/2019  
Next Scheduled EDR Contact: 03/23/2020  
Data Release Frequency: Semi-Annually

## SANTA BARBARA COUNTY:

### CUPA SANTA BARBARA: CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011  
Date Data Arrived at EDR: 09/09/2011  
Date Made Active in Reports: 10/07/2011  
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department  
Telephone: 805-686-8167  
Last EDR Contact: 11/14/2019  
Next Scheduled EDR Contact: 03/02/2020  
Data Release Frequency: No Update Planned

## SANTA CLARA COUNTY:

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## CUPA SANTA CLARA: Cupa Facility List Cupa facility list

Date of Government Version: 08/14/2019  
Date Data Arrived at EDR: 08/20/2019  
Date Made Active in Reports: 10/18/2019  
Number of Days to Update: 59

Source: Department of Environmental Health  
Telephone: 408-918-1973  
Last EDR Contact: 11/14/2019  
Next Scheduled EDR Contact: 03/02/2020  
Data Release Frequency: Varies

## HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005  
Date Data Arrived at EDR: 03/30/2005  
Date Made Active in Reports: 04/21/2005  
Number of Days to Update: 22

Source: Santa Clara Valley Water District  
Telephone: 408-265-2600  
Last EDR Contact: 03/23/2009  
Next Scheduled EDR Contact: 06/22/2009  
Data Release Frequency: No Update Planned

## LUST SANTA CLARA: LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014  
Date Data Arrived at EDR: 03/05/2014  
Date Made Active in Reports: 03/18/2014  
Number of Days to Update: 13

Source: Department of Environmental Health  
Telephone: 408-918-3417  
Last EDR Contact: 11/20/2019  
Next Scheduled EDR Contact: 03/09/2020  
Data Release Frequency: No Update Planned

## SAN JOSE HAZMAT: Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 07/30/2019  
Date Data Arrived at EDR: 08/02/2019  
Date Made Active in Reports: 10/08/2019  
Number of Days to Update: 67

Source: City of San Jose Fire Department  
Telephone: 408-535-7694  
Last EDR Contact: 10/31/2019  
Next Scheduled EDR Contact: 02/17/2020  
Data Release Frequency: Annually

## SANTA CRUZ COUNTY:

### CUPA SANTA CRUZ: CUPA Facility List CUPA facility listing.

Date of Government Version: 01/21/2017  
Date Data Arrived at EDR: 02/22/2017  
Date Made Active in Reports: 05/23/2017  
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health  
Telephone: 831-464-2761  
Last EDR Contact: 11/14/2019  
Next Scheduled EDR Contact: 03/02/2020  
Data Release Frequency: Varies

## SHASTA COUNTY:

### CUPA SHASTA: CUPA Facility List Cupa Facility List.

Date of Government Version: 06/15/2017  
Date Data Arrived at EDR: 06/19/2017  
Date Made Active in Reports: 08/09/2017  
Number of Days to Update: 51

Source: Shasta County Department of Resource Management  
Telephone: 530-225-5789  
Last EDR Contact: 11/14/2019  
Next Scheduled EDR Contact: 03/02/2020  
Data Release Frequency: Varies

## SOLANO COUNTY:

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## LUST SOLANO: Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019  
Date Data Arrived at EDR: 06/06/2019  
Date Made Active in Reports: 08/13/2019  
Number of Days to Update: 68

Source: Solano County Department of Environmental Management  
Telephone: 707-784-6770  
Last EDR Contact: 11/25/2019  
Next Scheduled EDR Contact: 03/16/2020  
Data Release Frequency: Quarterly

## UST SOLANO: Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 08/28/2019  
Date Data Arrived at EDR: 08/30/2019  
Date Made Active in Reports: 10/29/2019  
Number of Days to Update: 60

Source: Solano County Department of Environmental Management  
Telephone: 707-784-6770  
Last EDR Contact: 12/02/2019  
Next Scheduled EDR Contact: 03/16/2020  
Data Release Frequency: Quarterly

## SONOMA COUNTY:

### CUPA SONOMA: Cupa Facility List

Cupa Facility list

Date of Government Version: 06/18/2019  
Date Data Arrived at EDR: 06/25/2019  
Date Made Active in Reports: 07/24/2019  
Number of Days to Update: 29

Source: County of Sonoma Fire & Emergency Services Department  
Telephone: 707-565-1174  
Last EDR Contact: 12/17/2019  
Next Scheduled EDR Contact: 04/06/2020  
Data Release Frequency: Varies

### LUST SONOMA: Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 10/01/2019  
Date Data Arrived at EDR: 10/02/2019  
Date Made Active in Reports: 11/07/2019  
Number of Days to Update: 36

Source: Department of Health Services  
Telephone: 707-565-6565  
Last EDR Contact: 12/17/2019  
Next Scheduled EDR Contact: 04/06/2020  
Data Release Frequency: Quarterly

## STANISLAUS COUNTY:

### CUPA STANISLAUS: CUPA Facility List

Cupa facility list

Date of Government Version: 07/18/2019  
Date Data Arrived at EDR: 07/18/2019  
Date Made Active in Reports: 09/26/2019  
Number of Days to Update: 70

Source: Stanislaus County Department of Environmental Protection  
Telephone: 209-525-6751  
Last EDR Contact: 10/28/2019  
Next Scheduled EDR Contact: 01/27/2020  
Data Release Frequency: Varies

## SUTTER COUNTY:

### UST SUTTER: Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 08/29/2019  
Date Data Arrived at EDR: 09/03/2019  
Date Made Active in Reports: 11/06/2019  
Number of Days to Update: 64

Source: Sutter County Environmental Health Services  
Telephone: 530-822-7500  
Last EDR Contact: 12/02/2019  
Next Scheduled EDR Contact: 03/16/2020  
Data Release Frequency: Semi-Annually

## TEHAMA COUNTY:

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## CUPA TEHAMA: CUPA Facility List Cupa facilities

Date of Government Version: 05/20/2019  
Date Data Arrived at EDR: 05/21/2019  
Date Made Active in Reports: 07/18/2019  
Number of Days to Update: 58

Source: Tehama County Department of Environmental Health  
Telephone: 530-527-8020  
Last EDR Contact: 11/14/2019  
Next Scheduled EDR Contact: 02/17/2020  
Data Release Frequency: Varies

## TRINITY COUNTY:

### CUPA TRINITY: CUPA Facility List Cupa facility list

Date of Government Version: 07/19/2019  
Date Data Arrived at EDR: 07/23/2019  
Date Made Active in Reports: 09/26/2019  
Number of Days to Update: 65

Source: Department of Toxic Substances Control  
Telephone: 760-352-0381  
Last EDR Contact: 10/17/2019  
Next Scheduled EDR Contact: 02/03/2020  
Data Release Frequency: Varies

## TULARE COUNTY:

### CUPA TULARE: CUPA Facility List Cupa program facilities

Date of Government Version: 08/12/2019  
Date Data Arrived at EDR: 08/14/2019  
Date Made Active in Reports: 10/17/2019  
Number of Days to Update: 64

Source: Tulare County Environmental Health Services Division  
Telephone: 559-624-7400  
Last EDR Contact: 11/04/2019  
Next Scheduled EDR Contact: 02/17/2020  
Data Release Frequency: Varies

## TUOLUMNE COUNTY:

### CUPA TUOLUMNE: CUPA Facility List Cupa facility list

Date of Government Version: 04/23/2018  
Date Data Arrived at EDR: 04/25/2018  
Date Made Active in Reports: 06/25/2018  
Number of Days to Update: 61

Source: Divison of Environmental Health  
Telephone: 209-533-5633  
Last EDR Contact: 10/17/2019  
Next Scheduled EDR Contact: 02/03/2020  
Data Release Frequency: Varies

## VENTURA COUNTY:

### BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 05/29/2019  
Date Data Arrived at EDR: 07/29/2019  
Date Made Active in Reports: 09/30/2019  
Number of Days to Update: 63

Source: Ventura County Environmental Health Division  
Telephone: 805-654-2813  
Last EDR Contact: 10/21/2019  
Next Scheduled EDR Contact: 02/03/2020  
Data Release Frequency: Quarterly

### LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/01/2011  
Date Data Arrived at EDR: 12/01/2011  
Date Made Active in Reports: 01/19/2012  
Number of Days to Update: 49

Source: Environmental Health Division  
Telephone: 805-654-2813  
Last EDR Contact: 12/19/2019  
Next Scheduled EDR Contact: 04/13/2020  
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites  
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008  
Date Data Arrived at EDR: 06/24/2008  
Date Made Active in Reports: 07/31/2008  
Number of Days to Update: 37

Source: Environmental Health Division  
Telephone: 805-654-2813  
Last EDR Contact: 11/07/2019  
Next Scheduled EDR Contact: 02/24/2020  
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 09/26/2019  
Date Data Arrived at EDR: 10/23/2019  
Date Made Active in Reports: 12/13/2019  
Number of Days to Update: 51

Source: Ventura County Resource Management Agency  
Telephone: 805-654-2813  
Last EDR Contact: 10/21/2019  
Next Scheduled EDR Contact: 02/03/2020  
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 07/26/2019  
Date Data Arrived at EDR: 09/09/2019  
Date Made Active in Reports: 10/31/2019  
Number of Days to Update: 52

Source: Environmental Health Division  
Telephone: 805-654-2813  
Last EDR Contact: 12/10/2019  
Next Scheduled EDR Contact: 03/23/2020  
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 09/25/2019  
Date Data Arrived at EDR: 10/01/2019  
Date Made Active in Reports: 10/31/2019  
Number of Days to Update: 30

Source: Yolo County Department of Health  
Telephone: 530-666-8646  
Last EDR Contact: 12/19/2019  
Next Scheduled EDR Contact: 04/13/2020  
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List

CUPA facility listing for Yuba County.

Date of Government Version: 07/26/2019  
Date Data Arrived at EDR: 07/31/2019  
Date Made Active in Reports: 10/08/2019  
Number of Days to Update: 69

Source: Yuba County Environmental Health Department  
Telephone: 530-749-7523  
Last EDR Contact: 10/25/2019  
Next Scheduled EDR Contact: 02/10/2020  
Data Release Frequency: Varies



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

### CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 05/14/2019	Source: Department of Energy & Environmental Protection
Date Data Arrived at EDR: 05/14/2019	Telephone: 860-424-3375
Date Made Active in Reports: 08/05/2019	Last EDR Contact: 11/11/2019
Number of Days to Update: 83	Next Scheduled EDR Contact: 02/24/2020
	Data Release Frequency: No Update Planned

### NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018	Source: Department of Environmental Protection
Date Data Arrived at EDR: 04/10/2019	Telephone: N/A
Date Made Active in Reports: 05/16/2019	Last EDR Contact: 10/02/2019
Number of Days to Update: 36	Next Scheduled EDR Contact: 01/20/2020
	Data Release Frequency: Annually

### NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019	Source: Department of Environmental Conservation
Date Data Arrived at EDR: 05/01/2019	Telephone: 518-402-8651
Date Made Active in Reports: 06/21/2019	Last EDR Contact: 10/29/2019
Number of Days to Update: 51	Next Scheduled EDR Contact: 02/10/2020
	Data Release Frequency: Quarterly

### PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018	Source: Department of Environmental Protection
Date Data Arrived at EDR: 07/19/2019	Telephone: 717-783-8990
Date Made Active in Reports: 09/10/2019	Last EDR Contact: 10/09/2019
Number of Days to Update: 53	Next Scheduled EDR Contact: 12/07/2020
	Data Release Frequency: Annually

### RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2018	Source: Department of Environmental Management
Date Data Arrived at EDR: 10/02/2019	Telephone: 401-222-2797
Date Made Active in Reports: 12/10/2019	Last EDR Contact: 11/14/2019
Number of Days to Update: 69	Next Scheduled EDR Contact: 03/02/2020
	Data Release Frequency: Annually

### WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018	Source: Department of Natural Resources
Date Data Arrived at EDR: 06/19/2019	Telephone: N/A
Date Made Active in Reports: 09/03/2019	Last EDR Contact: 12/18/2019
Number of Days to Update: 76	Next Scheduled EDR Contact: 03/23/2020
	Data Release Frequency: Annually

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

### Electric Power Transmission Line Data

Source: Endeavor Business Media

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**Sensitive Receptors:** There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

### AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

### Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

### Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

### Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

### Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

### Daycare Centers: Licensed Facilities

Source: Department of Social Services

Telephone: 916-657-4041

**Flood Zone Data:** This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

**NWI:** National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

### State Wetlands Data: Wetland Inventory

Source: Department of Fish and Wildlife

Telephone: 916-445-0411

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Current USGS 7.5 Minute Topographic Map  
Source: U.S. Geological Survey

## STREET AND ADDRESS INFORMATION

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## GEOCHECK® - PHYSICAL SETTING SOURCE ADDENDUM

### TARGET PROPERTY ADDRESS

JAMES BORBA DAIRY  
7475 EUCALYPTUS AVENUE  
CHINO, CA 91710

### TARGET PROPERTY COORDINATES

Latitude (North): 33.986725 - 33° 59' 12.21"  
Longitude (West): 117.643247 - 117° 38' 35.69"  
Universal Transverse Mercator: Zone 11  
UTM X (Meters): 440586.5  
UTM Y (Meters): 3760676.0  
Elevation: 654 ft. above sea level

### USGS TOPOGRAPHIC MAP

Target Property Map: 5640938 PRADO DAM, CA  
Version Date: 2012

Northeast Map: 5620426 GUASTI, CA  
Version Date: 2012

Southeast Map: 5640930 CORONA NORTH, CA  
Version Date: 2012

Northwest Map: 5619074 ONTARIO, CA  
Version Date: 2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

## GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

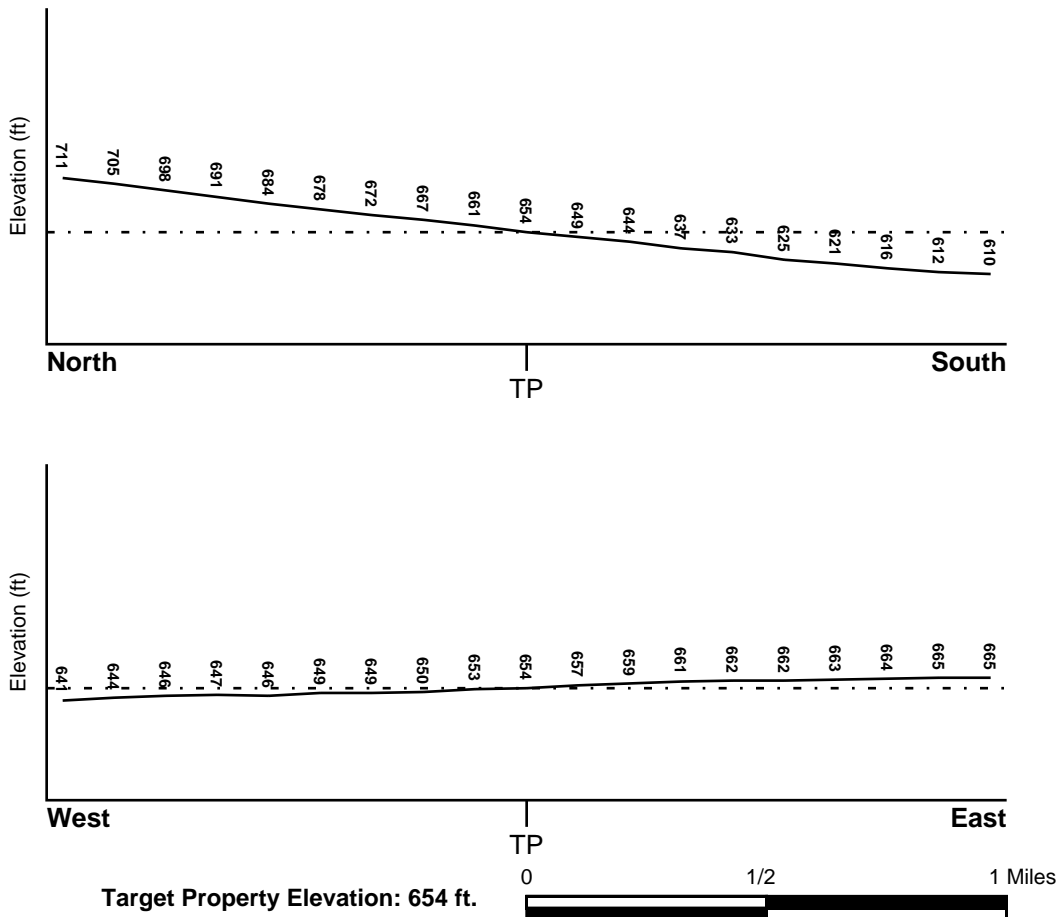
## TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

## TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSW

## SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

## HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

## **FEMA FLOOD ZONE**

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
06071C9335H	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
06037C1750F	FEMA FIRM Flood data
06071C8620H	FEMA FIRM Flood data

## **NATIONAL WETLAND INVENTORY**

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
PRADO DAM	YES - refer to the Overview Map and Detail Map

## HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

### ***Site-Specific Hydrogeological Data\*:***

Search Radius:	1.25 miles
Status:	Not found

## **AQUIFLOW®**

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

## GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

### GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

### GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

#### **ROCK STRATIGRAPHIC UNIT**

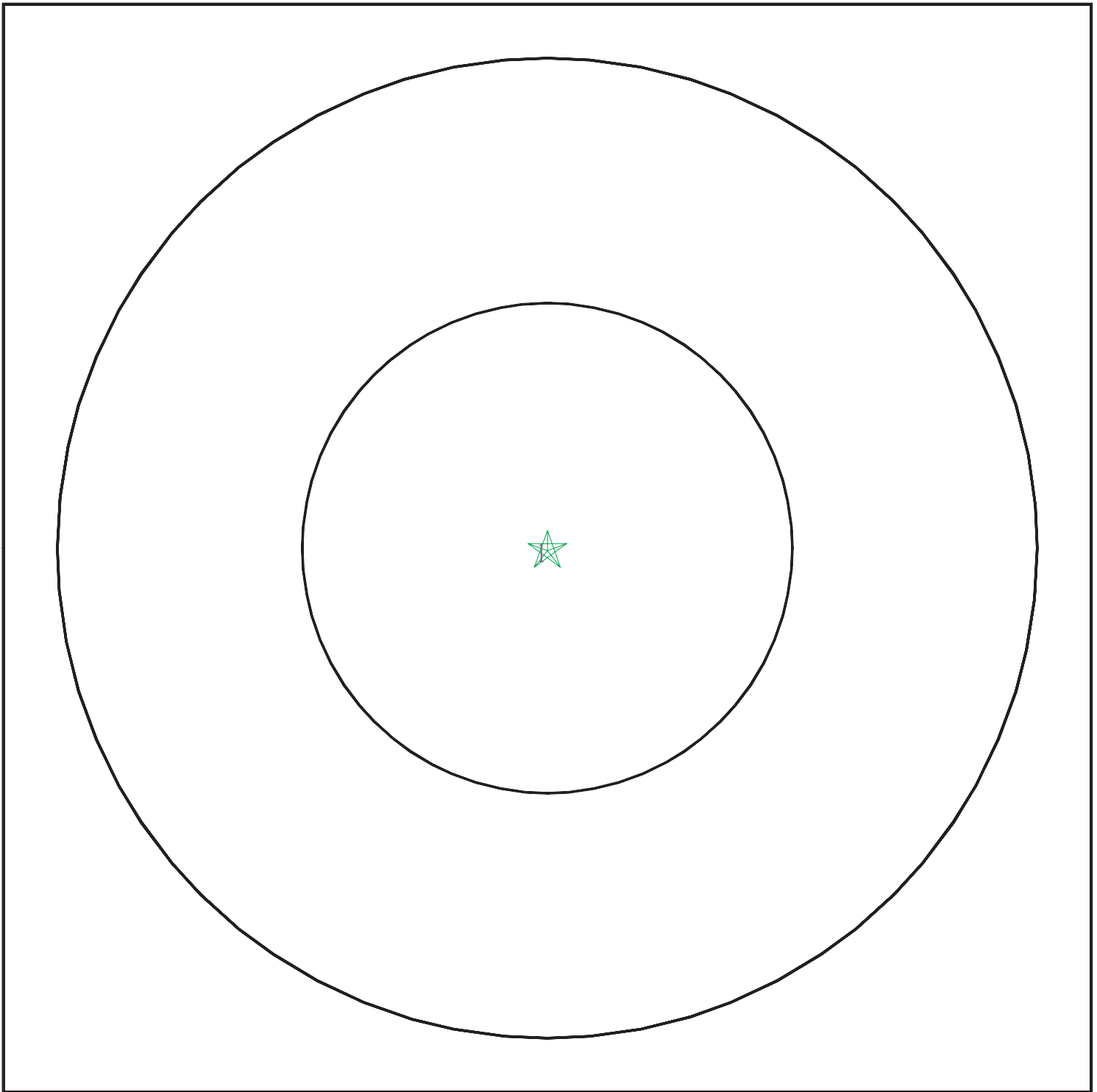
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q ( <i>decoded above as Era, System &amp; Series</i> )

#### **GEOLOGIC AGE IDENTIFICATION**

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

# SSURGO SOIL MAP - 5912552.2s



- ★ Target Property
- ∩ SSURGO Soil
- ∩ Water



SITE NAME: James Borba Dairy  
ADDRESS: 7475 Eucalyptus Avenue  
Chino CA 91710  
LAT/LONG: 33.986725 / 117.643247

CLIENT: Citadel Environmental Services  
CONTACT: Shirley Lee  
INQUIRY #: 5912552.2s  
DATE: December 20, 2019 9:22 am



# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

## DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

### Soil Map ID: 1

Soil Component Name: CHINO

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Somewhat poorly drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	16 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9
2	16 inches	59 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9

### LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

# GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

## WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

## **FEDERAL USGS WELL INFORMATION**

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

## **FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION**

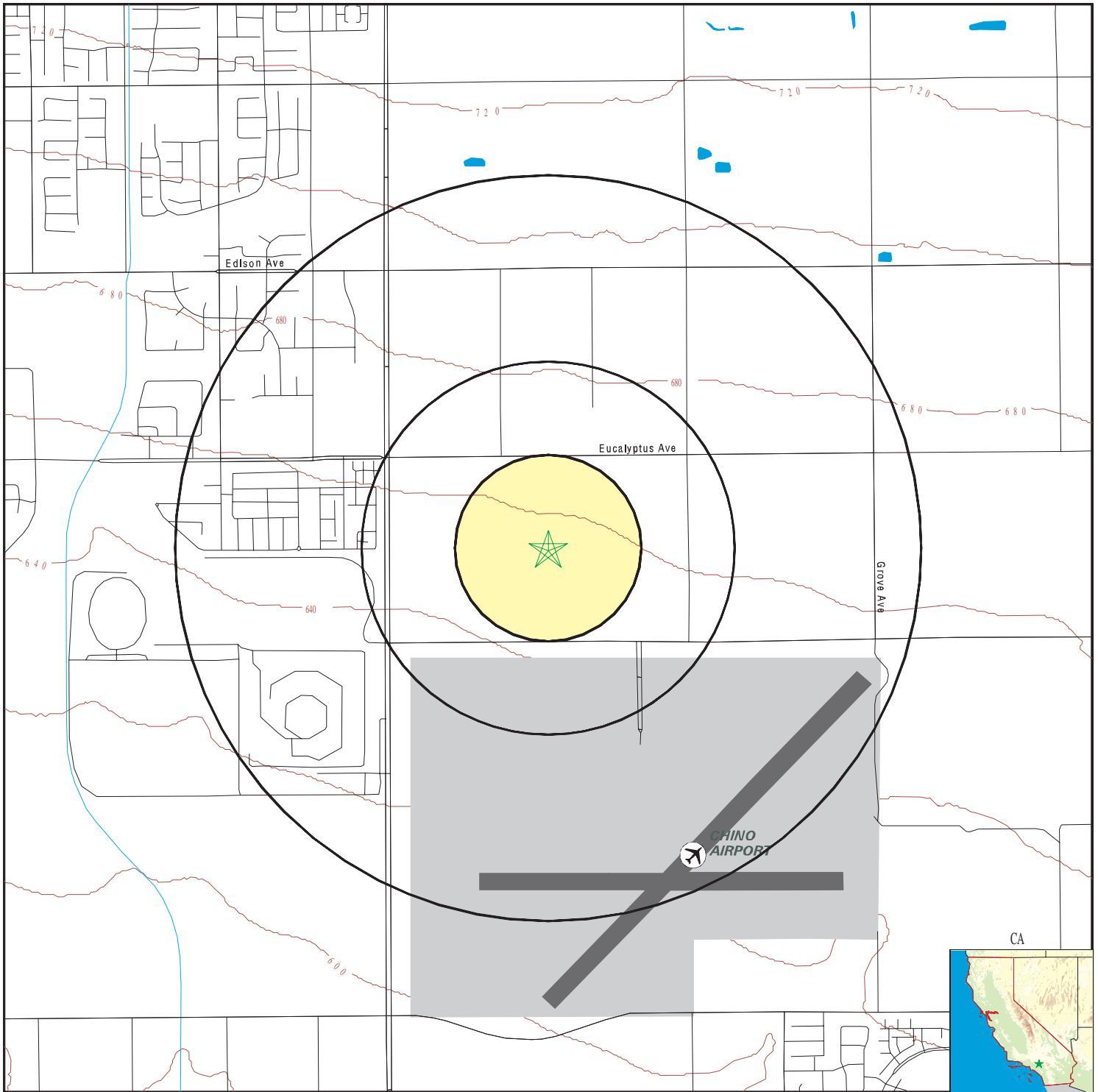
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

## **STATE DATABASE WELL INFORMATION**

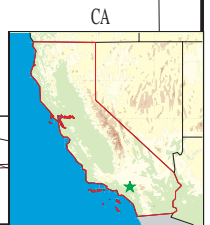
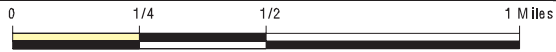
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

# PHYSICAL SETTING SOURCE MAP - 5912552.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells



SITE NAME: James Borba Dairy  
 ADDRESS: 7475 Eucalyptus Avenue  
 Chino CA 91710  
 LAT/LONG: 33.986725 / 117.643247

CLIENT: Citadel Environmental Services  
 CONTACT: Shirley Lee  
 INQUIRY #: 5912552.2s  
 DATE: December 20, 2019 9:21 am

# GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

## AREA RADON INFORMATION

State Database: CA Radon

### Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
91710	14	0

Federal EPA Radon Zone for SAN BERNARDINO County: 2

- Note: Zone 1 indoor average level > 4 pCi/L.  
 : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.  
 : Zone 3 indoor average level < 2 pCi/L.

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Federal Area Radon Information for Zip Code: 91710

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	2.900 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## TOPOGRAPHIC INFORMATION

### USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

### Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

## HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

### State Wetlands Data: Wetland Inventory

Source: Department of Fish and Wildlife

Telephone: 916-445-0411

## HYDROGEOLOGIC INFORMATION

### AQUIFLOW<sup>R</sup> Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

## GEOLOGIC INFORMATION

### Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

### STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

### SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

# PHYSICAL SETTING SOURCE RECORDS SEARCHED

## LOCAL / REGIONAL WATER AGENCY RECORDS

### FEDERAL WATER WELLS

#### PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

#### PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

#### USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

### STATE RECORDS

#### Water Well Database

Source: Department of Water Resources

Telephone: 916-651-9648

#### California Drinking Water Quality Database

Source: Department of Public Health

Telephone: 916-324-2319

The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

## OTHER STATE DATABASE INFORMATION

#### California Oil and Gas Well Locations

Source: Department of Conservation

Telephone: 916-323-1779

Oil and Gas well locations in the state.

#### California Earthquake Fault Lines

Source: California Division of Mines and Geology

The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

### RADON

#### State Database: CA Radon

Source: Department of Public Health

Telephone: 916-210-8558

Radon Database for California

#### Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

## PHYSICAL SETTING SOURCE RECORDS SEARCHED

### EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

### OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

### STREET AND ADDRESS INFORMATION

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# **Appendix K**

## **EDR Vapor Encroachment Screen**



**James Borba Dairy**

7475 Eucalyptus Avenue

Chino, CA 91710

Inquiry Number: 5912552.2s

January 10, 2020

## EDR Vapor Encroachment Screen

Prepared using EDR's Vapor Encroachment Worksheet

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***Thank you for your business.***  
 Please contact EDR at 1-800-352-0050  
 with any questions or comments.

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The EDR Vapor Encroachment Worksheet enables EDR's customers to make certain online modifications that effects maps, text and calculations contained in this Report. As a result, maps, text and calculations contained in this Report may have been so modified. EDR has not taken any action to verify any such modifications, and this report and the findings set forth herein must be read in light of this fact. Environmental Data Resources shall not be responsible for any customer's decision to include or not include in any final report any records determined to be within the relevant minimum search distances.

This report contains information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.**

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## EXECUTIVE SUMMARY

A search of available environmental records was conducted by EDR. The report was designed to assist parties seeking to meet the search requirements of the ASTM Standard Practice for Assessment of Vapor Encroachment into Structures on Property Involved in Real Estate Transactions (E 2600).

<b>STANDARD ENVIRONMENTAL RECORDS</b>	<b>Default Area of Concern (Miles)*</b>	<b>property</b>	<b>1/10</b>	<b>&gt; 1/10</b>
Federal NPL site list	1.0	0	0	0
Federal Delisted NPL site list	1.0	0	0	0
Federal CERCLIS list	0.5	0	0	0
Federal CERCLIS NFRAP site list	0.5	0	0	0
Federal RCRA CORRACTS facilities list	1.0	0	0	0
Federal RCRA non-CORRACTS TSD facilities list	0.5	0	0	0
Federal RCRA generators list	0.25	0	0	0
Federal institutional controls / engineering controls registries	0.5	0	0	0
Federal ERNS list	0.001	0	0	-
State- and tribal - equivalent NPL	1.0	0	0	0
State- and tribal - equivalent CERCLIS	1.0	0	0	0
State and tribal landfill and/or solid waste disposal site lists	0.5	0	0	0
State and tribal leaking storage tank lists	0.5	0	0	0
State and tribal registered storage tank lists	0.25	1	0	0
State and tribal institutional control / engineering control registries	not searched	-	-	-
State and tribal voluntary cleanup sites	0.5	0	0	0
State and tribal Brownfields sites	0.5	0	0	0

### ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists	0.5	0	0	0
Local Lists of Landfill / Solid Waste Disposal Sites	0.5	0	0	0
Local Lists of Hazardous waste / Contaminated Sites	1.0	1	0	0
Local Lists of Registered Storage Tanks	0.25	2	1	0
Local Land Records	0.5	0	0	0
Records of Emergency Release Reports	0.5	0	0	0
Other Ascertainable Records	1.0	3	4	0

### EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records	1.0	0	0	0
Exclusive Recovered Govt. Archives	0.001	0	0	-

## EXECUTIVE SUMMARY

### EDR RECOVERED GOVERNMENT ARCHIVES

EDR Exclusive Records	1.0	0	0	0
Exclusive Recovered Govt. Archives	0.001	0	0	-

\*The Default Area of Concern may be adjusted by the environmental professional using experience and professional judgement. Each category may include several databases, and each database may have a different distance. A list of individual databases is provided at the back of this report.

# EXECUTIVE SUMMARY

## TARGET PROPERTY INFORMATION

### ADDRESS

JAMES BORBA DAIRY  
7475 EUCALYPTUS AVENUE  
CHINO, CA 91710

### COORDINATES

Latitude (North): 33.986725 - 33° 59' 12.209473"  
Longitude (West): 117.643247 - 117° 38' 35.698242"  
Elevation: 654 ft. above sea level

## TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records.

### Site

TED MILLER DAIRY  
7475 EUCALYPTUS  
CHINO, CA 91710

AG-BORBA, JOE  
7475 EUCALYPTUS AVE  
CHINO, CA 91762

LINDSEY BORBA DAIRY  
7475 EUCALYPTUS  
CHINO, CA 91710

G H DAIRY #2  
7475 EUCALYPTUS AVE  
ONTARIO, CA 91761

TED MILLER DAIRY  
7475 EUCALYPTUS  
CHINO, CA 91710

GH DAIRY NO. 2  
7475 EUCALYPTUS AVENUE  
ONTARIO, CA 91762

### Database(s)

HIST UST  
Facility Id: 00000028489

UST  
Facility Id: 87014337

WDS  
Facility Id: 8 365684001  
Facility Status: A

CERS  
CERS HAZ WASTE  
San Bern. Co. Permit  
Facility Id: FA0000361  
Facility Id: FA0011765  
Facility Status: ACTIVE  
Facility Status: FEE EXEMPT  
Facility Status: INACTIVE

SWEEPS UST  
Status: A  
Comp Number: 28489  
Tank Status: A

CA FID UST  
Status: A  
Facility Id: 36008852

FINDS  
Registry ID:: 110064646236

# EXECUTIVE SUMMARY

## SEARCH RESULTS

Unmappable (orphan) sites are not considered in the foregoing analysis.

## STANDARD ENVIRONMENTAL RECORDS

<u>Name</u>	<u>Address</u>	<u>Dist/Dir</u>	<u>Map ID</u>	<u>Page</u>
AG-BORBA, JOE UST: UST	7475 EUCALYPTUS AVE	Property	▲ A2	10

## ADDITIONAL ENVIRONMENTAL RECORDS

<u>Name</u>	<u>Address</u>	<u>Dist/Dir</u>	<u>Map ID</u>	<u>Page</u>
TED MILLER DAIRY HIST UST: HIST UST	7475 EUCALYPTUS	Property	▲ A1	9
LINDSEY BORBA DAIRY WDS: WDS	7475 EUCALYPTUS	Property	▲ A3	10
G H DAIRY #2 CERS: CERS CERS HAZ WASTE: CERS HAZ WASTE San Bern. Co. Permit: San Bern. Co. Permit	7475 EUCALYPTUS AVE	Property	▲ A4	11
TED MILLER DAIRY SWEEPS UST: SWEEPS UST CA FID UST: CA FID UST	7475 EUCALYPTUS	Property	▲ A5	15
GH DAIRY NO. 2 FINDS: FINDS	7475 EUCALYPTUS AVENUE	Property	▲ A6	16
GH DAIRY #2 CERS: CERS	7417 EUCALYPTUS	<1/10 N	▲ B7	17
GH DAIRY #2 CIWQS: CIWQS ENF: ENF	7417 EUCALYPTUS AVENUE	<1/10 N	▲ B8	22
CHINO VALLEY DAIRY 2 CIWQS: CIWQS ENF: ENF San Bern. Co. Permit: San Bern. Co. Permit	14389 SULTANA AVENUE	<1/10 NNW	▲ 9	29
CHINO VALLEY DAIRY CIWQS: CIWQS EMI: EMI CERS TANKS: CERS TANKS CERS: CERS ENF: ENF San Bern. Co. Permit: San Bern. Co. Permit	7565 EUCALYPTUS AVE	<1/10 NE	▲ 10	35

## EDR HIGH RISK HISTORICAL RECORDS

<u>Name</u>	<u>Address</u>	<u>Dist/Dir</u>	<u>Map ID</u>	<u>Page</u>
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# EXECUTIVE SUMMARY

Name

Not Reported

Address

Dist/Dir

Map ID

Page

EDR RECOVERED GOVERNMENT ARCHIVES

Name

Not Reported

Address

Dist/Dir

Map ID

Page

# PRIMARY MAP - 5912552.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites



Indian Reservations BIA

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Areas of Concern



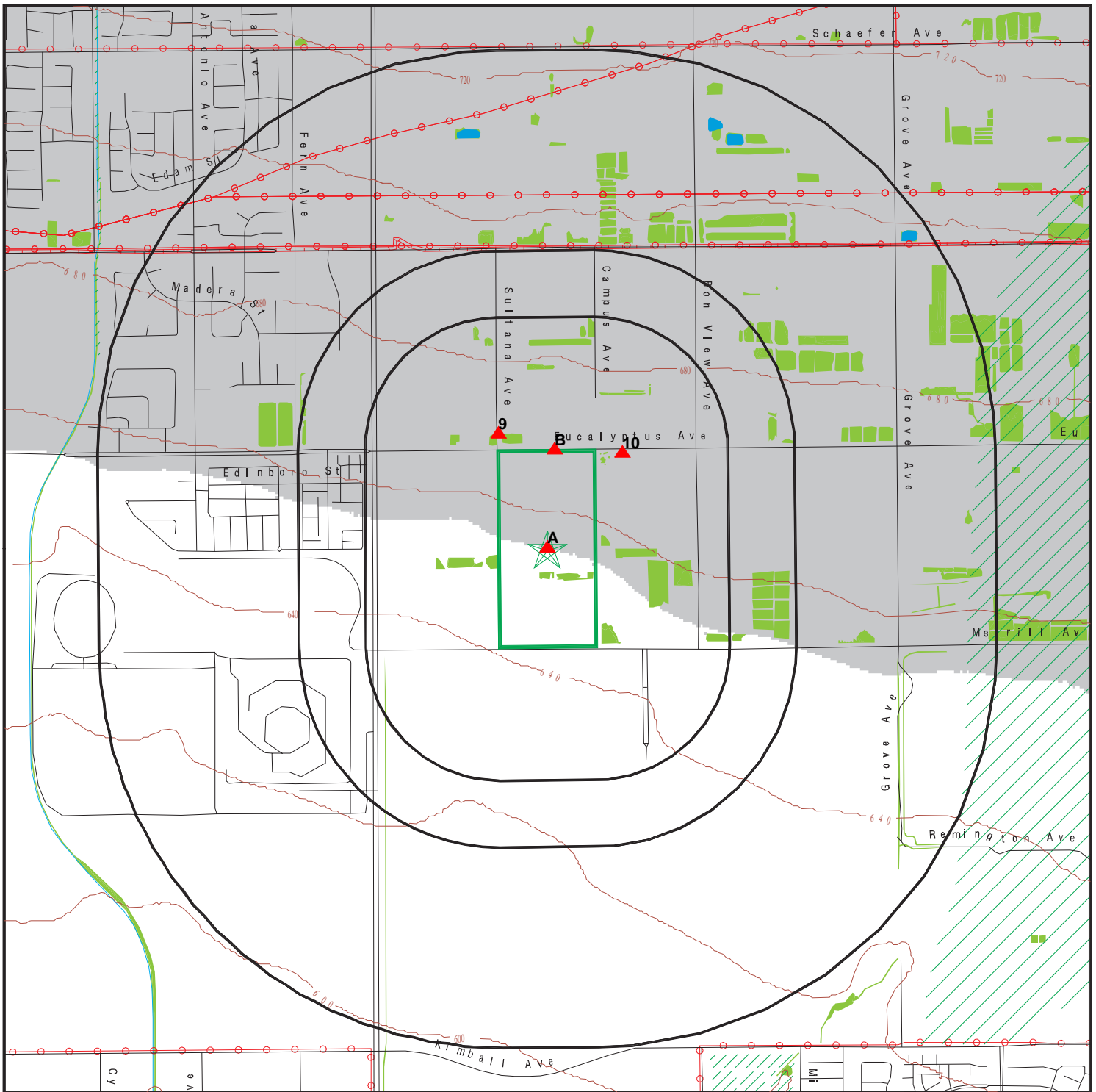
This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: James Borba Dairy  
 ADDRESS: 7475 Eucalyptus Avenue  
 Chino CA 91710  
 LAT/LONG: 33.986725 / 117.643247

CLIENT: Citadel Environmental Services  
 CONTACT: Shirley Lee  
 INQUIRY #: 5912552.2s  
 DATE: December 20, 2019 9:21 am



# SECONDARY MAP - 5912552.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

Pipelines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Upgradient Area

Areas of Concern



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: James Borba Dairy  
 ADDRESS: 7475 Eucalyptus Avenue  
 Chino CA 91710  
 LAT/LONG: 33.986725 / 117.643247

CLIENT: Citadel Environmental Services  
 CONTACT: Shirley Lee  
 INQUIRY #: 5912552.2s  
 DATE: December 20, 2019 9:20 am

MAP FINDINGS

LEGEND

FACILITY NAME FACILITY ADDRESS, CITY, ST, ZIP		EDR SITE ID NUMBER
◆ MAP ID#	Direction Distance Range (Distance feet / miles)	ASTM 2600 Record Sources found in this report. Each database searched has been assigned to one or more categories. For detailed information about categorization, see the section of the report Records Searched and Currency.
	Relative Elevation Feet Above Sea Level	
<b>Worksheet:</b>		
<b>Comments:</b> Comments may be added on the online Vapor Encroachment Worksheet.		

DATABASE ACRONYM: Applicable categories (A hoverbox with database description).

TED MILLER DAIRY 7475 EUCALYPTUS, CHINO, CA, 91710		U001568969
▲ A1	Target Property	Local Lists of Registered Storage Tanks
	654 ft. Above Sea Level	

Worksheet:

HIST UST: Local Lists of Registered Storage Tanks

Name: TED MILLER DAIRY  
 Address: 7475 EUCALYPTUS  
 City,State,Zip: CHINO, CA 91710  
 File Number: 0002A756  
 URL: <http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002A756.pdf>  
 Region: STATE  
 Facility ID: 00000028489  
 Facility Type: Other  
 Other Type: DAIRY  
 Contact Name: TED MILLER  
 Telephone: 7146285521  
 Owner Name: TED MILLER  
 Owner Address: 13948 S. EUCLID  
 Owner City,St,Zip: ONTARIO, CA 91761  
 Total Tanks: 0001

Tank Num: 001  
 Container Num: 1  
 Year Installed: Not Reported  
 Tank Capacity: 00006000  
 Tank Used for: PRODUCT  
 Type of Fuel: DIESEL  
 Container Construction Thickness: Not Reported  
 Leak Detection: None

MAP FINDINGS

**TED MILLER DAIRY, 7475 EUCALYPTUS, CHINO, CA 91710 (Continued)**

Click here for Geo Tracker PDF: [http://www.web.edrnet.com/ordering/switchboard/redirect.aspx?s=GRR\\_CA\\_HISTUST\\_PDF&img\\_id=0002A756](http://www.web.edrnet.com/ordering/switchboard/redirect.aspx?s=GRR_CA_HISTUST_PDF&img_id=0002A756)

AG-BORBA, JOE 7475 EUCALYPTUS AVE, CHINO, CA, 91762		U003785011
▲ A2	Target Property	State and tribal registered storage tank lists
	654 ft. Above Sea Level	

**Worksheet:**

**UST: State and tribal registered storage tank lists**

Name: AG-BORBA, JOE  
 Address: 7475 EUCALYPTUS AVE  
 City,State,Zip: CHINO, CA 91762  
 Facility ID: 87014337  
 Permitting Agency: SAN BERNARDINO COUNTY  
 Latitude: 33.99032  
 Longitude: -117.64199

LINDSEY BORBA DAIRY 7475 EUCALYPTUS, CHINO, CA, 91710		S102005973
▲ A3	Target Property	Other Ascertainable Records
	654 ft. Above Sea Level	

**Worksheet:**

**WDS: Other Ascertainable Records**

Name: LINDSEY BORBA DAIRY  
 Address: 7475 EUCALYPTUS  
 City: CHINO  
 Facility ID: Santa Ana River 365684001  
 Facility Type: Agricultural - Facility that treats and/or disposes of the wastes associated with confined and concentrated animal feeding, confined animal feeding, confined animal holding, confined and concentrated aquatic animal production facilities, and aquaculture. the treatment and/or disposal of agricultural return water is included in this category.  
 Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.  
 NPDES Number: CAG018001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board  
 Subregion: 8  
 Facility Telephone: Not Reported  
 Facility Contact: Not Reported  
 Agency Name: BORBA JOE & LINDSEY  
 Agency Address: 14651 SO. GROVE  
 Agency City,St,Zip: CHINO 91710  
 Agency Contact: JOE BORBA  
 Agency Telephone: Not Reported  
 Agency Type: Private  
 SIC Code: 241

MAP FINDINGS

**LINDSEY BORBA DAIRY, 7475 EUCALYPTUS, CHINO, CA 91710 (Continued)**

SIC Code 2: Not Reported

Primary Waste Type: Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).

Primary Waste: SLDWST

Waste Type2: N

Waste2: Solid Wastes

Primary Waste Type: Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).

Secondary Waste: Washwater Waste (Product washwater wastes: E.G., photo reuse wastewater, vegetable washwater)

Secondary Waste Type: Nonhazardous Solid Wastes/Influent or Solid Wastes that contain nonhazardous putrescible and non putrescible solid, semisolid, and liquid wastes (E.G., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid waste).

Design Flow: 0

Baseline Flow: 0

Reclamation: No reclamation requirements associated with this facility.

POTW: The facility is not a POTW.

Treat To Water: Moderate Threat to Water Quality. A violation could have a major adverse impact on receiving biota, can cause aesthetic impairment to a significant human population, or render unusable a potential domestic or municipal water supply. Aesthetic impairment would include nuisance from a waste treatment facility.

Complexity: Category C - Facilities having no waste treatment systems, such as cooling water dischargers or those who must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

G H DAIRY #2 7475 EUCALYPTUS AVE, ONTARIO, CA, 91761			S104761636
▲ A4	Target Property  654 ft. Above Sea Level	Local Lists of Hazardous waste / Contaminated Sites Other Ascertainable Records	

**Worksheet:**

**CERS HAZ WASTE: Local Lists of Hazardous waste / Contaminated Sites**

Name: G H DAIRY #2

Address: 7475 EUCALYPTUS AVE

City,State,Zip: ONTARIO, CA 91761

Site ID: 32199

CERS ID: 10053490

CERS Description: Hazardous Waste Generator

**San Bern. Co. Permit: Other Ascertainable Records**

Name: G H DAIRY #2

Address: 7475 EUCALYPTUS AVE

City,State,Zip: ONTARIO, CA 91761

Region: SAN BERNARDINO

Facility ID: FA0011765

Owner: GH DAIRY (GERBEN HETTINGA)

Permit Number: PT0020441

Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS

Facility Status: ACTIVE

MAP FINDINGS

**G H DAIRY #2, 7475 EUCALYPTUS AVE, ONTARIO, CA 91761 (Continued)**

Expiration Date: 08/31/2020  
 Name: G H DAIRY #2  
 Address: 7475 EUCALYPTUS AVE  
 City,State,Zip: ONTARIO, CA 91761  
 Region: SAN BERNARDINO  
 Facility ID: FA0011765  
 Owner: GH DAIRY (GERBEN HETTINGA)  
 Permit Number: PT0037882  
 Permit Category: HAZWASTE GENERAL ACTIVITY (NB)  
 Facility Status: FEE EXEMPT  
 Expiration Date: 08/31/2018

Name: LINDSEY DAIRY  
 Address: 7475 EUCALYPTUS  
 City,State,Zip: ONTARIO, CA 91762  
 Region: SAN BERNARDINO  
 Facility ID: FA0000361  
 Owner: JOSEPH & DOLEEN BORBA ADMIN  
 Permit Number: PT0019095  
 Permit Category: HAZARDOUS WASTE GENERATOR - 0-10 EMPLOYEES  
 Facility Status: INACTIVE  
 Expiration Date: 09/30/2009

Name: LINDSEY DAIRY  
 Address: 7475 EUCALYPTUS  
 City,State,Zip: ONTARIO, CA 91762  
 Region: SAN BERNARDINO  
 Facility ID: FA0000361  
 Owner: JOSEPH & DOLEEN BORBA ADMIN  
 Permit Number: PT0003516  
 Permit Category: HAZMAT HANDLER 0-10 EMPLOYEES (W/GEN PRMT)  
 Facility Status: INACTIVE  
 Expiration Date: 09/30/2009

Name: LINDSEY DAIRY  
 Address: 7475 EUCALYPTUS  
 City,State,Zip: ONTARIO, CA 91762  
 Region: SAN BERNARDINO  
 Facility ID: FA0000361  
 Owner: JOSEPH & DOLEEN BORBA ADMIN  
 Permit Number: PT0011137  
 Permit Category: REGULAR UST ANNUAL INSPECTION (PER TANK)  
 Facility Status: INACTIVE  
 Expiration Date: 09/30/1990

**CERS: Other Ascertainable Records**

Name: G H DAIRY #2  
 Address: 7475 EUCALYPTUS AVE  
 City,State,Zip: ONTARIO, CA 91761  
 Site ID: 32199

MAP FINDINGS

**G H DAIRY #2, 7475 EUCALYPTUS AVE, ONTARIO, CA 91761 (Continued)**

CERS ID: 10053490  
 CERS Description: Chemical Storage Facilities

**Violations:**

Site ID: 32199  
 Site Name: G H DAIRY #2  
 Violation Date: 07-29-2016  
 Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)  
 Violation Description: Failure to complete and electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.  
 Violation Notes: Returned to compliance on 08/01/2017.  
 Violation Division: San Bernardino County Fire Department  
 Violation Program: HMRRP  
 Violation Source: CERS

Site ID: 32199  
 Site Name: G H DAIRY #2  
 Violation Date: 07-29-2016  
 Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
 Violation Description: Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.  
 Violation Notes: Returned to compliance on 08/01/2017.  
 Violation Division: San Bernardino County Fire Department  
 Violation Program: HMRRP  
 Violation Source: CERS

**Evaluation:**

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 07-29-2016  
 Violations Found: Yes  
 Eval Type: Routine done by local agency  
 Eval Notes: ROUTINE HANDLER INSPECTION-GH DAIRY 2  
 Eval Division: San Bernardino County Fire Department  
 Eval Program: HMRRP  
 Eval Source: CERS

**Enforcement Action:**

Site ID: 32199  
 Site Name: G H DAIRY #2  
 Site Address: 7475 EUCALYPTUS AVE  
 Site City: ONTARIO  
 Site Zip: 91761  
 Enf Action Date: 07-29-2016  
 Enf Action Type: Notice of Violation (Unified Program)  
 Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
 Enf Action Notes: Not Reported  
 Enf Action Division: San Bernardino County Fire Department  
 Enf Action Program: HMRRP  
 Enf Action Source: CERS

MAP FINDINGS

**G H DAIRY #2, 7475 EUCALYPTUS AVE, ONTARIO, CA 91761 (Continued)**

**Affiliation:**

Affiliation Type Desc: CUPA District  
 Entity Name: San Bernardino County Fire  
 Entity Title: Not Reported  
 Affiliation Address: 620 South E Street  
 Affiliation City: San Bernardino  
 Affiliation State: CA  
 Affiliation Country: Not Reported  
 Affiliation Zip: 92415-0153  
 Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Parent Corporation  
 Entity Name: GH Dairy  
 Entity Title: Not Reported  
 Affiliation Address: Not Reported  
 Affiliation City: Not Reported  
 Affiliation State: Not Reported  
 Affiliation Country: Not Reported  
 Affiliation Zip: Not Reported  
 Affiliation Phone: Not Reported

Affiliation Type Desc: Identification Signer  
 Entity Name: Patricia L Mohr  
 Entity Title: Controller  
 Affiliation Address: Not Reported  
 Affiliation City: Not Reported  
 Affiliation State: Not Reported  
 Affiliation Country: Not Reported  
 Affiliation Zip: Not Reported  
 Affiliation Phone: Not Reported

Affiliation Type Desc: Operator  
 Entity Name: GH Dairy  
 Entity Title: Not Reported  
 Affiliation Address: Not Reported  
 Affiliation City: Not Reported  
 Affiliation State: Not Reported  
 Affiliation Country: Not Reported  
 Affiliation Zip: Not Reported  
 Affiliation Phone: (909) 606-6455

Affiliation Type Desc: Document Preparer  
 Entity Name: Patricia L Mohr  
 Entity Title: Not Reported  
 Affiliation Address: Not Reported  
 Affiliation City: Not Reported  
 Affiliation State: Not Reported  
 Affiliation Country: Not Reported  
 Affiliation Zip: Not Reported  
 Affiliation Phone: Not Reported

MAP FINDINGS

**G H DAIRY #2, 7475 EUCALYPTUS AVE, ONTARIO, CA 91761 (Continued)**

Affiliation Type Desc: Facility Mailing Address  
 Entity Name: Mailing Address  
 Entity Title: Not Reported  
 Affiliation Address: 7475 EUCALYPTUS AVE  
 Affiliation City: ONTARIO  
 Affiliation State: CA  
 Affiliation Country: Not Reported  
 Affiliation Zip: 91761  
 Affiliation Phone: Not Reported

Affiliation Type Desc: Environmental Contact  
 Entity Name: PATRICIA MOHR  
 Entity Title: Not Reported  
 Affiliation Address: 14651 S GROVE AVE  
 Affiliation City: ONTARIO  
 Affiliation State: CA  
 Affiliation Country: Not Reported  
 Affiliation Zip: 91762  
 Affiliation Phone: Not Reported

Affiliation Type Desc: Legal Owner  
 Entity Name: GERBEN HETTINGA  
 Entity Title: Not Reported  
 Affiliation Address: 14651 SOUTH GROVE AVE  
 Affiliation City: ONTARIO  
 Affiliation State: CA  
 Affiliation Country: United States  
 Affiliation Zip: 91762  
 Affiliation Phone: (909) 606-6455

TED MILLER DAIRY 7475 EUCALYPTUS, CHINO, CA, 91710		S101618816
▲ A5	Target Property	Local Lists of Registered Storage Tanks
	654 ft. Above Sea Level	

**Worksheet:**

**SWEEPS UST: Local Lists of Registered Storage Tanks**

Name: TED MILLER DAIRY  
 Address: 7475 EUCALYPTUS  
 City: CHINO  
 Status: Active  
 Comp Number: 28489  
 Number: 9  
 Board Of Equalization: Not Reported  
 Referral Date: 08-27-91  
 Action Date: 08-27-91  
 Created Date: 02-29-88



MAP FINDINGS

**TED MILLER DAIRY, 7475 EUCALYPTUS, CHINO, CA 91710 (Continued)**

Owner Tank Id: 1  
 SWRCB Tank Id: 36-000-028489-000001  
 Tank Status: A  
 Capacity: 6000  
 Active Date: 07-01-85  
 Tank Use: M.V. FUEL  
 STG: P  
 Content: DIESEL  
 Number Of Tanks: 1

**CA FID UST: Local Lists of Registered Storage Tanks**

Facility ID: 36008852  
 Regulated By: UTNKA  
 Regulated ID: 00028489  
 Cortese Code: Not Reported  
 SIC Code: Not Reported  
 Facility Phone: 7146285521  
 Mail To: Not Reported  
 Mailing Address: 13948 S EUCLID  
 Mailing Address 2: Not Reported  
 Mailing City,St,Zip: CHINO 91710  
 Contact: Not Reported  
 Contact Phone: Not Reported  
 DUNs Number: Not Reported  
 NPDES Number: Not Reported  
 EPA ID: Not Reported  
 Comments: Not Reported  
 Status: Active

GH DAIRY NO. 2 7475 EUCALYPTUS AVENUE, ONTARIO, CA, 91762		1023199281
▲ A6	Target Property  654 ft. Above Sea Level	Other Ascertainable Records

**Worksheet:**

**FINDS: Other Ascertainable Records**

Registry ID: 110064646236

**Environmental Interest/Information System:**

US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

STATE MASTER

MAP FINDINGS

**GH DAIRY NO. 2, 7475 EUCALYPTUS AVENUE, ONTARIO, CA 91762 (Continued)**

The Click here to access additional FINDS: detail in the EDR Site Report. database contains <http://www.edrnet.com/srf2/FinalSiteReport.aspx?ID=4sl47Sszr14D25B7UxSAU9qYzSrrwVB.X442DhQ2Wp5fcBgr4iPUPex4a5cBAjgUVs7qoquCYzA3yuSAArCH3p.wonVXf4BRsBAIEI2YI7YMSyZ8VszYxrMa3bx4trDjw4B35FuBEA4dRUVgxWh2EBAmuUFj3N4q6gYOIBNFS3Ur2o4OtsUHIDJ3k07fYSDo2XOzySrG57hD42kDgABcA5p9BZJ3bMUZ5xeM4a7Al3UVg7wUqPUYnG7pNSVdryQ44NwGVV9d1On.flXPf4n64ca2Sfup.hPnQNV4TUsRwls3CE7s4Sch2P3zE4r9a3mn4kBD5l2QR5TIBV4k4f3U8AxNz59FAGcU9d38Uqk4YHaBqLSnBrkBlww6bV5l4Bm.RRXhVA7C4Fh28l3jdh3FQQr2> additional records for this site. Please contact your EDR Account Executive for more information.

GH DAIRY #2 7417 EUCALYPTUS, ONTARIO, CA, 91762		S123509542
▲ B7	N <1/10 (5 ft. / 0.001 mi.)	Other Ascertainable Records
	14 ft. Higher Elevation 668 ft. Above Sea Level	

**Worksheet:**

**CERS: Other Ascertainable Records**

Name: GH DAIRY #2  
 Address: 7417 EUCALYPTUS  
 City,State,Zip: ONTARIO, CA 91762  
 Site ID: 33146  
 CERS ID: 263052  
 CERS Description: Animal Wastewater Discharge

**Violations:**

Site ID: 33146  
 Site Name: GH Dairy #2  
 Violation Date: 01-16-2009  
 Citation: California Water Code  
 Violation Description: Not Reported  
 Violation Notes: Did not submit 2008 annual report by 01/15/2009.  
 Violation Division: Water Boards  
 Violation Program: ANIWSTCOWS  
 Violation Source: CIWQS

Site ID: 33146  
 Site Name: GH Dairy #2  
 Violation Date: 03-17-1998  
 Citation: California Water Code  
 Violation Description: Not Reported  
 Violation Notes: WASTEWATER FLOWING OFF SITE  
 Violation Division: Water Boards  
 Violation Program: NPDNONMUNI  
 Violation Source: CIWQS

Site ID: 33146  
 Site Name: GH Dairy #2  
 Violation Date: 10-23-2008  
 Citation: California Water Code  
 Violation Description: Not Reported  
 Violation Notes: A marker was not placed within each pond or containment structure. Discharger has not developed an EWMP acceptable to the Executive Officer & prepared in accordance with the guidelines for the development of EWMP for CAFOs. Monitoring data were not maintained for at least 5 years and were not made available to Regional Board, SWRCB, USEPA staff

MAP FINDINGS

**GH DAIRY #2, 7417 EUCALYPTUS, ONTARIO, CA 91762 (Continued)**

Violation Division: Water Boards  
 Violation Program: ANIWSTCOWS  
 Violation Source: CIWQS

**Evaluation:**

Eval General Type: Other/Unknown  
 Eval Date: 02-13-2001  
 Violations Found: No  
 Eval Type: Miscellaneous Inspection  
 Eval Notes: Not Reported  
 Eval Division: Water Boards  
 Eval Program: ANIWSTCOWS  
 Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 03-06-1997  
 Violations Found: No  
 Eval Type: RWQCB Type B compliance inspection  
 Eval Notes: Not Reported  
 Eval Division: Water Boards  
 Eval Program: ANIWSTCOWS  
 Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 03-07-2013  
 Violations Found: Yes  
 Eval Type: RWQCB Type B compliance inspection  
 Eval Notes: Not Reported  
 Eval Division: Water Boards  
 Eval Program: ANIWSTCOWS  
 Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 03-08-1989  
 Violations Found: No  
 Eval Type: RWQCB Type B compliance inspection  
 Eval Notes: Not Reported  
 Eval Division: Water Boards  
 Eval Program: ANIWSTCOWS  
 Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 03-13-1992  
 Violations Found: No  
 Eval Type: RWQCB Type B compliance inspection  
 Eval Notes: Not Reported  
 Eval Division: Water Boards  
 Eval Program: ANIWSTCOWS  
 Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 03-14-1996

MAP FINDINGS

**GH DAIRY #2, 7417 EUCALYPTUS, ONTARIO, CA 91762 (Continued)**

Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	03-16-1995
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Complaint Inspection
Eval Date:	03-17-1998
Violations Found:	No
Eval Type:	Complaint Inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	03-22-1994
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	04-15-2015
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-02-2001
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection

MAP FINDINGS
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**GH DAIRY #2, 7417 EUCALYPTUS, ONTARIO, CA 91762 (Continued)**

Eval Date:	05-07-2012
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	05-13-2014
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	06-12-2000
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	06-12-2002
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	08-03-2016
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	10-12-2015
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS

MAP FINDINGS

**GH DAIRY #2, 7417 EUCALYPTUS, ONTARIO, CA 91762 (Continued)**

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	10-21-1987
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	10-23-2008
Violations Found:	Yes
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	11-15-2007
Violations Found:	Yes
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS

**Enforcement Action:**

Site ID:	33146
Site Name:	GH Dairy #2
Site Address:	7417 EUCALYPTUS
Site City:	ONTARIO
Site Zip:	91762
Enf Action Date:	01-24-2008
Enf Action Type:	Oral Communication
Enf Action Description:	Oral Communication
Enf Action Notes:	Not Reported
Enf Action Division:	Water Boards
Enf Action Program:	ANIWSTCOWS
Enf Action Source:	CIWQS
Site ID:	33146
Site Name:	GH Dairy #2
Site Address:	7417 EUCALYPTUS
Site City:	ONTARIO
Site Zip:	91762
Enf Action Date:	01-30-2009
Enf Action Type:	Notice of Violation (Water)
Enf Action Description:	Notice of Violation Letter (Informal)
Enf Action Notes:	Not Reported
Enf Action Division:	Water Boards

MAP FINDINGS

**GH DAIRY #2, 7417 EUCALYPTUS, ONTARIO, CA 91762 (Continued)**

Enf Action Program: ANIWSTCOWS  
 Enf Action Source: CIWQS  
 Site ID: 33146  
 Site Name: GH Dairy #2  
 Site Address: 7417 EUCALYPTUS  
 Site City: ONTARIO  
 Site Zip: 91762  
 Enf Action Date: 03-07-2013  
 Enf Action Type: Oral Communication  
 Enf Action Description: Oral Communication  
 Enf Action Notes: Not Reported  
 Enf Action Division: Water Boards  
 Enf Action Program: ANIWSTCOWS  
 Enf Action Source: CIWQS

GH DAIRY #2 7417 EUCALYPTUS AVENUE, ONTARIO, CA, 91762		S109692562
▲ B8	N <1/10 (5 ft. / 0.001 mi.)	Other Ascertainable Records
	14 ft. Higher Elevation 668 ft. Above Sea Level	

**Worksheet:**

**ENF: Other Ascertainable Records**

Name: GH DAIRY #2  
 Address: 7417 EUCALYPTUS AVENUE  
 City,State,Zip: ONTARIO, CA  
 Region: 8  
 Facility Id: 263052  
 Agency Name: Hettinga, Gerben  
 Place Type: Growing  
 Place Subtype: Animal Feeding  
 Facility Type: Agricultural  
 Agency Type: Privately-Owned Business  
 # Of Agencies: 1  
 Place Latitude: 33.98939  
 Place Longitude: -117.64223  
 SIC Code 1: 241  
 SIC Desc 1: Dairy Farms  
 SIC Code 2: Not Reported  
 SIC Desc 2: Not Reported  
 SIC Code 3: Not Reported  
 SIC Desc 3: Not Reported  
 NAICS Code 1: 11212  
 NAICS Desc 1: Dairy Cattle and Milk Production  
 NAICS Code 2: Not Reported  
 NAICS Desc 2: Not Reported  
 NAICS Code 3: Not Reported

MAP FINDINGS
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**GH DAIRY #2, 7417 EUCALYPTUS AVENUE, ONTARIO, CA 91762 (Continued)**

NAICS Desc 3:	Not Reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	Not Reported
Threat To Water Quality:	Not Reported
Complexity:	Not Reported
Pretreatment:	Not Reported
Facility Waste Type:	Solid wastes, NEC
Facility Waste Type 2:	Stormwater runoff
Facility Waste Type 3:	Not Reported
Facility Waste Type 4:	Not Reported
Program:	ANIWSTCOWS
Program Category1:	ANIMALWASTE
Program Category2:	ANIMALWASTE
# Of Programs:	1
WDID:	8 365964001
Reg Measure Id:	349896
Reg Measure Type:	Enrollee - NPDES
Region:	8
Order #:	R8-2018-0001
Npdes# CA#:	CAG018001
Major-Minor:	Minor
Npdes Type:	Not Reported
Reclamation:	Not Reported
Dredge Fill Fee:	Not Reported
301H:	Not Reported
Application Fee Amt Received:	2500
Status:	Active
Status Date:	07/16/2019
Effective Date:	09/04/2008
Expiration/Review Date:	03/15/2024
Termination Date:	Not Reported
WDR Review - Amend:	Not Reported
WDR Review - Revise/Renew:	Not Reported
WDR Review - Rescind:	Not Reported
WDR Review - No Action Required:	Not Reported
WDR Review - Pending:	Not Reported
WDR Review - Planned:	Not Reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	10 - Confined animal feeding facility
Direction/Voice:	Passive
Enforcement Id(EID):	392030
Region:	8
Order / Resolution Number:	Not Reported
Enforcement Action Type:	Oral Communication
Effective Date:	03/07/2013
Adoption/Issuance Date:	03/07/2013
Achieve Date:	Not Reported
Termination Date:	03/07/2013



MAP FINDINGS

**GH DAIRY #2, 7417 EUCALYPTUS AVENUE, ONTARIO, CA 91762 (Continued)**

ACL Issuance Date:	Not Reported
EPL Issuance Date:	Not Reported
Status:	Historical
Title:	Oral Com 03/07/2013 for Hein Hettinga
Description:	Not Reported
Program:	ANIWSTCOWS
Latest Milestone Completion Date:	Not Reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability \$ Amount:	0
Project \$ Amount:	0
Liability \$ Paid:	0
Project \$ Completed:	0
Total \$ Paid/Completed Amount:	0
Name:	GH DAIRY #2
Address:	7417 EUCALYPTUS AVENUE
City,State,Zip:	ONTARIO, CA
Region:	8
Facility Id:	263052
Agency Name:	Hettinga, Gerben
Place Type:	Growing
Place Subtype:	Animal Feeding
Facility Type:	Agricultural
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	33.98939
Place Longitude:	-117.64223
SIC Code 1:	241
SIC Desc 1:	Dairy Farms
SIC Code 2:	Not Reported
SIC Desc 2:	Not Reported
SIC Code 3:	Not Reported
SIC Desc 3:	Not Reported
NAICS Code 1:	11212
NAICS Desc 1:	Dairy Cattle and Milk Production
NAICS Code 2:	Not Reported
NAICS Desc 2:	Not Reported
NAICS Code 3:	Not Reported
NAICS Desc 3:	Not Reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	Not Reported
Threat To Water Quality:	Not Reported
Complexity:	Not Reported
Pretreatment:	Not Reported
Facility Waste Type:	Solid wastes, NEC
Facility Waste Type 2:	Stormwater runoff
Facility Waste Type 3:	Not Reported

MAP FINDINGS

**GH DAIRY #2, 7417 EUCALYPTUS AVENUE, ONTARIO, CA 91762 (Continued)**

Facility Waste Type 4:	Not Reported
Program:	ANIWSTCOWS
Program Category1:	ANIMALWASTE
Program Category2:	ANIMALWASTE
# Of Programs:	1
WDID:	8 365964001
Reg Measure Id:	349896
Reg Measure Type:	Enrollee - NPDES
Region:	8
Order #:	R8-2018-0001
Npdes# CA#:	CAG018001
Major-Minor:	Minor
Npdes Type:	Not Reported
Reclamation:	Not Reported
Dredge Fill Fee:	Not Reported
301H:	Not Reported
Application Fee Amt Received:	2500
Status:	Active
Status Date:	07/16/2019
Effective Date:	09/04/2008
Expiration/Review Date:	03/15/2024
Termination Date:	Not Reported
WDR Review - Amend:	Not Reported
WDR Review - Revise/Renew:	Not Reported
WDR Review - Rescind:	Not Reported
WDR Review - No Action Required:	Not Reported
WDR Review - Pending:	Not Reported
WDR Review - Planned:	Not Reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	10 - Confined animal feeding facility
Direction/Voice:	Passive
Enforcement Id(EID):	360914
Region:	8
Order / Resolution Number:	Not Reported
Enforcement Action Type:	Notice of Violation
Effective Date:	01/30/2009
Adoption/Issuance Date:	01/30/2009
Achieve Date:	Not Reported
Termination Date:	01/30/2009
ACL Issuance Date:	Not Reported
EPL Issuance Date:	Not Reported
Status:	Historical
Title:	Notice of Violation for Hettinga, Gerben
Description:	Not Reported
Program:	ANIWSTCOWS
Latest Milestone Completion Date:	Not Reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0

MAP FINDINGS

**GH DAIRY #2, 7417 EUCALYPTUS AVENUE, ONTARIO, CA 91762 (Continued)**

Liability \$ Amount:	0
Project \$ Amount:	0
Liability \$ Paid:	0
Project \$ Completed:	0
Total \$ Paid/Completed Amount:	0
Name:	GH DAIRY #2
Address:	7417 EUCALYPTUS AVENUE
City,State,Zip:	ONTARIO, CA
Region:	8
Facility Id:	263052
Agency Name:	Not Reported
Place Type:	Growing
Place Subtype:	Animal Feeding
Facility Type:	Agricultural
Agency Type:	Not Reported
# Of Agencies:	Not Reported
Place Latitude:	33.98939
Place Longitude:	-117.64223
SIC Code 1:	241
SIC Desc 1:	Dairy Farms
SIC Code 2:	Not Reported
SIC Desc 2:	Not Reported
SIC Code 3:	Not Reported
SIC Desc 3:	Not Reported
NAICS Code 1:	11212
NAICS Desc 1:	Dairy Cattle and Milk Production
NAICS Code 2:	Not Reported
NAICS Desc 2:	Not Reported
NAICS Code 3:	Not Reported
NAICS Desc 3:	Not Reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not Reported
Threat To Water Quality:	Not Reported
Complexity:	Not Reported
Pretreatment:	Not Reported
Facility Waste Type:	Not Reported
Facility Waste Type 2:	Not Reported
Facility Waste Type 3:	Not Reported
Facility Waste Type 4:	Not Reported
Program:	Not Reported
Program Category1:	Not Reported
Program Category2:	ANIMALWASTE
# Of Programs:	Not Reported
WDID:	Not Reported
Reg Measure Id:	Not Reported
Reg Measure Type:	Not Reported
Region:	Not Reported
Order #:	Not Reported

MAP FINDINGS
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**GH DAIRY #2, 7417 EUCALYPTUS AVENUE, ONTARIO, CA 91762 (Continued)**

Npdes# CA#:	Not Reported
Major-Minor:	Not Reported
Npdes Type:	Not Reported
Reclamation:	Not Reported
Dredge Fill Fee:	Not Reported
301H:	Not Reported
Application Fee Amt Received:	Not Reported
Status:	Not Reported
Status Date:	Not Reported
Effective Date:	Not Reported
Expiration/Review Date:	Not Reported
Termination Date:	Not Reported
WDR Review - Amend:	Not Reported
WDR Review - Revise/Renew:	Not Reported
WDR Review - Rescind:	Not Reported
WDR Review - No Action Required:	Not Reported
WDR Review - Pending:	Not Reported
WDR Review - Planned:	Not Reported
Status Enrollee:	Not Reported
Individual/General:	Not Reported
Fee Code:	Not Reported
Direction/Voice:	Not Reported
Enforcement Id(EID):	347109
Region:	8
Order / Resolution Number:	Not Reported
Enforcement Action Type:	Oral Communication
Effective Date:	01/24/2008
Adoption/Issuance Date:	Not Reported
Achieve Date:	Not Reported
Termination Date:	01/24/2008
ACL Issuance Date:	Not Reported
EPL Issuance Date:	Not Reported
Status:	Historical
Title:	Oral Comm..(01/28/08)
Description:	Not Reported
Program:	ANIWSTCOWS
Latest Milestone Completion Date:	Not Reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability \$ Amount:	0
Project \$ Amount:	0
Liability \$ Paid:	0
Project \$ Completed:	0
Total \$ Paid/Completed Amount:	0

**CIWQS: Other Ascertainable Records**

Name:	GH DAIRY #2
Address:	7417 EUCALYPTUS AVENUE

MAP FINDINGS
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**GH DAIRY #2, 7417 EUCALYPTUS AVENUE, ONTARIO, CA 91762 (Continued)**

City,State,Zip:	ONTARIO, CA 91762
Agency:	Hettinga, Gerben
Agency Address:	14651 South Grove Avenue, Ontario, CA 91762
Place/Project Type:	Animal Feeding Facility
SIC/NAICS:	241
Region:	8
Program:	ANIWSTCOWS
Regulatory Measure Status:	Active
Regulatory Measure Type:	Enrollee - NPDES
Order Number:	R8-2018-0001
WDID:	8 365964001
NPDES Number:	CAG018001
Adoption Date:	Not Reported
Effective Date:	09/04/2008
Termination Date:	Not Reported
Expiration/Review Date:	03/15/2024
Design Flow:	Not Reported
Major/Minor:	Minor
Complexity:	Not Reported
TTWQ:	Not Reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	33.98939
Longitude:	-117.64223
Name:	GH DAIRY #2
Address:	7417 EUCALYPTUS AVENUE
City,State,Zip:	ONTARIO, CA 91762
Agency:	Miller, Ted
Agency Address:	13948 South Euclid Avenue, Ontario, CA 91761
Place/Project Type:	Animal Feeding Facility
SIC/NAICS:	241
Region:	8
Program:	ANIWSTCOWS
Regulatory Measure Status:	Historical
Regulatory Measure Type:	WDR
Order Number:	81-096
WDID:	8 365409003
NPDES Number:	Not Reported
Adoption Date:	05/08/1981
Effective Date:	05/08/1981
Termination Date:	02/09/1990
Expiration/Review Date:	05/01/1986
Design Flow:	0.0001
Major/Minor:	Not Reported
Complexity:	C
TTWQ:	2
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	33.98939

MAP FINDINGS

**GH DAIRY #2, 7417 EUCALYPTUS AVENUE, ONTARIO, CA 91762 (Continued)**

Longitude: -117.64223  
 Name: GH DAIRY #2  
 Address: 7417 EUCALYPTUS AVENUE  
 City,State,Zip: ONTARIO, CA 91762  
 Agency: Borba, Joe & Lindsey  
 Agency Address: 14651 South Grove Avenue, Ontario, CA 91762-7708  
 Place/Project Type: Animal Feeding Facility  
 SIC/NAICS: 241  
 Region: 8  
 Program: ANIWSTCOWS  
 Regulatory Measure Status: Historical  
 Regulatory Measure Type: NPDES Permit  
 Order Number: 90-001  
 WDID: 8 365684001  
 NPDES Number: CAG018001  
 Adoption Date: 02/09/1990  
 Effective Date: 02/09/1990  
 Termination Date: Not Reported  
 Expiration/Review Date: 02/07/2000  
 Design Flow: 0.043  
 Major/Minor: Minor  
 Complexity: C  
 TTWQ: 2  
 Enforcement Actions within 5 years: 0  
 Violations within 5 years: 0  
 Latitude: 33.98939  
 Longitude: -117.64223

CHINO VALLEY DAIRY 2 14389 SULTANA AVENUE, ONTARIO, CA, 91710		S108536503
▲ 9	NNW <1/10 (219 ft. / 0.042 mi.)	Other Ascertainable Records
	15 ft. Higher Elevation 669 ft. Above Sea Level	

**Worksheet:**

**ENF: Other Ascertainable Records**

Name: CHINO VALLEY DAIRY 2  
 Address: 14389 SULTANA AVENUE  
 City,State,Zip: ONTARIO, CA 91710  
 Region: 8  
 Facility Id: 259361  
 Agency Name: Not Reported  
 Place Type: Growing  
 Place Subtype: Animal Feeding  
 Facility Type: Agricultural  
 Agency Type: Not Reported  
 # Of Agencies: Not Reported

MAP FINDINGS
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**CHINO VALLEY DAIRY 2, 14389 SULTANA AVENUE, ONTARIO, CA 91710 (Continued)**

Place Latitude:	33.99296
Place Longitude:	-117.64537
SIC Code 1:	241
SIC Desc 1:	Dairy Farms
SIC Code 2:	Not Reported
SIC Desc 2:	Not Reported
SIC Code 3:	Not Reported
SIC Desc 3:	Not Reported
NAICS Code 1:	Not Reported
NAICS Desc 1:	Not Reported
NAICS Code 2:	Not Reported
NAICS Desc 2:	Not Reported
NAICS Code 3:	Not Reported
NAICS Desc 3:	Not Reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not Reported
Threat To Water Quality:	Not Reported
Complexity:	Not Reported
Pretreatment:	Not Reported
Facility Waste Type:	Solid wastes, NEC
Facility Waste Type 2:	Stormwater runoff
Facility Waste Type 3:	Not Reported
Facility Waste Type 4:	Not Reported
Program:	ANIWSTCOWS
Program Category1:	ANIMALWASTE
Program Category2:	ANIMALWASTE
# Of Programs:	1
WDID:	Not Reported
Reg Measure Id:	332712
Reg Measure Type:	NPDES Permits
Region:	8
Order #:	R8-2007-0001
Npdes# CA#:	CAG018001
Major-Minor:	Not Reported
Npdes Type:	Not Reported
Reclamation:	Not Reported
Dredge Fill Fee:	Not Reported
301H:	Not Reported
Application Fee Amt Received:	Not Reported
Status:	Historical
Status Date:	12/24/2013
Effective Date:	09/07/2007
Expiration/Review Date:	09/06/2012
Termination Date:	06/06/2013
WDR Review - Amend:	Not Reported
WDR Review - Revise/Renew:	Not Reported
WDR Review - Rescind:	Not Reported
WDR Review - No Action Required:	Not Reported
WDR Review - Pending:	Not Reported

MAP FINDINGS

**CHINO VALLEY DAIRY 2, 14389 SULTANA AVENUE, ONTARIO, CA 91710 (Continued)**

WDR Review - Planned: Not Reported  
 Status Enrollee: N  
 Individual/General: G  
 Fee Code: Not Reported  
 Direction/Voice: Passive  
 Enforcement Id(EID): 347328  
 Region: 8  
 Order / Resolution Number: Not Reported  
 Enforcement Action Type: Oral Communication  
 Effective Date: 07/01/2004  
 Adoption/Issuance Date: Not Reported  
 Achieve Date: Not Reported  
 Termination Date: 07/01/2004  
 ACL Issuance Date: Not Reported  
 EPL Issuance Date: Not Reported  
 Status: Historical  
 Title: Oral Comm..  
 Description: Not Reported  
 Program: ANIWSTCOWS  
 Latest Milestone Completion Date: Not Reported  
 # Of Programs1: 1  
 Total Assessment Amount: 0  
 Initial Assessed Amount: 0  
 Liability \$ Amount: 0  
 Project \$ Amount: 0  
 Liability \$ Paid: 0  
 Project \$ Completed: 0  
 Total \$ Paid/Completed Amount: 0

**San Bern. Co. Permit: Other Ascertainable Records**

Name: SULTANA DAIRY  
 Address: 14389 SULTANA  
 City,State,Zip: ONTARIO, CA 91761  
 Region: SAN BERNARDINO  
 Facility ID: FA0010956  
 Owner: JORRITSMA, JAMES  
 Permit Number: PT0018896  
 Permit Category: SPECIAL GENERATOR  
 Facility Status: INACTIVE  
 Expiration Date: 11/30/2012

Name: SULTANA DAIRY  
 Address: 14389 SULTANA  
 City,State,Zip: ONTARIO, CA 91761  
 Region: SAN BERNARDINO  
 Facility ID: FA0010956  
 Owner: JORRITSMA, JAMES  
 Permit Number: PT0018895  
 Permit Category: HAZMAT HANDLER 0-10 EMPLOYEES  
 Facility Status: INACTIVE



MAP FINDINGS

**CHINO VALLEY DAIRY 2, 14389 SULTANA AVENUE, ONTARIO, CA 91710 (Continued)**

Expiration Date: 11/30/2012  
 Name: VINTAGE DAIRY  
 Address: 14389 SULTANA  
 City,State,Zip: ONTARIO, CA 91761  
 Region: SAN BERNARDINO  
 Facility ID: FA0000694  
 Owner: ALBERS, RAYMOND J  
 Permit Number: PT0008938  
 Permit Category: SPECIAL GENERATOR  
 Facility Status: INACTIVE  
 Expiration Date: 04/30/1997

Name: VINTAGE DAIRY  
 Address: 14389 SULTANA  
 City,State,Zip: ONTARIO, CA 91761  
 Region: SAN BERNARDINO  
 Facility ID: FA0000694  
 Owner: ALBERS, RAYMOND J  
 Permit Number: PT0008937  
 Permit Category: SPECIAL HANDLER  
 Facility Status: INACTIVE  
 Expiration Date: 04/30/1997

**CIWQS: Other Ascertainable Records**

Name: CHINO VALLEY DAIRY 2  
 Address: 14389 SULTANA AVENUE  
 City,State,Zip: ONTARIO, CA 91710  
 Agency: Anema, Greg  
 Agency Address: 8061 Edison Avenue, Chino, CA 91710  
 Place/Project Type: Animal Feeding Facility  
 SIC/NAICS: 241  
 Region: 8  
 Program: ANIWSTCOWS  
 Regulatory Measure Status: Historical  
 Regulatory Measure Type: Enrollee  
 Order Number: R8-2007-0001  
 WDID: 8 365917001  
 NPDES Number: CAG018001  
 Adoption Date: Not Reported  
 Effective Date: 07/01/2004  
 Termination Date: 01/10/2013  
 Expiration/Review Date: 09/06/2012  
 Design Flow: 0  
 Major/Minor: Minor  
 Complexity: C  
 TTWQ: 2  
 Enforcement Actions within 5 years: 0  
 Violations within 5 years: 0  
 Latitude: 33.99296

MAP FINDINGS

**CHINO VALLEY DAIRY 2, 14389 SULTANA AVENUE, ONTARIO, CA 91710 (Continued)**

Longitude: -117.64537  
 Name: CHINO VALLEY DAIRY 2  
 Address: 14389 SULTANA AVENUE  
 City,State,Zip: ONTARIO, CA 91710  
 Agency: Moons, Jack & Beatrice  
 Agency Address: 6310 Hellman Avenue, Chino, CA 91710  
 Place/Project Type: Animal Feeding Facility  
 SIC/NAICS: 241  
 Region: 8  
 Program: WDR  
 Regulatory Measure Status: Historical  
 Regulatory Measure Type: WDR  
 Order Number: 94-41058  
 WDID: 8 365653001  
 NPDES Number: Not Reported  
 Adoption Date: 06/03/1994  
 Effective Date: 06/03/1994  
 Termination Date: Not Reported  
 Expiration/Review Date: Not Reported  
 Design Flow: 0  
 Major/Minor: Not Reported  
 Complexity: C  
 TTWQ: 3  
 Enforcement Actions within 5 years: 0  
 Violations within 5 years: 0  
 Latitude: 33.99296  
 Longitude: -117.64537  
 Name: CHINO VALLEY DAIRY 2  
 Address: 14389 SULTANA AVENUE  
 City,State,Zip: ONTARIO, CA 91710  
 Agency: Breedyk, Arie  
 Agency Address: 4789 Edison Avenue, Chino, CA 91710  
 Place/Project Type: Animal Feeding Facility  
 SIC/NAICS: 241  
 Region: 8  
 Program: WDR  
 Regulatory Measure Status: Historical  
 Regulatory Measure Type: WDR  
 Order Number: 88-11501  
 WDID: 8 365003001  
 NPDES Number: Not Reported  
 Adoption Date: 10/14/1988  
 Effective Date: 10/14/1988  
 Termination Date: Not Reported  
 Expiration/Review Date: Not Reported  
 Design Flow: 0.0001  
 Major/Minor: Not Reported  
 Complexity: C  
 TTWQ: 3

MAP FINDINGS

**CHINO VALLEY DAIRY 2, 14389 SULTANA AVENUE, ONTARIO, CA 91710 (Continued)**

Enforcement Actions within 5 years: 0  
 Violations within 5 years: 0  
 Latitude: 33.99296  
 Longitude: -117.64537  
  
 Name: CHINO VALLEY DAIRY 2  
 Address: 14389 SULTANA AVENUE  
 City,State,Zip: ONTARIO, CA 91710  
 Agency: Dyt, Richard  
 Agency Address: 14389 Sultana Avenue, Chino, CA 91710  
 Place/Project Type: Animal Feeding Facility  
 SIC/NAICS: 241  
 Region: 8  
 Program: ANIWSTCOWS  
 Regulatory Measure Status: Historical  
 Regulatory Measure Type: Enrollee  
 Order Number: 99-011  
 WDID: 8 365833001  
 NPDES Number: CAG018001  
 Adoption Date: Not Reported  
 Effective Date: 09/04/2001  
 Termination Date: 11/26/2003  
 Expiration/Review Date: Not Reported  
 Design Flow: 0  
 Major/Minor: Not Reported  
 Complexity: C  
 TTWQ: 2  
 Enforcement Actions within 5 years: 0  
 Violations within 5 years: 0  
 Latitude: 33.99296  
 Longitude: -117.64537  
  
 Name: CHINO VALLEY DAIRY 2  
 Address: 14389 SULTANA AVENUE  
 City,State,Zip: ONTARIO, CA 91710  
 Agency: Slegers, Bennett  
 Agency Address: 15914 Legacy Court, Bakersfield, CA 93314  
 Place/Project Type: Animal Feeding Facility  
 SIC/NAICS: 241  
 Region: 8  
 Program: ANIWSTCOWS  
 Regulatory Measure Status: Active  
 Regulatory Measure Type: Enrollee - NPDES  
 Order Number: R8-2018-0001  
 WDID: 8 366003001  
 NPDES Number: CAG018001  
 Adoption Date: Not Reported  
 Effective Date: 05/16/2013  
 Termination Date: Not Reported  
 Expiration/Review Date: 03/15/2024  
 Design Flow: Not Reported

MAP FINDINGS

**CHINO VALLEY DAIRY 2, 14389 SULTANA AVENUE, ONTARIO, CA 91710 (Continued)**

Major/Minor: Not Reported  
 Complexity: Not Reported  
 TTWQ: Not Reported  
 Enforcement Actions within 5 years: 0  
 Violations within 5 years: 0  
 Latitude: 33.99296  
 Longitude: -117.64537

CHINO VALLEY DAIRY 7565 EUCALYPTUS AVE, ONTARIO, CA, 91762		S109693846
▲ 10	NE <1/10 (362 ft. / 0.069 mi.)	Local Lists of Registered Storage Tanks Other Ascertainable Records
	15 ft. Higher Elevation 669 ft. Above Sea Level	

**Worksheet:**

**CERS TANKS: Local Lists of Registered Storage Tanks**

Name: CHINO VALLEY DAIRY #1  
 Address: 7565 EUCALYPTUS AVE  
 City,State,Zip: ONTARIO, CA 91762  
 Site ID: 18632  
 CERS ID: 10311781  
 CERS Description: Aboveground Petroleum Storage

**EMI: Other Ascertainable Records**

Name: CHINO VALLEY DAIRY  
 Address: 7565 EUCALYPTUS AVE  
 City,State,Zip: ONTARIO, CA 91762  
 Year: 2016  
 County Code: 36  
 Air Basin: SC  
 Facility ID: 178418  
 Air District Name: SC  
 SIC Code: 241  
 Air District Name: SOUTH COAST AQMD  
 Community Health Air Pollution Info System: Not Reported  
 Consolidated Emission Reporting Rule: Not Reported  
 Total Organic Hydrocarbon Gases Tons/Yr: 67.75  
 Reactive Organic Gases Tons/Yr: 5.42  
 Carbon Monoxide Emissions Tons/Yr: Not Reported  
 NOX - Oxides of Nitrogen Tons/Yr: Not Reported  
 SOX - Oxides of Sulphur Tons/Yr: Not Reported  
 Particulate Matter Tons/Yr: 2.1  
 Part. Matter 10 Micrometers and Smllr Tons/Yr: 1.01178  
 Name: CHINO VALLEY DAIRY

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Address: 7565 EUCALYPTUS AVE  
 City,State,Zip: ONTARIO, CA 91762  
 Year: 2017  
 County Code: 36  
 Air Basin: SC  
 Facility ID: 178418  
 Air District Name: SC  
 SIC Code: 241  
 Air District Name: SOUTH COAST AQMD  
 Community Health Air Pollution Info System: Not Reported  
 Consolidated Emission Reporting Rule: Not Reported  
 Total Organic Hydrocarbon Gases Tons/Yr: 68.625  
 Reactive Organic Gases Tons/Yr: 5.49  
 Carbon Monoxide Emissions Tons/Yr: Not Reported  
 NOX - Oxides of Nitrogen Tons/Yr: Not Reported  
 SOX - Oxides of Sulphur Tons/Yr: Not Reported  
 Particulate Matter Tons/Yr: 2.16  
 Part. Matter 10 Micrometers and Smlr Tons/Yr: 1.040688

**ENF: Other Ascertainable Records**

Name: CHINO VALLEY DAIRY #1  
 Address: 7565 EUCALYPTUS AVENUE  
 City,State,Zip: ONTARIO, CA 91762  
 Region: 8  
 Facility Id: 234639  
 Agency Name: Slegers, Bennett  
 Place Type: Growing  
 Place Subtype: Animal Feeding  
 Facility Type: Agricultural  
 Agency Type: Privately-Individual  
 # Of Agencies: 1  
 Place Latitude: 33.990346  
 Place Longitude: -117.639683  
 SIC Code 1: 241  
 SIC Desc 1: Dairy Farms  
 SIC Code 2: Not Reported  
 SIC Desc 2: Not Reported  
 SIC Code 3: Not Reported  
 SIC Desc 3: Not Reported  
 NAICS Code 1: Not Reported  
 NAICS Desc 1: Not Reported  
 NAICS Code 2: Not Reported  
 NAICS Desc 2: Not Reported  
 NAICS Code 3: Not Reported  
 NAICS Desc 3: Not Reported  
 # Of Places: 1  
 Source Of Facility: Reg Meas

MAP FINDINGS
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**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Design Flow:	Not Reported
Threat To Water Quality:	Not Reported
Complexity:	Not Reported
Pretreatment:	X - Facility is not a POTW
Facility Waste Type:	Solid wastes, NEC
Facility Waste Type 2:	Stormwater runoff
Facility Waste Type 3:	Not Reported
Facility Waste Type 4:	Not Reported
Program:	ANIWSTCOWS
Program Category1:	ANIMALWASTE
Program Category2:	ANIMALWASTE
# Of Programs:	1
WDID:	8 365981001
Reg Measure Id:	376727
Reg Measure Type:	Enrollee - NPDES
Region:	8
Order #:	R8-2018-0001
Npdes# CA#:	CAG018001
Major-Minor:	Minor
Npdes Type:	Not Reported
Reclamation:	N - No
Dredge Fill Fee:	Not Reported
301H:	Not Reported
Application Fee Amt Received:	1839.6
Status:	Active
Status Date:	07/18/2019
Effective Date:	12/02/2010
Expiration/Review Date:	03/15/2024
Termination Date:	Not Reported
WDR Review - Amend:	Not Reported
WDR Review - Revise/Renew:	Not Reported
WDR Review - Rescind:	Not Reported
WDR Review - No Action Required:	Not Reported
WDR Review - Pending:	Not Reported
WDR Review - Planned:	Not Reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	10 - Confined animal feeding facility
Direction/Voice:	Passive
Enforcement Id(EID):	392041
Region:	8
Order / Resolution Number:	Not Reported
Enforcement Action Type:	Oral Communication
Effective Date:	03/07/2013
Adoption/Issuance Date:	03/07/2013
Achieve Date:	Not Reported
Termination Date:	03/07/2013
ACL Issuance Date:	Not Reported
EPL Issuance Date:	Not Reported
Status:	Historical

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Title: Oral Com 03/07/2013 for Slegers, Bennett  
 Description: Not Reported  
 Program: ANIWSTCOWS  
 Latest Milestone Completion Date: Not Reported  
 # Of Programs1: 1  
 Total Assessment Amount: 0  
 Initial Assessed Amount: 0  
 Liability \$ Amount: 0  
 Project \$ Amount: 0  
 Liability \$ Paid: 0  
 Project \$ Completed: 0  
 Total \$ Paid/Completed Amount: 0

Name: CHINO VALLEY DAIRY #1  
 Address: 7565 EUCALYPTUS AVENUE  
 City,State,Zip: ONTARIO, CA 91762  
 Region: 8  
 Facility Id: 234639  
 Agency Name: Slegers, Bennett  
 Place Type: Growing  
 Place Subtype: Animal Feeding  
 Facility Type: Agricultural  
 Agency Type: Privately-Individual  
 # Of Agencies: 1  
 Place Latitude: 33.990346  
 Place Longitude: -117.639683  
 SIC Code 1: 241  
 SIC Desc 1: Dairy Farms  
 SIC Code 2: Not Reported  
 SIC Desc 2: Not Reported  
 SIC Code 3: Not Reported  
 SIC Desc 3: Not Reported  
 NAICS Code 1: Not Reported  
 NAICS Desc 1: Not Reported  
 NAICS Code 2: Not Reported  
 NAICS Desc 2: Not Reported  
 NAICS Code 3: Not Reported  
 NAICS Desc 3: Not Reported  
 # Of Places: 1  
 Source Of Facility: Reg Meas  
 Design Flow: Not Reported  
 Threat To Water Quality: Not Reported  
 Complexity: Not Reported  
 Pretreatment: X - Facility is not a POTW  
 Facility Waste Type: Solid wastes, NEC  
 Facility Waste Type 2: Stormwater runoff  
 Facility Waste Type 3: Not Reported  
 Facility Waste Type 4: Not Reported  
 Program: ANIWSTCOWS  
 Program Category1: ANIMALWASTE

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Program Category2:	ANIMALWASTE
# Of Programs:	1
WDID:	8 365981001
Reg Measure Id:	376727
Reg Measure Type:	Enrollee - NPDES
Region:	8
Order #:	R8-2018-0001
Npdes# CA#:	CAG018001
Major-Minor:	Minor
Npdes Type:	Not Reported
Reclamation:	N - No
Dredge Fill Fee:	Not Reported
301H:	Not Reported
Application Fee Amt Received:	1839.6
Status:	Active
Status Date:	07/18/2019
Effective Date:	12/02/2010
Expiration/Review Date:	03/15/2024
Termination Date:	Not Reported
WDR Review - Amend:	Not Reported
WDR Review - Revise/Renew:	Not Reported
WDR Review - Rescind:	Not Reported
WDR Review - No Action Required:	Not Reported
WDR Review - Pending:	Not Reported
WDR Review - Planned:	Not Reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	10 - Confined animal feeding facility
Direction/Voice:	Passive
Enforcement Id(EID):	392040
Region:	8
Order / Resolution Number:	Not Reported
Enforcement Action Type:	Oral Communication
Effective Date:	03/07/2013
Adoption/Issuance Date:	03/07/2013
Achieve Date:	Not Reported
Termination Date:	03/07/2013
ACL Issuance Date:	Not Reported
EPL Issuance Date:	Not Reported
Status:	Historical
Title:	Oral Com 03/07/2013 for Slegers, Bennett
Description:	Not Reported
Program:	ANIWSTCOWS
Latest Milestone Completion Date:	Not Reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability \$ Amount:	0
Project \$ Amount:	0
Liability \$ Paid:	0



MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Project \$ Completed: 0  
 Total \$ Paid/Completed Amount: 0

**San Bern. Co. Permit: Other Ascertainable Records**

Name: CHINO VALLEY DAIRY  
 Address: 7565 EUCALYPTUS AVE  
 City,State,Zip: ONTARIO, CA 91762  
 Region: SAN BERNARDINO  
 Facility ID: FA0013590  
 Owner: SLEGERS, BEN  
 Permit Number: PT0023850  
 Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS  
 Facility Status: ACTIVE  
 Expiration Date: 10/31/2019

Name: SOUZA DAIRY  
 Address: 7565 EUCALYPTUS AVE  
 City,State,Zip: ONTARIO, CA 91762  
 Region: SAN BERNARDINO  
 Facility ID: FA0011040  
 Owner: Frank Souza  
 Permit Number: PT0019035  
 Permit Category: HAZMAT HANDLER 0-10 EMPLOYEES  
 Facility Status: INACTIVE  
 Expiration Date: 07/31/2009

Name: SOUZA DAIRY  
 Address: 7565 EUCALYPTUS AVE  
 City,State,Zip: ONTARIO, CA 91762  
 Region: SAN BERNARDINO  
 Facility ID: FA0011040  
 Owner: Frank Souza  
 Permit Number: PT0019036  
 Permit Category: SPECIAL GENERATOR  
 Facility Status: INACTIVE  
 Expiration Date: 07/31/2009

Name: KRASBERGEN DAIRY  
 Address: 7565 EUCALYPTUS AVE  
 City,State,Zip: ONTARIO, CA 91762  
 Region: SAN BERNARDINO  
 Facility ID: FA0000529  
 Owner: KASBERGEN DAIRY  
 Permit Number: PT0018989  
 Permit Category: HAZMAT HANDLER 0-10 EMPLOYEES  
 Facility Status: INACTIVE  
 Expiration Date: 04/30/2007

Name: KRASBERGEN DAIRY  
 Address: 7565 EUCALYPTUS AVE  
 City,State,Zip: ONTARIO, CA 91762

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Region: SAN BERNARDINO  
 Facility ID: FA0000529  
 Owner: KASBERGEN DAIRY  
 Permit Number: PT0008943  
 Permit Category: SPECIAL HANDLER  
 Facility Status: INACTIVE  
 Expiration Date: 04/30/1997

Name: KRASBERGEN DAIRY  
 Address: 7565 EUCALYPTUS AVE  
 City,State,Zip: ONTARIO, CA 91762  
 Region: SAN BERNARDINO  
 Facility ID: FA0000529  
 Owner: KASBERGEN DAIRY  
 Permit Number: PT0008944  
 Permit Category: SPECIAL GENERATOR  
 Facility Status: INACTIVE  
 Expiration Date: 04/30/1997

**CIWQS: Other Ascertainable Records**

Name: CHINO VALLEY DAIRY #1  
 Address: 7565 EUCALYPTUS AVENUE  
 City,State,Zip: ONTARIO, CA 91762  
 Agency: Slegers, Bennett  
 Agency Address: 15914 Legacy Court, Bakersfield, CA 93314  
 Place/Project Type: Animal Feeding Facility  
 SIC/NAICS: 241  
 Region: 8  
 Program: ANIWSTCOWS  
 Regulatory Measure Status: Active  
 Regulatory Measure Type: Enrollee - NPDES  
 Order Number: R8-2018-0001  
 WDID: 8 365981001  
 NPDES Number: CAG018001  
 Adoption Date: Not Reported  
 Effective Date: 12/02/2010  
 Termination Date: Not Reported  
 Expiration/Review Date: 03/15/2024  
 Design Flow: Not Reported  
 Major/Minor: Minor  
 Complexity: Not Reported  
 TTWQ: Not Reported  
 Enforcement Actions within 5 years: 0  
 Violations within 5 years: 0  
 Latitude: 33.990346  
 Longitude: -117.639683

Name: CHINO VALLEY DAIRY #1  
 Address: 7565 EUCALYPTUS AVENUE  
 City,State,Zip: ONTARIO, CA 91762

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Agency: Frank Souza  
Agency Address: 16185 Euclid Avenue, Chino, CA 91708-9118  
Place/Project Type: Animal Feeding Facility  
SIC/NAICS: 241  
Region: 8  
Program: ANIWSTCOWS  
Regulatory Measure Status: Historical  
Regulatory Measure Type: Enrollee  
Order Number: R8-2007-0001  
WDID: 8 365931001  
NPDES Number: CAG018001  
Adoption Date: Not Reported  
Effective Date: 05/25/2006  
Termination Date: 11/10/2010  
Expiration/Review Date: Not Reported  
Design Flow: Not Reported  
Major/Minor: Minor  
Complexity: Not Reported  
TTWQ: Not Reported  
Enforcement Actions within 5 years: 0  
Violations within 5 years: 0  
Latitude: 33.990346  
Longitude: -117.639683

**CERS: Other Ascertainable Records**

Name: CHINO VALLEY DAIRY #1  
Address: 7565 EUCALYPTUS AVE  
City,State,Zip: ONTARIO, CA 91762  
Site ID: 18632  
CERS ID: 10311781  
CERS Description: Chemical Storage Facilities

**Violations:**

Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Violation Date: 01-11-2017  
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
Violation Description: Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.  
Violation Notes: Returned to compliance on 03/01/2018. A business plan has not been submitted in the CERS system nor has it ever been established.  
Violation Division: San Bernardino County Fire Department  
Violation Program: HMRRP  
Violation Source: CERS  
Site ID: 18632  
Site Name: Chino Valley Dairy #1  
Violation Date: 01-11-2017  
Citation: HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507  
Violation Description: Failure to adequately establish and implement a business plan when storing/handling a hazardous material at or above reportable quantities.

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Violation Notes: Returned to compliance on 03/01/2018. A business plan has not been submitted in the CERS system nor has it ever been established.  
 Violation Division: San Bernardino County Fire Department  
 Violation Program: HMRRP  
 Violation Source: CERS

Site ID: 18632  
 Site Name: Chino Valley Dairy #1  
 Violation Date: 08-28-2017  
 Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)  
 Violation Description: Failure to complete and electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.

Violation Notes: Returned to compliance on 03/01/2018. NON INSPECTION RELATED VIOLATION  
 Violation Division: San Bernardino County Fire Department  
 Violation Program: HMRRP  
 Violation Source: CERS

Site ID: 18632  
 Site Name: Chino Valley Dairy #1  
 Violation Date: 11-12-2008  
 Citation: California Water Code  
 Violation Description: Not Reported

Violation Notes: Discharger did not maintain containment structures to retain all wastewater within the facility. A marker was not placed within each pond or containment structure.  
 Violation Division: Water Boards  
 Violation Program: ANIWSTCOWS  
 Violation Source: CIWQS

Site ID: 18632  
 Site Name: Chino Valley Dairy #1  
 Violation Date: 01-11-2017  
 Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)  
 Violation Description: Failure to complete and electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.

Violation Notes: Returned to compliance on 03/01/2018. A business plan has not been submitted in the CERS system nor has it ever been established.  
 Violation Division: San Bernardino County Fire Department  
 Violation Program: HMRRP  
 Violation Source: CERS

Site ID: 18632  
 Site Name: Chino Valley Dairy #1  
 Violation Date: 08-16-2013  
 Citation: HSC 6.95 25505(a) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)  
 Violation Description: Owner/Operator failed to complete and/or submit a Hazardous Materials Business Plan when storing hazardous materials at or above the thresholds quantities of 55 gallons/500 lbs/200 cubic feet.

Violation Notes: Returned to compliance on 03/01/2018.  
 Violation Division: San Bernardino County Fire Department  
 Violation Program: HMRRP  
 Violation Source: CERS

Site ID: 18632  
 Site Name: Chino Valley Dairy #1  
 Violation Date: 08-16-2013

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Citation: HSC 6.95 25503.5(a) - California Health and Safety Code, Chapter 6.95, Section(s) 25503.5(a)  
 Violation Description: Owner/Operator failed to establish and implement a Hazardous Materials Business Plan when storing hazardous materials at or above the thresholds quantities of 55 gallons/500 lbs/200 cubic feet.  
 Violation Notes: Returned to compliance on 03/01/2018.  
 Violation Division: San Bernardino County Fire Department  
 Violation Program: HMRRP  
 Violation Source: CERS

**Evaluation:**

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 01-11-2017  
 Violations Found: Yes  
 Eval Type: Routine done by local agency  
 Eval Notes: Routine inspection  
 Eval Division: San Bernardino County Fire Department  
 Eval Program: HMRRP  
 Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 01-26-2017  
 Violations Found: No  
 Eval Type: RWQCB Type B compliance inspection  
 Eval Notes: Not Reported  
 Eval Division: Water Boards  
 Eval Program: ANIWSTCOWS  
 Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 02-06-2018  
 Violations Found: No  
 Eval Type: RWQCB Type B compliance inspection  
 Eval Notes: Not Reported  
 Eval Division: Water Boards  
 Eval Program: ANIWSTCOWS  
 Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 02-27-2013  
 Violations Found: No  
 Eval Type: RWQCB Type B compliance inspection  
 Eval Notes: Not Reported  
 Eval Division: Water Boards  
 Eval Program: ANIWSTCOWS  
 Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 03-05-2019  
 Violations Found: No  
 Eval Type: RWQCB Type B compliance inspection  
 Eval Notes: Not Reported  
 Eval Division: Water Boards  
 Eval Program: ANIWSTCOWS

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	03-07-2013
Violations Found:	Yes
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	04-07-2010
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	06-08-2011
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	08-16-2013
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	ROUTINE HANDLER ONLY INSPECTION-CHINO DAIRY
Eval Division:	San Bernardino County Fire Department
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Other/Unknown
Eval Date:	08-28-2017
Violations Found:	Yes
Eval Type:	Other, not routine, done by local agency
Eval Notes:	CERS ENFORCEMENT PROJECT-ENTER VIOLATION
Eval Division:	San Bernardino County Fire Department
Eval Program:	HMRRP
Eval Source:	CERS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	11-03-2015
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	11-12-2008
Violations Found:	Yes
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	11-27-2007
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	12-08-2011
Violations Found:	Yes
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	12-23-2014
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS

**Enforcement Action:**

Site ID:	18632
Site Name:	Chino Valley Dairy #1
Site Address:	7565 EUCALYPTUS AVE
Site City:	ONTARIO
Site Zip:	91762
Enf Action Date:	01-11-2017
Enf Action Type:	Notice of Violation (Unified Program)
Enf Action Description:	Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes:	Not Reported
Enf Action Division:	San Bernardino County Fire Department
Enf Action Program:	HMRRP

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Enf Action Source:	CERS
Site ID:	18632
Site Name:	Chino Valley Dairy #1
Site Address:	7565 EUCALYPTUS AVE
Site City:	ONTARIO
Site Zip:	91762
Enf Action Date:	03-07-2013
Enf Action Type:	Oral Communication
Enf Action Description:	Oral Communication
Enf Action Notes:	Not Reported
Enf Action Division:	Water Boards
Enf Action Program:	ANIWSTCOWS
Enf Action Source:	CIWQS
Site ID:	18632
Site Name:	Chino Valley Dairy #1
Site Address:	7565 EUCALYPTUS AVE
Site City:	ONTARIO
Site Zip:	91762
Enf Action Date:	08-16-2013
Enf Action Type:	Notice of Violation (Unified Program)
Enf Action Description:	Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes:	Not Reported
Enf Action Division:	San Bernardino County Fire Department
Enf Action Program:	HMRRP
Enf Action Source:	CERS

**Coordinates:**

Site ID:	18632
Facility Name:	Chino Valley Dairy #1
Env Int Type Code:	HMBP
Program ID:	10311781
Coord Name:	Not Reported
Ref Point Type Desc:	Center of a facility or station.
Latitude:	33.989400
Longitude:	-117.639980

**Affiliation:**

Affiliation Type Desc:	CUPA District
Entity Name:	San Bernardino County Fire
Entity Title:	Not Reported
Affiliation Address:	620 South E Street
Affiliation City:	San Bernardino
Affiliation State:	CA
Affiliation Country:	Not Reported
Affiliation Zip:	92415-0153
Affiliation Phone:	(909) 386-8401
Affiliation Type Desc:	Identification Signer



MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Entity Name:	Jason Slegers
Entity Title:	Owner/Operator
Affiliation Address:	Not Reported
Affiliation City:	Not Reported
Affiliation State:	Not Reported
Affiliation Country:	Not Reported
Affiliation Zip:	Not Reported
Affiliation Phone:	Not Reported
Affiliation Type Desc:	Owner and Operator
Entity Name:	Slegers, Bennett
Entity Title:	Not Reported
Affiliation Address:	Not Reported
Affiliation City:	Not Reported
Affiliation State:	Not Reported
Affiliation Country:	Not Reported
Affiliation Zip:	Not Reported
Affiliation Phone:	Not Reported
Affiliation Type Desc:	Document Preparer
Entity Name:	Jason Slegers
Entity Title:	Not Reported
Affiliation Address:	Not Reported
Affiliation City:	Not Reported
Affiliation State:	Not Reported
Affiliation Country:	Not Reported
Affiliation Zip:	Not Reported
Affiliation Phone:	Not Reported
Affiliation Type Desc:	Environmental Contact
Entity Name:	Jason Slegers
Entity Title:	Not Reported
Affiliation Address:	7565 Eucalyptus Ave
Affiliation City:	Ontario
Affiliation State:	CA
Affiliation Country:	Not Reported
Affiliation Zip:	91762
Affiliation Phone:	Not Reported
Affiliation Type Desc:	Operator
Entity Name:	FRANK SOUZA
Entity Title:	Not Reported
Affiliation Address:	Not Reported
Affiliation City:	Not Reported
Affiliation State:	Not Reported
Affiliation Country:	Not Reported
Affiliation Zip:	Not Reported
Affiliation Phone:	Not Reported
Affiliation Type Desc:	Parent Corporation
Entity Name:	CHINO DAIRY
Entity Title:	Not Reported

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Affiliation Address: Not Reported  
 Affiliation City: Not Reported  
 Affiliation State: Not Reported  
 Affiliation Country: Not Reported  
 Affiliation Zip: Not Reported  
 Affiliation Phone: Not Reported

Affiliation Type Desc: Operator  
 Entity Name: Jason Slegers  
 Entity Title: Not Reported  
 Affiliation Address: Not Reported  
 Affiliation City: Not Reported  
 Affiliation State: Not Reported  
 Affiliation Country: Not Reported  
 Affiliation Zip: Not Reported  
 Affiliation Phone: (909) 815-1985

Affiliation Type Desc: Facility Mailing Address  
 Entity Name: Mailing Address  
 Entity Title: Not Reported  
 Affiliation Address: 7565 EUCALYPTUS AVE  
 Affiliation City: ONTARIO  
 Affiliation State: CA  
 Affiliation Country: Not Reported  
 Affiliation Zip: 91762  
 Affiliation Phone: Not Reported

Affiliation Type Desc: Legal Owner  
 Entity Name: Slegers, Ben  
 Entity Title: Not Reported  
 Affiliation Address: 7565 EUCALYPTUS AVE  
 Affiliation City: ONTARIO  
 Affiliation State: CA  
 Affiliation Country: United States  
 Affiliation Zip: 91762  
 Affiliation Phone: (909) 260-0789

Name: CHINO VALLEY DAIRY #1  
 Address: 7565 EUCALYPTUS AVE  
 City,State,Zip: ONTARIO, CA 91762  
 Site ID: 18632  
 CERS ID: 234639  
 CERS Description: Animal Wastewater Discharge

**Violations:**

Site ID: 18632  
 Site Name: Chino Valley Dairy #1  
 Violation Date: 01-11-2017  
 Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2  
 Violation Description: Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Violation Notes: Returned to compliance on 03/01/2018. A business plan has not been submitted in the CERS system nor has it ever been established.

Violation Division: San Bernardino County Fire Department

Violation Program: HMRRP

Violation Source: CERS

Site ID: 18632

Site Name: Chino Valley Dairy #1

Violation Date: 01-11-2017

Citation: HSC 6.95 25507 - California Health and Safety Code, Chapter 6.95, Section(s) 25507

Violation Description: Failure to adequately establish and implement a business plan when storing/handling a hazardous material at or above reportable quantities.

Violation Notes: Returned to compliance on 03/01/2018. A business plan has not been submitted in the CERS system nor has it ever been established.

Violation Division: San Bernardino County Fire Department

Violation Program: HMRRP

Violation Source: CERS

Site ID: 18632

Site Name: Chino Valley Dairy #1

Violation Date: 08-28-2017

Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)

Violation Description: Failure to complete and electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.

Violation Notes: Returned to compliance on 03/01/2018. NON INSPECTION RELATED VIOLATION

Violation Division: San Bernardino County Fire Department

Violation Program: HMRRP

Violation Source: CERS

Site ID: 18632

Site Name: Chino Valley Dairy #1

Violation Date: 11-12-2008

Citation: California Water Code

Violation Description: Not Reported

Violation Notes: Discharger did not maintain containment structures to retain all wastewater within the facility. A marker was not placed within each pond or containment structure.

Violation Division: Water Boards

Violation Program: ANIWSTCOWS

Violation Source: CIWQS

Site ID: 18632

Site Name: Chino Valley Dairy #1

Violation Date: 01-11-2017

Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)

Violation Description: Failure to complete and electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.

Violation Notes: Returned to compliance on 03/01/2018. A business plan has not been submitted in the CERS system nor has it ever been established.

Violation Division: San Bernardino County Fire Department

Violation Program: HMRRP

Violation Source: CERS

Site ID: 18632

Site Name: Chino Valley Dairy #1

Violation Date: 08-16-2013

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Citation: HSC 6.95 25505(a) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)  
 Violation Description: Owner/Operator failed to complete and/or submit a Hazardous Materials Business Plan when storing hazardous materials at or above the thresholds quantities of 55 gallons/500 lbs/200 cubic feet.  
 Violation Notes: Returned to compliance on 03/01/2018.  
 Violation Division: San Bernardino County Fire Department  
 Violation Program: HMRRP  
 Violation Source: CERS

Site ID: 18632  
 Site Name: Chino Valley Dairy #1  
 Violation Date: 08-16-2013

Citation: HSC 6.95 25503.5(a) - California Health and Safety Code, Chapter 6.95, Section(s) 25503.5(a)  
 Violation Description: Owner/Operator failed to establish and implement a Hazardous Materials Business Plan when storing hazardous materials at or above the thresholds quantities of 55 gallons/500 lbs/200 cubic feet.  
 Violation Notes: Returned to compliance on 03/01/2018.  
 Violation Division: San Bernardino County Fire Department  
 Violation Program: HMRRP  
 Violation Source: CERS

**Evaluation:**

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 01-11-2017  
 Violations Found: Yes  
 Eval Type: Routine done by local agency  
 Eval Notes: Routine inspection  
 Eval Division: San Bernardino County Fire Department  
 Eval Program: HMRRP  
 Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 01-26-2017  
 Violations Found: No  
 Eval Type: RWQCB Type B compliance inspection  
 Eval Notes: Not Reported  
 Eval Division: Water Boards  
 Eval Program: ANIWSTCOWS  
 Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 02-06-2018  
 Violations Found: No  
 Eval Type: RWQCB Type B compliance inspection  
 Eval Notes: Not Reported  
 Eval Division: Water Boards  
 Eval Program: ANIWSTCOWS  
 Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 02-27-2013  
 Violations Found: No  
 Eval Type: RWQCB Type B compliance inspection  
 Eval Notes: Not Reported

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	03-05-2019
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	03-07-2013
Violations Found:	Yes
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	04-07-2010
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	06-08-2011
Violations Found:	No
Eval Type:	RWQCB Type B compliance inspection
Eval Notes:	Not Reported
Eval Division:	Water Boards
Eval Program:	ANIWSTCOWS
Eval Source:	CIWQS
Eval General Type:	Compliance Evaluation Inspection
Eval Date:	08-16-2013
Violations Found:	Yes
Eval Type:	Routine done by local agency
Eval Notes:	ROUTINE HANDLER ONLY INSPECTION-CHINO DAIRY
Eval Division:	San Bernardino County Fire Department
Eval Program:	HMRPP
Eval Source:	CERS
Eval General Type:	Other/Unknown
Eval Date:	08-28-2017
Violations Found:	Yes
Eval Type:	Other, not routine, done by local agency

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Eval Notes: CERS ENFORCEMENT PROJECT-ENTER VIOLATION  
 Eval Division: San Bernardino County Fire Department  
 Eval Program: HMRRP  
 Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 11-03-2015  
 Violations Found: No  
 Eval Type: RWQCB Type B compliance inspection  
 Eval Notes: Not Reported  
 Eval Division: Water Boards  
 Eval Program: ANIWSTCOWS  
 Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 11-12-2008  
 Violations Found: Yes  
 Eval Type: RWQCB Type B compliance inspection  
 Eval Notes: Not Reported  
 Eval Division: Water Boards  
 Eval Program: ANIWSTCOWS  
 Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 11-27-2007  
 Violations Found: No  
 Eval Type: RWQCB Type B compliance inspection  
 Eval Notes: Not Reported  
 Eval Division: Water Boards  
 Eval Program: ANIWSTCOWS  
 Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 12-08-2011  
 Violations Found: Yes  
 Eval Type: RWQCB Type B compliance inspection  
 Eval Notes: Not Reported  
 Eval Division: Water Boards  
 Eval Program: ANIWSTCOWS  
 Eval Source: CIWQS

Eval General Type: Compliance Evaluation Inspection  
 Eval Date: 12-23-2014  
 Violations Found: No  
 Eval Type: RWQCB Type B compliance inspection  
 Eval Notes: Not Reported  
 Eval Division: Water Boards  
 Eval Program: ANIWSTCOWS  
 Eval Source: CIWQS

**Enforcement Action:**

Site ID: 18632

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Site Name: Chino Valley Dairy #1  
 Site Address: 7565 EUCALYPTUS AVE  
 Site City: ONTARIO  
 Site Zip: 91762  
 Enf Action Date: 01-11-2017  
 Enf Action Type: Notice of Violation (Unified Program)  
 Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
 Enf Action Notes: Not Reported  
 Enf Action Division: San Bernardino County Fire Department  
 Enf Action Program: HMRRP  
 Enf Action Source: CERS

Site ID: 18632  
 Site Name: Chino Valley Dairy #1  
 Site Address: 7565 EUCALYPTUS AVE  
 Site City: ONTARIO  
 Site Zip: 91762  
 Enf Action Date: 03-07-2013  
 Enf Action Type: Oral Communication  
 Enf Action Description: Oral Communication  
 Enf Action Notes: Not Reported  
 Enf Action Division: Water Boards  
 Enf Action Program: ANIWSTCOWS  
 Enf Action Source: CIWQS

Site ID: 18632  
 Site Name: Chino Valley Dairy #1  
 Site Address: 7565 EUCALYPTUS AVE  
 Site City: ONTARIO  
 Site Zip: 91762  
 Enf Action Date: 08-16-2013  
 Enf Action Type: Notice of Violation (Unified Program)  
 Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection  
 Enf Action Notes: Not Reported  
 Enf Action Division: San Bernardino County Fire Department  
 Enf Action Program: HMRRP  
 Enf Action Source: CERS

**Coordinates:**

Site ID: 18632  
 Facility Name: Chino Valley Dairy #1  
 Env Int Type Code: HMBP  
 Program ID: 10311781  
 Coord Name: Not Reported  
 Ref Point Type Desc: Center of a facility or station.  
 Latitude: 33.989400  
 Longitude: -117.639980

**Affiliation:**

Affiliation Type Desc: CUPA District

MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Entity Name: San Bernardino County Fire  
 Entity Title: Not Reported  
 Affiliation Address: 620 South E Street  
 Affiliation City: San Bernardino  
 Affiliation State: CA  
 Affiliation Country: Not Reported  
 Affiliation Zip: 92415-0153  
 Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Identification Signer  
 Entity Name: Jason Slegers  
 Entity Title: Owner/Operator  
 Affiliation Address: Not Reported  
 Affiliation City: Not Reported  
 Affiliation State: Not Reported  
 Affiliation Country: Not Reported  
 Affiliation Zip: Not Reported  
 Affiliation Phone: Not Reported

Affiliation Type Desc: Owner and Operator  
 Entity Name: Slegers, Bennett  
 Entity Title: Not Reported  
 Affiliation Address: Not Reported  
 Affiliation City: Not Reported  
 Affiliation State: Not Reported  
 Affiliation Country: Not Reported  
 Affiliation Zip: Not Reported  
 Affiliation Phone: Not Reported

Affiliation Type Desc: Document Preparer  
 Entity Name: Jason Slegers  
 Entity Title: Not Reported  
 Affiliation Address: Not Reported  
 Affiliation City: Not Reported  
 Affiliation State: Not Reported  
 Affiliation Country: Not Reported  
 Affiliation Zip: Not Reported  
 Affiliation Phone: Not Reported

Affiliation Type Desc: Environmental Contact  
 Entity Name: Jason Slegers  
 Entity Title: Not Reported  
 Affiliation Address: 7565 Eucalyptus Ave  
 Affiliation City: Ontario  
 Affiliation State: CA  
 Affiliation Country: Not Reported  
 Affiliation Zip: 91762  
 Affiliation Phone: Not Reported

Affiliation Type Desc: Operator  
 Entity Name: FRANK SOUZA  
 Entity Title: Not Reported



MAP FINDINGS

**CHINO VALLEY DAIRY, 7565 EUCALYPTUS AVE, ONTARIO, CA 91762 (Continued)**

Affiliation Address:	Not Reported
Affiliation City:	Not Reported
Affiliation State:	Not Reported
Affiliation Country:	Not Reported
Affiliation Zip:	Not Reported
Affiliation Phone:	Not Reported
Affiliation Type Desc:	Parent Corporation
Entity Name:	CHINO DAIRY
Entity Title:	Not Reported
Affiliation Address:	Not Reported
Affiliation City:	Not Reported
Affiliation State:	Not Reported
Affiliation Country:	Not Reported
Affiliation Zip:	Not Reported
Affiliation Phone:	Not Reported
Affiliation Type Desc:	Operator
Entity Name:	Jason Slegers
Entity Title:	Not Reported
Affiliation Address:	Not Reported
Affiliation City:	Not Reported
Affiliation State:	Not Reported
Affiliation Country:	Not Reported
Affiliation Zip:	Not Reported
Affiliation Phone:	(909) 815-1985
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not Reported
Affiliation Address:	7565 EUCALYPTUS AVE
Affiliation City:	ONTARIO
Affiliation State:	CA
Affiliation Country:	Not Reported
Affiliation Zip:	91762
Affiliation Phone:	Not Reported
Affiliation Type Desc:	Legal Owner
Entity Name:	Slegers, Ben
Entity Title:	Not Reported
Affiliation Address:	7565 EUCALYPTUS AVE
Affiliation City:	ONTARIO
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	91762
Affiliation Phone:	(909) 260-0789

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
<b>ENVIRONMENTAL RECORDS</b>						
<b><i>Federal NPL site list</i></b>						
US	NPL	National Priority List	EPA	10/25/2019	11/07/2019	11/20/2019
US	Proposed NPL	Proposed National Priority List Sites	EPA	10/25/2019	11/07/2019	11/20/2019
US	NPL LIENS	Federal Superfund Liens	EPA	10/15/1991	02/02/1994	03/30/1994
<b><i>Federal CERCLIS list</i></b>						
US	SEMS	Superfund Enterprise Management System	EPA	10/25/2019	11/07/2019	11/21/2019
<b><i>Federal RCRA CORRACTS facilities list</i></b>						
US	CORRACTS	Corrective Action Report	EPA	06/24/2019	06/26/2019	10/17/2019
<b><i>Federal RCRA TSD facilities list</i></b>						
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	Environmental Protection Agency	06/24/2019	06/26/2019	10/17/2019
<b><i>Federal RCRA generators list</i></b>						
US	RCRA-LQG	RCRA - Large Quantity Generators	Environmental Protection Agency	06/24/2019	06/26/2019	10/17/2019
US	RCRA-SQG	RCRA - Small Quantity Generators	Environmental Protection Agency	06/24/2019	06/26/2019	10/17/2019
US	RCRA-VSQG	RCRA - Very Small Quantity Generators (Formerly Conditionall	Environmental Protection Agency	06/24/2019	06/26/2019	10/17/2019
<b><i>Federal institutional controls / engineering controls registries</i></b>						
US	LUCIS	Land Use Control Information System	Department of the Navy	08/13/2019	08/20/2019	08/26/2019
US	US ENG CONTROLS	Engineering Controls Sites List	Environmental Protection Agency	08/19/2019	08/20/2019	08/26/2019
US	US INST CONTROL	Sites with Institutional Controls	Environmental Protection Agency	08/19/2019	08/20/2019	08/26/2019
<b><i>Federal ERNS list</i></b>						
US	ERNS	Emergency Response Notification System	National Response Center, United States Coast	09/09/2019	09/09/2019	09/23/2019
<b><i>State and tribal - equivalent NPL</i></b>						
CA	RESPONSE	State Response Sites	Department of Toxic Substances Control	07/29/2019	07/31/2019	10/08/2019
<b><i>State and tribal - equivalent CERCLIS</i></b>						
CA	ENVIROSTOR	EnviroStor Database	Department of Toxic Substances Control	07/29/2019	07/31/2019	10/08/2019
<b><i>State and tribal landfill / solid waste disposal</i></b>						
CA	SWF/LF (SWIS)	Solid Waste Information System	Department of Resources Recycling and Recover	08/12/2019	08/13/2019	10/09/2019
<b><i>State and tribal leaking storage tank lists</i></b>						
CA	LUST	Leaking Underground Fuel Tank Report (GEOTRACKER)	State Water Resources Control Board	09/09/2019	09/09/2019	10/31/2019
CA	LUST REG 2	Fuel Leak List	California Regional Water Quality Control Boa	09/30/2004	10/20/2004	11/19/2004
CA	LUST REG 7	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Boa	02/26/2004	02/26/2004	03/24/2004
CA	LUST REG 3	Leaking Underground Storage Tank Database	California Regional Water Quality Control Boa	05/19/2003	05/19/2003	06/02/2003
CA	LUST REG 4	Underground Storage Tank Leak List	California Regional Water Quality Control Boa	09/07/2004	09/07/2004	10/12/2004
CA	LUST REG 8	Leaking Underground Storage Tanks	California Regional Water Quality Control Boa	02/14/2005	02/15/2005	03/28/2005
CA	LUST REG 9	Leaking Underground Storage Tank Report	California Regional Water Quality Control Boa	03/01/2001	04/23/2001	05/21/2001

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
CA	LUST REG 6L	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Boa	09/09/2003	09/10/2003	10/07/2003
CA	LUST REG 5	Leaking Underground Storage Tank Database	California Regional Water Quality Control Boa	07/01/2008	07/22/2008	07/31/2008
CA	LUST REG 1	Active Toxic Site Investigation	California Regional Water Quality Control Boa	02/01/2001	02/28/2001	03/29/2001
CA	LUST REG 6V	Leaking Underground Storage Tank Case Listing	California Regional Water Quality Control Boa	06/07/2005	06/07/2005	06/29/2005
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	EPA Region 10	04/16/2019	07/29/2019	10/17/2019
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	EPA Region 8	05/02/2019	10/22/2019	11/11/2019
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	EPA Region 7	07/02/2019	10/16/2019	10/24/2019
US	INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land	EPA, Region 5	04/08/2019	07/30/2019	10/17/2019
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	EPA Region 4	04/12/2019	07/29/2019	10/17/2019
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	EPA Region 1	04/11/2019	07/29/2019	10/17/2019
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	04/08/2019	07/29/2019	10/17/2019
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	EPA Region 6	05/01/2019	07/29/2019	10/17/2019
CA	CPS-SLIC	Statewide SLIC Cases (GEOTRACKER)	State Water Resources Control Board	09/09/2019	09/09/2019	11/06/2019
CA	SLIC REG 1	Active Toxic Site Investigations	California Regional Water Quality Control Boa	04/03/2003	04/07/2003	04/25/2003
CA	SLIC REG 2	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board San Fran	09/30/2004	10/20/2004	11/19/2004
CA	SLIC REG 3	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Regional Water Quality Control Boa	05/18/2006	05/18/2006	06/15/2006
CA	SLIC REG 4	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Region Water Quality Control Board Los Angele	11/17/2004	11/18/2004	01/04/2005
CA	SLIC REG 5	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board Central	04/01/2005	04/05/2005	04/21/2005
CA	SLIC REG 6V	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	Regional Water Quality Control Board, Victorv	05/24/2005	05/25/2005	06/16/2005
CA	SLIC REG 6L	SLIC Sites	California Regional Water Quality Control Boa	09/07/2004	09/07/2004	10/12/2004
CA	SLIC REG 7	SLIC List	California Regional Quality Control Board, Co	11/24/2004	11/29/2004	01/04/2005
CA	SLIC REG 8	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Region Water Quality Control Board	04/03/2008	04/03/2008	04/14/2008
CA	SLIC REG 9	Spills, Leaks, Investigation & Cleanup Cost Recovery Listing	California Regional Water Quality Control Boa	09/10/2007	09/11/2007	09/28/2007
<b>State and tribal registered storage tank lists</b>						
CA	UST	Active UST Facilities	SWRCB	09/09/2019	09/09/2019	10/31/2019
CA	MILITARY UST SITES	Military UST Sites (GEOTRACKER)	State Water Resources Control Board	09/09/2019	09/09/2019	11/01/2019
CA	UST CLOSURE	Proposed Closure of Underground Storage Tank (UST) Cases	State Water Resources Control Board	09/06/2019	09/09/2019	10/31/2019
CA	UST MENDOCINO	Mendocino County UST Database	Department of Public Health	08/20/2019	09/09/2019	10/31/2019
CA	AST	Aboveground Petroleum Storage Tank Facilities	California Environmental Protection Agency	07/06/2016	07/12/2016	09/19/2016
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	EPA Region 9	04/08/2019	07/29/2019	10/17/2019
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	EPA Region 8	05/02/2019	10/22/2019	11/11/2019
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	EPA Region 6	05/01/2019	07/29/2019	10/17/2019
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	EPA Region 5	04/08/2019	07/29/2019	10/17/2019
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	EPA Region 4	04/12/2019	07/29/2019	10/17/2019
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	EPA Region 7	05/02/2019	07/29/2019	10/17/2019
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	EPA, Region 1	04/11/2019	07/30/2019	10/17/2019
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	EPA Region 10	04/16/2019	07/30/2019	10/17/2019
US	FEMA UST	Underground Storage Tank Listing	FEMA	08/27/2019	08/28/2019	11/11/2019

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
<b>State and tribal voluntary cleanup sites</b>						
CA	VCP	Voluntary Cleanup Program Properties	Department of Toxic Substances Control	07/29/2019	07/31/2019	10/08/2019
US	INDIAN VCP R7	Voluntary Cleanup Priority Listing	EPA, Region 7	03/20/2008	04/22/2008	05/19/2008
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	EPA, Region 1	07/27/2015	09/29/2015	02/18/2016
<b>State and tribal Brownfields sites</b>						
CA	BROWNFIELDS	Considered Brownfields Sites Listing	State Water Resources Control Board	09/23/2019	09/24/2019	11/06/2019
<b>Other Records</b>						
US	CONSENT	Superfund (CERCLA) Consent Decrees	Department of Justice, Consent Decree Library	06/30/2019	07/16/2019	10/02/2019
US	ROD	Records Of Decision	EPA	10/25/2019	11/07/2019	11/20/2019
US	LIENS 2	CERCLA Lien Information	Environmental Protection Agency	10/25/2019	11/07/2019	11/20/2019
CA	HIST CAL-SITES	Calsites Database	Department of Toxic Substance Control	08/08/2005	08/03/2006	08/24/2006
US	DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations	EPA, Region 9	01/12/2009	05/07/2009	09/21/2009
CA	SWRCY	Recycler Database	Department of Conservation	09/09/2019	09/09/2019	11/07/2019
CA	CA FID UST	Facility Inventory Database	California Environmental Protection Agency	10/31/1994	09/05/1995	09/29/1995
CA	HIST UST	Hazardous Substance Storage Container Database	State Water Resources Control Board	10/15/1990	01/25/1991	02/12/1991
CA	SAN FRANCISCO AST	Aboveground Storage Tank Site Listing	San Francisco County Department of Public Hea	08/01/2019	08/02/2019	10/11/2019
CA	SWEEPS UST	SWEEPS UST Listing	State Water Resources Control Board	06/01/1994	07/07/2005	08/11/2005
US	FUSRAP	Formerly Utilized Sites Remedial Action Program	Department of Energy	08/08/2017	09/11/2018	09/14/2018
US	LEAD SMELTER 2	Lead Smelter Sites	American Journal of Public Health	04/05/2001	10/27/2010	12/02/2010
US	2020 COR ACTION	2020 Corrective Action Program List	Environmental Protection Agency	09/30/2017	05/08/2018	07/20/2018
US	LEAD SMELTER 1	Lead Smelter Sites	Environmental Protection Agency	10/25/2019	11/07/2019	11/20/2019
US	PCB TRANSFORMER	PCB Transformer Registration Database	Environmental Protection Agency	05/24/2017	11/30/2017	12/15/2017
US	US FIN ASSUR	Financial Assurance Information	Environmental Protection Agency	06/24/2019	06/26/2019	09/23/2019
US	EPA WATCH LIST	EPA WATCH LIST	Environmental Protection Agency	08/30/2013	03/21/2014	06/17/2014
US	US AIRS MINOR	Air Facility System Data	EPA	10/12/2016	10/26/2016	02/03/2017
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (	EPA	10/12/2016	10/26/2016	02/03/2017
US	COAL ASH DOE	Steam-Electric Plant Operation Data	Department of Energy	12/31/2005	08/07/2009	10/22/2009
US	SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing	Environmental Protection Agency	01/01/2017	02/03/2017	04/07/2017
US	COAL ASH EPA	Coal Combustion Residues Surface Impoundments List	Environmental Protection Agency	01/12/2017	03/05/2019	11/11/2019
US	US HIST CDL	National Clandestine Laboratory Register	Drug Enforcement Administration	06/11/2019	06/13/2019	09/03/2019
US	Delisted NPL	National Priority List Deletions	EPA	10/25/2019	11/07/2019	11/20/2019
US	SEMS-ARCHIVE	Superfund Enterprise Management System Archive	EPA	10/25/2019	11/07/2019	11/21/2019
US	RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated	Environmental Protection Agency	06/24/2019	06/26/2019	10/17/2019
US	HMIRS	Hazardous Materials Information Reporting System	U.S. Department of Transportation	06/24/2019	06/26/2019	09/23/2019
US	DOT OPS	Incident and Accident Data	Department of Transportation, Office of Pipeli	07/01/2019	07/31/2019	10/24/2019
US	US CDL	Clandestine Drug Labs	Drug Enforcement Administration	06/11/2019	06/13/2019	09/03/2019
US	US BROWNFIELDS	A Listing of Brownfields Sites	Environmental Protection Agency	06/03/2019	06/04/2019	08/26/2019
US	DOD	Department of Defense Sites	USGS	12/31/2005	11/10/2006	01/11/2007
US	FEDLAND	Federal and Indian Lands	U.S. Geological Survey	04/02/2018	04/11/2018	11/06/2019
US	FUDS	Formerly Used Defense Sites	U.S. Army Corps of Engineers	05/15/2019	05/21/2019	08/08/2019
US	UMTRA	Uranium Mill Tailings Sites	Department of Energy	08/01/2019	08/21/2019	11/11/2019
US	ODI	Open Dump Inventory	Environmental Protection Agency	06/30/1985	08/09/2004	09/17/2004
US	US MINES	Mines Master Index File	Department of Labor, Mine Safety and Health A	08/01/2019	08/27/2019	11/11/2019
US	MINES VIOLATIONS	MSHA Violation Assessment Data	DOL, Mine Safety & Health Admi	09/17/2019	09/18/2019	12/03/2019

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	US MINES 2	Ferrous and Nonferrous Metal Mines Database Listing	USGS	12/05/2005	02/29/2008	04/18/2008
US	US MINES 3	Active Mines & Mineral Plants Database Listing	USGS	04/14/2011	06/08/2011	09/13/2011
US	PRP	Potentially Responsible Parties	EPA	10/25/2019	11/07/2019	11/21/2019
US	TRIS	Toxic Chemical Release Inventory System	EPA	12/31/2017	11/16/2018	11/21/2019
US	TSCA	Toxic Substances Control Act	EPA	12/31/2016	06/21/2017	01/05/2018
US	FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA/Office of Prevention, Pesticides and Toxi	04/09/2009	04/16/2009	05/11/2009
US	FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA	04/09/2009	04/16/2009	05/11/2009
US	HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HIST FTTS INSP	FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	SSTS	Section 7 Tracking Systems	EPA	09/30/2018	04/24/2019	08/08/2019
US	ICIS	Integrated Compliance Information System	Environmental Protection Agency	11/18/2016	11/23/2016	02/10/2017
US	PADS	PCB Activity Database System	EPA	03/20/2019	04/10/2019	05/14/2019
US	MLTS	Material Licensing Tracking System	Nuclear Regulatory Commission	06/20/2019	06/20/2019	08/08/2019
US	RADINFO	Radiation Information Database	Environmental Protection Agency	07/01/2019	07/01/2019	09/23/2019
US	FINDS	Facility Index System/Facility Registry System	EPA	08/12/2019	09/04/2019	12/03/2019
US	RAATS	RCRA Administrative Action Tracking System	EPA	04/17/1995	07/03/1995	08/07/1995
US	RMP	Risk Management Plans	Environmental Protection Agency	04/25/2019	05/02/2019	05/23/2019
US	BRS	Biennial Reporting System	EPA/NTIS	12/31/2015	02/22/2017	09/28/2017
US	PWS	Public Water System Data	EPA	12/17/2013	01/09/2014	10/15/2014
US	INDIAN RESERV	Indian Reservations	USGS	12/31/2014	07/14/2015	01/10/2017
US	INDIAN ODI	Report on the Status of Open Dumps on Indian Lands	Environmental Protection Agency	12/31/1998	12/03/2007	01/24/2008
US	IHS OPEN DUMPS	Open Dumps on Indian Land	Department of Health & Human Serivces, Indian	04/01/2014	08/06/2014	01/29/2015
US	ABANDONED MINES	Abandoned Mines	Department of Interior	09/10/2019	09/10/2019	10/17/2019
CA	CA BOND EXP. PLAN	Bond Expenditure Plan	Department of Health Services	01/01/1989	07/27/1994	08/02/1994
CA	CDL	Clandestine Drug Labs	Department of Toxic Substances Control	06/30/2018	07/16/2019	09/24/2019
CA	CHMIRS	California Hazardous Material Incident Report System	Office of Emergency Services	05/15/2019	06/24/2019	08/21/2019
CA	CORTESE	"Cortese" Hazardous Waste & Substances Sites List	CAL EPA/Office of Emergency Information	09/23/2019	09/24/2019	11/06/2019
CA	CUPA SAN FRANCISCO CO	CUPA Facility Listing	San Francisco County Department of Environmen	10/31/2019	11/01/2019	12/11/2019
CA	CUPA LIVERMORE-PLEASANTON	CUPA Facility Listing	Livermore-Pleasanton Fire Department	05/01/2019	05/14/2019	07/17/2019
CA	DEED	Deed Restriction Listing	DTSC and SWRCB	09/03/2019	09/04/2019	11/05/2019
CA	DRYCLEAN SOUTH COAST	South Coast Air Quality Management District Drycleaner Listi	South Coast Air Quality Management District	09/27/2019	10/01/2019	11/07/2019
CA	DRYCLEANERS	Cleaner Facilities	Department of Toxic Substance Control	09/06/2019	10/11/2019	12/12/2019
CA	DRYCLEAN AVAQMD	Antelope Valley Air Quality Management District Drycleaner L	Antelope Valley Air Quality Management Distri	08/28/2019	08/30/2019	10/29/2019
CA	EMI	Emissions Inventory Data	California Air Resources Board	12/31/2017	06/24/2019	08/22/2019
CA	ENF	Enforcement Action Listing	State Water Resouruces Control Board	07/19/2019	07/22/2019	09/26/2019
CA	Financial Assurance 1	Financial Assurance Information Listing	Department of Toxic Substances Control	07/19/2019	07/23/2019	09/30/2019
CA	Financial Assurance 2	Financial Assurance Information Listing	California Integrated Waste Management Board	08/16/2019	08/20/2019	10/18/2019
CA	HAULERS	Registered Waste Tire Haulers Listing	Integrated Waste Management Board	03/26/2019	03/27/2019	04/30/2019
CA	HAZNET	Facility and Manifest Data	California Environmental Protection Agency	12/31/2017	05/29/2019	07/22/2019
CA	HIST CORTESE	Hazardous Waste & Substance Site List	Department of Toxic Substances Control	04/01/2001	01/22/2009	04/08/2009
CA	HWP	EnviroStor Permitted Facilities Listing	Department of Toxic Substances Control	08/19/2019	08/20/2019	10/18/2019
CA	HWT	Registered Hazardous Waste Transporter Database	Department of Toxic Substances Control	10/07/2019	10/08/2019	11/07/2019
CA	ICE	ICE	Department of Toxic Substances Control	08/19/2019	08/20/2019	10/18/2019
CA	LDS	Land Disposal Sites Listing (GEOTRACKER)	State Water Quality Control Board	09/09/2019	09/09/2019	11/05/2019
CA	LIENS	Environmental Liens Listing	Department of Toxic Substances Control	08/29/2019	08/30/2019	10/29/2019
CA	MCS	Military Cleanup Sites Listing (GEOTRACKER)	State Water Resources Control Board	09/09/2019	09/09/2019	11/05/2019
CA	MINES	Mines Site Location Listing	Department of Conservation	09/09/2019	09/09/2019	11/05/2019

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
CA	MWMP	Medical Waste Management Program Listing	Department of Public Health	07/19/2019	09/04/2019	11/05/2019
CA	NPDES	NPDES Permits Listing	State Water Resources Control Board	08/12/2019	08/13/2019	10/16/2019
CA	PEST LIC	Pesticide Regulation Licenses Listing	Department of Pesticide Regulation	09/03/2019	09/04/2019	11/05/2019
CA	PROC	Certified Processors Database	Department of Conservation	09/09/2019	09/09/2019	11/05/2019
CA	NOTIFY 65	Proposition 65 Records	State Water Resources Control Board	09/16/2019	09/18/2019	11/06/2019
CA	SCH	School Property Evaluation Program	Department of Toxic Substances Control	07/29/2019	07/31/2019	10/08/2019
CA	SPILLS 90	SPILLS90 data from FirstSearch	FirstSearch	06/06/2012	01/03/2013	02/22/2013
CA	TOXIC PITS	Toxic Pits Cleanup Act Sites	State Water Resources Control Board	07/01/1995	08/30/1995	09/26/1995
CA	UIC	UIC Listing	Department of Conservation	08/20/2019	08/20/2019	11/18/2019
CA	WASTEWATER PITS	Oil Wastewater Pits Listing	RWQCB, Central Valley Region	05/08/2018	07/11/2018	09/13/2018
CA	WDS	Waste Discharge System	State Water Resources Control Board	06/19/2007	06/20/2007	06/29/2007
CA	WIP	Well Investigation Program Case List	Los Angeles Water Quality Control Board	07/03/2009	07/21/2009	08/03/2009
CA	WMUDS/SWAT	Waste Management Unit Database	State Water Resources Control Board	04/01/2000	04/10/2000	05/10/2000
US	ECHO	Enforcement & Compliance History Information	Environmental Protection Agency	07/06/2019	07/09/2019	10/02/2019
CA	UIC GEO	Underground Injection Control Sites (GEOTRACKER)	State Water Resource Control Board	09/09/2019	09/09/2019	11/01/2019
CA	PROJECT	Project Sites (GEOTRACKER)	State Water Resources Control Board	09/09/2019	09/09/2019	11/01/2019
CA	SAMPLING POINT	Sampling Point ? Public Sites (GEOTRACKER)	State Water Resources Control Board	09/09/2019	09/09/2019	11/01/2019
CA	MILITARY PRIV SITES	Military Privatized Sites (GEOTRACKER)	State Water Resources Control Board	09/09/2019	09/09/2019	11/01/2019
CA	NON-CASE INFO	Non-Case Information Sites (GEOTRACKER)	State Water Resources Control Board	09/09/2019	09/09/2019	11/01/2019
CA	OTHER OIL GAS	Other Oil & Gas Projects Sites (GEOTRACKER)	State Water Resources Control Board	09/09/2019	09/09/2019	11/01/2019
CA	CERS	CalEPA Regulated Site Portal Data	California Environmental Protection Agency	08/14/2019	08/14/2019	08/21/2019
CA	CERS HAZ WASTE	CERS HAZ WASTE	CalEPA	08/14/2019	08/14/2019	08/21/2019
CA	CERS TANKS	California Environmental Reporting System (CERS) Tanks	California Environmental Protection Agency	08/14/2019	08/14/2019	08/21/2019
CA	CIWQS	California Integrated Water Quality System	State Water Resources Control Board	09/03/2019	09/04/2019	11/05/2019
US	MINES MRDS	Mineral Resources Data System	USGS	04/06/2018	10/21/2019	10/24/2019
US	FUELS PROGRAM	EPA Fuels Program Registered Listing	EPA	08/19/2019	08/20/2019	11/11/2019
US	UXO	Unexploded Ordnance Sites	Department of Defense	12/31/2017	01/17/2019	04/01/2019
US	DOCKET HWC	Hazardous Waste Compliance Docket Listing	Environmental Protection Agency	05/31/2018	07/26/2018	10/05/2018
CA	PFAS	PFAS Contamination Site Location Listing	State Water Resources Control Board	09/09/2019	09/09/2019	11/05/2019
CA	WDR	Waste Discharge Requirements Listing	State Water Resources Control Board	09/09/2019	09/09/2019	11/06/2019
CA	WELL STIM PROJ	Well Stimulation Project (GEOTRACKER)	State Water Resources Control Board	09/09/2019	09/09/2019	11/01/2019
CA	PROD WATER PONDS	Produced Water Ponds Sites (GEOTRACKER)	State Water Resources Control Board	09/09/2019	09/09/2019	11/01/2019

### HISTORICAL USE RECORDS

US	EDR MGP	EDR Proprietary Manufactured Gas Plants	EDR, Inc.			
US	EDR Hist Auto	EDR Exclusive Historical Auto Stations	EDR, Inc.			
US	EDR Hist Cleaner	EDR Exclusive Historical Cleaners	EDR, Inc.			
CA	RGALF	Recovered Government Archive Solid Waste Facilities List	Department of Resources Recycling and Recover		07/01/2013	01/13/2014
CA	RGALUST	Recovered Government Archive Leaking Underground Storage Tan	State Water Resources Control Board		07/01/2013	12/30/2013

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
<b>COUNTY RECORDS</b>						
CA	CS ALAMEDA	Contaminated Sites	Alameda County Environmental Health Services	01/09/2019	01/11/2019	03/05/2019
CA	UST ALAMEDA	Underground Tanks	Alameda County Environmental Health Services	10/02/2019	10/03/2019	11/06/2019
CA	CUPA AMADOR	CUPA Facility List	Amador County Environmental Health	09/06/2019	09/10/2019	10/31/2019
CA	CUPA BUTTE	CUPA Facility Listing	Public Health Department	04/21/2017	04/25/2017	08/09/2017
CA	CUPA CALVERAS	CUPA Facility Listing	Calveras County Environmental Health	08/05/2019	08/07/2019	10/09/2019
CA	CUPA COLUSA	CUPA Facility List	Health & Human Services	08/14/2019	08/20/2019	10/18/2019
CA	SL CONTRA COSTA	Site List	Contra Costa Health Services Department	08/20/2019	08/23/2019	10/22/2019
CA	CUPA DEL NORTE	CUPA Facility List	Del Norte County Environmental Health Divisio	10/11/2019	10/29/2019	12/11/2019
CA	CUPA EL DORADO	CUPA Facility List	El Dorado County Environmental Management Dep	09/06/2019	09/12/2019	10/31/2019
CA	CUPA FRESNO	CUPA Resources List	Dept. of Community Health	10/08/2019	10/10/2019	12/11/2019
CA	CUPA GLENN	CUPA Facility List	Glenn County Air Pollution Control District	01/22/2018	01/24/2018	03/14/2018
CA	CUPA HUMBOLDT	CUPA Facility List	Humboldt County Environmental Health	07/08/2019	07/10/2019	09/20/2019
CA	CUPA IMPERIAL	CUPA Facility List	San Diego Border Field Office	07/19/2019	07/23/2019	09/26/2019
CA	CUPA INYO	CUPA Facility List	Inyo County Environmental Health Services	04/02/2018	04/03/2018	06/14/2018
CA	UST KERN	Underground Storage Tank Sites & Tank Listing	Kern County Environment Health Services Depar	08/01/2019	08/06/2019	10/08/2019
CA	CUPA KINGS	CUPA Facility List	Kings County Department of Public Health	08/14/2019	08/20/2019	10/18/2019
CA	CUPA LAKE	CUPA Facility List	Lake County Environmental Health	08/16/2019	08/20/2019	10/18/2019
CA	CUPA LASSEN	CUPA Facility List	Lassen County Environmental Health	07/22/2019	07/23/2019	09/26/2019
CA	AOCONCERN	Key Areas of Concerns in Los Angeles County		03/30/2009	03/31/2009	10/23/2009
CA	HMS LOS ANGELES	HMS: Street Number List	Department of Public Works	09/26/2019	10/04/2019	11/07/2019
CA	LF LOS ANGELES	List of Solid Waste Facilities	La County Department of Public Works	10/15/2019	10/16/2019	12/12/2019
CA	LF LOS ANGELES CITY	City of Los Angeles Landfills	Engineering & Construction Division	01/01/2019	01/15/2019	03/07/2019
CA	LOS ANGELES AST	Active & Inactive AST Inventory	Los Angeles Fire Department	06/01/2019	06/25/2019	08/22/2019
CA	LOS ANGELES CO LF METHANE	Methane Producing Landfills	Los Angeles County Department of Public Works	04/30/2012	04/17/2019	05/29/2019
CA	LOS ANGELES HM	Active & Inactive Hazardous Materials Inventory	Los Angeles Fire Department	06/01/2019	06/25/2019	08/22/2019
CA	LOS ANGELES UST	Active & Inactive UST Inventory	Los Angeles Fire Department	06/01/2019	06/25/2019	08/22/2019
CA	SITE MIT LOS ANGELES	Site Mitigation List	Community Health Services	07/15/2019	07/17/2019	08/05/2019
CA	UST EL SEGUNDO	City of El Segundo Underground Storage Tank	City of El Segundo Fire Department	01/21/2017	04/19/2017	05/10/2017
CA	UST LONG BEACH	City of Long Beach Underground Storage Tank	City of Long Beach Fire Department	04/22/2019	04/23/2019	06/27/2019
CA	UST TORRANCE	City of Torrance Underground Storage Tank	City of Torrance Fire Department	06/27/2019	07/30/2019	10/02/2019
CA	CUPA MADERA	CUPA Facility List	Madera County Environmental Health	08/22/2019	08/26/2019	10/29/2019
CA	UST MARIN	Underground Storage Tank Sites	Public Works Department Waste Management	09/26/2018	10/04/2018	11/02/2018
CA	CUPA MERCED	CUPA Facility List	Merced County Environmental Health	05/29/2019	05/30/2019	07/22/2019
CA	CUPA MONO	CUPA Facility List	Mono County Health Department	08/21/2019	09/03/2019	10/31/2019
CA	CUPA MONTEREY	CUPA Facility Listing	Monterey County Health Department	07/25/2019	07/30/2019	09/30/2019
CA	LUST NAPA	Sites With Reported Contamination	Napa County Department of Environmental Manag	01/09/2017	01/11/2017	03/02/2017
CA	UST NAPA	Closed and Operating Underground Storage Tank Sites	Napa County Department of Environmental Manag	09/05/2019	09/09/2019	10/31/2019
CA	CUPA NEVADA	CUPA Facility List	Community Development Agency	10/30/2019	10/30/2019	12/11/2019
CA	IND_SITE ORANGE	List of Industrial Site Cleanups	Health Care Agency	07/10/2019	08/07/2019	10/09/2019
CA	LUST ORANGE	List of Underground Storage Tank Cleanups	Health Care Agency	07/10/2019	08/09/2019	10/09/2019
CA	UST ORANGE	List of Underground Storage Tank Facilities	Health Care Agency	07/10/2019	08/06/2019	10/09/2019
CA	MS PLACER	Master List of Facilities	Placer County Health and Human Services	09/03/2019	09/05/2019	11/05/2019
CA	CUPA PLUMAS	CUPA Facility List	Plumas County Environmental Health	03/31/2019	04/23/2019	06/26/2019
CA	LUST RIVERSIDE	Listing of Underground Tank Cleanup Sites	Department of Environmental Health	10/17/2019	10/22/2019	12/13/2019
CA	UST RIVERSIDE	Underground Storage Tank Tank List	Department of Environmental Health	07/10/2019	07/11/2019	09/23/2019

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
CA	CS SACRAMENTO	Toxic Site Clean-Up List	Sacramento County Environmental Management	08/06/2019	10/01/2019	11/07/2019
CA	ML SACRAMENTO	Master Hazardous Materials Facility List	Sacramento County Environmental Management	08/07/2019	10/01/2019	11/08/2019
CA	CUPA SAN BENITO	CUPA Facility List	San Benito County Environmental Health	07/16/2019	07/16/2019	09/24/2019
CA	PERMITS SAN BERNARDINO	Hazardous Material Permits	San Bernardino County Fire Department Hazardo	08/29/2019	08/30/2019	10/29/2019
CA	HMMD SAN DIEGO	Hazardous Materials Management Division Database	Hazardous Materials Management Division	09/03/2019	09/04/2019	11/05/2019
CA	LF SAN DIEGO	Solid Waste Facilities	Department of Health Services	04/18/2018	04/24/2018	06/19/2018
CA	SAN DIEGO CO LOP	Local Oversight Program Listing	Department of Environmental Health	10/16/2019	10/22/2019	12/13/2019
CA	SAN DIEGO CO SAM	Environmental Case Listing	San Diego County Department of Environmental	03/23/2010	06/15/2010	07/09/2010
CA	LUST SAN FRANCISCO	Local Oversight Facilities	Department Of Public Health San Francisco Cou	09/19/2008	09/19/2008	09/29/2008
CA	UST SAN FRANCISCO	Underground Storage Tank Information	Department of Public Health	08/01/2019	08/02/2019	10/08/2019
CA	UST SAN JOAQUIN	San Joaquin Co. UST	Environmental Health Department	06/22/2018	06/26/2018	07/11/2018
CA	CUPA SAN LUIS OBISPO	CUPA Facility List	San Luis Obispo County Public Health Departme	08/14/2019	08/20/2019	10/18/2019
CA	BI SAN MATEO	Business Inventory	San Mateo County Environmental Health Service	09/03/2019	09/09/2019	11/05/2019
CA	LUST SAN MATEO	Fuel Leak List	San Mateo County Environmental Health Service	03/29/2019	03/29/2019	05/29/2019
CA	CUPA SANTA BARBARA	CUPA Facility Listing	Santa Barbara County Public Health Department	09/08/2011	09/09/2011	10/07/2011
CA	CUPA SANTA CLARA	Cupa Facility List	Department of Environmental Health	08/14/2019	08/20/2019	10/18/2019
CA	HIST LUST SANTA CLARA	HIST LUST - Fuel Leak Site Activity Report	Santa Clara Valley Water District	03/29/2005	03/30/2005	04/21/2005
CA	LUST SANTA CLARA	LOP Listing	Department of Environmental Health	03/03/2014	03/05/2014	03/18/2014
CA	SAN JOSE HAZMAT	Hazardous Material Facilities	City of San Jose Fire Department	07/30/2019	08/02/2019	10/08/2019
CA	CUPA SANTA CRUZ	CUPA Facility List	Santa Cruz County Environmental Health	01/21/2017	02/22/2017	05/23/2017
CA	CUPA SHASTA	CUPA Facility List	Shasta County Department of Resource Managemen	06/15/2017	06/19/2017	08/09/2017
CA	LUST SOLANO	Leaking Underground Storage Tanks	Solano County Department of Environmental Man	06/04/2019	06/06/2019	08/13/2019
CA	UST SOLANO	Underground Storage Tanks	Solano County Department of Environmental Man	08/28/2019	08/30/2019	10/29/2019
CA	CUPA SONOMA	Cupa Facility List	County of Sonoma Fire & Emergency Services De	06/18/2019	06/25/2019	07/24/2019
CA	LUST SONOMA	Leaking Underground Storage Tank Sites	Department of Health Services	10/01/2019	10/02/2019	11/07/2019
CA	CUPA STANISLAUS	CUPA Facility List	Stanislaus County Department of Ennvironmenta	07/18/2019	07/18/2019	09/26/2019
CA	UST SUTTER	Underground Storage Tanks	Sutter County Environmental Health Services	08/29/2019	09/03/2019	11/06/2019
CA	CUPA TEHAMA	CUPA Facility List	Tehama County Department of Environmental Hea	05/20/2019	05/21/2019	07/18/2019
CA	CUPA TRINITY	CUPA Facility List	Department of Toxic Substances Control	07/19/2019	07/23/2019	09/26/2019
CA	CUPA TULARE	CUPA Facility List	Tulare County Environmental Health Services D	08/12/2019	08/14/2019	10/17/2019
CA	CUPA TUOLUMNE	CUPA Facility List	Divison of Environmental Health	04/23/2018	04/25/2018	06/25/2018
CA	BWT VENTURA	Business Plan, Hazardous Waste Producers, and Operating Unde	Ventura County Environmental Health Division	05/29/2019	07/29/2019	09/30/2019
CA	LF VENTURA	Inventory of Illegal Abandoned and Inactive Sites	Environmental Health Division	12/01/2011	12/01/2011	01/19/2012
CA	LUST VENTURA	Listing of Underground Tank Cleanup Sites	Environmental Health Division	05/29/2008	06/24/2008	07/31/2008
CA	MED WASTE VENTURA	Medical Waste Program List	Ventura County Resource Management Agency	09/26/2019	10/23/2019	12/13/2019
CA	UST VENTURA	Underground Tank Closed Sites List	Environmental Health Division	09/26/2019	09/09/2019	10/31/2019
CA	UST YOLO	Underground Storage Tank Comprehensive Facility Report	Yolo County Department of Health	09/25/2019	10/01/2019	10/31/2019
CA	CUPA YUBA	CUPA Facility List	Yuba County Environmental Health Department	07/26/2019	07/31/2019	10/08/2019



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
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## STREET AND ADDRESS INFORMATION

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**APPENDIX G**  
**HYDROLOGY REPORTS**

**APPENDIX G1**  
**PRELIMINARY HYDROLOGY CALCULATIONS**



**Thienes Engineering, Inc.**  
CIVIL ENGINEERING • LAND SURVEYING

**PRELIMINARY HYDROLOGY  
CALCULATIONS**

FOR

ONTARIO RANCH BUSINESS PARK II  
MERRILL AND SULTANA  
ONTARIO, CA

PREPARED FOR

EUCLID LAND VENTURE, LLC  
4450 MACARTHUR BLVD, STE 100  
NEWPORT BEACH, CA 92660  
PHONE: (949) 216-7300

FEBRUARY 14, 2020  
REVISED JANURARY 3, 2022

JOB NO. 3857

PREPARED BY

THIENES ENGINEERING  
14349 FIRESTONE BOULEVARD  
LA MIRADA, CALIFORNIA 90638  
P. (714) 521-4811  
FAX. (714) 521-4173

**PRELIMINARY HYDROLOGY  
CALCULATIONS**

**FOR**

**ONTARIO RANCH BUSINESS PARK II**

PREPARED BY KRISTIE FERRONATO  
UNDER THE SUPERVISION OF

---

REINHARD STENZEL      DATE:  
R.C.E. 56155  
EXP. 12/31/2020

## INTRODUCTION

### A: PROJECT LOCATION

The project site is located on the east side of Sultana Avenue, south of Eucalyptus Avenue and north of Merrill Avenue in the City of Ontario, California. Please see next page for vicinity map.

### B: STUDY PURPOSE

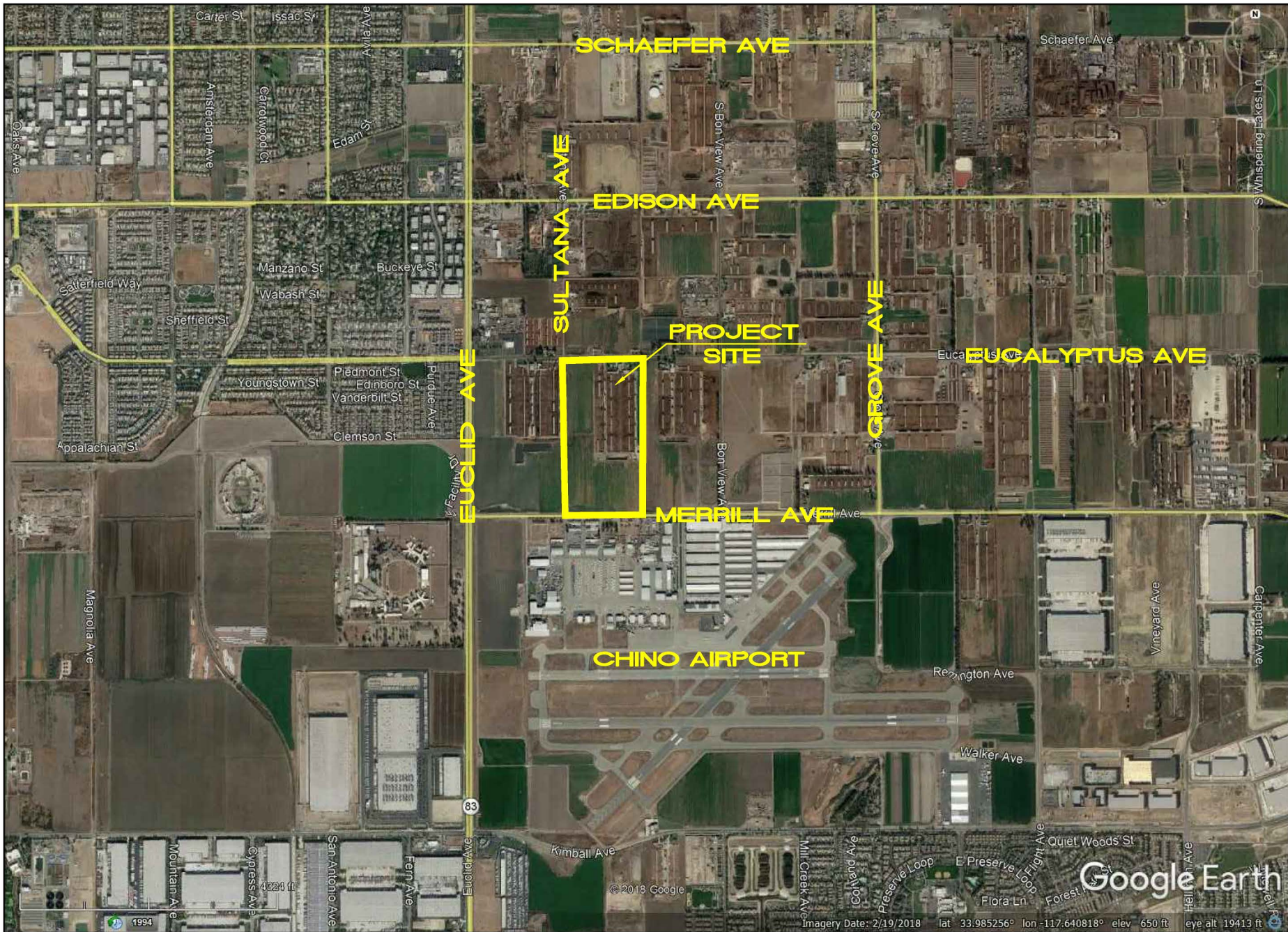
The purpose of this study is to determine 25-year and 100-year, existing and proposed condition peak flow rates from the project site.

### C: PROJECT STAFF:

Thienes Engineering staff involved in this study include:

Reinhard Stenzel  
Kristie Ferronato






**Thienes Engineering, Inc.**  
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**VICINITY MAP**  
 FOR  
**BORBA SITE, SEC EUCALPTUS AND SULTANA**



## DISCUSSION

The project site encompasses approximately 71.7 acres. Proposed improvements to the site include six industrial buildings ranging from 61,300 square feet to 530,460 square feet. There will be a truck yard adjacent to each building and vehicle parking lots scattered throughout the project site. Proposed landscaping will be along the site's property lines and scattered throughout the site. Public storm drains will be constructed, by others, in Eucalyptus Avenue (to intercept northerly street flow prior to entering the site), Sultana Avenue (per master drainage plan, fronting the site), Merrill Avenue (also per master drainage plan and fronting the site), and Campus Drive (also per master drainage plan and fronting the site).

### Master Plan Hydrology

Per the City of Ontario's Master Plan of Drainage dated March 2012 by Hunsaker & Associates, the project site is tabled to a proposed Master Plan storm drain in Merrill Avenue (MERL-XIV-1), a 9.5ft by 9.5ft reinforced concrete box tributary to an existing earthen channel adjacent to Euclid Avenue south of Merrill Avenue.

Although the master plan storm drains adjacent to the project site will be constructed, by others, the ultimate discharge location downstream in Euclid Avenue is currently not fully improved. The existing earthen channel adjacent to Euclid Avenue does not have the capacity to convey Master Plan peak flow rates. Therefore, proposed condition discharge from the project site to Euclid Avenue via proposed Master Plan storm drains will be limited to existing condition 25-year runoffs from the site, with the difference between existing condition 25-year runoff and proposed condition 100-year runoff detained onsite.

Please see Appendix "A" for the City's Master Plan of Drainage and other pertinent reference materials.

### Existing Condition

The project site is currently developed with two residential homes in the northeast portion, a dairy pasture south of the residential homes along the east property line, and an agricultural field on the majority of the site. The site generally drains southerly towards Merrill Avenue. There is a ditch just north of the south property lines, which detains and conveys the runoff to the westerly property. The site ultimately drains to the earthen channel adjacent to Euclid Avenue. The 25-year and 100-year existing condition peak flow rates from this area are approximately 49.5 cfs and 85.1 cfs, respectively.

See Appendix "B" for existing condition hydrology calculations and Appendix "D" for existing condition hydrology map.



## Proposed Condition

In general, proposed condition runoff from the project site will surface drain to proposed catch basins throughout the site. B.M.P. flows tributary to each catch basin will be conveyed via proposed storm drains from the catch basin to a Debris Separating Baffle Box (D.S.B.B.) for pre-treatment, then to a set of 96-inch C.M.P.'s for main water quality treatment. Once water quality volume has been met, when the 96-inch C.M.P.'s are full, higher flows at the catch basins will be conveyed away from the project site via a larger onsite storm drain system. The proposed onsite storm drain system will be sufficiently sized to limit proposed condition project site discharge to less than existing condition 25-year discharge. Flows beyond the allowable rate will be forced to temporarily detain above ground in the proposed truck yards throughout the site, and then slowly released via the proposed onsite storm drain at a rate below the existing condition 25-year discharge. See "Detention Analysis" section below for more details regarding detention in truck yards.

The proposed Building 8, Building 9, and Building 10 will drain to their southerly truck yards (Nodes 100-132) drain to catch basins in the truck yards. Runoff from the vehicle parking and drives will be collected and conveyed to the storm drain in the truck yard. Runoff is then conveyed westerly via a proposed onsite storm drain south of the proposed buildings. The total proposed condition 25-year and 100-year peak flow rates from this area to the proposed onsite storm drain system, are approximately 23.5 cfs and 30.0 cfs, respectively. The proposed onsite storm drain will convey the runoff from the site southerly towards the proposed, by Westland, public storm drain in Merrill Avenue.

The northwest portion of the Building 11 will drain to the vehicle parking lots (Nodes 140-142), the storm drain will convey the runoff westerly, where it will confluence with the onsite system (Node 143). The total proposed condition 25-year and 100-year peak flow rates are approximately 7.6 cfs and 9.8 cfs, respectively. The northeast portion of Building 11 will drain to the northern vehicle parking lots (Nodes 150-151). A proposed storm drain system will convey flow southerly then westerly through the truck yard. The southern portion of building 11 will also drain to the truckyard (Nodes 160-165). The total proposed condition 25-year and 100-year peak flow rates are approximately 21.1 cfs and 27.2 cfs, respectively.

The north portion of Building 12 will drain to the northern truck yard (Nodes 170-177). The total proposed condition 25-year and 100-year peak flow rates are approximately 27.5 cfs and 35.5 cfs, respectively. The southern portion of the building 12 will drain to the south truck yard (Nodes 180-184). The total proposed condition 25-year and 100-year peak flow rates are approximately 18.5 cfs and 23.7 cfs, respectively. The storm drains for Building 12 will join the storm drain conveying the runoff southerly towards public storm drain in Merrill Avenue.

The northeast portion of Building 13 will drain to the northeast vehicle parking lot. The storm drain will convey the runoff northerly towards the north truck yard for Building 13. This will also collect the runoff from the eastern vehicle parking along the east side of Building 13. The northern portion of Building 13 will drain to the northern truck yard

(Nodes 190-207). The total proposed condition 25-year and 100-year peak flow rates are approximately 29.6 cfs and 37.9 cfs, respectively. The southern portion of the Building 12 will drain to the south vehicle parking lot (Nodes 210-212). The total proposed condition 25-year and 100-year peak flow rates are approximately 7.6 cfs and 9.8 cfs, respectively. The storm drains for Building 12 will join the storm drain conveying the runoff southerly towards public storm drain in Merrill Avenue.

The total proposed condition 25-year and 100-year runoffs from the project site tributary to the proposed Merrill Avenue storm drain, via onsite storm drain are approximately 127.0 cfs and 162.7 cfs. There are areas of landscape which sheet drain into the adjacent streets which will be collect by the public storm drain system.

See Appendix "B" for proposed condition hydrology calculations and Appendix "D" for proposed condition hydrology map.

### Detention Analysis

As previously mentioned, proposed condition discharge to the Merrill Avenue storm drain from the project site will be limited to existing condition 25-year runoff. Proposed onsite truck yards will be utilized to detain the difference between existing condition 25-year runoff and proposed condition 100-year runoff.

See Appendix "C" for detention calculations for each onsite truck yard. The following is a summary of required detention volume and post-detention 100-year discharge for each truck yard.

Truck Yard	Node	Area	Volume	Ponding Depth	Q100 Tributary	Q100 Discharge
Building 8	132	3.45 ac.	0.11 ac-ft	0.80 ft	9.50 cfs	2.3 cfs
Building 9	122	4.10 ac.	0.12 ac-ft	0.88 ft	11.50 cfs	3.7 cfs
Building 10	111	3.55 ac.	0.05 ac-ft	0.58 ft	11.40 cfs	8.0 cfs
Building 11 south	155	10.40 ac.	0.85 ac-ft	1.36 ft	24.6 cfs	3.9 cfs
Building 12 north	167	12.20 ac.	2.98 ac-ft	1.69 ft	34.4 cfs	1.6 cfs
Building 12 south	174	10.25 ac.	1.33 ac-ft	1.48 ft	24.2 cfs	2.5 cfs
Building 13 north	197	13.30 ac.	3.39 ac-ft	1.83 ft	39.3 cfs	1.7 cfs

Total Q100 Discharge from truck yards = 23.7 cfs

With onsite detention, the total proposed condition 100-year discharge from the project site to Merrill Avenue will be approximately 49.9 cfs (23.7 cfs from truck yards + 9.8 cfs from the undetained northerly portion of Building 11 and parking lots, Nodes 140-142 + 6.6 cfs from westerly undetained parking lots, Nodes 167, 179, 186, and 209 + 9.8 cfs from south portion of Building 13 and the southwesterly undetained parking lot, Node 210-213). This is comparable to the existing condition 25-year discharge (49.5 cfs) from the site to Merrill Avenue.

See the following table for runoffs from the entire project site under existing and proposed conditions, for 25-year and 100-year storm events.

	Existing 25-Year	Existing 100-Year	Proposed 25-Year	Proposed 100-Year Without Detention	Proposed 100-Year With Detention
Site Runoff	49.5 cfs	85.1 cfs	127.0 cfs	162.7 cfs	49.9 cfs

Storm drain pipe sizes and hydraulics will be determined during final design phase to limit the proposed condition 100-year site discharge to the existing condition 25-year discharge.

### Methodology

Hydrology calculations were computed using San Bernardino County Rational Method program (by AES Software). The soil type is “B” per the San Bernardino County Hydrology Manual. The San Bernardino County Small Area Unit Hydrograph Model (also by AES Software) was used for detention calculations. See Appendix “A” for reference materials.

### Water Quality

The project proposes 96-inch underground perforated CMP systems and Maxwell IV drywells. A hydrodynamic separator, serving as pretreatment, will be provided upstream of every CMP system. Roof and surface runoff will sheet flow into inlets where stormwater will get intercepted into the CMP and drywell systems for water quality treatment. These systems will utilize infiltration as their primary form of treatment. These systems store stormwater runoff until it gradually exfiltrates into the underlying soil. Pollutant removal occurs through the infiltration of runoff and the adsorption of pollutants into the soil. This practice has high pollutant removal efficiency and can also help recharge groundwater, thus helping to maintain low flows in stream systems.

APPENDIX

DESCRIPTION

A

REFERENCE MATERIALS

B

HYDROLOGY CALCULATIONS

C

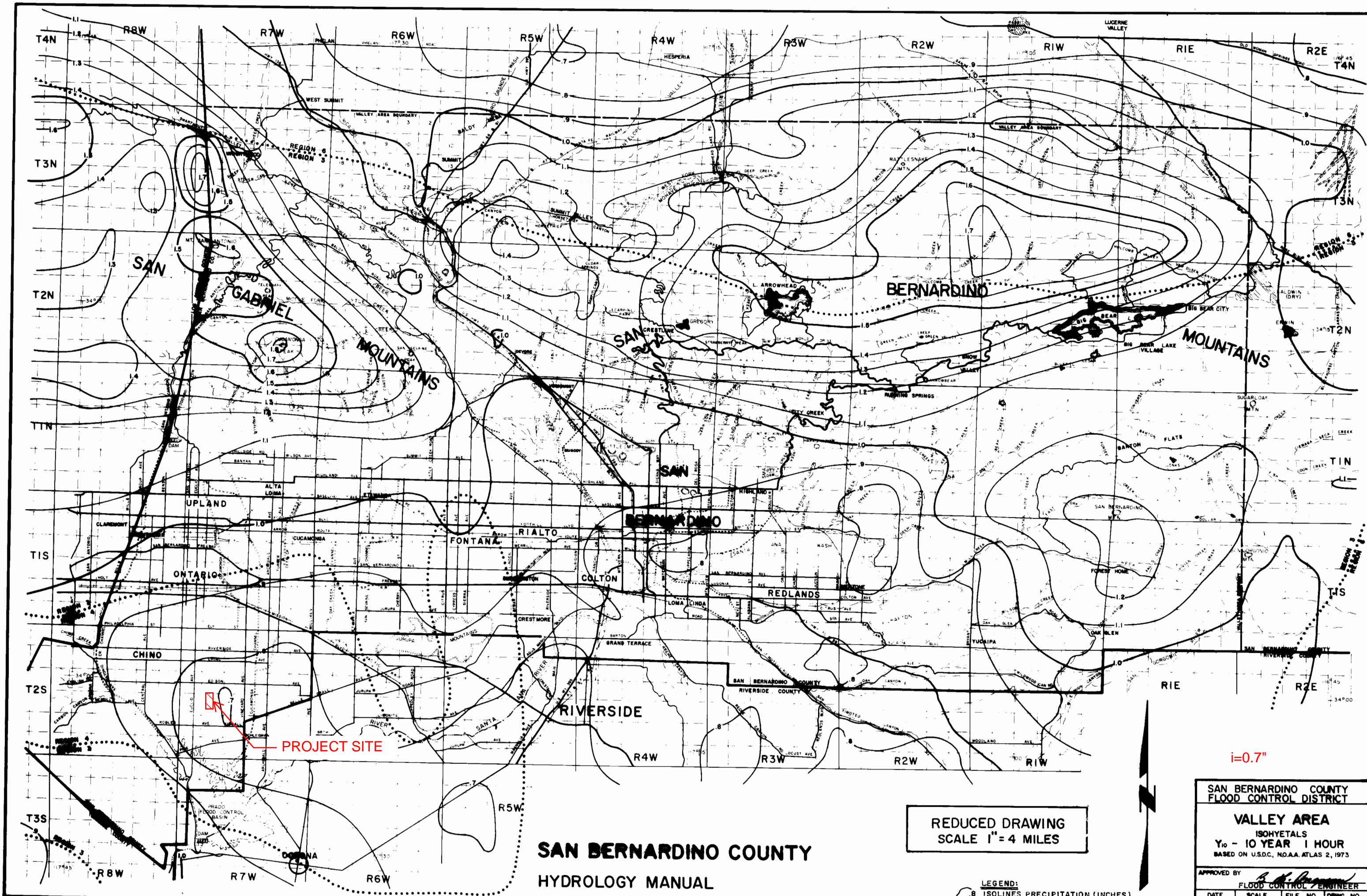
DETENTION ANALYSIS

D

HYDROLOGY MAPS

# **APPENDIX A**

## **REFERENCE MATERIALS**



**SAN BERNARDINO COUNTY  
HYDROLOGY MANUAL**

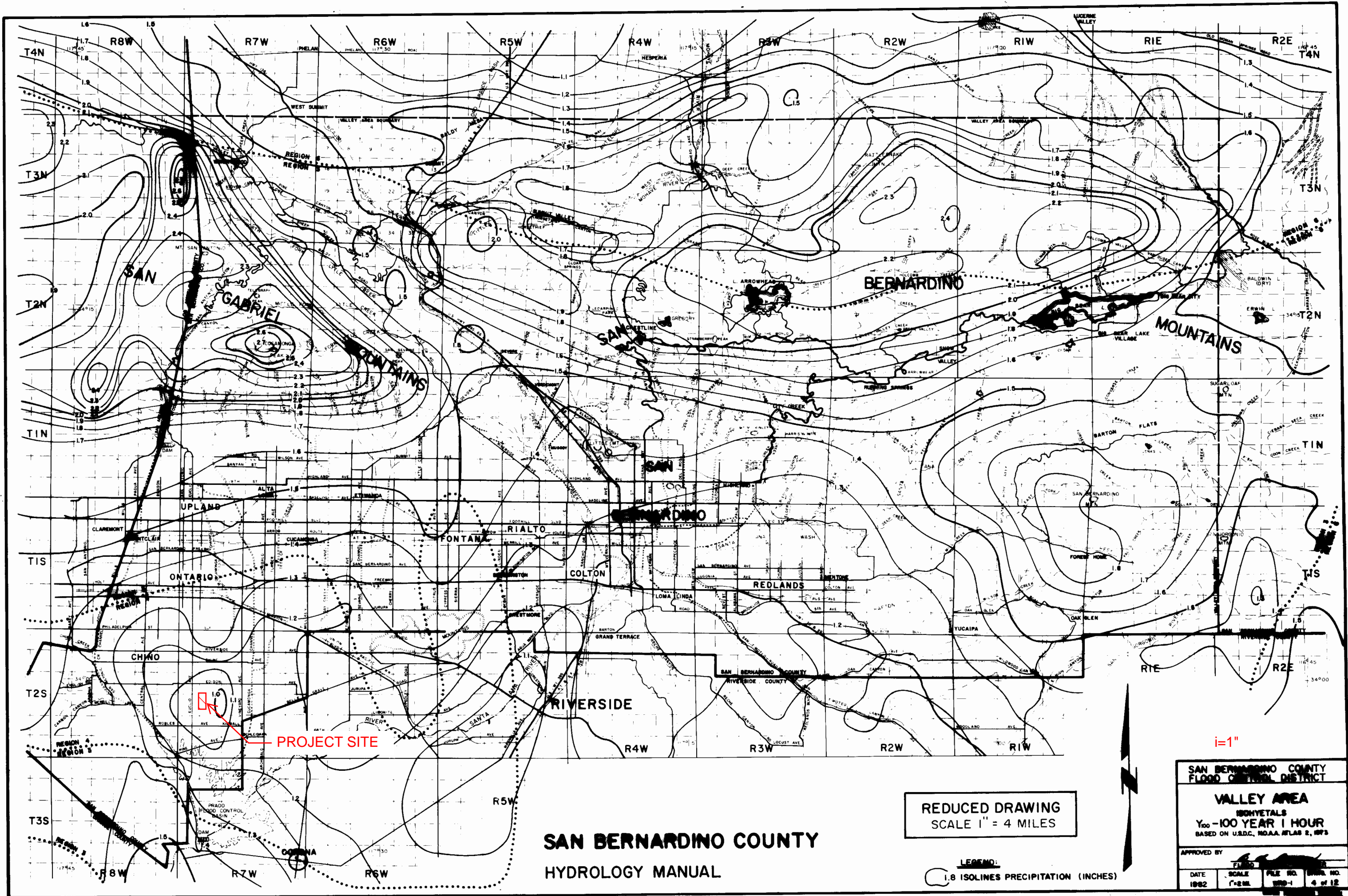
REDUCED DRAWING  
SCALE 1" = 4 MILES

LEGEND:  
0.8 ISOLINES PRECIPITATION (INCHES)



SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT			
VALLEY AREA ISOHYETALS Y <sub>10</sub> - 10 YEAR 1 HOUR BASED ON U.S.D.C. NO. AA ATLAS 2, 1973			
APPROVED BY <i>[Signature]</i>			
DATE	SCALE	FILE NO.	DRWG. NO.
1982	1" = 2 MI.	WRD-1	3 of 12





**SAN BERNARDINO COUNTY  
HYDROLOGY MANUAL**

**REDUCED DRAWING  
SCALE 1" = 4 MILES**

**LEGEND:**  
1.8 ISOLINES PRECIPITATION (INCHES)

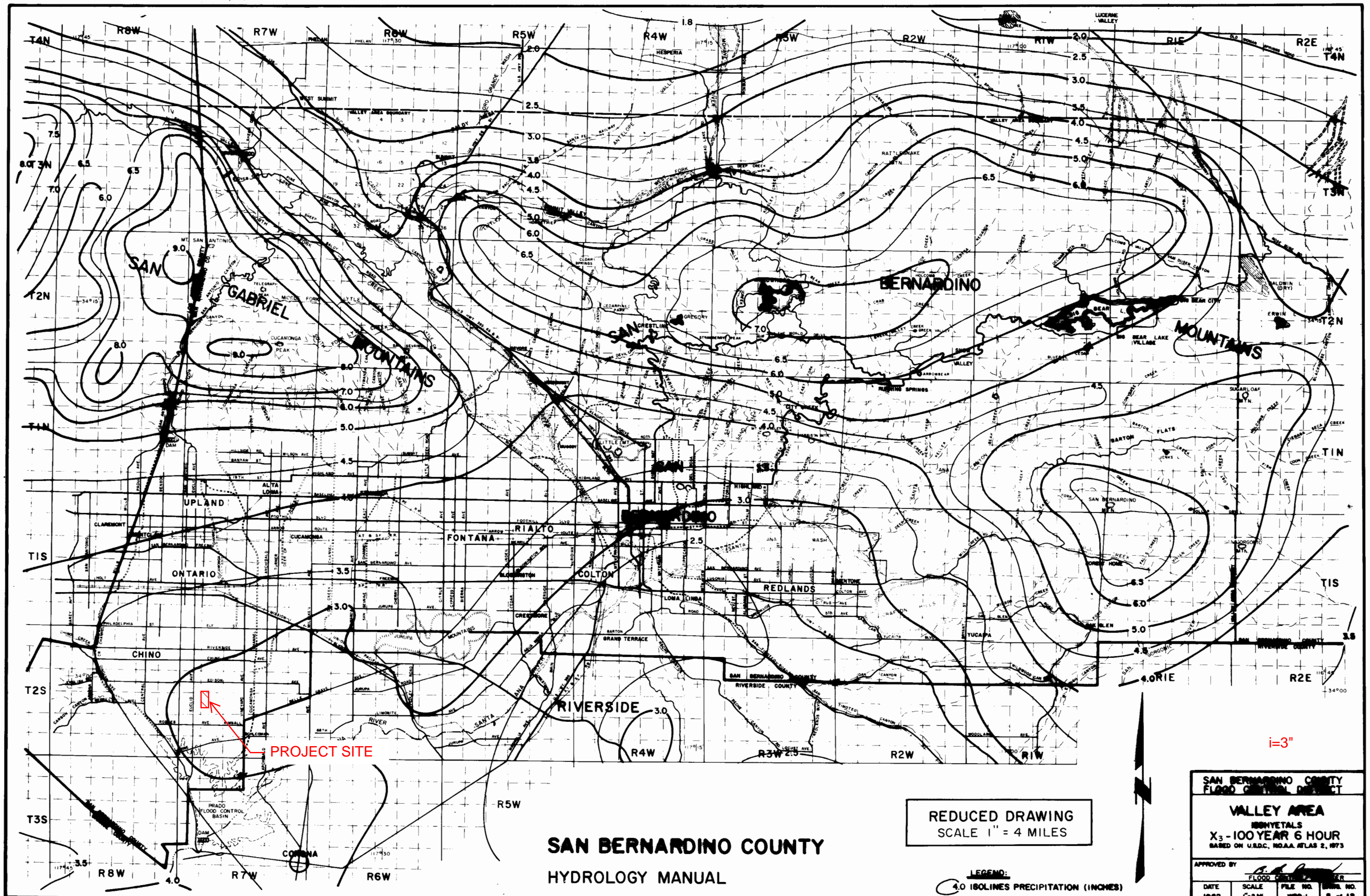
**SAN BERNARDINO COUNTY  
FLOOD CONTROL DISTRICT**

**VALLEY AREA**  
100-YEAR 1 HOUR  
BASED ON U.S.D.C. NOAA ATLAS 2, 1973

APPROVED BY \_\_\_\_\_

DATE	SCALE	FILE NO.	DRAW. NO.
1982	1"=4 M.	WFD-1	4 of 12





**SAN BERNARDINO COUNTY**  
**HYDROLOGY MANUAL**

REDUCED DRAWING  
 SCALE 1" = 4 MILES

LEGEND:  
 4.0 ISOLINES PRECIPITATION (INCHES)

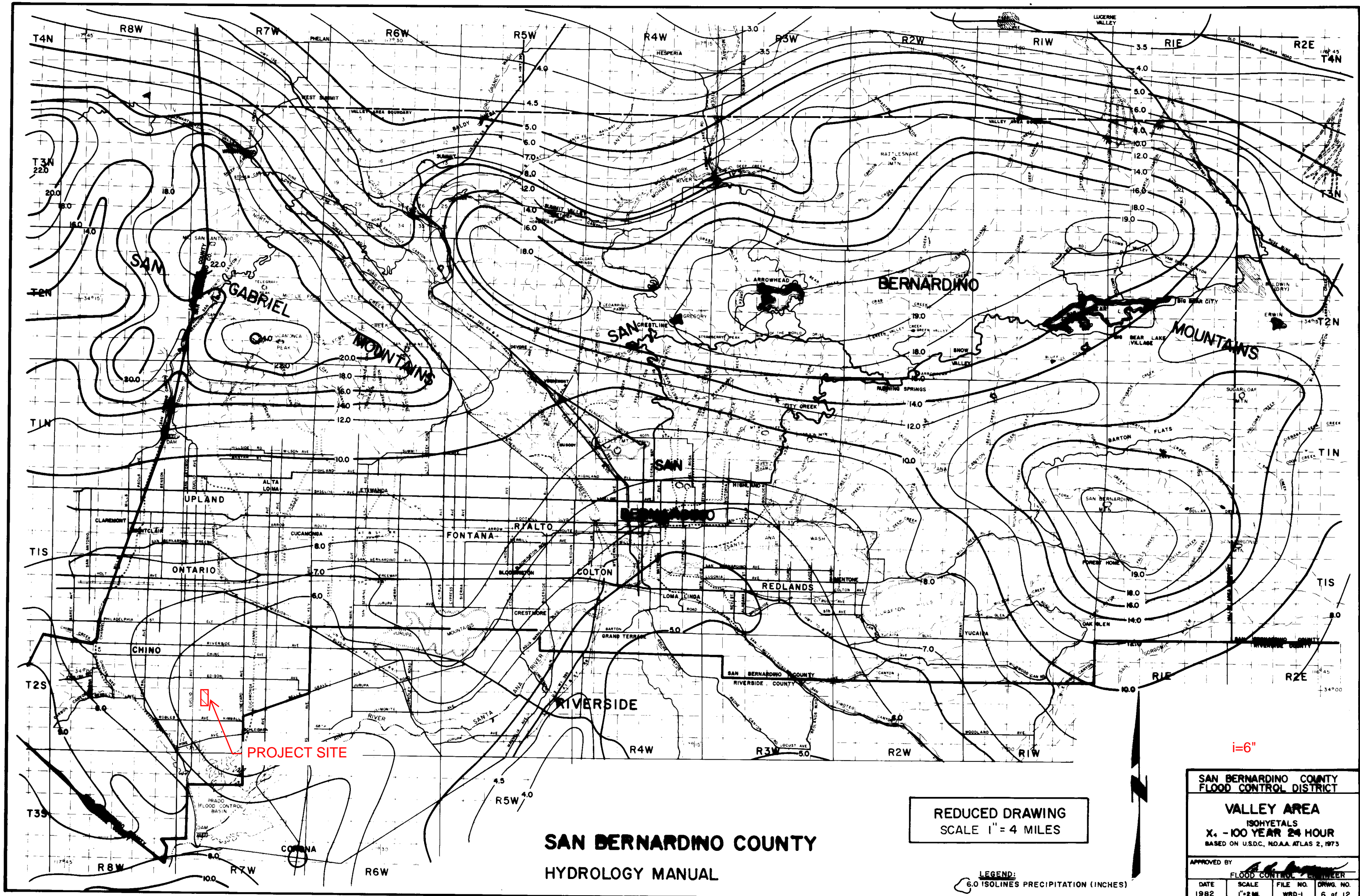
SAN BERNARDINO COUNTY  
 FLOOD CONTROL DISTRICT

**VALLEY AREA**  
 ISOHYETALS  
 X<sub>3</sub> - 100 YEAR 6 HOUR  
 BASED ON U.S.D.C. NOAA ATLAS 2, 1973

APPROVED BY: *[Signature]*

DATE	SCALE	FILE NO.	DRAW. NO.
1982	1"=2 M.	WB-1	5 of 12





REDUCED DRAWING  
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LEGEND:  
6.0 ISOLINES PRECIPITATION (INCHES)

SAN BERNARDINO COUNTY  
FLOOD CONTROL DISTRICT

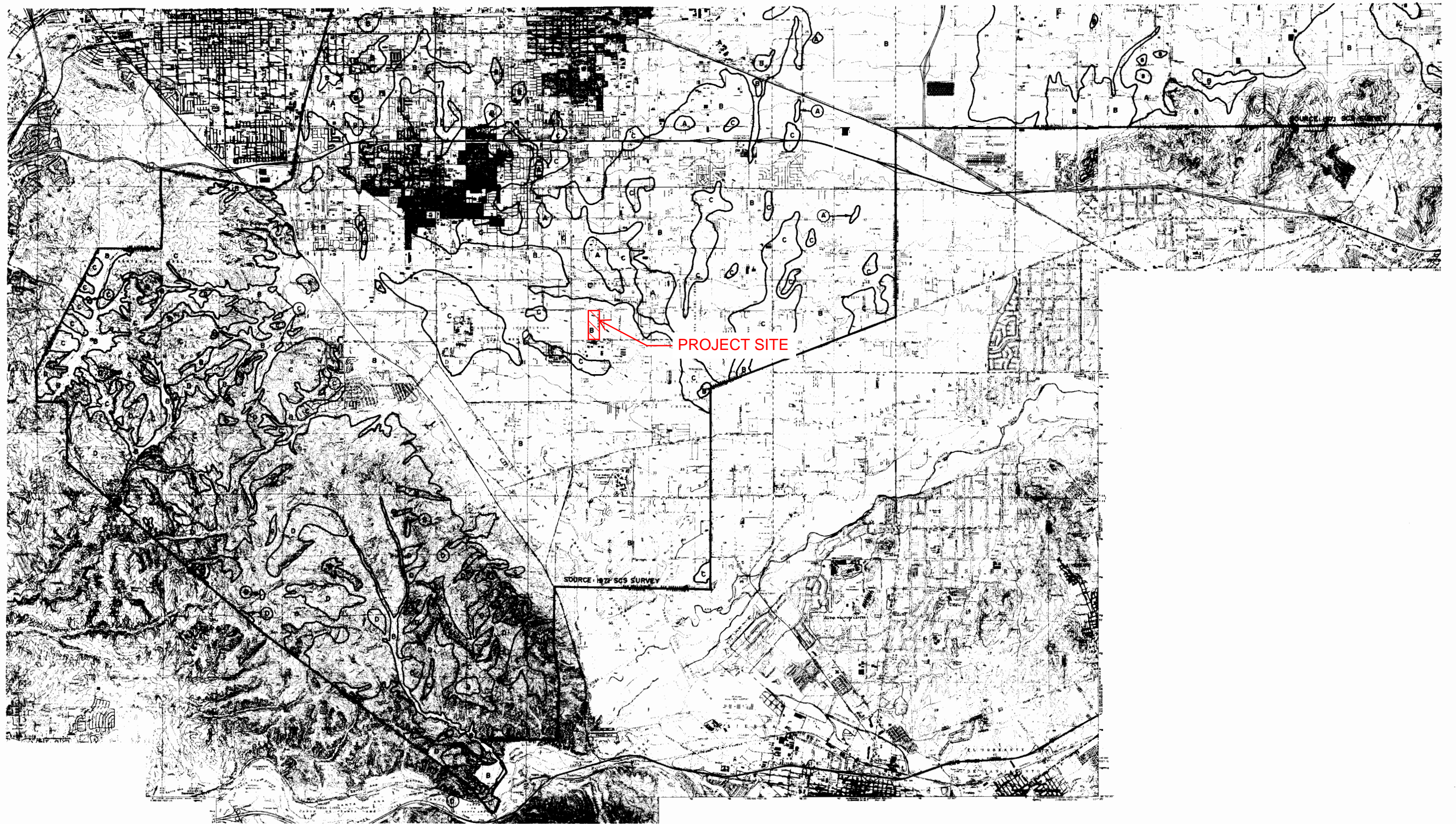
VALLEY AREA  
ISOHYETALS  
X<sub>4</sub> - 100 YEAR 24 HOUR  
BASED ON U.S.D.C. NOAA ATLAS 2, 1973

APPROVED BY: \_\_\_\_\_  
FLOOD CONTROL ENGINEER

DATE	SCALE	FILE NO.	DRWG. NO.
1982	1" = 2 MI.	WRD-1	6 of 12

SAN BERNARDINO COUNTY  
HYDROLOGY MANUAL



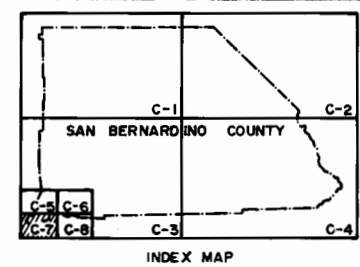


SOURCE: 1927 SCS SURVEY

PROJECT SITE

SOIL TYPE B

**SAN BERNARDINO COUNTY**  
HYDROLOGY MANUAL

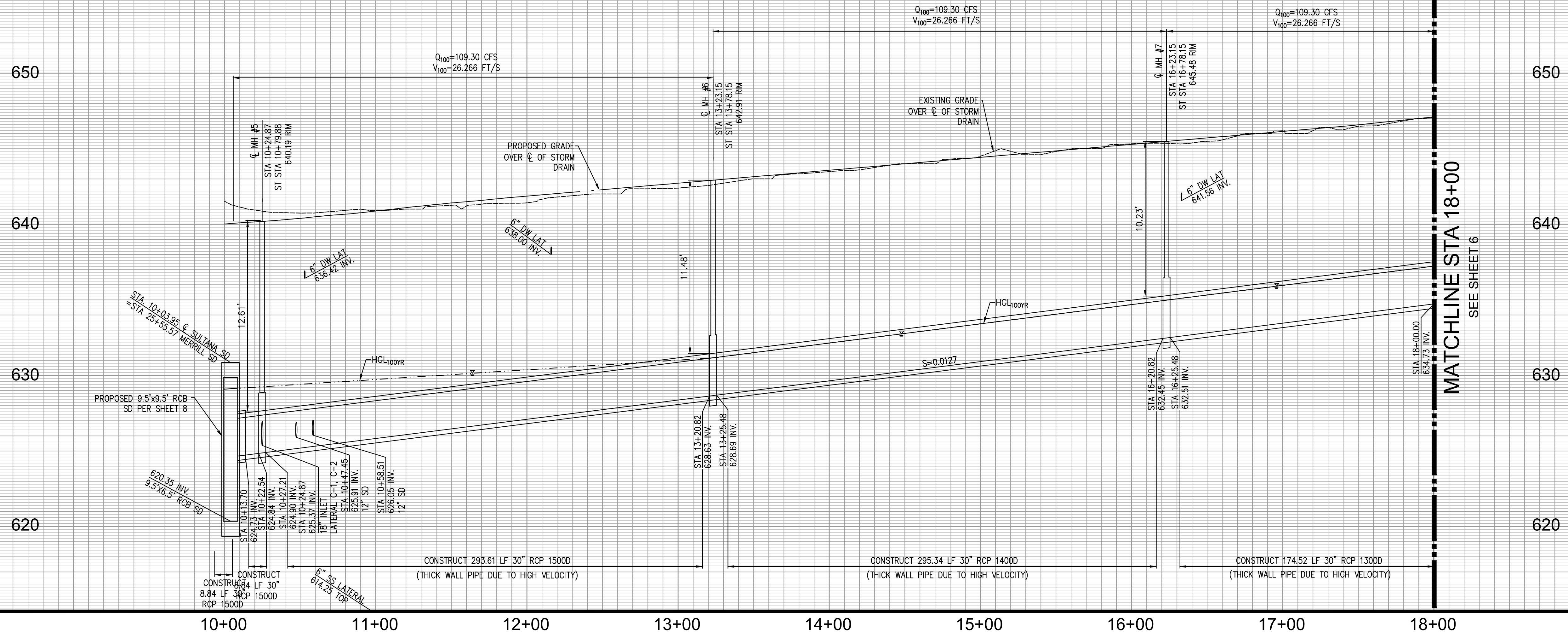


- LEGEND
- SOIL GROUP BOUNDARY
  - A SOIL GROUP DESIGNATION
  - - - BOUNDARY OF INDICATED SOURCE

SCALE REDUCED BY 1/2

**HYDROLOGIC SOILS GROUP MAP**  
FOR  
**SOUTHWEST-C AREA**



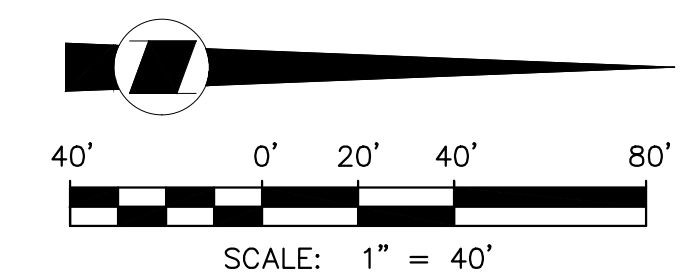
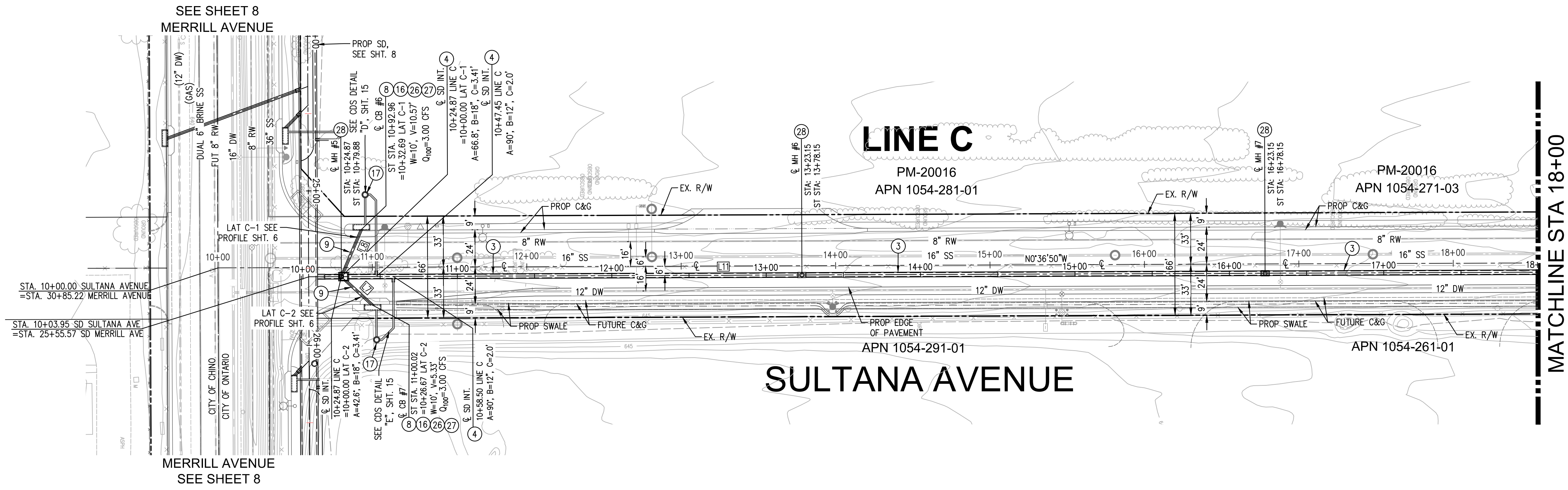


PROFILE SCALE  
 HORIZ: 1"=40'  
 VERT: 1"=4'

**CONSTRUCTION NOTES**

- 3 CONSTRUCT 30" RCP. TRENCH EXCAVATION & BACKFILL PER CITY OF ONTARIO STD. DWG. NO. 1306, D-LOAD PER PLAN. CLASS B2 BEDDING PER CITY STD. 2014
- 4 CONSTRUCT JUNCTION STRUCTURE PIPE TO RCP PER SPPWC STD. 332-2, DETAIL ON SHEET 18
- 8 CONSTRUCT CATCH BASIN NO. 2 CITY OF ONTARIO STD. DWG. 3015, "W" AND "V" PER PLAN
- 9 CONSTRUCT 18" RCP. TRENCH EXCAVATION & BACKFILL PER CITY OF ONTARIO STD. DWG. NO. 1306, D-LOAD PER PLAN. CLASS B2 BEDDING PER CITY STD. 2014
- 16 CONSTRUCT LOCAL DEPRESSION FOR CATCH BASIN INLET PER CITY OF ONTARIO STD. DWG. 3005
- 17 CONSTRUCT CDS UNIT PER DETAIL 17, SHEET 17
- 26 CONSTRUCT FRAME AND MESH TRASH RACK PER DETAIL 26, ON SHEET 18
- 27 INSTALL ALMETEK PLACARD "NO DUMPING, DRAINS TO RIVER" OR EQUIVALENT
- 28 CONSTRUCT 36" STORM DRAIN MANHOLE PER SPPWC STD. 320-2, DETAIL ON SHEET 21

STORM DRAIN CENTERLINE DATA TABLE				
LINE/CURVE	BEARING/DELTA	LENGTH	RADIUS	TAN
L7	N41°56'52"E	25.84'		
L8	N67°24'20"W	31.68'		
L11	N0°36'52"W	1229.12'		



REVISIONS			
MARK	DATE	BY	APPROVED/RCE NO.

DESIGNED BY: RT  
 DATE: -  
 DRAWN BY: RT  
 DATE: -  
 CHECKED BY: HAG-SRM  
 DATE: -

**CITY OF ONTARIO**

RECOMMENDED BY: BRYAN LIRLEY, P.E., PRINCIPAL ENGINEER      DATE: -  
 ACCEPTED BY: KHOI DO, P.E., CITY ENGINEER      DATE: -

BENCH MARK No. GG-18-1  
 ELEV. 635.273' (NAVD '88)  
 LOCATION: FOUND 2.5" BRASS DISK  
 STAMPED "CITY OF ONTARIO EE-38-1."  
 SET ON TOP OF CURB. APPROX 5' +/-  
 SOUTH OF ECR @ THE NORTHEAST  
 RETURN OF EUCLID AVE. AND MERRILL  
 AVE.



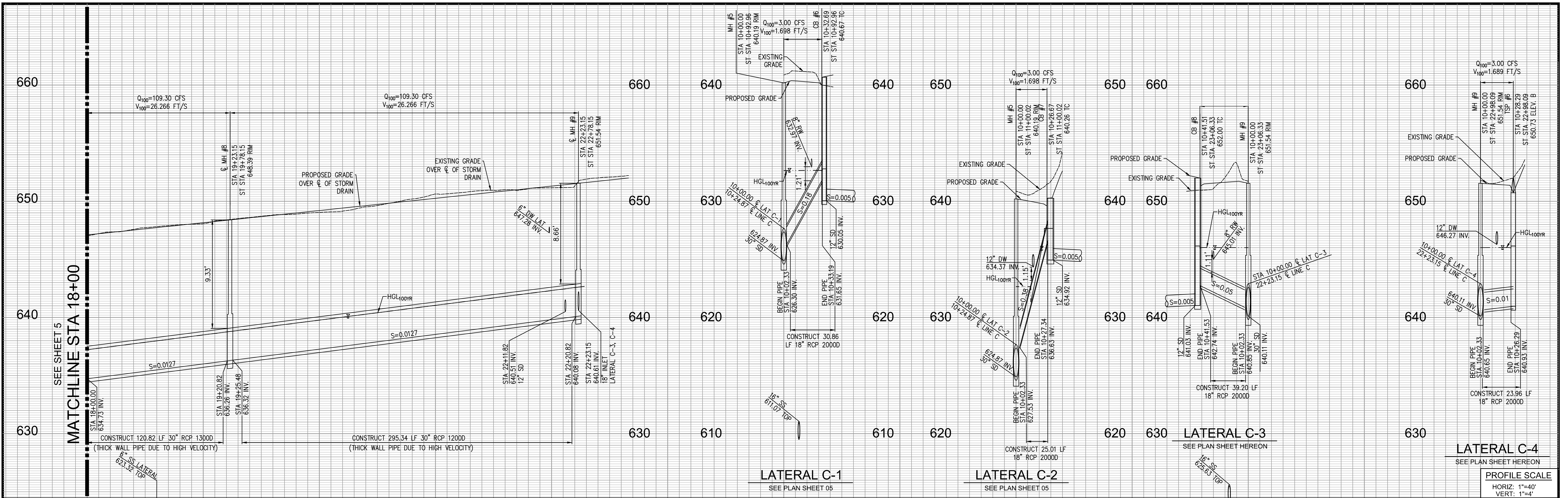
**WestLAND Group, Inc.** Land Surveyors • Civil Engineers • GIS  
 4150 CONCOURS, ONTARIO, CA 91764  
 PHONE: (909) 989-9789 FAX: (909) 989-9660

SIGNATURE: SIARA R. MACKINNEY, P.E.      85559      DATE: -  
 R.C.E. NO.      DATE: -

**STORM DRAIN IMPROVEMENT PLAN & PROFILE**  
 SULTANA AVE  
 FROM MERRILL TO 800' NORTH OF MERRILL

SHEET 5 OF 23  
 CONTRACT \_\_\_\_\_  
 ACCOUNT \_\_\_\_\_  
 DWG. NO. \_\_\_\_\_



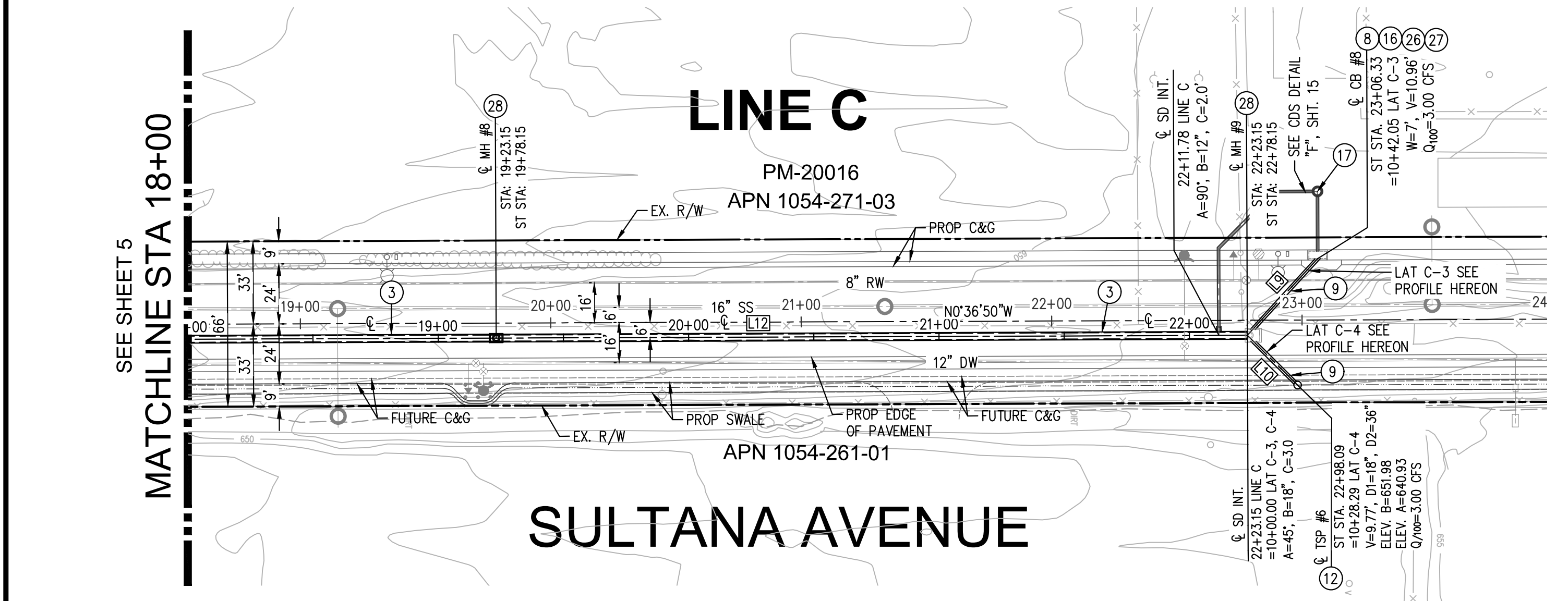


18+00 19+00 20+00 21+00 22+00 23+00 10+00 10+00 10+00

**CONSTRUCTION NOTES**

- 3) CONSTRUCT 30" RCP, TRENCH EXCAVATION & BACKFILL PER CITY OF ONTARIO STD. DWG. NO. 1306, D-LOAD PER PLAN, CLASS B2 BEDDING PER CITY STD. 2014
- 8) CONSTRUCT CATCH BASIN NO. 2 CITY OF ONTARIO STD. DWG. 3015, "W" AND "V" PER PLAN
- 9) CONSTRUCT 18" RCP, TRENCH EXCAVATION & BACKFILL PER CITY OF ONTARIO STD. DWG. NO. 1306, D-LOAD PER PLAN, CLASS B2 BEDDING PER CITY STD. 2014
- 12) CONSTRUCT 36" TEMPORARY CSP STANDPIPE PER DETAIL 1 ON SHEET 2
- 13) CONSTRUCT BRICK & MORTAR BULKHEAD PER DETAIL 2 ON SHEET 2
- 16) CONSTRUCT LOCAL DEPRESSION FOR CATCH BASIN INLET PER CITY OF ONTARIO STD. DWG. 3005
- 17) CONSTRUCT CDS UNIT PER DETAIL 17, SHEET 17
- 26) CONSTRUCT FRAME AND MESH TRASH RACK PER DETAIL 26, ON SHEET 18
- 27) INSTALL ALMETEK PLACARD "NO DUMPING, DRAINS TO RIVER" OR EQUIVALENT
- 28) CONSTRUCT 36" STORM DRAIN MANHOLE PER SPPWC STD. 320-2, DETAIL ON SHEET 21

STORM DRAIN CENTERLINE DATA TABLE			
LINE/CURVE	BEARING/DELTA	LENGTH	RADIUS
L9	N47°52'33"W	39.62'	
L10	N44°23'08"E	26.18'	
L12	N0°36'52"W	1229.12'	



**LINE C**  
 PM-20016  
 APN 1054-271-03

**SULTANA AVENUE**  
 APN 1054-261-01

REVISIONS			
MARK	DATE	BY	APPROVED/RCE NO.

DESIGNED BY: RT  
 DATE: \_\_\_\_\_

DRAWN BY: RT  
 DATE: \_\_\_\_\_

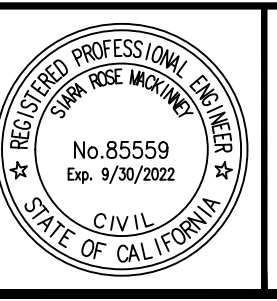
CHECKED BY: HAG-SRM  
 DATE: \_\_\_\_\_

**CITY OF ONTARIO**

RECOMMENDED BY: BRYAN LIRLEY, P.E., PRINCIPAL ENGINEER DATE \_\_\_\_\_

ACCEPTED BY: KHOI DO, P.E., CITY ENGINEER DATE \_\_\_\_\_

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 SET ON TOP OF CURB, APPROX 5' +/-  
 SOUTH OF ECR @ THE NORTHEAST  
 RETURN OF EUCLID AVE. AND MERRILL  
 AVE.

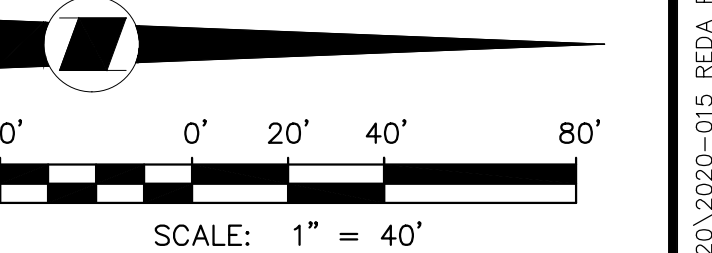


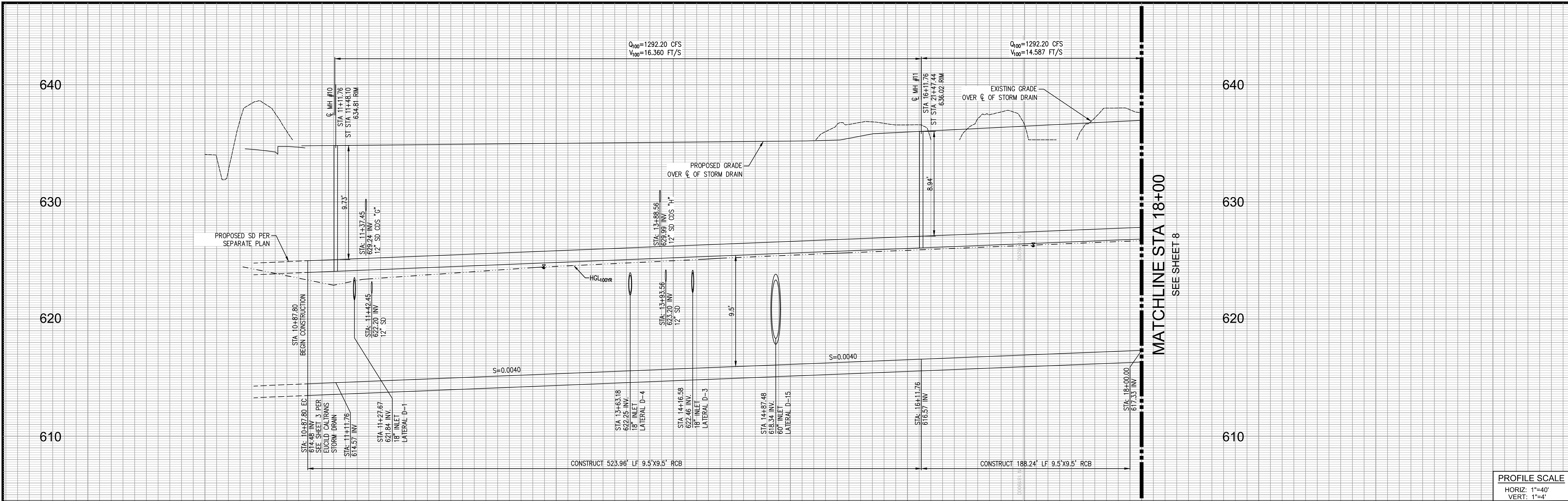
**WestLAND Group, Inc.** Land Surveyors • Civil Engineers • GIS  
 4150 CONCOURS, ONTARIO, CA 91764  
 PHONE: (909) 989-9789 FAX: (909) 989-9660

85559  
 SIGNATURE: SIARA R. MACKINNEY, P.E. R.C.E. NO. \_\_\_\_\_ DATE \_\_\_\_\_

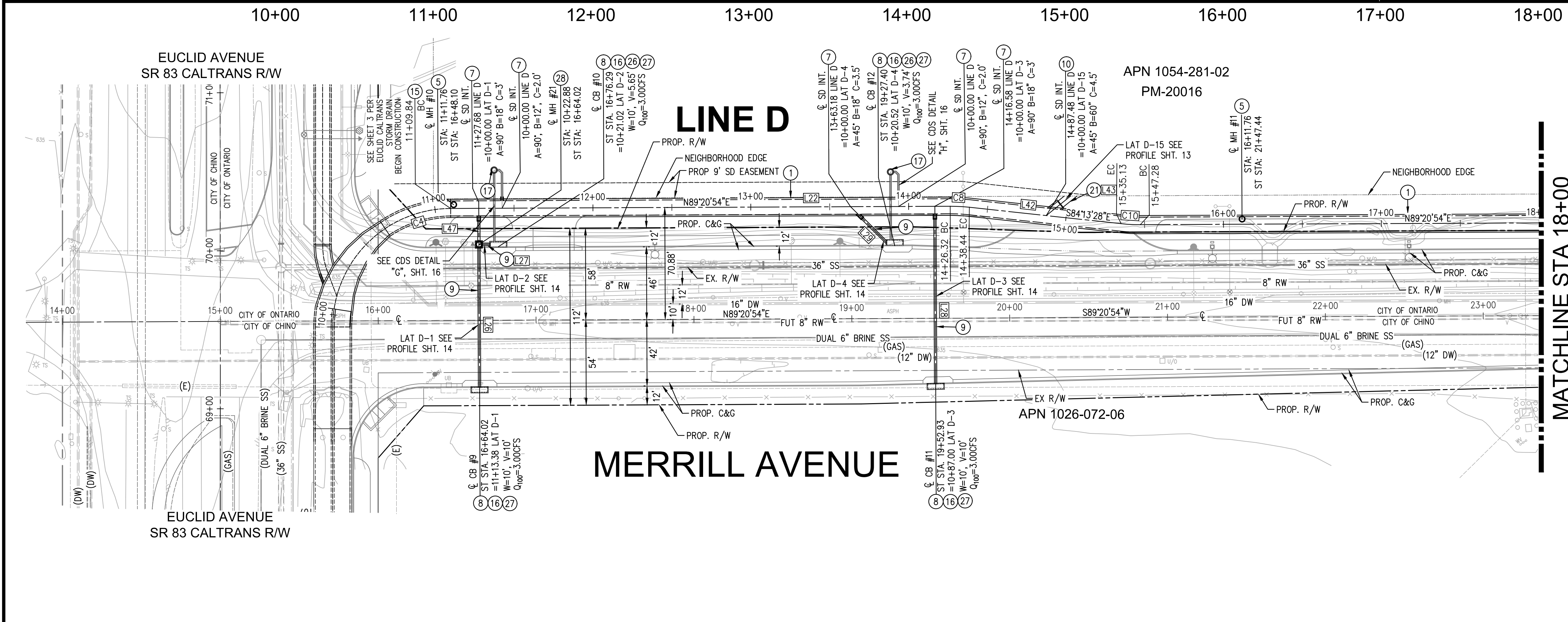
**STORM DRAIN IMPROVEMENT PLAN & PROFILE**  
 SULTANA AVE  
 FROM 800' NORTH OF MERRILL TO 1400' NORTH OF MERRILL

SHEET 6 OF 23  
 CONTRACT \_\_\_\_\_  
 ACCOUNT \_\_\_\_\_  
 DWG. NO. \_\_\_\_\_





**PROFILE SCALE**  
 HORIZ: 1"=40'  
 VERT: 1"=4'

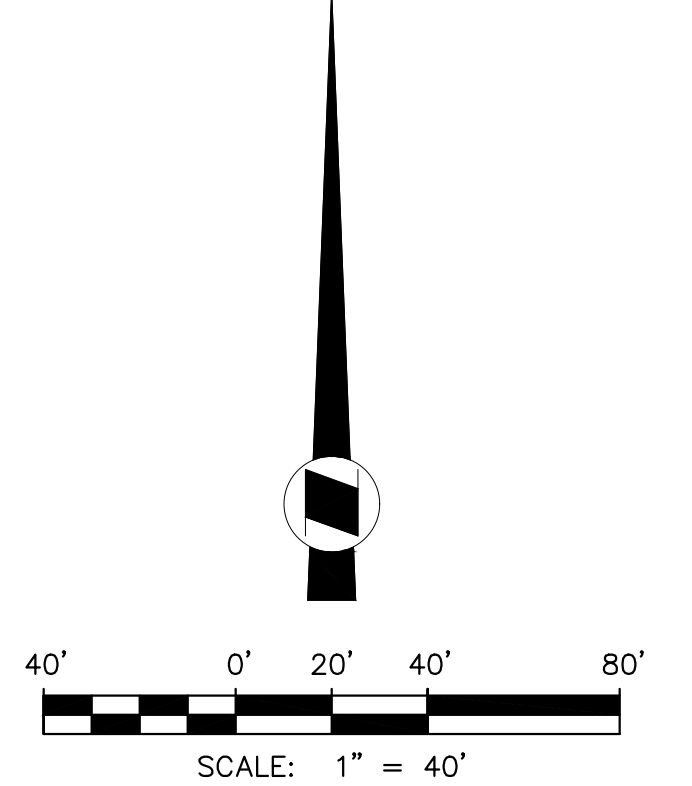


**CONSTRUCTION NOTES**

- 1 CONSTRUCT 9.5'x9.5' RCB. PER CALTRANS STANDARD PLAN D80, TRENCH EXCAVATION, BEDDING, & BACKFILL PER CITY OF ONTARIO STD. DWG. NO. 1306
- 5 CONSTRUCT 36" STORM DRAIN MANHOLE WITHOUT REDUCER PER SPPWC STD. 326-2, PER DETAIL ON SHEET 18
- 7 CONSTRUCT JUNCTION STRUCTURE PIPE TO RCB PER SPPWC STD. 333-2, DETAIL ON SHEET 19
- 8 CONSTRUCT CATCH BASIN NO. 2 CITY OF ONTARIO STD. DWG. 3015, "W" AND "V" PER PLAN
- 9 CONSTRUCT 18" RCP. TRENCH EXCAVATION & BACKFILL PER CITY OF ONTARIO STD. DWG. NO. 1306, D-LOAD PER PLAN. CLASS B2 BEDDING PER CITY STD. 2014
- 10 CONSTRUCT JUNCTION STRUCTURE PIPE TO RCP PER SPPWC STD. 331-3, DETAIL ON SHEET 22
- 16 CONSTRUCT LOCAL DEPRESSION FOR CATCH BASIN INLET PER CITY OF ONTARIO STD. DWG. 3005
- 17 CONSTRUCT CDS UNIT PER DETAIL 17, SHEET 17
- 21 CONSTRUCT 60" RCP. TRENCH EXCAVATION & BACKFILL PER CITY OF ONTARIO STD. DWG. NO. 1306, D-LOAD PER PLAN. CLASS B2 BEDDING PER CITY STD. 2014
- 26 CONSTRUCT FRAME AND MESH TRASH RACK PER DETAIL 26, ON SHEET 18
- 27 INSTALL ALMETEK PLACARD "NO DUMPING, DRAINS TO RIVER" OR EQUIVALENT
- 28 CONSTRUCT 36" STORM DRAIN MANHOLE PER SPPWC STD. 320-2, DETAIL ON SHEET 21

STORM DRAIN CENTERLINE DATA TABLE

LINE/CURVE	BEARING/Delta	LENGTH	RADIUS	TAN
C4	033°51'33.9"	44.06'	74.56'	22.70
C8	006°25'36.9"	12.11'	108.00'	6.06
C10	006°26'30.9"	12.14'	108.00'	6.08
L26	S0°39'05"E	88.58'		
L27	N89°20'55"E	4.52'		
L28	S0°39'05"E	88.79'		
L29	N45°39'06"W	22.14'		
L42	S84°13'28"E	96.70'		
L43	S50°46'32"W	8.50'		



REVISIONS

MARK	DATE	BY	APPROVED/RCE NO.

DESIGNED BY: RT  
 DATE: \_\_\_\_\_  
 DRAWN BY: RT  
 DATE: \_\_\_\_\_  
 CHECKED BY: HAG-SRM  
 DATE: \_\_\_\_\_

**CITY OF ONTARIO**

RECOMMENDED BY: BRYAN LIRLEY, P.E., PRINCIPAL ENGINEER      DATE \_\_\_\_\_

ACCEPTED BY: KHOI DO, P.E., CITY ENGINEER      DATE \_\_\_\_\_

BENCH MARK No. GG-18-1  
 ELEV. 635.273' (NAVD '88)  
 LOCATION: FOUND 2.5" BRASS DISK  
 STAMPED "CITY OF ONTARIO EE-38-1."  
 SET ON TOP OF CURB. APPROX 5' +/-  
 SOUTH OF ECR @ THE NORTHEAST  
 RETURN OF EUCLID AVE. AND MERRILL  
 AVE.



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 R.C.E. NO. \_\_\_\_\_

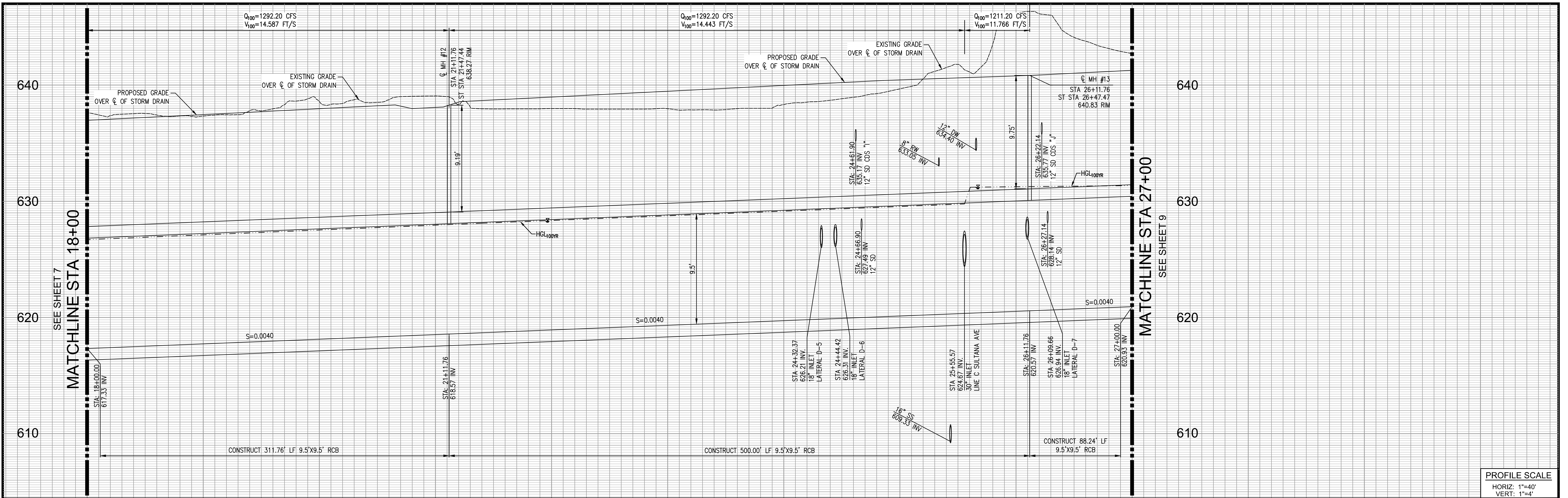
**STORM DRAIN IMPROVEMENT PLAN & PROFILE**

MERRILL AVE  
 FROM EUCLID TO 800' EAST OF EUCLID

PM-20016

SHEET 7 OF 23  
 CONTRACT \_\_\_\_\_  
 ACCOUNT \_\_\_\_\_  
 DWG. NO. \_\_\_\_\_



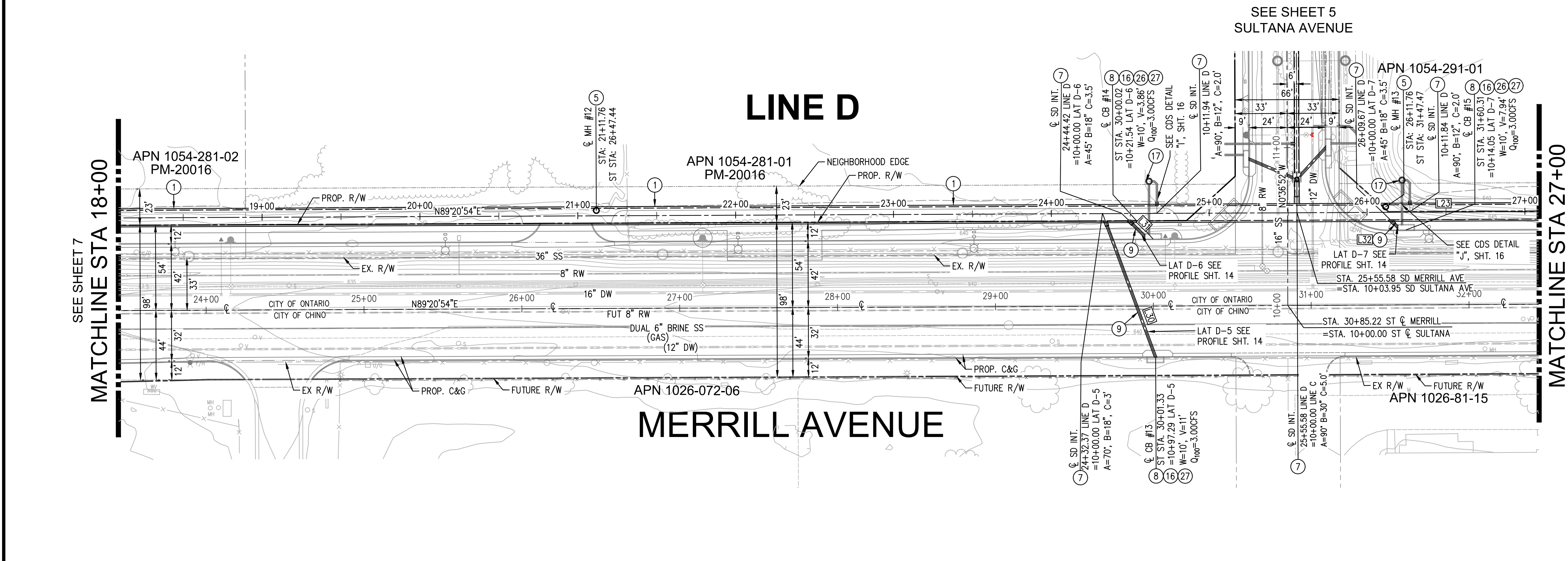


PROFILE SCALE  
 HORIZ: 1"=40'  
 VERT: 1"=4'

18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00

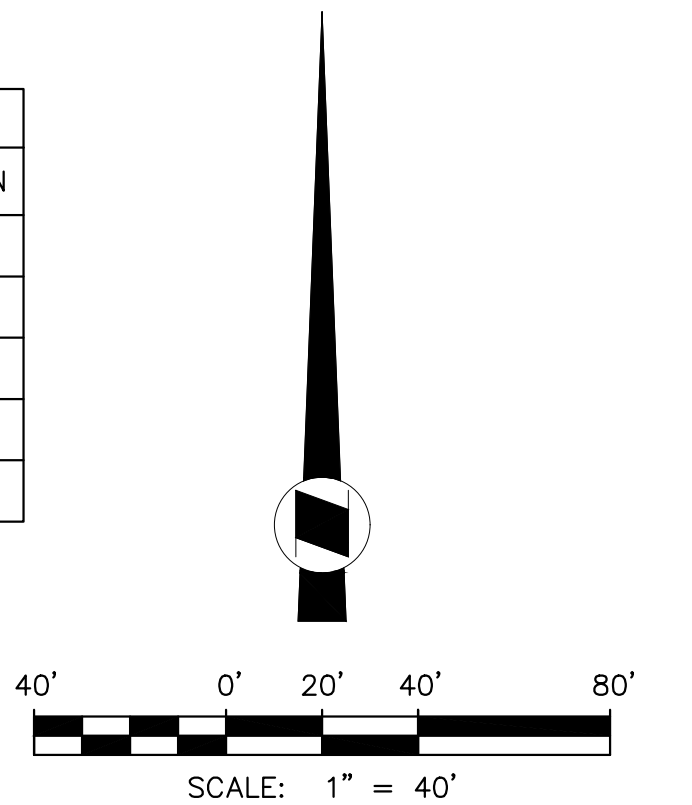
**CONSTRUCTION NOTES**

- ① CONSTRUCT 9.5'x9.5' RCB. PER CALTRANS STANDARD PLAN D80, TRENCH EXCAVATION, BEDDING, & BACKFILL PER CITY OF ONTARIO STD. DWG. NO. 1306
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- ⑧ CONSTRUCT CATCH BASIN NO. 2 CITY OF ONTARIO STD. DWG. 3015, "W" AND "V" PER PLAN
- ⑨ CONSTRUCT 18" RCP. TRENCH EXCAVATION & BACKFILL PER CITY OF ONTARIO STD. DWG. NO. 1306, D-LOAD PER PLAN. CLASS B2 BEDDING PER CITY STD. 2014
- ⑩ CONSTRUCT JUNCTION STRUCTURE PIPE TO RCP PER SPPWC STD. 331-3, DETAIL ON SHEET 22
- ⑫ CONSTRUCT LOCAL DEPRESSION FOR CATCH BASIN INLET PER CITY OF ONTARIO STD. DWG. 3005
- ⑬ CONSTRUCT CDS UNIT PER DETAIL 17, SHEET 17
- ⑮ CONSTRUCT FRAME AND MESH TRASH RACK PER DETAIL 26, ON SHEET 18
- ⑰ INSTALL ALMETEK PLACARD "NO DUMPING, DRAINS TO RIVER" OR EQUIVALENT



STORM DRAIN CENTERLINE DATA TABLE

LINE/CURVE	BEARING/DELTA	LENGTH	RADIUS	TAN
L22	N89°20'54"E	316.47'		
L23	N89°19'20"E	1294.17'		
L30	S20°39'16"E	88.99'		
L31	S45°39'06"E	11.48'		
L32	S45°39'59"E	3.84'		



REVISIONS

MARK	DATE	BY	APPROVED/RCE	NO.

DESIGNED BY: RT  
 DATE: -  
 DRAWN BY: RT  
 DATE: -  
 CHECKED BY: HAG-SRM  
 DATE: -

**CITY OF ONTARIO**

RECOMMENDED BY: BRYAN LIRLEY, P.E., PRINCIPAL ENGINEER DATE: -  
 ACCEPTED BY: KHOI DO, P.E., CITY ENGINEER DATE: -

BENCH MARK No. GG-18-1  
 ELEV. 635.273' (NAVD '88)  
 LOCATION: FOUND 2.5" BRASS DISK  
 STAMPED "CITY OF ONTARIO EE-38-1."  
 SET ON TOP OF CURB. APPROX 5' +/-  
 SOUTH OF ECR @ THE NORTHEAST  
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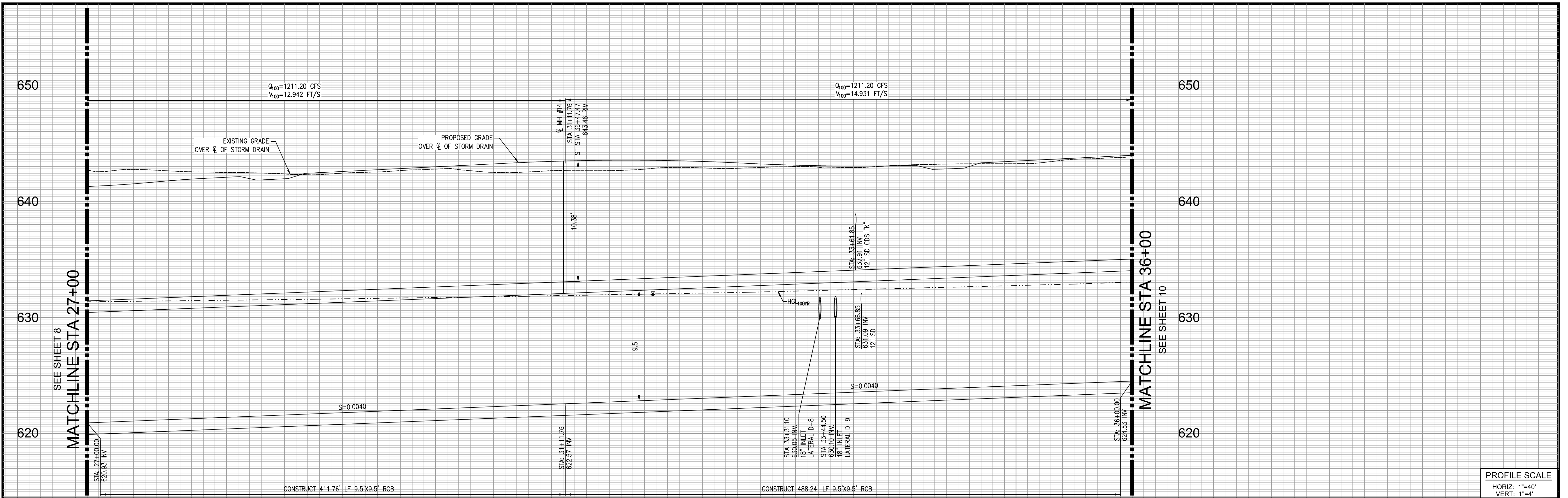
SIGNATURE: SIARA R. MACKINNEY, P.E. 85559 DATE: -  
 R.C.E. NO. -

**STORM DRAIN IMPROVEMENT PLAN & PROFILE**  
 MERRILL AVE  
 FROM 800' EAST OF EUCLID TO 1700' EAST OF EUCLID

PM-20016

SHEET 8 OF 23  
 CONTRACT \_\_\_\_\_  
 ACCOUNT \_\_\_\_\_  
 DWG. NO. \_\_\_\_\_

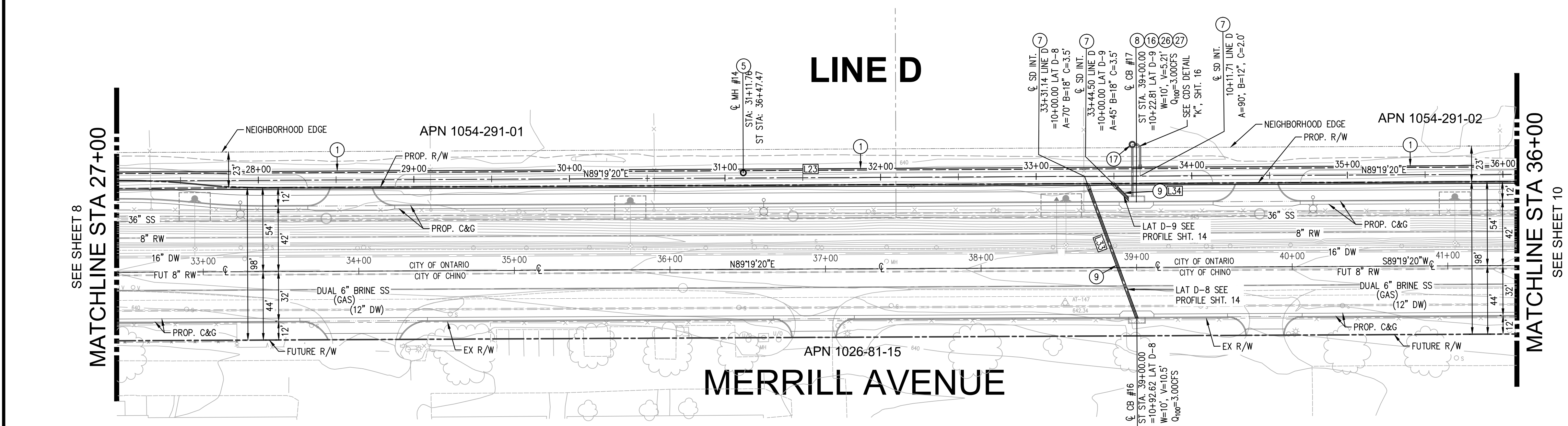




**PROFILE SCALE**  
 HORIZ: 1"=40'  
 VERT: 1"=4'

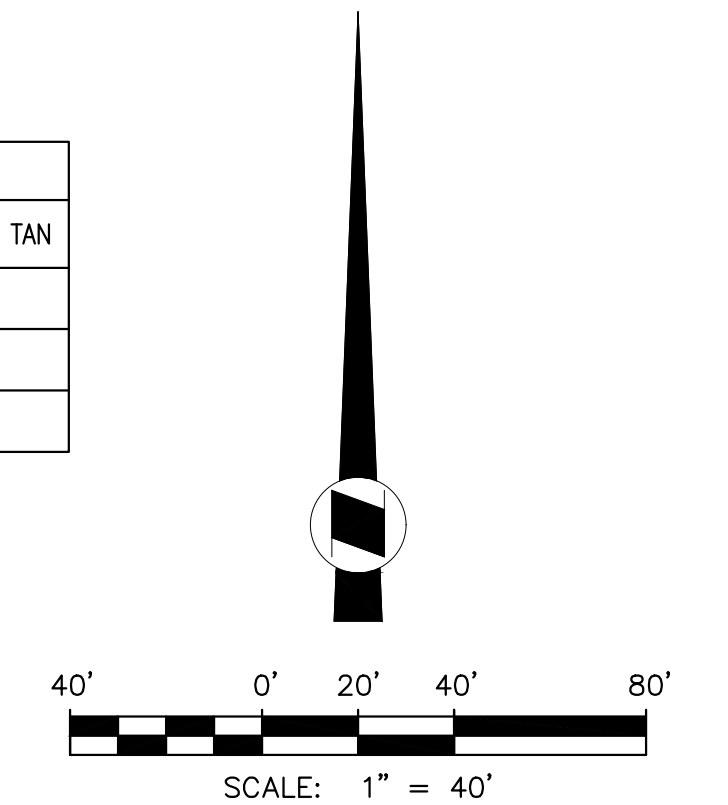
**CONSTRUCTION NOTES**

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- 27 INSTALL ALMETEK PLACARD "NO DUMPING, DRAINS TO RIVER" OR EQUIVALENT



STORM DRAIN CENTERLINE DATA TABLE

LINE/CURVE	BEARING/Delta	LENGTH	RADIUS	TAN
L23	N89°19'20"E	1294.17'		
L33	N20°39'16"W	88.26'		
L34	S45°40'40"E	10.56'		



REVISIONS

MARK	DATE	BY	APPROVED/RCE NO.

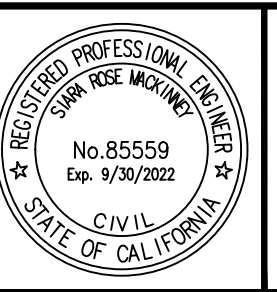
DESIGNED BY: RT  
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**CITY OF ONTARIO**

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ACCEPTED BY: KHÔI DO, P.E., CITY ENGINEER      DATE: \_\_\_\_\_

BENCH MARK No. GG-18-1  
 ELEV. 635.273' (NAVD '88)  
 LOCATION: FOUND 2.5" BRASS DISK STAMPED "CITY OF ONTARIO EE-38-1." SET ON TOP OF CURB. APPROX 5' +/- SOUTH OF ECR @ THE NORTHEAST RETURN OF EUCLID AVE. AND MERRILL AVE.



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SIGNATURE: SARA R. MACKINNEY, P.E.      85559      DATE: \_\_\_\_\_  
 R.C.E. NO. \_\_\_\_\_

**STORM DRAIN IMPROVEMENT PLAN & PROFILE**  
 MERRILL AVE  
 FROM 1700' EAST OF EUCLID TO 2600' EAST OF EUCLID

PM-20016

SHEET 9 OF 23  
 CONTRACT \_\_\_\_\_  
 ACCOUNT \_\_\_\_\_  
 DWG. NO. \_\_\_\_\_

# **APPENDIX B**

## **HYDROLOGY CALCULATIONS**



EXISTING CONDITION  
25-YEAR

\*\*\*\*\*
RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE
(Reference: 1986 SAN BERNARDINO CO. HYDROLOGY CRITERION)
(c) Copyright 1983-2016 Advanced Engineering Software (aes)
Ver. 23.0 Release Date: 07/01/2016 License ID 1435

Analysis prepared by:

THIENES ENGINEERING, INC.
14349 FIRESTONE BLVD
LA MIRADA, CA 90638
714-521-4811

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*
\* TEI JOB NO 3857 \*
\* EXISTING CONDITION \*
\* 25 YEAR STORM EVENT \*
\*\*\*\*\*

FILE NAME: W:\3857\100EX25.DAT
TIME/DATE OF STUDY: 11:19 02/12/2020

=====
USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
=====

--\*TIME-OF-CONCENTRATION MODEL\*--

USER SPECIFIED STORM EVENT(YEAR) = 25.00
SPECIFIED MINIMUM PIPE SIZE(INCH) = 12.00
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
\*USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL\*

SLOPE OF INTENSITY DURATION CURVE(LOG(I;IN/HR) vs. LOG(Tc;MIN)) = 0.6000
USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 0.8000

\*ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD\*

\*USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL\*

Table with 10 columns: NO., HALF-WIDTH (FT), CROWN CROSSFALL (FT), STREET-CROSSFALL IN-/OUT-SIDE, PARK-/WAY, CURB HEIGHT (FT), GUTTER WIDTH (FT), GEOMETRIES LIP (FT), MANNING HIKE (FT), FACTOR (n). Row 1: 1, 30.0, 20.0, 0.018/0.018/0.020, 0.67, 2.00, 0.0312, 0.167, 0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:

- 1. Relative Flow-Depth = 0.00 FEET as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
2. (Depth)\*(Velocity) Constraint = 6.0 (FT\*FT/S)

\*SIZE PIPE WITH A FLOW CAPACITY GREATER THAN OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.\*

\*USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

\*\*\*\*\*
FLOW PROCESS FROM NODE 100.00 TO NODE 101.00 IS CODE = 21
-----

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
=====

INITIAL SUBAREA FLOW-LENGTH(FEET) = 614.00
ELEVATION DATA: UPSTREAM(FEET) = 667.14 DOWNSTREAM(FEET) = 661.01

Tc = K\*[(LENGTH\*\* 3.00)/(ELEVATION CHANGE)]\*\*0.20

SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 15.367

\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 1.811

SUBAREA Tc AND LOSS RATE DATA(AMC II):

Table with 8 columns: DEVELOPMENT TYPE/LAND USE, SCS SOIL GROUP, AREA (ACRES), Fp (INCH/HR), Ap (DECIMAL), SCS CN, Tc (MIN.). Rows include AGRICULTURAL FAIR COVER, PASTURE, DRYLAND, RESIDENTIAL, 1 DWELLING/ACRE.

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.61

SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.943

SUBAREA RUNOFF(CFS) = 7.79

TOTAL AREA(ACRES) = 7.00 PEAK FLOW RATE(CFS) = 7.79

\*\*\*\*\*

FLOW PROCESS FROM NODE 101.00 TO NODE 102.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
>>>>TRAVELTIME THRU SUBAREA<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 661.01 DOWNSTREAM(FEET) = 655.08
CHANNEL LENGTH THRU SUBAREA(FEET) = 456.00 CHANNEL SLOPE = 0.0130
CHANNEL FLOW THRU SUBAREA(CFS) = 7.79
FLOW VELOCITY(FEET/SEC) = 2.68 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
TRAVEL TIME(MIN.) = 2.84 Tc(MIN.) = 18.21
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 102.00 = 1070.00 FEET.

\*\*\*\*\*
FLOW PROCESS FROM NODE 102.00 TO NODE 102.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

MAINLINE Tc(MIN.) = 18.21
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 1.636
SUBAREA LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN
AGRICULTURAL FAIR COVER
"PASTURE,DRYLAND" B 5.75 0.57 1.000 69
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.57
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000
SUBAREA AREA(ACRES) = 5.75 SUBAREA RUNOFF(CFS) = 5.54
EFFECTIVE AREA(ACRES) = 12.75 AREA-AVERAGED Fm(INCH/HR) = 0.57
AREA-AVERAGED Fp(INCH/HR) = 0.59 AREA-AVERAGED Ap = 0.97
TOTAL AREA(ACRES) = 12.8 PEAK FLOW RATE(CFS) = 12.22

\*\*\*\*\*
FLOW PROCESS FROM NODE 102.00 TO NODE 103.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
>>>>TRAVELTIME THRU SUBAREA<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 655.08 DOWNSTREAM(FEET) = 649.07
CHANNEL LENGTH THRU SUBAREA(FEET) = 457.00 CHANNEL SLOPE = 0.0132
CHANNEL FLOW THRU SUBAREA(CFS) = 12.22
FLOW VELOCITY(FEET/SEC) = 3.02 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
TRAVEL TIME(MIN.) = 2.52 Tc(MIN.) = 20.73
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 103.00 = 1527.00 FEET.

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FLOW PROCESS FROM NODE 103.00 TO NODE 103.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

MAINLINE Tc(MIN.) = 20.73
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 1.514
SUBAREA LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN
AGRICULTURAL FAIR COVER
"PASTURE,DRYLAND" B 5.85 0.57 1.000 69
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.57
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000
SUBAREA AREA(ACRES) = 5.85 SUBAREA RUNOFF(CFS) = 4.99
EFFECTIVE AREA(ACRES) = 18.60 AREA-AVERAGED Fm(INCH/HR) = 0.57
AREA-AVERAGED Fp(INCH/HR) = 0.58 AREA-AVERAGED Ap = 0.98
TOTAL AREA(ACRES) = 18.6 PEAK FLOW RATE(CFS) = 15.81

\*\*\*\*\*
FLOW PROCESS FROM NODE 103.00 TO NODE 104.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
>>>>TRAVELTIME THRU SUBAREA<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 649.07 DOWNSTREAM(FEET) = 642.95
CHANNEL LENGTH THRU SUBAREA(FEET) = 91.00 CHANNEL SLOPE = 0.0673
CHANNEL FLOW THRU SUBAREA(CFS) = 15.81
FLOW VELOCITY(FEET/SEC) = 7.30 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
TRAVEL TIME(MIN.) = 0.21 Tc(MIN.) = 20.94
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 104.00 = 1618.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 104.00 TO NODE 104.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

MAINLINE Tc(MIN.) = 20.94  
 \* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 1.505  
 SUBAREA LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
AGRICULTURAL GOOD COVER "ROW CROPS,STRAIGHT ROW"	B	11.85	0.42	1.000	78

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000  
 SUBAREA AREA(ACRES) = 11.85 SUBAREA RUNOFF(CFS) = 11.61  
 EFFECTIVE AREA(ACRES) = 30.45 AREA-AVERAGED Fm(INCH/HR) = 0.51  
 AREA-AVERAGED Fp(INCH/HR) = 0.52 AREA-AVERAGED Ap = 0.99  
 TOTAL AREA(ACRES) = 30.5 PEAK FLOW RATE(CFS) = 27.26

\*\*\*\*\*

FLOW PROCESS FROM NODE 104.00 TO NODE 105.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<  
>>>>TRAVELTIME THRU SUBAREA<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 642.95 DOWNSTREAM(FEET) = 641.08  
 CHANNEL LENGTH THRU SUBAREA(FEET) = 365.00 CHANNEL SLOPE = 0.0051  
 CHANNEL FLOW THRU SUBAREA(CFS) = 27.26  
 FLOW VELOCITY(FEET/SEC) = 2.33 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)  
 TRAVEL TIME(MIN.) = 2.61 Tc(MIN.) = 23.54  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 105.00 = 1983.00 FEET.

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FLOW PROCESS FROM NODE 105.00 TO NODE 105.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

MAINLINE Tc(MIN.) = 23.54  
 \* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 1.402  
 SUBAREA LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
AGRICULTURAL GOOD COVER "ROW CROPS,STRAIGHT ROW"	B	7.15	0.42	1.000	78

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000  
 SUBAREA AREA(ACRES) = 7.15 SUBAREA RUNOFF(CFS) = 6.35  
 EFFECTIVE AREA(ACRES) = 37.60 AREA-AVERAGED Fm(INCH/HR) = 0.49  
 AREA-AVERAGED Fp(INCH/HR) = 0.50 AREA-AVERAGED Ap = 0.99  
 TOTAL AREA(ACRES) = 37.6 PEAK FLOW RATE(CFS) = 30.81

\*\*\*\*\*

FLOW PROCESS FROM NODE 105.00 TO NODE 114.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<  
>>>>TRAVELTIME THRU SUBAREA<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 641.08 DOWNSTREAM(FEET) = 639.74  
 CHANNEL LENGTH THRU SUBAREA(FEET) = 316.00 CHANNEL SLOPE = 0.0042  
 CHANNEL FLOW THRU SUBAREA(CFS) = 30.81  
 FLOW VELOCITY(FEET/SEC) = 2.20 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)  
 TRAVEL TIME(MIN.) = 2.40 Tc(MIN.) = 25.94  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 114.00 = 2299.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 113.00 TO NODE 113.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<

TOTAL NUMBER OF STREAMS = 2  
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:  
 TIME OF CONCENTRATION(MIN.) = 25.94  
 RAINFALL INTENSITY(INCH/HR) = 1.32  
 AREA-AVERAGED Fm(INCH/HR) = 0.49  
 AREA-AVERAGED Fp(INCH/HR) = 0.50  
 AREA-AVERAGED Ap = 0.99  
 EFFECTIVE STREAM AREA(ACRES) = 37.60  
 TOTAL STREAM AREA(ACRES) = 37.60

PEAK FLOW RATE(CFS) AT CONFLUENCE = 30.81

\*\*\*\*\*  
FLOW PROCESS FROM NODE 110.00 TO NODE 111.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<<  
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

INITIAL SUBAREA FLOW-LENGTH(FEET) = 640.00  
ELEVATION DATA: UPSTREAM(FEET) = 664.50 DOWNSTREAM(FEET) = 658.62

Tc = K\*[(LENGTH\*\* 3.00)/(ELEVATION CHANGE)]\*\*0.20  
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 23.913  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 1.389

SUBAREA Tc AND LOSS RATE DATA(AMC II):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS Tc  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)  
AGRICULTURAL GOOD COVER  
"ROW CROPS, STRAIGHT ROW" B 6.00 0.42 1.000 78 31.67  
AGRICULTURAL FAIR COVER  
"PASTURE, DRYLAND" B 2.50 0.57 1.000 69 23.91  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.46  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000  
SUBAREA RUNOFF(CFS) = 7.11  
TOTAL AREA(ACRES) = 8.50 PEAK FLOW RATE(CFS) = 7.11

\*\*\*\*\*  
FLOW PROCESS FROM NODE 111.00 TO NODE 112.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<<  
>>>>TRAVELTIME THRU SUBAREA<<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 658.62 DOWNSTREAM(FEET) = 653.63  
CHANNEL LENGTH THRU SUBAREA(FEET) = 540.00 CHANNEL SLOPE = 0.0092  
CHANNEL FLOW THRU SUBAREA(CFS) = 7.11  
FLOW VELOCITY(FEET/SEC) = 2.21 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)  
TRAVEL TIME(MIN.) = 4.08 Tc(MIN.) = 27.99  
LONGEST FLOWPATH FROM NODE 110.00 TO NODE 112.00 = 1180.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 112.00 TO NODE 113.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<<

MAINLINE Tc(MIN.) = 27.99  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 1.264  
SUBAREA LOSS RATE DATA(AMC II):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
AGRICULTURAL GOOD COVER  
"ROW CROPS, STRAIGHT ROW" B 6.15 0.42 1.000 78  
AGRICULTURAL FAIR COVER  
"PASTURE, DRYLAND" B 2.35 0.57 1.000 69  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.46  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000  
SUBAREA AREA(ACRES) = 8.50 SUBAREA RUNOFF(CFS) = 6.17  
EFFECTIVE AREA(ACRES) = 17.00 AREA-AVERAGED Fm(INCH/HR) = 0.46  
AREA-AVERAGED Fp(INCH/HR) = 0.46 AREA-AVERAGED Ap = 1.00  
TOTAL AREA(ACRES) = 17.0 PEAK FLOW RATE(CFS) = 12.32

\*\*\*\*\*  
FLOW PROCESS FROM NODE 112.00 TO NODE 113.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<<  
>>>>TRAVELTIME THRU SUBAREA<<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 653.63 DOWNSTREAM(FEET) = 650.58  
CHANNEL LENGTH THRU SUBAREA(FEET) = 434.00 CHANNEL SLOPE = 0.0070  
CHANNEL FLOW THRU SUBAREA(CFS) = 12.32  
FLOW VELOCITY(FEET/SEC) = 2.21 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)  
TRAVEL TIME(MIN.) = 3.27 Tc(MIN.) = 31.26  
LONGEST FLOWPATH FROM NODE 110.00 TO NODE 113.00 = 1614.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 113.00 TO NODE 113.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<<

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=====
MAINLINE Tc(MIN.) = 31.26
* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 1.183
SUBAREA LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/   SCS SOIL   AREA   Fp       Ap   SCS
LAND USE            GROUP   (ACRES) (INCH/HR) (DECIMAL) CN
AGRICULTURAL GOOD COVER
"ROW CROPS,STRAIGHT ROW" B       4.85   0.42   1.000   78
AGRICULTURAL FAIR COVER
"PASTURE,DRYLAND"      B       1.55   0.57   1.000   69
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.45
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000
SUBAREA AREA(ACRES) = 6.40   SUBAREA RUNOFF(CFS) = 4.21
EFFECTIVE AREA(ACRES) = 23.40  AREA-AVERAGED Fm(INCH/HR) = 0.46
AREA-AVERAGED Fp(INCH/HR) = 0.46  AREA-AVERAGED Ap = 1.00
TOTAL AREA(ACRES) = 23.4   PEAK FLOW RATE(CFS) = 15.29
    
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*****
FLOW PROCESS FROM NODE 113.00 TO NODE 114.00 IS CODE = 52
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>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<
>>>>TRAVELTIME THRU SUBAREA<<<<
    
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=====
ELEVATION DATA: UPSTREAM(FEET) = 650.58  DOWNSTREAM(FEET) = 639.74
CHANNEL LENGTH THRU SUBAREA(FEET) = 1055.00  CHANNEL SLOPE = 0.0103
CHANNEL FLOW THRU SUBAREA(CFS) = 15.29
FLOW VELOCITY(FEET/SEC) = 2.83 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
TRAVEL TIME(MIN.) = 6.22  Tc(MIN.) = 37.48
LONGEST FLOWPATH FROM NODE 110.00 TO NODE 114.00 = 2669.00 FEET.
    
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*****
FLOW PROCESS FROM NODE 114.00 TO NODE 114.00 IS CODE = 81
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>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<
    
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=====
MAINLINE Tc(MIN.) = 37.48
* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 1.061
SUBAREA LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/   SCS SOIL   AREA   Fp       Ap   SCS
LAND USE            GROUP   (ACRES) (INCH/HR) (DECIMAL) CN
AGRICULTURAL GOOD COVER
"ROW CROPS,STRAIGHT ROW" B      10.70   0.42   1.000   78
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000
SUBAREA AREA(ACRES) = 10.70  SUBAREA RUNOFF(CFS) = 6.21
EFFECTIVE AREA(ACRES) = 34.10  AREA-AVERAGED Fm(INCH/HR) = 0.44
AREA-AVERAGED Fp(INCH/HR) = 0.44  AREA-AVERAGED Ap = 1.00
TOTAL AREA(ACRES) = 34.1   PEAK FLOW RATE(CFS) = 18.93
    
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*****
FLOW PROCESS FROM NODE 114.00 TO NODE 114.00 IS CODE = 1
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>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<
>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<
    
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=====
TOTAL NUMBER OF STREAMS = 2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:
TIME OF CONCENTRATION(MIN.) = 37.48
RAINFALL INTENSITY(INCH/HR) = 1.06
AREA-AVERAGED Fm(INCH/HR) = 0.44
AREA-AVERAGED Fp(INCH/HR) = 0.44
AREA-AVERAGED Ap = 1.00
EFFECTIVE STREAM AREA(ACRES) = 34.10
TOTAL STREAM AREA(ACRES) = 34.10
PEAK FLOW RATE(CFS) AT CONFLUENCE = 18.93
    
```

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	30.81	25.94	1.323	0.50( 0.49)	0.99	37.6	100.00
2	18.93	37.48	1.061	0.44( 0.44)	1.00	34.1	110.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
 CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM	Q	Tc	Intensity	Fp(Fm)	Ap	Ae	HEADWATER
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100EX25							
NUMBER	(CFS)	(MIN.)	(INCH/HR)	(INCH/HR)		(ACRES)	NODE
1	49.48	25.94	1.323	0.48( 0.47)	0.99	61.2	100.00
2	40.02	37.48	1.061	0.47( 0.47)	0.99	71.7	110.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 49.48 Tc(MIN.) = 25.94  
 EFFECTIVE AREA(ACRES) = 61.20 AREA-AVERAGED Fm(INCH/HR) = 0.47  
 AREA-AVERAGED Fp(INCH/HR) = 0.48 AREA-AVERAGED Ap = 0.99  
 TOTAL AREA(ACRES) = 71.7  
 LONGEST FLOWPATH FROM NODE 110.00 TO NODE 114.00 = 2669.00 FEET.

=====  
 END OF STUDY SUMMARY:

TOTAL AREA(ACRES) = 71.7 TC(MIN.) = 25.94  
 EFFECTIVE AREA(ACRES) = 61.20 AREA-AVERAGED Fm(INCH/HR)= 0.47  
 AREA-AVERAGED Fp(INCH/HR) = 0.48 AREA-AVERAGED Ap = 0.993  
 PEAK FLOW RATE(CFS) = 49.48

\*\* PEAK FLOW RATE TABLE \*\*

STREAM	Q	Tc	Intensity	Fp(Fm)	Ap	Ae	HEADWATER
NUMBER	(CFS)	(MIN.)	(INCH/HR)	(INCH/HR)		(ACRES)	NODE
1	49.48	25.94	1.323	0.48( 0.47)	0.99	61.2	100.00
2	40.02	37.48	1.061	0.47( 0.47)	0.99	71.7	110.00

=====  
 END OF RATIONAL METHOD ANALYSIS

▲

EXISTING CONDITION  
100-YEAR



\*\*\*\*\*  
 RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE  
 (Reference: 1986 SAN BERNARDINO CO. HYDROLOGY CRITERION)  
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 Ver. 23.0 Release Date: 07/01/2016 License ID 1435

Analysis prepared by:

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 LA MIRADA, CA 90638  
 714-521-4811

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
 \* TEI JOB NO 3857 \*  
 \* EXISTING CONDITION \*  
 \* 100 YEAR STORM EVENT \*  
 \*\*\*\*\*

FILE NAME: W:\3857\100EX.DAT  
 TIME/DATE OF STUDY: 11:17 02/12/2020

=====

USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

=====

--\*TIME-OF-CONCENTRATION MODEL\*--

USER SPECIFIED STORM EVENT(YEAR) = 100.00  
 SPECIFIED MINIMUM PIPE SIZE(INCH) = 12.00  
 SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95  
 \*USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL\*

SLOPE OF INTENSITY DURATION CURVE(LOG(I;IN/HR) vs. LOG(Tc;MIN)) = 0.6000  
 USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.0000

\*ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD\*

\*USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL\*

NO.	HALF- WIDTH (FT)	CROWN TO CROSSFALL (FT)	STREET-CROSSFALL: IN- / OUT-/PARK- SIDE / SIDE/ WAY	CURB HEIGHT (FT)	GUTTER WIDTH (FT)	GEOMETRIES: LIP (FT)	MANNING HIKE (FT)	FACTOR (n)
1	30.0	20.0	0.018/0.018/0.020	0.67	2.00	0.0312	0.167	0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:

1. Relative Flow-Depth = 0.00 FEET  
 as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
2. (Depth)\*(Velocity) Constraint = 6.0 (FT\*FT/S)

\*SIZE PIPE WITH A FLOW CAPACITY GREATER THAN  
 OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.\*

\*USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 100.00 TO NODE 101.00 IS CODE = 21  
 -----

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<  
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

=====

INITIAL SUBAREA FLOW-LENGTH(FEET) = 614.00  
 ELEVATION DATA: UPSTREAM(FEET) = 667.14 DOWNSTREAM(FEET) = 661.01

$T_c = K * [(LENGTH ** 3.00) / (ELEVATION CHANGE)] ** 0.20$

SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 15.367

\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.264

SUBAREA Tc AND LOSS RATE DATA(AMC III):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN	Tc (MIN.)
AGRICULTURAL FAIR COVER "PASTURE, DRYLAND"	B	5.00	0.27	1.000	86	23.13
RESIDENTIAL "1 DWELLING/ACRE"	B	2.00	0.42	0.800	76	15.37

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.31

SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.943

SUBAREA RUNOFF(CFS) = 12.43

TOTAL AREA(ACRES) = 7.00 PEAK FLOW RATE(CFS) = 12.43

\*\*\*\*\*

100EX

FLOW PROCESS FROM NODE 101.00 TO NODE 102.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
>>>>TRAVELTIME THRU SUBAREA<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 661.01 DOWNSTREAM(FEET) = 655.08
CHANNEL LENGTH THRU SUBAREA(FEET) = 456.00 CHANNEL SLOPE = 0.0130
CHANNEL FLOW THRU SUBAREA(CFS) = 12.43
FLOW VELOCITY(FEET/SEC) = 3.01 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
TRAVEL TIME(MIN.) = 2.52 Tc(MIN.) = 17.89
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 102.00 = 1070.00 FEET.

\*\*\*\*\*
FLOW PROCESS FROM NODE 102.00 TO NODE 102.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

MAINLINE Tc(MIN.) = 17.89
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.067
SUBAREA LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN
AGRICULTURAL FAIR COVER
"PASTURE, DRYLAND" B 5.75 0.27 1.000 86
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.27
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000
SUBAREA AREA(ACRES) = 5.75 SUBAREA RUNOFF(CFS) = 9.29
EFFECTIVE AREA(ACRES) = 12.75 AREA-AVERAGED Fm(INCH/HR) = 0.28
AREA-AVERAGED Fp(INCH/HR) = 0.29 AREA-AVERAGED Ap = 0.97
TOTAL AREA(ACRES) = 12.8 PEAK FLOW RATE(CFS) = 20.48

\*\*\*\*\*
FLOW PROCESS FROM NODE 102.00 TO NODE 103.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
>>>>TRAVELTIME THRU SUBAREA<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 655.08 DOWNSTREAM(FEET) = 649.07
CHANNEL LENGTH THRU SUBAREA(FEET) = 457.00 CHANNEL SLOPE = 0.0132
CHANNEL FLOW THRU SUBAREA(CFS) = 20.48
FLOW VELOCITY(FEET/SEC) = 3.46 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
TRAVEL TIME(MIN.) = 2.20 Tc(MIN.) = 20.09
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 103.00 = 1527.00 FEET.

\*\*\*\*\*
FLOW PROCESS FROM NODE 103.00 TO NODE 103.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

MAINLINE Tc(MIN.) = 20.09
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 1.928
SUBAREA LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN
AGRICULTURAL FAIR COVER
"PASTURE, DRYLAND" B 5.85 0.27 1.000 86
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.27
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000
SUBAREA AREA(ACRES) = 5.85 SUBAREA RUNOFF(CFS) = 8.72
EFFECTIVE AREA(ACRES) = 18.60 AREA-AVERAGED Fm(INCH/HR) = 0.28
AREA-AVERAGED Fp(INCH/HR) = 0.29 AREA-AVERAGED Ap = 0.98
TOTAL AREA(ACRES) = 18.6 PEAK FLOW RATE(CFS) = 27.60

\*\*\*\*\*
FLOW PROCESS FROM NODE 103.00 TO NODE 104.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<
>>>>TRAVELTIME THRU SUBAREA<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 649.07 DOWNSTREAM(FEET) = 642.95
CHANNEL LENGTH THRU SUBAREA(FEET) = 91.00 CHANNEL SLOPE = 0.0673
CHANNEL FLOW THRU SUBAREA(CFS) = 27.60
FLOW VELOCITY(FEET/SEC) = 8.49 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
TRAVEL TIME(MIN.) = 0.18 Tc(MIN.) = 20.27
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 104.00 = 1618.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 104.00 TO NODE 104.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

=====

MAINLINE Tc(MIN.) = 20.27  
 \* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 1.918  
 SUBAREA LOSS RATE DATA(AMC III):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
AGRICULTURAL GOOD COVER "ROW CROPS,STRAIGHT ROW"	B	11.85	0.18	1.000	93

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.18  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000  
 SUBAREA AREA(ACRES) = 11.85 SUBAREA RUNOFF(CFS) = 18.53  
 EFFECTIVE AREA(ACRES) = 30.45 AREA-AVERAGED Fm(INCH/HR) = 0.24  
 AREA-AVERAGED Fp(INCH/HR) = 0.24 AREA-AVERAGED Ap = 0.99  
 TOTAL AREA(ACRES) = 30.5 PEAK FLOW RATE(CFS) = 45.96

\*\*\*\*\*

FLOW PROCESS FROM NODE 104.00 TO NODE 105.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<  
>>>>TRAVELTIME THRU SUBAREA<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 642.95 DOWNSTREAM(FEET) = 641.08  
 CHANNEL LENGTH THRU SUBAREA(FEET) = 365.00 CHANNEL SLOPE = 0.0051  
 CHANNEL FLOW THRU SUBAREA(CFS) = 45.96  
 FLOW VELOCITY(FEET/SEC) = 2.70 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)  
 TRAVEL TIME(MIN.) = 2.25 Tc(MIN.) = 22.52  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 105.00 = 1983.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 105.00 TO NODE 105.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

=====

MAINLINE Tc(MIN.) = 22.52  
 \* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 1.800  
 SUBAREA LOSS RATE DATA(AMC III):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
AGRICULTURAL GOOD COVER "ROW CROPS,STRAIGHT ROW"	B	7.15	0.18	1.000	93

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.18  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000  
 SUBAREA AREA(ACRES) = 7.15 SUBAREA RUNOFF(CFS) = 10.43  
 EFFECTIVE AREA(ACRES) = 37.60 AREA-AVERAGED Fm(INCH/HR) = 0.23  
 AREA-AVERAGED Fp(INCH/HR) = 0.23 AREA-AVERAGED Ap = 0.99  
 TOTAL AREA(ACRES) = 37.6 PEAK FLOW RATE(CFS) = 53.17

\*\*\*\*\*

FLOW PROCESS FROM NODE 105.00 TO NODE 114.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<  
>>>>TRAVELTIME THRU SUBAREA<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 641.08 DOWNSTREAM(FEET) = 639.74  
 CHANNEL LENGTH THRU SUBAREA(FEET) = 316.00 CHANNEL SLOPE = 0.0042  
 CHANNEL FLOW THRU SUBAREA(CFS) = 53.17  
 FLOW VELOCITY(FEET/SEC) = 2.57 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)  
 TRAVEL TIME(MIN.) = 2.05 Tc(MIN.) = 24.57  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 114.00 = 2299.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 113.00 TO NODE 113.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:  
 TIME OF CONCENTRATION(MIN.) = 24.57  
 RAINFALL INTENSITY(INCH/HR) = 1.71  
 AREA-AVERAGED Fm(INCH/HR) = 0.23  
 AREA-AVERAGED Fp(INCH/HR) = 0.23  
 AREA-AVERAGED Ap = 0.99  
 EFFECTIVE STREAM AREA(ACRES) = 37.60  
 TOTAL STREAM AREA(ACRES) = 37.60

PEAK FLOW RATE(CFS) AT CONFLUENCE = 53.17

\*\*\*\*\*  
FLOW PROCESS FROM NODE 110.00 TO NODE 111.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<  
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

INITIAL SUBAREA FLOW-LENGTH(FEET) = 640.00  
ELEVATION DATA: UPSTREAM(FEET) = 664.50 DOWNSTREAM(FEET) = 658.62

Tc = K\*[(LENGTH\*\* 3.00)/(ELEVATION CHANGE)]\*\*0.20  
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 23.913  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 1.737

SUBAREA Tc AND LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS Tc  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)  
AGRICULTURAL GOOD COVER  
"ROW CROPS, STRAIGHT ROW" B 6.00 0.18 1.000 93 31.67  
AGRICULTURAL FAIR COVER  
"PASTURE, DRYLAND" B 2.50 0.27 1.000 86 23.91  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.21  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000  
SUBAREA RUNOFF(CFS) = 11.70  
TOTAL AREA(ACRES) = 8.50 PEAK FLOW RATE(CFS) = 11.70

\*\*\*\*\*  
FLOW PROCESS FROM NODE 111.00 TO NODE 112.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<  
>>>>TRAVELTIME THRU SUBAREA<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 658.62 DOWNSTREAM(FEET) = 653.63  
CHANNEL LENGTH THRU SUBAREA(FEET) = 540.00 CHANNEL SLOPE = 0.0092  
CHANNEL FLOW THRU SUBAREA(CFS) = 11.70  
FLOW VELOCITY(FEET/SEC) = 2.50 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)  
TRAVEL TIME(MIN.) = 3.60 Tc(MIN.) = 27.51  
LONGEST FLOWPATH FROM NODE 110.00 TO NODE 112.00 = 1180.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 112.00 TO NODE 113.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

MAINLINE Tc(MIN.) = 27.51  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 1.597  
SUBAREA LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
AGRICULTURAL GOOD COVER  
"ROW CROPS, STRAIGHT ROW" B 6.15 0.18 1.000 93  
AGRICULTURAL FAIR COVER  
"PASTURE, DRYLAND" B 2.35 0.27 1.000 86  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.21  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000  
SUBAREA AREA(ACRES) = 8.50 SUBAREA RUNOFF(CFS) = 10.64  
EFFECTIVE AREA(ACRES) = 17.00 AREA-AVERAGED Fm(INCH/HR) = 0.21  
AREA-AVERAGED Fp(INCH/HR) = 0.21 AREA-AVERAGED Ap = 1.00  
TOTAL AREA(ACRES) = 17.0 PEAK FLOW RATE(CFS) = 21.27

\*\*\*\*\*  
FLOW PROCESS FROM NODE 112.00 TO NODE 113.00 IS CODE = 52

>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<<  
>>>>TRAVELTIME THRU SUBAREA<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 653.63 DOWNSTREAM(FEET) = 650.58  
CHANNEL LENGTH THRU SUBAREA(FEET) = 434.00 CHANNEL SLOPE = 0.0070  
CHANNEL FLOW THRU SUBAREA(CFS) = 21.27  
FLOW VELOCITY(FEET/SEC) = 2.55 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)  
TRAVEL TIME(MIN.) = 2.83 Tc(MIN.) = 30.34  
LONGEST FLOWPATH FROM NODE 110.00 TO NODE 113.00 = 1614.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 113.00 TO NODE 113.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

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=====
MAINLINE Tc(MIN.) = 30.34
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 1.505
SUBAREA LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/   SCS SOIL   AREA   Fp       Ap   SCS
LAND USE            GROUP   (ACRES) (INCH/HR) (DECIMAL) CN
AGRICULTURAL GOOD COVER
"ROW CROPS,STRAIGHT ROW" B       4.85   0.18   1.000   93
AGRICULTURAL FAIR COVER
"PASTURE,DRYLAND"      B       1.55   0.27   1.000   86
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.20
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000
SUBAREA AREA(ACRES) = 6.40   SUBAREA RUNOFF(CFS) = 7.51
EFFECTIVE AREA(ACRES) = 23.40  AREA-AVERAGED Fm(INCH/HR) = 0.21
AREA-AVERAGED Fp(INCH/HR) = 0.21  AREA-AVERAGED Ap = 1.00
TOTAL AREA(ACRES) = 23.4   PEAK FLOW RATE(CFS) = 27.38
    
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*****
FLOW PROCESS FROM NODE 113.00 TO NODE 114.00 IS CODE = 52
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>>>>COMPUTE NATURAL VALLEY CHANNEL FLOW<<<<
>>>>TRAVELTIME THRU SUBAREA<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 650.58 DOWNSTREAM(FEET) = 639.74
CHANNEL LENGTH THRU SUBAREA(FEET) = 1055.00 CHANNEL SLOPE = 0.0103
CHANNEL FLOW THRU SUBAREA(CFS) = 27.38
FLOW VELOCITY(FEET/SEC) = 3.31 (PER LACFCD/RCFC&WCD HYDROLOGY MANUAL)
TRAVEL TIME(MIN.) = 5.31 Tc(MIN.) = 35.66
LONGEST FLOWPATH FROM NODE 110.00 TO NODE 114.00 = 2669.00 FEET.
    
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*****
FLOW PROCESS FROM NODE 114.00 TO NODE 114.00 IS CODE = 81
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>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<
=====
MAINLINE Tc(MIN.) = 35.66
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 1.366
SUBAREA LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/   SCS SOIL   AREA   Fp       Ap   SCS
LAND USE            GROUP   (ACRES) (INCH/HR) (DECIMAL) CN
AGRICULTURAL GOOD COVER
"ROW CROPS,STRAIGHT ROW" B      10.70   0.18   1.000   93
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.18
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 1.000
SUBAREA AREA(ACRES) = 10.70  SUBAREA RUNOFF(CFS) = 11.43
EFFECTIVE AREA(ACRES) = 34.10  AREA-AVERAGED Fm(INCH/HR) = 0.20
AREA-AVERAGED Fp(INCH/HR) = 0.20  AREA-AVERAGED Ap = 1.00
TOTAL AREA(ACRES) = 34.1   PEAK FLOW RATE(CFS) = 35.88
    
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*****
FLOW PROCESS FROM NODE 114.00 TO NODE 114.00 IS CODE = 1
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>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<
>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<
=====
TOTAL NUMBER OF STREAMS = 2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:
TIME OF CONCENTRATION(MIN.) = 35.66
RAINFALL INTENSITY(INCH/HR) = 1.37
AREA-AVERAGED Fm(INCH/HR) = 0.20
AREA-AVERAGED Fp(INCH/HR) = 0.20
AREA-AVERAGED Ap = 1.00
EFFECTIVE STREAM AREA(ACRES) = 34.10
TOTAL STREAM AREA(ACRES) = 34.10
PEAK FLOW RATE(CFS) AT CONFLUENCE = 35.88
    
```

```

** CONFLUENCE DATA **

```

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	53.17	24.57	1.709	0.23( 0.23)	0.99	37.6	100.00
2	35.88	35.66	1.366	0.20( 0.20)	1.00	34.1	110.00

```

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
CONFLUENCE FORMULA USED FOR 2 STREAMS.
    
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** PEAK FLOW RATE TABLE **

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STREAM	Q	Tc	Intensity	Fp(Fm)	Ap	Ae	HEADWATER
1	53.17	24.57	1.709	0.23( 0.23)	0.99	37.6	100.00
2	35.88	35.66	1.366	0.20( 0.20)	1.00	34.1	110.00

100EX							
NUMBER	(CFS)	(MIN.)	(INCH/HR)	(INCH/HR)	(ACRES)	NODE	
1	85.14	24.57	1.709	0.22( 0.22)	0.99	61.1	100.00
2	76.76	35.66	1.366	0.22( 0.21)	0.99	71.7	110.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 85.14 Tc(MIN.) = 24.57  
 EFFECTIVE AREA(ACRES) = 61.10 AREA-AVERAGED Fm(INCH/HR) = 0.22  
 AREA-AVERAGED Fp(INCH/HR) = 0.22 AREA-AVERAGED Ap = 0.99  
 TOTAL AREA(ACRES) = 71.7  
 LONGEST FLOWPATH FROM NODE 110.00 TO NODE 114.00 = 2669.00 FEET.

=====  
 END OF STUDY SUMMARY:

TOTAL AREA(ACRES) = 71.7 TC(MIN.) = 24.57  
 EFFECTIVE AREA(ACRES) = 61.10 AREA-AVERAGED Fm(INCH/HR)= 0.22  
 AREA-AVERAGED Fp(INCH/HR) = 0.22 AREA-AVERAGED Ap = 0.993  
 PEAK FLOW RATE(CFS) = 85.14

\*\* PEAK FLOW RATE TABLE \*\*

STREAM	Q	Tc	Intensity	Fp(Fm)	Ap	Ae	HEADWATER
NUMBER	(CFS)	(MIN.)	(INCH/HR)	(INCH/HR)	(ACRES)	(ACRES)	NODE
1	85.14	24.57	1.709	0.22( 0.22)	0.99	61.1	100.00
2	76.76	35.66	1.366	0.22( 0.21)	0.99	71.7	110.00

=====  
 END OF RATIONAL METHOD ANALYSIS



PROPOSED CONDITION  
25-YEAR

\*\*\*\*\*  
RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE  
(Reference: 1986 SAN BERNARDINO CO. HYDROLOGY CRITERION)  
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Ver. 23.0 Release Date: 07/01/2016 License ID 1435

Analysis prepared by:

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\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* TEI JOB NUMBER 3857 \*  
\* PROPOSED CONDITIONS \*  
\* 25-YEAR STORM EVENT \*  
\*\*\*\*\*

FILE NAME: W:\3857\P10025.DAT  
TIME/DATE OF STUDY: 09:28 12/27/2021

===== USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION: =====  
--\*TIME-OF-CONCENTRATION MODEL\*--

USER SPECIFIED STORM EVENT(YEAR) = 25.00  
SPECIFIED MINIMUM PIPE SIZE(INCH) = 12.00  
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95  
\*USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL\*

SLOPE OF INTENSITY DURATION CURVE(LOG(I;IN/HR) vs. LOG(Tc;MIN)) = 0.6000  
USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 0.8000

\*ANTECEDENT MOISTURE CONDITION (AMC) II ASSUMED FOR RATIONAL METHOD\*

\*USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL\*

NO.	WIDTH (FT)	CROSSFALL (FT)	IN- / SIDE	OUT- / SIDE/ WAY	HEIGHT (FT)	WIDTH (FT)	LIP (FT)	HIKE (FT)	FACTOR (n)
1	30.0	20.0	0.018/0.018	0.020	0.67	2.00	0.0313	0.167	0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:  
1. Relative Flow-Depth = 0.00 FEET  
as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)  
2. (Depth)\*(Velocity) Constraint = 6.0 (FT\*FT/S)  
\*SIZE PIPE WITH A FLOW CAPACITY GREATER THAN  
OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.\*  
\*USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

\*\*\*\*\*  
FLOW PROCESS FROM NODE 100.00 TO NODE 101.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<<  
>>>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

===== INITIAL SUBAREA FLOW-LENGTH(FEET) = 214.00  
ELEVATION DATA: UPSTREAM(FEET) = 667.20 DOWNSTREAM(FEET) = 665.48

Tc = K\*[(LENGTH\*\* 3.00)/(ELEVATION CHANGE)]\*\*0.20  
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 6.824  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.948  
SUBAREA Tc AND LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN	Tc (MIN.)
COMMERCIAL	B	0.90	0.75	0.100	56	6.82

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA RUNOFF(CFS) = 2.33  
TOTAL AREA(ACRES) = 0.90 PEAK FLOW RATE(CFS) = 2.33

\*\*\*\*\*  
FLOW PROCESS FROM NODE 101.00 TO NODE 111.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<

===== ELEVATION DATA: UPSTREAM(FEET) = 661.48 DOWNSTREAM(FEET) = 658.20  
FLOW LENGTH(FEET) = 656.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 12.0 INCH PIPE IS 8.7 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 3.82



ESTIMATED PIPE DIAMETER(INCH) = 12.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 2.33  
 PIPE TRAVEL TIME(MIN.) = 2.86 Tc(MIN.) = 9.68  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 111.00 = 870.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 111.00 TO NODE 111.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:  
 TIME OF CONCENTRATION(MIN.) = 9.68  
 RAINFALL INTENSITY(INCH/HR) = 2.39  
 AREA-AVERAGED Fm(INCH/HR) = 0.07  
 AREA-AVERAGED Fp(INCH/HR) = 0.75  
 AREA-AVERAGED Ap = 0.10  
 EFFECTIVE STREAM AREA(ACRES) = 0.90  
 TOTAL STREAM AREA(ACRES) = 0.90  
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 2.33

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 110.00 TO NODE 111.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<  
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

=====

INITIAL SUBAREA FLOW-LENGTH(FEET) = 138.00  
 ELEVATION DATA: UPSTREAM(FEET) = 663.87 DOWNSTREAM(FEET) = 663.18

Tc = K\*[(LENGTH\*\* 3.00)/(ELEVATION CHANGE)]\*\*0.20  
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 6.296  
 \* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 3.094  
 SUBAREA Tc AND LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN	Tc (MIN.)
COMMERCIAL	B	2.65	0.75	0.100	56	6.30

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
 SUBAREA RUNOFF(CFS) = 7.20  
 TOTAL AREA(ACRES) = 2.65 PEAK FLOW RATE(CFS) = 7.20

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 111.00 TO NODE 111.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<  
 >>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:  
 TIME OF CONCENTRATION(MIN.) = 6.30  
 RAINFALL INTENSITY(INCH/HR) = 3.09  
 AREA-AVERAGED Fm(INCH/HR) = 0.07  
 AREA-AVERAGED Fp(INCH/HR) = 0.75  
 AREA-AVERAGED Ap = 0.10  
 EFFECTIVE STREAM AREA(ACRES) = 2.65  
 TOTAL STREAM AREA(ACRES) = 2.65  
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 7.20

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	2.33	9.68	2.390	0.75( 0.07)	0.10	0.9	100.00
2	7.20	6.30	3.094	0.75( 0.07)	0.10	2.7	110.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
 CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	9.18	6.30	3.094	0.75( 0.07)	0.10	3.2	110.00
2	7.85	9.68	2.390	0.75( 0.07)	0.10	3.6	100.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:  
 PEAK FLOW RATE(CFS) = 9.18 Tc(MIN.) = 6.30  
 EFFECTIVE AREA(ACRES) = 3.24 AREA-AVERAGED Fm(INCH/HR) = 0.07  
 AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
 TOTAL AREA(ACRES) = 3.6  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 111.00 = 870.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 111.00 TO NODE 112.00 IS CODE = 31

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-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
-----
ELEVATION DATA: UPSTREAM(FEET) = 658.20 DOWNSTREAM(FEET) = 657.54
FLOW LENGTH(FEET) = 132.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 21.0 INCH PIPE IS 13.9 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.43
ESTIMATED PIPE DIAMETER(INCH) = 21.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 9.18
PIPE TRAVEL TIME(MIN.) = 0.40 Tc(MIN.) = 6.70
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 112.00 = 1002.00 FEET.

*****
FLOW PROCESS FROM NODE 112.00 TO NODE 112.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
-----
MAINLINE Tc(MIN.) = 6.70
* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.981
SUBAREA LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL B 0.70 0.75 0.100 56
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA AREA(ACRES) = 0.70 SUBAREA RUNOFF(CFS) = 1.83
EFFECTIVE AREA(ACRES) = 3.94 AREA-AVERAGED Fm(INCH/HR) = 0.07
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10
TOTAL AREA(ACRES) = 4.2 PEAK FLOW RATE(CFS) = 10.29

*****
FLOW PROCESS FROM NODE 112.00 TO NODE 122.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
-----
ELEVATION DATA: UPSTREAM(FEET) = 656.70 DOWNSTREAM(FEET) = 655.98
FLOW LENGTH(FEET) = 246.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 24.0 INCH PIPE IS 16.2 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.57
ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 10.29
PIPE TRAVEL TIME(MIN.) = 0.90 Tc(MIN.) = 7.60
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 122.00 = 1248.00 FEET.

*****
FLOW PROCESS FROM NODE 122.00 TO NODE 122.00 IS CODE = 1
-----
>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
-----
TOTAL NUMBER OF STREAMS = 2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:
TIME OF CONCENTRATION(MIN.) = 7.60
RAINFALL INTENSITY(INCH/HR) = 2.76
AREA-AVERAGED Fm(INCH/HR) = 0.07
AREA-AVERAGED Fp(INCH/HR) = 0.75
AREA-AVERAGED Ap = 0.10
EFFECTIVE STREAM AREA(ACRES) = 3.94
TOTAL STREAM AREA(ACRES) = 4.25
PEAK FLOW RATE(CFS) AT CONFLUENCE = 10.29

*****
FLOW PROCESS FROM NODE 120.00 TO NODE 121.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
>>>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
-----
INITIAL SUBAREA FLOW-LENGTH(FEET) = 526.00
ELEVATION DATA: UPSTREAM(FEET) = 668.05 DOWNSTREAM(FEET) = 661.69

Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 9.011
* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.495
SUBAREA Tc AND LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS Tc
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)
COMMERCIAL B 3.40 0.75 0.100 56 9.01
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA RUNOFF(CFS) = 7.41
TOTAL AREA(ACRES) = 3.40 PEAK FLOW RATE(CFS) = 7.41

```

```

*****
FLOW PROCESS FROM NODE 121.00 TO NODE 122.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 656.50 DOWNSTREAM(FEET) = 655.98
FLOW LENGTH(FEET) = 10.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 12.0 INCH PIPE IS 8.6 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 12.30
ESTIMATED PIPE DIAMETER(INCH) = 12.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 7.41
PIPE TRAVEL TIME(MIN.) = 0.01 Tc(MIN.) = 9.02
LONGEST FLOWPATH FROM NODE 120.00 TO NODE 122.00 = 536.00 FEET.

```

```

*****
FLOW PROCESS FROM NODE 122.00 TO NODE 122.00 IS CODE = 1
-----
>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<
>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<
=====
TOTAL NUMBER OF STREAMS = 2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:
TIME OF CONCENTRATION(MIN.) = 9.02
RAINFALL INTENSITY(INCH/HR) = 2.49
AREA-AVERAGED Fm(INCH/HR) = 0.07
AREA-AVERAGED Fp(INCH/HR) = 0.75
AREA-AVERAGED Ap = 0.10
EFFECTIVE STREAM AREA(ACRES) = 3.40
TOTAL STREAM AREA(ACRES) = 3.40
PEAK FLOW RATE(CFS) AT CONFLUENCE = 7.41

```

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	10.29	7.60	2.764	0.75( 0.07)	0.10	3.9	110.00
1	8.63	11.06	2.207	0.75( 0.07)	0.10	4.2	100.00
2	7.41	9.02	2.493	0.75( 0.07)	0.10	3.4	120.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	17.23	7.60	2.764	0.75( 0.07)	0.10	6.8	110.00
2	17.01	9.02	2.493	0.75( 0.07)	0.10	7.5	120.00
3	15.16	11.06	2.207	0.75( 0.07)	0.10	7.7	100.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:  
PEAK FLOW RATE(CFS) = 17.23 Tc(MIN.) = 7.60  
EFFECTIVE AREA(ACRES) = 6.80 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 7.7  
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 122.00 = 1248.00 FEET.

```

*****
FLOW PROCESS FROM NODE 122.00 TO NODE 123.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 655.98 DOWNSTREAM(FEET) = 655.47
FLOW LENGTH(FEET) = 105.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 27.0 INCH PIPE IS 17.5 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.30
ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 17.23
PIPE TRAVEL TIME(MIN.) = 0.28 Tc(MIN.) = 7.88
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 123.00 = 1353.00 FEET.

```

```

*****
FLOW PROCESS FROM NODE 123.00 TO NODE 123.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<
=====
MAINLINE Tc(MIN.) = 7.88
* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.705
SUBAREA LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL B 0.75 0.75 0.100 56
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75

```

SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 0.75 SUBAREA RUNOFF(CFS) = 1.78  
EFFECTIVE AREA(ACRES) = 7.55 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 8.4 PEAK FLOW RATE(CFS) = 17.87

\*\*\*\*\*  
FLOW PROCESS FROM NODE 123.00 TO NODE 132.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 654.74 DOWNSTREAM(FEET) = 654.00  
FLOW LENGTH(FEET) = 149.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 27.0 INCH PIPE IS 17.9 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.41  
ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 17.87  
PIPE TRAVEL TIME(MIN.) = 0.39 Tc(MIN.) = 8.26  
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 132.00 = 1502.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:  
TIME OF CONCENTRATION(MIN.) = 8.26  
RAINFALL INTENSITY(INCH/HR) = 2.63  
AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75  
AREA-AVERAGED Ap = 0.10  
EFFECTIVE STREAM AREA(ACRES) = 7.55  
TOTAL STREAM AREA(ACRES) = 8.40  
PEAK FLOW RATE(CFS) AT CONFLUENCE = 17.87

\*\*\*\*\*  
FLOW PROCESS FROM NODE 130.00 TO NODE 131.00 IS CODE = 21  
-----

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<  
>>>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

=====

INITIAL SUBAREA FLOW-LENGTH(FEET) = 546.00  
ELEVATION DATA: UPSTREAM(FEET) = 667.07 DOWNSTREAM(FEET) = 659.91

$T_c = K * [(LENGTH * 3.00) / (ELEVATION CHANGE)] * 0.20$   
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 8.999  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.497  
SUBAREA Tc AND LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN	Tc (MIN.)
COMMERCIAL	B	2.70	0.75	0.100	56	9.00

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA RUNOFF(CFS) = 5.89  
TOTAL AREA(ACRES) = 2.70 PEAK FLOW RATE(CFS) = 5.89

\*\*\*\*\*  
FLOW PROCESS FROM NODE 131.00 TO NODE 132.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 654.91 DOWNSTREAM(FEET) = 654.00  
FLOW LENGTH(FEET) = 118.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 15.0 INCH PIPE IS 12.1 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.57  
ESTIMATED PIPE DIAMETER(INCH) = 15.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 5.89  
PIPE TRAVEL TIME(MIN.) = 0.35 Tc(MIN.) = 9.35  
LONGEST FLOWPATH FROM NODE 130.00 TO NODE 132.00 = 664.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<  
>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:  
TIME OF CONCENTRATION(MIN.) = 9.35  
RAINFALL INTENSITY(INCH/HR) = 2.44

AREA-AVERAGED Fm(INCH/HR) = 0.07  
 AREA-AVERAGED Fp(INCH/HR) = 0.75  
 AREA-AVERAGED Ap = 0.10  
 EFFECTIVE STREAM AREA(ACRES) = 2.70  
 TOTAL STREAM AREA(ACRES) = 2.70  
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 5.89

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	17.87	8.26	2.628	0.75( 0.07)	0.10	7.5	110.00
1	17.55	9.69	2.389	0.75( 0.07)	0.10	8.2	120.00
1	15.86	11.76	2.127	0.75( 0.07)	0.10	8.4	100.00
2	5.89	9.35	2.440	0.75( 0.07)	0.10	2.7	130.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
 CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	23.48	8.26	2.628	0.75( 0.07)	0.10	9.9	110.00
2	23.51	9.35	2.440	0.75( 0.07)	0.10	10.8	130.00
3	23.30	9.69	2.389	0.75( 0.07)	0.10	10.9	120.00
4	20.97	11.76	2.127	0.75( 0.07)	0.10	11.1	100.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:  
 PEAK FLOW RATE(CFS) = 23.51 Tc(MIN.) = 9.35  
 EFFECTIVE AREA(ACRES) = 10.76 AREA-AVERAGED Fm(INCH/HR) = 0.07  
 AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
 TOTAL AREA(ACRES) = 11.1  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 132.00 = 1502.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 132.00 TO NODE 143.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
 >>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<  
 =====  
 ELEVATION DATA: UPSTREAM(FEET) = 653.41 DOWNSTREAM(FEET) = 650.56  
 FLOW LENGTH(FEET) = 182.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 24.0 INCH PIPE IS 16.0 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 10.55  
 ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 23.51  
 PIPE TRAVEL TIME(MIN.) = 0.29 Tc(MIN.) = 9.64  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 143.00 = 1684.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 143.00 TO NODE 143.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<<  
 =====  
 TOTAL NUMBER OF STREAMS = 2  
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:  
 TIME OF CONCENTRATION(MIN.) = 9.64  
 RAINFALL INTENSITY(INCH/HR) = 2.40  
 AREA-AVERAGED Fm(INCH/HR) = 0.07  
 AREA-AVERAGED Fp(INCH/HR) = 0.75  
 AREA-AVERAGED Ap = 0.10  
 EFFECTIVE STREAM AREA(ACRES) = 10.76  
 TOTAL STREAM AREA(ACRES) = 11.10  
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 23.51

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 140.00 TO NODE 141.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<<  
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<  
 =====  
 INITIAL SUBAREA FLOW-LENGTH(FEET) = 233.00  
 ELEVATION DATA: UPSTREAM(FEET) = 662.04 DOWNSTREAM(FEET) = 659.26  
  
 $Tc = K * [(LENGTH ** 3.00) / (ELEVATION CHANGE)] * 0.20$   
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 6.523  
 \* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 3.029  
 SUBAREA Tc AND LOSS RATE DATA(AMC II):  
 DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS Tc  
 LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)  
 COMMERCIAL B 1.55 0.75 0.100 56 6.52  
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
 SUBAREA RUNOFF(CFS) = 4.12

TOTAL AREA(ACRES) = 1.55 PEAK FLOW RATE(CFS) = 4.12

\*\*\*\*\*  
FLOW PROCESS FROM NODE 141.00 TO NODE 142.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 655.26 DOWNSTREAM(FEET) = 653.35  
FLOW LENGTH(FEET) = 381.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 15.0 INCH PIPE IS 10.6 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.43  
ESTIMATED PIPE DIAMETER(INCH) = 15.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 4.12  
PIPE TRAVEL TIME(MIN.) = 1.43 Tc(MIN.) = 7.96  
LONGEST FLOWPATH FROM NODE 140.00 TO NODE 142.00 = 614.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 142.00 TO NODE 142.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

MAINLINE Tc(MIN.) = 7.96  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.688  
SUBAREA LOSS RATE DATA(AMC II):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 1.70 0.75 0.100 56  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 1.70 SUBAREA RUNOFF(CFS) = 4.00  
EFFECTIVE AREA(ACRES) = 3.25 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 3.2 PEAK FLOW RATE(CFS) = 7.64

\*\*\*\*\*  
FLOW PROCESS FROM NODE 142.00 TO NODE 143.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 653.35 DOWNSTREAM(FEET) = 652.33  
FLOW LENGTH(FEET) = 205.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 18.0 INCH PIPE IS 14.4 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.05  
ESTIMATED PIPE DIAMETER(INCH) = 18.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 7.64  
PIPE TRAVEL TIME(MIN.) = 0.68 Tc(MIN.) = 8.63  
LONGEST FLOWPATH FROM NODE 140.00 TO NODE 143.00 = 819.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 143.00 TO NODE 143.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<  
>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<

TOTAL NUMBER OF STREAMS = 2  
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:  
TIME OF CONCENTRATION(MIN.) = 8.63  
RAINFALL INTENSITY(INCH/HR) = 2.56  
AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75  
AREA-AVERAGED Ap = 0.10  
EFFECTIVE STREAM AREA(ACRES) = 3.25  
TOTAL STREAM AREA(ACRES) = 3.25  
PEAK FLOW RATE(CFS) AT CONFLUENCE = 7.64

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	23.48	8.55	2.575	0.75( 0.07)	0.10	9.9	110.00
1	23.51	9.64	2.396	0.75( 0.07)	0.10	10.8	130.00
1	23.30	9.98	2.347	0.75( 0.07)	0.10	10.9	120.00
1	20.97	12.05	2.096	0.75( 0.07)	0.10	11.1	100.00
2	7.64	8.63	2.560	0.75( 0.07)	0.10	3.2	140.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	31.10	8.55	2.575	0.75( 0.07)	0.10	13.2	110.00

2	31.13	8.63	2.560	0.75( 0.07)	0.10	13.2	140.00
3	30.65	9.64	2.396	0.75( 0.07)	0.10	14.0	130.00
4	30.29	9.98	2.347	0.75( 0.07)	0.10	14.2	120.00
5	27.19	12.05	2.096	0.75( 0.07)	0.10	14.3	100.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 31.13 Tc(MIN.) = 8.63  
EFFECTIVE AREA(ACRES) = 13.25 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 14.3  
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 143.00 = 1684.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 143.00 TO NODE 166.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 650.56 DOWNSTREAM(FEET) = 645.71  
FLOW LENGTH(FEET) = 438.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 27.0 INCH PIPE IS 20.1 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 9.80  
ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 31.13  
PIPE TRAVEL TIME(MIN.) = 0.74 Tc(MIN.) = 9.38  
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 166.00 = 2122.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 166.00 TO NODE 166.00 IS CODE = 10  
-----

>>>>MAIN-STREAM MEMORY COPIED ONTO MEMORY BANK # 1 <<<<<

\*\*\*\*\*  
FLOW PROCESS FROM NODE 150.00 TO NODE 151.00 IS CODE = 21  
-----

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<  
>>>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

=====

INITIAL SUBAREA FLOW-LENGTH(FEET) = 294.00  
ELEVATION DATA: UPSTREAM(FEET) = 663.81 DOWNSTREAM(FEET) = 659.38

Tc = K\*[(LENGTH\*\* 3.00)/(ELEVATION CHANGE)]\*\*0.20  
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 6.833  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.946  
SUBAREA Tc AND LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN	Tc (MIN.)
COMMERCIAL	B	1.65	0.75	0.100	56	6.83

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA RUNOFF(CFS) = 4.26  
TOTAL AREA(ACRES) = 1.65 PEAK FLOW RATE(CFS) = 4.26

\*\*\*\*\*  
FLOW PROCESS FROM NODE 151.00 TO NODE 162.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 655.38 DOWNSTREAM(FEET) = 650.01  
FLOW LENGTH(FEET) = 948.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 15.0 INCH PIPE IS 10.4 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.68  
ESTIMATED PIPE DIAMETER(INCH) = 15.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 4.26  
PIPE TRAVEL TIME(MIN.) = 3.38 Tc(MIN.) = 10.21  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 162.00 = 1242.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 162.00 TO NODE 162.00 IS CODE = 1  
-----

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:  
TIME OF CONCENTRATION(MIN.) = 10.21  
RAINFALL INTENSITY(INCH/HR) = 2.32  
AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75  
AREA-AVERAGED Ap = 0.10  
EFFECTIVE STREAM AREA(ACRES) = 1.65  
TOTAL STREAM AREA(ACRES) = 1.65

PEAK FLOW RATE(CFS) AT CONFLUENCE = 4.26

\*\*\*\*\*

FLOW PROCESS FROM NODE 160.00 TO NODE 161.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<  
>>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

=====

INITIAL SUBAREA FLOW-LENGTH(FEET) = 751.00  
ELEVATION DATA: UPSTREAM(FEET) = 661.01 DOWNSTREAM(FEET) = 654.35

$T_c = K * [(LENGTH ** 3.00) / (ELEVATION CHANGE)] ** 0.20$   
SUBAREA ANALYSIS USED MINIMUM  $T_c$ (MIN.) = 11.055  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.207  
SUBAREA  $T_c$  AND LOSS RATE DATA(AMC II):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  $T_c$   
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)  
COMMERCIAL B 3.75 0.75 0.100 56 11.06  
SUBAREA AVERAGE PERVIOUS LOSS RATE,  $F_p$ (INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION,  $A_p$  = 0.100  
SUBAREA RUNOFF(CFS) = 7.20  
TOTAL AREA(ACRES) = 3.75 PEAK FLOW RATE(CFS) = 7.20

\*\*\*\*\*

FLOW PROCESS FROM NODE 161.00 TO NODE 162.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 650.35 DOWNSTREAM(FEET) = 650.01  
FLOW LENGTH(FEET) = 68.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 18.0 INCH PIPE IS 13.6 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.04  
ESTIMATED PIPE DIAMETER(INCH) = 18.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 7.20  
PIPE TRAVEL TIME(MIN.) = 0.23  $T_c$ (MIN.) = 11.28  
LONGEST FLOWPATH FROM NODE 160.00 TO NODE 162.00 = 819.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 162.00 TO NODE 162.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<  
>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:  
TIME OF CONCENTRATION(MIN.) = 11.28  
RAINFALL INTENSITY(INCH/HR) = 2.18  
AREA-AVERAGED  $F_m$ (INCH/HR) = 0.07  
AREA-AVERAGED  $F_p$ (INCH/HR) = 0.75  
AREA-AVERAGED  $A_p$  = 0.10  
EFFECTIVE STREAM AREA(ACRES) = 3.75  
TOTAL STREAM AREA(ACRES) = 3.75  
PEAK FLOW RATE(CFS) AT CONFLUENCE = 7.20

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	$T_c$ (MIN.)	Intensity (INCH/HR)	$F_p$ ( $F_m$ ) (INCH/HR)	$A_p$	$A_e$ (ACRES)	HEADWATER NODE
1	4.26	10.21	2.315	0.75( 0.07)	0.10	1.6	150.00
2	7.20	11.28	2.181	0.75( 0.07)	0.10	3.8	160.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	$T_c$ (MIN.)	Intensity (INCH/HR)	$F_p$ ( $F_m$ ) (INCH/HR)	$A_p$	$A_e$ (ACRES)	HEADWATER NODE
1	11.19	10.21	2.315	0.75( 0.07)	0.10	5.0	150.00
2	11.20	11.28	2.181	0.75( 0.07)	0.10	5.4	160.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 11.20  $T_c$ (MIN.) = 11.28  
EFFECTIVE AREA(ACRES) = 5.40 AREA-AVERAGED  $F_m$ (INCH/HR) = 0.07  
AREA-AVERAGED  $F_p$ (INCH/HR) = 0.75 AREA-AVERAGED  $A_p$  = 0.10  
TOTAL AREA(ACRES) = 5.4  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 162.00 = 1242.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 162.00 TO NODE 163.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====



ELEVATION DATA: UPSTREAM(FEET) = 650.01 DOWNSTREAM(FEET) = 649.03  
 FLOW LENGTH(FEET) = 263.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 24.0 INCH PIPE IS 15.8 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 5.12  
 ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 11.20  
 PIPE TRAVEL TIME(MIN.) = 0.86 Tc(MIN.) = 12.14  
 LONGEST FLOWPATH FROM NODE 150.00 TO NODE 163.00 = 1505.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 163.00 TO NODE 163.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

\*\*\*\*\*  
 MAINLINE Tc(MIN.) = 12.14  
 \* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.087  
 SUBAREA LOSS RATE DATA(AMC II):  
 DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
 LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
 COMMERCIAL B 1.85 0.75 0.100 56  
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
 SUBAREA AREA(ACRES) = 1.85 SUBAREA RUNOFF(CFS) = 3.35  
 EFFECTIVE AREA(ACRES) = 7.25 AREA-AVERAGED Fm(INCH/HR) = 0.07  
 AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
 TOTAL AREA(ACRES) = 7.2 PEAK FLOW RATE(CFS) = 13.13

\*\* PEAK FLOW RATE TABLE \*\*  

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	13.22	11.07	2.206	0.75( 0.07)	0.10	6.9	150.00
2	13.13	12.14	2.087	0.75( 0.07)	0.10	7.2	160.00

NEW PEAK FLOW DATA ARE:  
 PEAK FLOW RATE(CFS) = 13.22 Tc(MIN.) = 11.07  
 AREA-AVERAGED Fm(INCH/HR) = 0.07 AREA-AVERAGED Fp(INCH/HR) = 0.75  
 AREA-AVERAGED Ap = 0.10 EFFECTIVE AREA(ACRES) = 6.89

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 163.00 TO NODE 164.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
 >>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

\*\*\*\*\*  
 ELEVATION DATA: UPSTREAM(FEET) = 649.03 DOWNSTREAM(FEET) = 648.09  
 FLOW LENGTH(FEET) = 189.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 24.0 INCH PIPE IS 16.0 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 5.94  
 ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 13.22  
 PIPE TRAVEL TIME(MIN.) = 0.53 Tc(MIN.) = 11.60  
 LONGEST FLOWPATH FROM NODE 150.00 TO NODE 164.00 = 1694.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 164.00 TO NODE 164.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

\*\*\*\*\*  
 MAINLINE Tc(MIN.) = 11.60  
 \* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.145  
 SUBAREA LOSS RATE DATA(AMC II):  
 DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
 LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
 COMMERCIAL B 1.90 0.75 0.100 56  
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
 SUBAREA AREA(ACRES) = 1.90 SUBAREA RUNOFF(CFS) = 3.54  
 EFFECTIVE AREA(ACRES) = 8.79 AREA-AVERAGED Fm(INCH/HR) = 0.07  
 AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
 TOTAL AREA(ACRES) = 9.1 PEAK FLOW RATE(CFS) = 16.38

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 164.00 TO NODE 165.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
 >>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

\*\*\*\*\*  
 ELEVATION DATA: UPSTREAM(FEET) = 648.09 DOWNSTREAM(FEET) = 647.13  
 FLOW LENGTH(FEET) = 192.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 24.0 INCH PIPE IS 19.0 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 6.13  
 ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 16.38  
 PIPE TRAVEL TIME(MIN.) = 0.52 Tc(MIN.) = 12.12

LONGEST FLOWPATH FROM NODE 150.00 TO NODE 165.00 = 1886.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 165.00 TO NODE 165.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

=====

MAINLINE Tc(MIN.) = 12.12  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.089  
SUBAREA LOSS RATE DATA(AMC II):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 2.85 0.75 0.100 56  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 2.85 SUBAREA RUNOFF(CFS) = 5.17  
EFFECTIVE AREA(ACRES) = 11.64 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 12.0 PEAK FLOW RATE(CFS) = 21.11

\*\*\*\*\*

FLOW PROCESS FROM NODE 165.00 TO NODE 166.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 647.13 DOWNSTREAM(FEET) = 645.71  
FLOW LENGTH(FEET) = 282.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 27.0 INCH PIPE IS 20.2 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.62  
ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 21.11  
PIPE TRAVEL TIME(MIN.) = 0.71 Tc(MIN.) = 12.83  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 166.00 = 2168.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 166.00 TO NODE 166.00 IS CODE = 11

>>>>CONFLUENCE MEMORY BANK # 1 WITH THE MAIN-STREAM MEMORY<<<<<

\*\*\*\*\*

\*\* MAIN STREAM CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	21.11	12.83	2.019	0.75( 0.07)	0.10	11.6	150.00
2	20.63	13.90	1.924	0.75( 0.07)	0.10	12.0	160.00

LONGEST FLOWPATH FROM NODE 150.00 TO NODE 166.00 = 2168.00 FEET.

\*\* MEMORY BANK # 1 CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	31.10	9.29	2.449	0.75( 0.07)	0.10	13.2	110.00
2	31.13	9.38	2.436	0.75( 0.07)	0.10	13.2	140.00
3	30.65	10.39	2.291	0.75( 0.07)	0.10	14.0	130.00
4	30.29	10.73	2.247	0.75( 0.07)	0.10	14.2	120.00
5	27.19	12.81	2.020	0.75( 0.07)	0.10	14.3	100.00

LONGEST FLOWPATH FROM NODE 100.00 TO NODE 166.00 = 2122.00 FEET.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	49.78	9.29	2.449	0.75( 0.07)	0.10	21.6	110.00
2	49.87	9.38	2.436	0.75( 0.07)	0.10	21.8	140.00
3	50.14	10.39	2.291	0.75( 0.07)	0.10	23.4	130.00
4	50.02	10.73	2.247	0.75( 0.07)	0.10	23.9	120.00
5	48.28	12.81	2.020	0.75( 0.07)	0.10	26.0	100.00
6	48.27	12.83	2.019	0.75( 0.07)	0.10	26.0	150.00
7	46.47	13.90	1.924	0.75( 0.07)	0.10	26.3	160.00

TOTAL AREA(ACRES) = 26.3

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 50.14 Tc(MIN.) = 10.386  
EFFECTIVE AREA(ACRES) = 23.43 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 26.3  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 166.00 = 2168.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 166.00 TO NODE 166.00 IS CODE = 12

>>>>CLEAR MEMORY BANK # 1 <<<<<

=====

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*****
FLOW PROCESS FROM NODE 166.00 TO NODE 167.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 645.71 DOWNSTREAM(FEET) = 645.69
FLOW LENGTH(FEET) = 5.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 39.0 INCH PIPE IS 29.2 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 7.54
ESTIMATED PIPE DIAMETER(INCH) = 39.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 50.14
PIPE TRAVEL TIME(MIN.) = 0.01 Tc(MIN.) = 10.40
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 167.00 = 2173.00 FEET.
*****
FLOW PROCESS FROM NODE 167.00 TO NODE 167.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
=====
MAINLINE Tc(MIN.) = 10.40
* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.290
SUBAREA LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL B 0.65 0.75 0.100 56
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA AREA(ACRES) = 0.65 SUBAREA RUNOFF(CFS) = 1.30
EFFECTIVE AREA(ACRES) = 24.08 AREA-AVERAGED Fm(INCH/HR) = 0.07
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10
TOTAL AREA(ACRES) = 27.0 PEAK FLOW RATE(CFS) = 50.14
NOTE: PEAK FLOW RATE DEFAULTED TO UPSTREAM VALUE
*****
FLOW PROCESS FROM NODE 167.00 TO NODE 178.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 645.69 DOWNSTREAM(FEET) = 640.96
FLOW LENGTH(FEET) = 208.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 30.0 INCH PIPE IS 19.7 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 14.67
ESTIMATED PIPE DIAMETER(INCH) = 30.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 50.14
PIPE TRAVEL TIME(MIN.) = 0.24 Tc(MIN.) = 10.63
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 178.00 = 2381.00 FEET.
*****
FLOW PROCESS FROM NODE 178.00 TO NODE 178.00 IS CODE = 1
-----
>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
=====
TOTAL NUMBER OF STREAMS = 2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:
TIME OF CONCENTRATION(MIN.) = 10.63
RAINFALL INTENSITY(INCH/HR) = 2.26
AREA-AVERAGED Fm(INCH/HR) = 0.07
AREA-AVERAGED Fp(INCH/HR) = 0.75
AREA-AVERAGED Ap = 0.10
EFFECTIVE STREAM AREA(ACRES) = 24.08
TOTAL STREAM AREA(ACRES) = 27.00
PEAK FLOW RATE(CFS) AT CONFLUENCE = 50.14
*****
FLOW PROCESS FROM NODE 170.00 TO NODE 171.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
=====
INITIAL SUBAREA FLOW-LENGTH(FEET) = 313.00
ELEVATION DATA: UPSTREAM(FEET) = 657.34 DOWNSTREAM(FEET) = 649.63

Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 6.350
* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 3.078
SUBAREA Tc AND LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS Tc
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)
COMMERCIAL B 2.70 0.75 0.100 56 6.35
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100

```

SUBAREA RUNOFF(CFS) = 7.30  
TOTAL AREA(ACRES) = 2.70 PEAK FLOW RATE(CFS) = 7.30

\*\*\*\*\*  
FLOW PROCESS FROM NODE 171.00 TO NODE 172.00 IS CODE = 31

-----  
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

-----  
ELEVATION DATA: UPSTREAM(FEET) = 645.63 DOWNSTREAM(FEET) = 645.47  
FLOW LENGTH(FEET) = 61.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 21.0 INCH PIPE IS 14.9 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.00  
ESTIMATED PIPE DIAMETER(INCH) = 21.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 7.30  
PIPE TRAVEL TIME(MIN.) = 0.25 Tc(MIN.) = 6.60  
LONGEST FLOWPATH FROM NODE 170.00 TO NODE 172.00 = 374.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 172.00 TO NODE 172.00 IS CODE = 81

-----  
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

-----  
MAINLINE Tc(MIN.) = 6.60  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 3.007  
SUBAREA LOSS RATE DATA(AMC II):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 1.05 0.75 0.100 56  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 1.05 SUBAREA RUNOFF(CFS) = 2.77  
EFFECTIVE AREA(ACRES) = 3.75 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 3.8 PEAK FLOW RATE(CFS) = 9.90

\*\*\*\*\*  
FLOW PROCESS FROM NODE 172.00 TO NODE 173.00 IS CODE = 31

-----  
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

-----  
ELEVATION DATA: UPSTREAM(FEET) = 645.47 DOWNSTREAM(FEET) = 644.79  
FLOW LENGTH(FEET) = 136.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 21.0 INCH PIPE IS 14.7 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.51  
ESTIMATED PIPE DIAMETER(INCH) = 21.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 9.90  
PIPE TRAVEL TIME(MIN.) = 0.41 Tc(MIN.) = 7.02  
LONGEST FLOWPATH FROM NODE 170.00 TO NODE 173.00 = 510.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 173.00 TO NODE 173.00 IS CODE = 81

-----  
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

-----  
MAINLINE Tc(MIN.) = 7.02  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.900  
SUBAREA LOSS RATE DATA(AMC II):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 1.30 0.75 0.100 56  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 1.30 SUBAREA RUNOFF(CFS) = 3.31  
EFFECTIVE AREA(ACRES) = 5.05 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 5.1 PEAK FLOW RATE(CFS) = 12.84

\*\*\*\*\*  
FLOW PROCESS FROM NODE 173.00 TO NODE 174.00 IS CODE = 31

-----  
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

-----  
ELEVATION DATA: UPSTREAM(FEET) = 644.79 DOWNSTREAM(FEET) = 644.07  
FLOW LENGTH(FEET) = 142.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 24.0 INCH PIPE IS 15.6 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.95  
ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 12.84  
PIPE TRAVEL TIME(MIN.) = 0.40 Tc(MIN.) = 7.41  
LONGEST FLOWPATH FROM NODE 170.00 TO NODE 174.00 = 652.00 FEET.

```

*****
FLOW PROCESS FROM NODE 174.00 TO NODE 174.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<
=====
MAINLINE Tc(MIN.) = 7.41
* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.805
SUBAREA LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/   SCS SOIL  AREA    Fp      Ap    SCS
LAND USE            GROUP  (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL          B      1.30    0.75    0.100  56
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA AREA(ACRES) = 1.30    SUBAREA RUNOFF(CFS) = 3.19
EFFECTIVE AREA(ACRES) = 6.35  AREA-AVERAGED Fm(INCH/HR) = 0.07
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10
TOTAL AREA(ACRES) = 6.4    PEAK FLOW RATE(CFS) = 15.60
*****
FLOW PROCESS FROM NODE 174.00 TO NODE 175.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 644.07 DOWNSTREAM(FEET) = 643.37
FLOW LENGTH(FEET) = 140.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 24.0 INCH PIPE IS 18.2 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.11
ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 15.60
PIPE TRAVEL TIME(MIN.) = 0.38 Tc(MIN.) = 7.80
LONGEST FLOWPATH FROM NODE 170.00 TO NODE 175.00 = 792.00 FEET.
*****
FLOW PROCESS FROM NODE 175.00 TO NODE 175.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<
=====
MAINLINE Tc(MIN.) = 7.80
* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.722
SUBAREA LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/   SCS SOIL  AREA    Fp      Ap    SCS
LAND USE            GROUP  (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL          B      2.00    0.75    0.100  56
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA AREA(ACRES) = 2.00    SUBAREA RUNOFF(CFS) = 4.76
EFFECTIVE AREA(ACRES) = 8.35  AREA-AVERAGED Fm(INCH/HR) = 0.07
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10
TOTAL AREA(ACRES) = 8.4    PEAK FLOW RATE(CFS) = 19.89
*****
FLOW PROCESS FROM NODE 175.00 TO NODE 176.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 643.37 DOWNSTREAM(FEET) = 642.67
FLOW LENGTH(FEET) = 140.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 27.0 INCH PIPE IS 19.3 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.54
ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 19.89
PIPE TRAVEL TIME(MIN.) = 0.36 Tc(MIN.) = 8.15
LONGEST FLOWPATH FROM NODE 170.00 TO NODE 176.00 = 932.00 FEET.
*****
FLOW PROCESS FROM NODE 176.00 TO NODE 176.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<
=====
MAINLINE Tc(MIN.) = 8.15
* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.650
SUBAREA LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/   SCS SOIL  AREA    Fp      Ap    SCS
LAND USE            GROUP  (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL          B      1.30    0.75    0.100  56
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA AREA(ACRES) = 1.30    SUBAREA RUNOFF(CFS) = 3.01
EFFECTIVE AREA(ACRES) = 9.65  AREA-AVERAGED Fm(INCH/HR) = 0.07
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10

```

TOTAL AREA(ACRES) = 9.7 PEAK FLOW RATE(CFS) = 22.36

\*\*\*\*\*  
FLOW PROCESS FROM NODE 176.00 TO NODE 177.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====
ELEVATION DATA: UPSTREAM(FEET) = 642.67 DOWNSTREAM(FEET) = 641.96
FLOW LENGTH(FEET) = 142.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 27.0 INCH PIPE IS 21.4 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.63
ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 22.36
PIPE TRAVEL TIME(MIN.) = 0.36 Tc(MIN.) = 8.51
LONGEST FLOWPATH FROM NODE 170.00 TO NODE 177.00 = 1074.00 FEET.

\*\*\*\*\*
FLOW PROCESS FROM NODE 177.00 TO NODE 177.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

=====
MAINLINE Tc(MIN.) = 8.51
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.583
SUBAREA LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL B 2.55 0.75 0.100 56
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA AREA(ACRES) = 2.55 SUBAREA RUNOFF(CFS) = 5.76
EFFECTIVE AREA(ACRES) = 12.20 AREA-AVERAGED Fm(INCH/HR) = 0.07
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10
TOTAL AREA(ACRES) = 12.2 PEAK FLOW RATE(CFS) = 27.54

\*\*\*\*\*
FLOW PROCESS FROM NODE 177.00 TO NODE 178.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====
ELEVATION DATA: UPSTREAM(FEET) = 641.96 DOWNSTREAM(FEET) = 640.96
FLOW LENGTH(FEET) = 201.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 30.0 INCH PIPE IS 22.3 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 7.05
ESTIMATED PIPE DIAMETER(INCH) = 30.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 27.54
PIPE TRAVEL TIME(MIN.) = 0.48 Tc(MIN.) = 8.98
LONGEST FLOWPATH FROM NODE 170.00 TO NODE 178.00 = 1275.00 FEET.

\*\*\*\*\*
FLOW PROCESS FROM NODE 178.00 TO NODE 178.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<

=====
TOTAL NUMBER OF STREAMS = 2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:
TIME OF CONCENTRATION(MIN.) = 8.98
RAINFALL INTENSITY(INCH/HR) = 2.50
AREA-AVERAGED Fm(INCH/HR) = 0.07
AREA-AVERAGED Fp(INCH/HR) = 0.75
AREA-AVERAGED Ap = 0.10
EFFECTIVE STREAM AREA(ACRES) = 12.20
TOTAL STREAM AREA(ACRES) = 12.20
PEAK FLOW RATE(CFS) AT CONFLUENCE = 27.54

\*\* CONFLUENCE DATA \*\*

Table with 8 columns: STREAM NUMBER, Q (CFS), Tc (MIN.), Intensity (INCH/HR), Fp(Fm) (INCH/HR), Ap, Ae (ACRES), HEADWATER NODE. It lists 12 rows of data for two streams.

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	76.18	8.98	2.500	0.75( 0.07)	0.10	33.1	170.00
2	76.31	9.54	2.411	0.75( 0.07)	0.10	34.4	110.00
3	76.26	9.63	2.398	0.75( 0.07)	0.10	34.6	140.00
4	74.94	10.63	2.259	0.75( 0.07)	0.10	36.3	130.00
5	74.34	10.97	2.217	0.75( 0.07)	0.10	36.8	120.00
6	70.10	13.07	1.997	0.75( 0.07)	0.10	38.8	100.00
7	70.07	13.08	1.995	0.75( 0.07)	0.10	38.8	150.00
8	67.22	14.16	1.903	0.75( 0.07)	0.10	39.2	160.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 76.31 Tc(MIN.) = 9.54  
EFFECTIVE AREA(ACRES) = 34.44 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 39.2  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 178.00 = 2381.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 178.00 TO NODE 179.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 640.96 DOWNSTREAM(FEET) = 639.75  
FLOW LENGTH(FEET) = 242.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 45.0 INCH PIPE IS 31.7 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 9.17  
ESTIMATED PIPE DIAMETER(INCH) = 45.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 76.31  
PIPE TRAVEL TIME(MIN.) = 0.44 Tc(MIN.) = 9.98  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 179.00 = 2623.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 179.00 TO NODE 179.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<<

=====

MAINLINE Tc(MIN.) = 9.98  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.347  
SUBAREA LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
COMMERCIAL	B	0.65	0.75	0.100	56

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 0.65 SUBAREA RUNOFF(CFS) = 1.33  
EFFECTIVE AREA(ACRES) = 35.09 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 39.8 PEAK FLOW RATE(CFS) = 76.31  
NOTE: PEAK FLOW RATE DEFAULTED TO UPSTREAM VALUE

\*\*\*\*\*  
FLOW PROCESS FROM NODE 179.00 TO NODE 185.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 639.75 DOWNSTREAM(FEET) = 637.62  
FLOW LENGTH(FEET) = 426.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 45.0 INCH PIPE IS 31.7 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 9.17  
ESTIMATED PIPE DIAMETER(INCH) = 45.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 76.31  
PIPE TRAVEL TIME(MIN.) = 0.77 Tc(MIN.) = 10.76  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 185.00 = 3049.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 185.00 TO NODE 185.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:  
TIME OF CONCENTRATION(MIN.) = 10.76  
RAINFALL INTENSITY(INCH/HR) = 2.24  
AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75  
AREA-AVERAGED Ap = 0.10  
EFFECTIVE STREAM AREA(ACRES) = 35.09  
TOTAL STREAM AREA(ACRES) = 39.85  
PEAK FLOW RATE(CFS) AT CONFLUENCE = 76.31

```

*****
FLOW PROCESS FROM NODE 180.00 TO NODE 181.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
=====
INITIAL SUBAREA FLOW-LENGTH(FEET) = 662.00
ELEVATION DATA: UPSTREAM(FEET) = 653.86 DOWNSTREAM(FEET) = 647.02

Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 10.195
* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.317
SUBAREA Tc AND LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS Tc
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)
COMMERCIAL B 3.50 0.75 0.100 56 10.19
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA RUNOFF(CFS) = 7.06
TOTAL AREA(ACRES) = 3.50 PEAK FLOW RATE(CFS) = 7.06

*****
FLOW PROCESS FROM NODE 181.00 TO NODE 182.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 643.02 DOWNSTREAM(FEET) = 641.58
FLOW LENGTH(FEET) = 287.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 18.0 INCH PIPE IS 13.3 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.04
ESTIMATED PIPE DIAMETER(INCH) = 18.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 7.06
PIPE TRAVEL TIME(MIN.) = 0.95 Tc(MIN.) = 11.14
LONGEST FLOWPATH FROM NODE 180.00 TO NODE 182.00 = 949.00 FEET.

*****
FLOW PROCESS FROM NODE 182.00 TO NODE 182.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
=====
MAINLINE Tc(MIN.) = 11.14
* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.197
SUBAREA LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL B 2.00 0.75 0.100 56
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA AREA(ACRES) = 2.00 SUBAREA RUNOFF(CFS) = 3.82
EFFECTIVE AREA(ACRES) = 5.50 AREA-AVERAGED Fm(INCH/HR) = 0.07
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10
TOTAL AREA(ACRES) = 5.5 PEAK FLOW RATE(CFS) = 10.50

*****
FLOW PROCESS FROM NODE 182.00 TO NODE 183.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 641.58 DOWNSTREAM(FEET) = 640.63
FLOW LENGTH(FEET) = 189.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 21.0 INCH PIPE IS 15.4 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.57
ESTIMATED PIPE DIAMETER(INCH) = 21.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 10.50
PIPE TRAVEL TIME(MIN.) = 0.57 Tc(MIN.) = 11.71
LONGEST FLOWPATH FROM NODE 180.00 TO NODE 183.00 = 1138.00 FEET.

*****
FLOW PROCESS FROM NODE 183.00 TO NODE 183.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
=====
MAINLINE Tc(MIN.) = 11.71
* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.132
SUBAREA LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL B 2.00 0.75 0.100 56
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA AREA(ACRES) = 2.00 SUBAREA RUNOFF(CFS) = 3.70

```



EFFECTIVE AREA(ACRES) = 7.50 AREA-AVERAGED Fm(INCH/HR) = 0.07  
 AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
 TOTAL AREA(ACRES) = 7.5 PEAK FLOW RATE(CFS) = 13.89

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 183.00 TO NODE 184.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
 >>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 640.63 DOWNSTREAM(FEET) = 639.69  
 FLOW LENGTH(FEET) = 189.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 24.0 INCH PIPE IS 16.6 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 5.99  
 ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 13.89  
 PIPE TRAVEL TIME(MIN.) = 0.53 Tc(MIN.) = 12.24  
 LONGEST FLOWPATH FROM NODE 180.00 TO NODE 184.00 = 1327.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 184.00 TO NODE 184.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

=====

MAINLINE Tc(MIN.) = 12.24  
 \* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.077  
 SUBAREA LOSS RATE DATA(AMC II):  
 DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
 LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
 COMMERCIAL B 2.75 0.75 0.100 56  
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
 SUBAREA AREA(ACRES) = 2.75 SUBAREA RUNOFF(CFS) = 4.96  
 EFFECTIVE AREA(ACRES) = 10.25 AREA-AVERAGED Fm(INCH/HR) = 0.07  
 AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
 TOTAL AREA(ACRES) = 10.2 PEAK FLOW RATE(CFS) = 18.47

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 184.00 TO NODE 185.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
 >>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 639.69 DOWNSTREAM(FEET) = 637.62  
 FLOW LENGTH(FEET) = 245.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 24.0 INCH PIPE IS 16.8 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 7.84  
 ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 18.47  
 PIPE TRAVEL TIME(MIN.) = 0.52 Tc(MIN.) = 12.76  
 LONGEST FLOWPATH FROM NODE 180.00 TO NODE 185.00 = 1572.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 185.00 TO NODE 185.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<  
 >>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:  
 TIME OF CONCENTRATION(MIN.) = 12.76  
 RAINFALL INTENSITY(INCH/HR) = 2.03  
 AREA-AVERAGED Fm(INCH/HR) = 0.07  
 AREA-AVERAGED Fp(INCH/HR) = 0.75  
 AREA-AVERAGED Ap = 0.10  
 EFFECTIVE STREAM AREA(ACRES) = 10.25  
 TOTAL STREAM AREA(ACRES) = 10.25  
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 18.47

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	76.18	10.20	2.317	0.75( 0.07)	0.10	33.8	170.00
1	76.31	10.76	2.244	0.75( 0.07)	0.10	35.1	110.00
1	76.26	10.84	2.233	0.75( 0.07)	0.10	35.3	140.00
1	74.94	11.88	2.114	0.75( 0.07)	0.10	36.9	130.00
1	74.34	12.22	2.078	0.75( 0.07)	0.10	37.4	120.00
1	70.10	14.32	1.890	0.75( 0.07)	0.10	39.5	100.00
1	70.07	14.34	1.888	0.75( 0.07)	0.10	39.5	150.00
1	67.22	15.42	1.808	0.75( 0.07)	0.10	39.8	160.00
2	18.47	12.76	2.026	0.75( 0.07)	0.10	10.2	180.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO

CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	93.15	10.20	2.317	0.75( 0.07)	0.10	42.0	170.00
2	93.62	10.76	2.244	0.75( 0.07)	0.10	43.7	110.00
3	93.62	10.84	2.233	0.75( 0.07)	0.10	44.0	140.00
4	92.92	11.88	2.114	0.75( 0.07)	0.10	46.5	130.00
5	92.52	12.22	2.078	0.75( 0.07)	0.10	47.2	120.00
6	91.74	12.76	2.026	0.75( 0.07)	0.10	48.2	180.00
7	87.29	14.32	1.890	0.75( 0.07)	0.10	49.7	100.00
8	87.24	14.34	1.888	0.75( 0.07)	0.10	49.7	150.00
9	83.63	15.42	1.808	0.75( 0.07)	0.10	50.1	160.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 93.62 Tc(MIN.) = 10.84  
EFFECTIVE AREA(ACRES) = 43.97 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 50.1  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 185.00 = 3049.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 185.00 TO NODE 186.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<  
-----  
ELEVATION DATA: UPSTREAM(FEET) = 637.62 DOWNSTREAM(FEET) = 637.59  
FLOW LENGTH(FEET) = 5.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 45.0 INCH PIPE IS 34.9 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 10.19  
ESTIMATED PIPE DIAMETER(INCH) = 45.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 93.62  
PIPE TRAVEL TIME(MIN.) = 0.01 Tc(MIN.) = 10.85  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 186.00 = 3054.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 186.00 TO NODE 186.00 IS CODE = 81  
-----

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<  
-----  
MAINLINE Tc(MIN.) = 10.85  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.232  
SUBAREA LOSS RATE DATA(AMC II):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 0.85 0.75 0.100 56  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 0.85 SUBAREA RUNOFF(CFS) = 1.65  
EFFECTIVE AREA(ACRES) = 44.82 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 50.9 PEAK FLOW RATE(CFS) = 93.62  
NOTE: PEAK FLOW RATE DEFAULTED TO UPSTREAM VALUE

\*\*\*\*\*  
FLOW PROCESS FROM NODE 186.00 TO NODE 208.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<  
-----  
ELEVATION DATA: UPSTREAM(FEET) = 637.59 DOWNSTREAM(FEET) = 637.40  
FLOW LENGTH(FEET) = 203.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 63.0 INCH PIPE IS 50.4 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.05  
ESTIMATED PIPE DIAMETER(INCH) = 63.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 93.62  
PIPE TRAVEL TIME(MIN.) = 0.67 Tc(MIN.) = 11.52  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 208.00 = 3257.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 208.00 TO NODE 208.00 IS CODE = 10  
-----

>>>>MAIN-STREAM MEMORY COPIED ONTO MEMORY BANK # 1 <<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 190.00 TO NODE 191.00 IS CODE = 21  
-----

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<  
>>>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<  
-----

INITIAL SUBAREA FLOW-LENGTH(FEET) = 238.00  
ELEVATION DATA: UPSTREAM(FEET) = 646.51 DOWNSTREAM(FEET) = 643.85

Tc = K\*[(LENGTH\*\* 3.00)/(ELEVATION CHANGE)]\*\*0.20  
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 6.666  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.990  
SUBAREA Tc AND LOSS RATE DATA(AMC II):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS Tc  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)  
COMMERCIAL B 1.30 0.75 0.100 56 6.67  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA RUNOFF(CFS) = 3.41  
TOTAL AREA(ACRES) = 1.30 PEAK FLOW RATE(CFS) = 3.41

\*\*\*\*\*  
FLOW PROCESS FROM NODE 191.00 TO NODE 192.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 639.85 DOWNSTREAM(FEET) = 638.26  
FLOW LENGTH(FEET) = 317.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 15.0 INCH PIPE IS 9.3 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.27  
ESTIMATED PIPE DIAMETER(INCH) = 15.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 3.41  
PIPE TRAVEL TIME(MIN.) = 1.24 Tc(MIN.) = 7.90  
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 192.00 = 555.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 192.00 TO NODE 192.00 IS CODE = 81  
-----

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

=====

MAINLINE Tc(MIN.) = 7.90  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.699  
SUBAREA LOSS RATE DATA(AMC II):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 0.30 0.75 0.100 56  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 0.30 SUBAREA RUNOFF(CFS) = 0.71  
EFFECTIVE AREA(ACRES) = 1.60 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 1.6 PEAK FLOW RATE(CFS) = 3.78

\*\*\*\*\*  
FLOW PROCESS FROM NODE 192.00 TO NODE 193.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 638.26 DOWNSTREAM(FEET) = 637.21  
FLOW LENGTH(FEET) = 210.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 15.0 INCH PIPE IS 10.0 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.35  
ESTIMATED PIPE DIAMETER(INCH) = 15.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 3.78  
PIPE TRAVEL TIME(MIN.) = 0.80 Tc(MIN.) = 8.71  
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 193.00 = 765.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 193.00 TO NODE 193.00 IS CODE = 81  
-----

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

=====

MAINLINE Tc(MIN.) = 8.71  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.547  
SUBAREA LOSS RATE DATA(AMC II):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 0.45 0.75 0.100 56  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 0.45 SUBAREA RUNOFF(CFS) = 1.00  
EFFECTIVE AREA(ACRES) = 2.05 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 2.0 PEAK FLOW RATE(CFS) = 4.56

\*\*\*\*\*  
FLOW PROCESS FROM NODE 193.00 TO NODE 202.00 IS CODE = 31

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-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
-----
ELEVATION DATA: UPSTREAM(FEET) = 637.21 DOWNSTREAM(FEET) = 635.24
FLOW LENGTH(FEET) = 395.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 15.0 INCH PIPE IS 11.6 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.47
ESTIMATED PIPE DIAMETER(INCH) = 15.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 4.56
PIPE TRAVEL TIME(MIN.) = 1.47 Tc(MIN.) = 10.18
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 202.00 = 1160.00 FEET.

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*****
FLOW PROCESS FROM NODE 202.00 TO NODE 202.00 IS CODE = 1
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>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
-----
TOTAL NUMBER OF STREAMS = 2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:
TIME OF CONCENTRATION(MIN.) = 10.18
RAINFALL INTENSITY(INCH/HR) = 2.32
AREA-AVERAGED Fm(INCH/HR) = 0.07
AREA-AVERAGED Fp(INCH/HR) = 0.75
AREA-AVERAGED Ap = 0.10
EFFECTIVE STREAM AREA(ACRES) = 2.05
TOTAL STREAM AREA(ACRES) = 2.05
PEAK FLOW RATE(CFS) AT CONFLUENCE = 4.56

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*****
FLOW PROCESS FROM NODE 200.00 TO NODE 201.00 IS CODE = 21
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>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
-----
INITIAL SUBAREA FLOW-LENGTH(FEET) = 265.00
ELEVATION DATA: UPSTREAM(FEET) = 649.00 DOWNSTREAM(FEET) = 642.29

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Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 5.908
* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 3.214
SUBAREA Tc AND LOSS RATE DATA(AMC II):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS Tc
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)
COMMERCIAL B 3.10 0.75 0.100 56 5.91
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA RUNOFF(CFS) = 8.76
TOTAL AREA(ACRES) = 3.10 PEAK FLOW RATE(CFS) = 8.76

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*****
FLOW PROCESS FROM NODE 201.00 TO NODE 202.00 IS CODE = 31
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>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
-----
ELEVATION DATA: UPSTREAM(FEET) = 638.29 DOWNSTREAM(FEET) = 635.24
FLOW LENGTH(FEET) = 20.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 12.0 INCH PIPE IS 6.7 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 19.53
ESTIMATED PIPE DIAMETER(INCH) = 12.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 8.76
PIPE TRAVEL TIME(MIN.) = 0.02 Tc(MIN.) = 5.93
LONGEST FLOWPATH FROM NODE 200.00 TO NODE 202.00 = 285.00 FEET.

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*****
FLOW PROCESS FROM NODE 202.00 TO NODE 202.00 IS CODE = 1
-----

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>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
-----
TOTAL NUMBER OF STREAMS = 2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:
TIME OF CONCENTRATION(MIN.) = 5.93
RAINFALL INTENSITY(INCH/HR) = 3.21
AREA-AVERAGED Fm(INCH/HR) = 0.07
AREA-AVERAGED Fp(INCH/HR) = 0.75
AREA-AVERAGED Ap = 0.10
EFFECTIVE STREAM AREA(ACRES) = 3.10
TOTAL STREAM AREA(ACRES) = 3.10
PEAK FLOW RATE(CFS) AT CONFLUENCE = 8.76

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** CONFLUENCE DATA **

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STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	4.56	10.18	2.319	0.75( 0.07)	0.10	2.0	190.00
2	8.76	5.93	3.209	0.75( 0.07)	0.10	3.1	200.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	12.47	5.93	3.209	0.75( 0.07)	0.10	4.3	200.00
2	10.83	10.18	2.319	0.75( 0.07)	0.10	5.1	190.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 12.47 Tc(MIN.) = 5.93  
EFFECTIVE AREA(ACRES) = 4.29 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 5.1  
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 202.00 = 1160.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 202.00 TO NODE 203.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 638.29 DOWNSTREAM(FEET) = 637.48  
FLOW LENGTH(FEET) = 162.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 24.0 INCH PIPE IS 15.3 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.88  
ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 12.47  
PIPE TRAVEL TIME(MIN.) = 0.46 Tc(MIN.) = 6.38  
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 203.00 = 1322.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 203.00 TO NODE 203.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<<

MAINLINE Tc(MIN.) = 6.38  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 3.068  
SUBAREA LOSS RATE DATA(AMC II):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 1.35 0.75 0.100 56  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 1.35 SUBAREA RUNOFF(CFS) = 3.64  
EFFECTIVE AREA(ACRES) = 5.64 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 6.5 PEAK FLOW RATE(CFS) = 15.20

\*\*\*\*\*

FLOW PROCESS FROM NODE 203.00 TO NODE 204.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 637.48 DOWNSTREAM(FEET) = 636.78  
FLOW LENGTH(FEET) = 140.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 24.0 INCH PIPE IS 17.8 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.09  
ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 15.20  
PIPE TRAVEL TIME(MIN.) = 0.38 Tc(MIN.) = 6.77  
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 204.00 = 1462.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 204.00 TO NODE 204.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<<

MAINLINE Tc(MIN.) = 6.77  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.963  
SUBAREA LOSS RATE DATA(AMC II):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 1.30 0.75 0.100 56  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 1.30 SUBAREA RUNOFF(CFS) = 3.38

EFFECTIVE AREA(ACRES) = 6.94 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 7.8 PEAK FLOW RATE(CFS) = 18.05

\*\*\*\*\*  
FLOW PROCESS FROM NODE 204.00 TO NODE 205.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 636.78 DOWNSTREAM(FEET) = 636.07  
FLOW LENGTH(FEET) = 141.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 27.0 INCH PIPE IS 17.9 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.45  
ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 18.05  
PIPE TRAVEL TIME(MIN.) = 0.36 Tc(MIN.) = 7.13  
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 205.00 = 1603.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 205.00 TO NODE 205.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<<

MAINLINE Tc(MIN.) = 7.13  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.871  
SUBAREA LOSS RATE DATA(AMC II):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 1.25 0.75 0.100 56  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 1.25 SUBAREA RUNOFF(CFS) = 3.15  
EFFECTIVE AREA(ACRES) = 8.19 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 9.0 PEAK FLOW RATE(CFS) = 20.62

\*\*\*\*\*  
FLOW PROCESS FROM NODE 205.00 TO NODE 206.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 636.07 DOWNSTREAM(FEET) = 635.37  
FLOW LENGTH(FEET) = 140.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 27.0 INCH PIPE IS 19.9 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.58  
ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 20.62  
PIPE TRAVEL TIME(MIN.) = 0.35 Tc(MIN.) = 7.49  
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 206.00 = 1743.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 206.00 TO NODE 206.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<<

MAINLINE Tc(MIN.) = 7.49  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.789  
SUBAREA LOSS RATE DATA(AMC II):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 1.50 0.75 0.100 56  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 1.50 SUBAREA RUNOFF(CFS) = 3.66  
EFFECTIVE AREA(ACRES) = 9.69 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 10.5 PEAK FLOW RATE(CFS) = 23.68

\*\*\*\*\*  
FLOW PROCESS FROM NODE 206.00 TO NODE 207.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 635.37 DOWNSTREAM(FEET) = 634.65  
FLOW LENGTH(FEET) = 143.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 30.0 INCH PIPE IS 19.7 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.91  
ESTIMATED PIPE DIAMETER(INCH) = 30.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 23.68  
PIPE TRAVEL TIME(MIN.) = 0.34 Tc(MIN.) = 7.83

LONGEST FLOWPATH FROM NODE 190.00 TO NODE 207.00 = 1886.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 207.00 TO NODE 207.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

=====

MAINLINE Tc(MIN.) = 7.83  
\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.714  
SUBAREA LOSS RATE DATA(AMC II):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 2.75 0.75 0.100 56  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 2.75 SUBAREA RUNOFF(CFS) = 6.53  
EFFECTIVE AREA(ACRES) = 12.44 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 13.3 PEAK FLOW RATE(CFS) = 29.56

\*\*\*\*\*

FLOW PROCESS FROM NODE 207.00 TO NODE 208.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 634.65 DOWNSTREAM(FEET) = 633.59  
FLOW LENGTH(FEET) = 212.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 30.0 INCH PIPE IS 23.7 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 7.11  
ESTIMATED PIPE DIAMETER(INCH) = 30.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 29.56  
PIPE TRAVEL TIME(MIN.) = 0.50 Tc(MIN.) = 8.33  
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 208.00 = 2098.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 208.00 TO NODE 208.00 IS CODE = 11

>>>>CONFLUENCE MEMORY BANK # 1 WITH THE MAIN-STREAM MEMORY<<<<<

\*\*\*\*\*

\*\* MAIN STREAM CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	29.56	8.33	2.616	0.75( 0.07)	0.10	12.4	200.00
2	24.04	12.69	2.032	0.75( 0.07)	0.10	13.3	190.00

LONGEST FLOWPATH FROM NODE 190.00 TO NODE 208.00 = 2098.00 FEET.

\*\* MEMORY BANK # 1 CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	93.15	10.88	2.229	0.75( 0.07)	0.10	42.8	170.00
2	93.62	11.43	2.163	0.75( 0.07)	0.10	44.6	110.00
3	93.62	11.52	2.153	0.75( 0.07)	0.10	44.8	140.00
4	92.92	12.56	2.044	0.75( 0.07)	0.10	47.3	130.00
5	92.52	12.90	2.012	0.75( 0.07)	0.10	48.1	120.00
6	91.74	13.44	1.963	0.75( 0.07)	0.10	49.0	180.00
7	87.29	15.00	1.838	0.75( 0.07)	0.10	50.6	100.00
8	87.24	15.02	1.836	0.75( 0.07)	0.10	50.6	150.00
9	83.63	16.12	1.760	0.75( 0.07)	0.10	50.9	160.00

LONGEST FLOWPATH FROM NODE 150.00 TO NODE 208.00 = 3257.00 FEET.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	113.71	8.33	2.616	0.75( 0.07)	0.10	45.2	200.00
2	119.48	10.88	2.229	0.75( 0.07)	0.10	55.8	170.00
3	119.25	11.43	2.163	0.75( 0.07)	0.10	57.6	110.00
4	119.14	11.52	2.153	0.75( 0.07)	0.10	57.9	140.00
5	117.12	12.56	2.044	0.75( 0.07)	0.10	60.6	130.00
6	116.81	12.69	2.032	0.75( 0.07)	0.10	60.9	190.00
7	116.30	12.90	2.012	0.75( 0.07)	0.10	61.4	120.00
8	114.93	13.44	1.963	0.75( 0.07)	0.10	62.3	180.00
9	108.94	15.00	1.838	0.75( 0.07)	0.10	63.9	100.00
10	108.87	15.02	1.836	0.75( 0.07)	0.10	63.9	150.00
11	104.33	16.12	1.760	0.75( 0.07)	0.10	64.2	160.00

TOTAL AREA(ACRES) = 64.2

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 119.48 Tc(MIN.) = 10.877  
EFFECTIVE AREA(ACRES) = 55.77 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 64.2

LONGEST FLOWPATH FROM NODE 150.00 TO NODE 208.00 = 3257.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 208.00 TO NODE 208.00 IS CODE = 12

>>>>CLEAR MEMORY BANK # 1 <<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 208.00 TO NODE 209.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<

>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 633.59 DOWNSTREAM(FEET) = 631.80  
FLOW LENGTH(FEET) = 358.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 51.0 INCH PIPE IS 39.6 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 10.12  
ESTIMATED PIPE DIAMETER(INCH) = 51.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 119.48  
PIPE TRAVEL TIME(MIN.) = 0.59 Tc(MIN.) = 11.47  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 209.00 = 3615.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 209.00 TO NODE 209.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

MAINLINE Tc(MIN.) = 11.47

\* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.159

SUBAREA LOSS RATE DATA(AMC II):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
COMMERCIAL	B	0.40	0.75	0.100	56

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75

SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100

SUBAREA AREA(ACRES) = 0.40 SUBAREA RUNOFF(CFS) = 0.75

EFFECTIVE AREA(ACRES) = 56.17 AREA-AVERAGED Fm(INCH/HR) = 0.07

AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10

TOTAL AREA(ACRES) = 64.7 PEAK FLOW RATE(CFS) = 119.48

NOTE: PEAK FLOW RATE DEFAULTED TO UPSTREAM VALUE

\*\*\*\*\*

FLOW PROCESS FROM NODE 209.00 TO NODE 213.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<

>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 631.80 DOWNSTREAM(FEET) = 631.79  
FLOW LENGTH(FEET) = 132.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 114.0 INCH PIPE IS 84.6 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 2.12  
ESTIMATED PIPE DIAMETER(INCH) = 114.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 119.48  
PIPE TRAVEL TIME(MIN.) = 1.04 Tc(MIN.) = 12.50  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 213.00 = 3747.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 213.00 TO NODE 213.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<

TOTAL NUMBER OF STREAMS = 2

CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:

TIME OF CONCENTRATION(MIN.) = 12.50

RAINFALL INTENSITY(INCH/HR) = 2.05

AREA-AVERAGED Fm(INCH/HR) = 0.07

AREA-AVERAGED Fp(INCH/HR) = 0.75

AREA-AVERAGED Ap = 0.10

EFFECTIVE STREAM AREA(ACRES) = 56.17

TOTAL STREAM AREA(ACRES) = 64.65

PEAK FLOW RATE(CFS) AT CONFLUENCE = 119.48

\*\*\*\*\*

FLOW PROCESS FROM NODE 210.00 TO NODE 211.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

INITIAL SUBAREA FLOW-LENGTH(FEET) = 544.00

ELEVATION DATA: UPSTREAM(FEET) = 645.68 DOWNSTREAM(FEET) = 641.86

Tc = K\*[(LENGTH\*\* 3.00)/(ELEVATION CHANGE)]\*\*0.20



SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 10.182  
 \* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.319  
 SUBAREA Tc AND LOSS RATE DATA(AMC II):  
 DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS Tc  
 LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)  
 COMMERCIAL B 2.80 0.75 0.100 56 10.18  
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
 SUBAREA RUNOFF(CFS) = 5.66  
 TOTAL AREA(ACRES) = 2.80 PEAK FLOW RATE(CFS) = 5.66

\*\*\*\*\*

FLOW PROCESS FROM NODE 211.00 TO NODE 212.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
 >>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 637.85 DOWNSTREAM(FEET) = 636.80  
 FLOW LENGTH(FEET) = 212.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 18.0 INCH PIPE IS 11.4 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 4.82  
 ESTIMATED PIPE DIAMETER(INCH) = 18.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 5.66  
 PIPE TRAVEL TIME(MIN.) = 0.73 Tc(MIN.) = 10.92  
 LONGEST FLOWPATH FROM NODE 210.00 TO NODE 212.00 = 756.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 212.00 TO NODE 212.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<<

=====

MAINLINE Tc(MIN.) = 10.92  
 \* 25 YEAR RAINFALL INTENSITY(INCH/HR) = 2.224  
 SUBAREA LOSS RATE DATA(AMC II):  
 DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
 LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
 COMMERCIAL B 1.15 0.75 0.100 56  
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.75  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
 SUBAREA AREA(ACRES) = 1.15 SUBAREA RUNOFF(CFS) = 2.22  
 EFFECTIVE AREA(ACRES) = 3.95 AREA-AVERAGED Fm(INCH/HR) = 0.07  
 AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
 TOTAL AREA(ACRES) = 3.9 PEAK FLOW RATE(CFS) = 7.64

\*\*\*\*\*

FLOW PROCESS FROM NODE 212.00 TO NODE 213.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
 >>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 639.80 DOWNSTREAM(FEET) = 636.61  
 FLOW LENGTH(FEET) = 637.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 18.0 INCH PIPE IS 14.3 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 5.06  
 ESTIMATED PIPE DIAMETER(INCH) = 18.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 7.64  
 PIPE TRAVEL TIME(MIN.) = 2.10 Tc(MIN.) = 13.01  
 LONGEST FLOWPATH FROM NODE 210.00 TO NODE 213.00 = 1393.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 213.00 TO NODE 213.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<<  
 >>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:  
 TIME OF CONCENTRATION(MIN.) = 13.01  
 RAINFALL INTENSITY(INCH/HR) = 2.00  
 AREA-AVERAGED Fm(INCH/HR) = 0.07  
 AREA-AVERAGED Fp(INCH/HR) = 0.75  
 AREA-AVERAGED Ap = 0.10  
 EFFECTIVE STREAM AREA(ACRES) = 3.95  
 TOTAL STREAM AREA(ACRES) = 3.95  
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 7.64

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	113.71	9.99	2.346	0.75( 0.07)	0.10	45.6	200.00
1	119.48	12.50	2.050	0.75( 0.07)	0.10	56.2	170.00
1	119.25	13.06	1.997	0.75( 0.07)	0.10	58.0	110.00
1	119.14	13.15	1.989	0.75( 0.07)	0.10	58.3	140.00

1	117.12	14.19	1.900	0.75( 0.07)	0.10	61.0	130.00
1	116.81	14.32	1.890	0.75( 0.07)	0.10	61.3	190.00
1	116.30	14.54	1.873	0.75( 0.07)	0.10	61.8	120.00
1	114.93	15.07	1.833	0.75( 0.07)	0.10	62.7	180.00
1	108.94	16.67	1.725	0.75( 0.07)	0.10	64.3	100.00
1	108.87	16.69	1.724	0.75( 0.07)	0.10	64.3	150.00
1	104.33	17.81	1.658	0.75( 0.07)	0.10	64.7	160.00
2	7.64	13.01	2.002	0.75( 0.07)	0.10	3.9	210.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	120.62	9.99	2.346	0.75( 0.07)	0.10	48.7	200.00
2	127.01	12.50	2.050	0.75( 0.07)	0.10	60.0	170.00
3	126.91	13.01	2.002	0.75( 0.07)	0.10	61.8	210.00
4	126.87	13.06	1.997	0.75( 0.07)	0.10	62.0	110.00
5	126.73	13.15	1.989	0.75( 0.07)	0.10	62.2	140.00
6	124.36	14.19	1.900	0.75( 0.07)	0.10	65.0	130.00
7	124.01	14.32	1.890	0.75( 0.07)	0.10	65.3	190.00
8	123.43	14.54	1.873	0.75( 0.07)	0.10	65.7	120.00
9	121.90	15.07	1.833	0.75( 0.07)	0.10	66.7	180.00
10	115.48	16.67	1.725	0.75( 0.07)	0.10	68.2	100.00
11	115.41	16.69	1.724	0.75( 0.07)	0.10	68.2	150.00
12	110.61	17.81	1.658	0.75( 0.07)	0.10	68.6	160.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 127.01 Tc(MIN.) = 12.50  
EFFECTIVE AREA(ACRES) = 59.97 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 68.6  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 213.00 = 3747.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 213.00 TO NODE 214.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 631.79 DOWNSTREAM(FEET) = 631.56  
FLOW LENGTH(FEET) = 45.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 51.0 INCH PIPE IS 41.6 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 10.25  
ESTIMATED PIPE DIAMETER(INCH) = 51.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 127.01  
PIPE TRAVEL TIME(MIN.) = 0.07 Tc(MIN.) = 12.58  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 214.00 = 3792.00 FEET.

END OF STUDY SUMMARY:

TOTAL AREA(ACRES) = 68.6 TC(MIN.) = 12.58  
EFFECTIVE AREA(ACRES) = 59.97 AREA-AVERAGED Fm(INCH/HR) = 0.07  
AREA-AVERAGED Fp(INCH/HR) = 0.75 AREA-AVERAGED Ap = 0.100  
PEAK FLOW RATE(CFS) = 127.01

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	120.62	10.06	2.335	0.75( 0.07)	0.10	48.7	200.00
2	127.01	12.58	2.043	0.75( 0.07)	0.10	60.0	170.00
3	126.91	13.08	1.995	0.75( 0.07)	0.10	61.8	210.00
4	126.87	13.14	1.990	0.75( 0.07)	0.10	62.0	110.00
5	126.73	13.22	1.983	0.75( 0.07)	0.10	62.2	140.00
6	124.36	14.27	1.894	0.75( 0.07)	0.10	65.0	130.00
7	124.01	14.39	1.884	0.75( 0.07)	0.10	65.3	190.00
8	123.43	14.61	1.867	0.75( 0.07)	0.10	65.7	120.00
9	121.90	15.15	1.827	0.75( 0.07)	0.10	66.7	180.00
10	115.48	16.74	1.721	0.75( 0.07)	0.10	68.2	100.00
11	115.41	16.76	1.719	0.75( 0.07)	0.10	68.2	150.00
12	110.61	17.88	1.654	0.75( 0.07)	0.10	68.6	160.00

END OF RATIONAL METHOD ANALYSIS

↑

PROPOSED CONDITION  
100-YEAR

\*\*\*\*\*  
RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE  
(Reference: 1986 SAN BERNARDINO CO. HYDROLOGY CRITERION)  
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Ver. 23.0 Release Date: 07/01/2016 License ID 1435

Analysis prepared by:

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714-521-4811

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* TEI JOB NUMBER 3857 \*  
\* PROPOSED CONDITIONS \*  
\* 100-YEAR STORM EVENT \*  
\*\*\*\*\*

FILE NAME: W:\3857\P100.DAT  
TIME/DATE OF STUDY: 09:58 12/23/2021

=====

USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:

=====

--\*TIME-OF-CONCENTRATION MODEL\*--

USER SPECIFIED STORM EVENT(YEAR) = 100.00  
SPECIFIED MINIMUM PIPE SIZE(INCH) = 12.00  
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95  
\*USER-DEFINED LOGARITHMIC INTERPOLATION USED FOR RAINFALL\*

SLOPE OF INTENSITY DURATION CURVE(LOG(I;IN/HR) vs. LOG(Tc;MIN)) = 0.6000  
USER SPECIFIED 1-HOUR INTENSITY(INCH/HOUR) = 1.0000

\*ANTECEDENT MOISTURE CONDITION (AMC) III ASSUMED FOR RATIONAL METHOD\*

\*USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL\*

NO.	WIDTH (FT)	CROSSFALL (FT)	IN- / SIDE	OUT- / SIDE/ WAY	HEIGHT (FT)	WIDTH (FT)	LIP (FT)	HIKE (FT)	FACTOR (n)
1	30.0	20.0	0.018/0.018	0.020	0.67	2.00	0.0313	0.167	0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:

1. Relative Flow-Depth = 0.00 FEET  
as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
2. (Depth)\*(Velocity) Constraint = 6.0 (FT\*FT/S)

\*SIZE PIPE WITH A FLOW CAPACITY GREATER THAN  
OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.\*

\*USER-SPECIFIED MINIMUM TOPOGRAPHIC SLOPE ADJUSTMENT NOT SELECTED

\*\*\*\*\*  
FLOW PROCESS FROM NODE 100.00 TO NODE 101.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<<  
>>>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

=====

INITIAL SUBAREA FLOW-LENGTH(FEET) = 214.00  
ELEVATION DATA: UPSTREAM(FEET) = 667.20 DOWNSTREAM(FEET) = 665.48

$T_c = K * [(LENGTH ** 3.00) / (ELEVATION CHANGE)] ** 0.20$   
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 6.824  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.685  
SUBAREA Tc AND LOSS RATE DATA(AMC III):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN	Tc (MIN.)
COMMERCIAL	B	0.90	0.42	0.100	76	6.82

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA RUNOFF(CFS) = 2.95  
TOTAL AREA(ACRES) = 0.90 PEAK FLOW RATE(CFS) = 2.95

\*\*\*\*\*  
FLOW PROCESS FROM NODE 101.00 TO NODE 111.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 661.48 DOWNSTREAM(FEET) = 658.20  
FLOW LENGTH(FEET) = 656.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 15.0 INCH PIPE IS 8.5 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.13

ESTIMATED PIPE DIAMETER(INCH) = 15.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 2.95  
 PIPE TRAVEL TIME(MIN.) = 2.65 Tc(MIN.) = 9.47  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 111.00 = 870.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 111.00 TO NODE 111.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:  
 TIME OF CONCENTRATION(MIN.) = 9.47  
 RAINFALL INTENSITY(INCH/HR) = 3.03  
 AREA-AVERAGED Fm(INCH/HR) = 0.04  
 AREA-AVERAGED Fp(INCH/HR) = 0.42  
 AREA-AVERAGED Ap = 0.10  
 EFFECTIVE STREAM AREA(ACRES) = 0.90  
 TOTAL STREAM AREA(ACRES) = 0.90  
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 2.95

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 110.00 TO NODE 111.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<  
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

=====

INITIAL SUBAREA FLOW-LENGTH(FEET) = 138.00  
 ELEVATION DATA: UPSTREAM(FEET) = 663.87 DOWNSTREAM(FEET) = 663.18

Tc = K\*[(LENGTH\*\* 3.00)/(ELEVATION CHANGE)]\*\*0.20  
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 6.296  
 \* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.868  
 SUBAREA Tc AND LOSS RATE DATA(AMC III):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN	Tc (MIN.)
COMMERCIAL	B	2.65	0.42	0.100	76	6.30

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
 SUBAREA RUNOFF(CFS) = 9.12  
 TOTAL AREA(ACRES) = 2.65 PEAK FLOW RATE(CFS) = 9.12

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 111.00 TO NODE 111.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<  
 >>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:  
 TIME OF CONCENTRATION(MIN.) = 6.30  
 RAINFALL INTENSITY(INCH/HR) = 3.87  
 AREA-AVERAGED Fm(INCH/HR) = 0.04  
 AREA-AVERAGED Fp(INCH/HR) = 0.42  
 AREA-AVERAGED Ap = 0.10  
 EFFECTIVE STREAM AREA(ACRES) = 2.65  
 TOTAL STREAM AREA(ACRES) = 2.65  
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 9.12

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	2.95	9.47	3.027	0.42( 0.04)	0.10	0.9	100.00
2	9.12	6.30	3.868	0.42( 0.04)	0.10	2.7	110.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
 CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	11.64	6.30	3.868	0.42( 0.04)	0.10	3.2	110.00
2	10.07	9.47	3.027	0.42( 0.04)	0.10	3.6	100.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:  
 PEAK FLOW RATE(CFS) = 11.64 Tc(MIN.) = 6.30  
 EFFECTIVE AREA(ACRES) = 3.25 AREA-AVERAGED Fm(INCH/HR) = 0.04  
 AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
 TOTAL AREA(ACRES) = 3.6  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 111.00 = 870.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 111.00 TO NODE 112.00 IS CODE = 31

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-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
-----
ELEVATION DATA: UPSTREAM(FEET) = 658.20 DOWNSTREAM(FEET) = 657.54
FLOW LENGTH(FEET) = 132.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 21.0 INCH PIPE IS 16.9 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.61
ESTIMATED PIPE DIAMETER(INCH) = 21.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 11.64
PIPE TRAVEL TIME(MIN.) = 0.39 Tc(MIN.) = 6.69
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 112.00 = 1002.00 FEET.

*****
FLOW PROCESS FROM NODE 112.00 TO NODE 112.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
-----
MAINLINE Tc(MIN.) = 6.69
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.730
SUBAREA LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL B 0.70 0.42 0.100 76
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA AREA(ACRES) = 0.70 SUBAREA RUNOFF(CFS) = 2.32
EFFECTIVE AREA(ACRES) = 3.95 AREA-AVERAGED Fm(INCH/HR) = 0.04
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10
TOTAL AREA(ACRES) = 4.2 PEAK FLOW RATE(CFS) = 13.10

*****
FLOW PROCESS FROM NODE 112.00 TO NODE 122.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
-----
ELEVATION DATA: UPSTREAM(FEET) = 656.70 DOWNSTREAM(FEET) = 655.98
FLOW LENGTH(FEET) = 246.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 27.0 INCH PIPE IS 17.3 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.87
ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 13.10
PIPE TRAVEL TIME(MIN.) = 0.84 Tc(MIN.) = 7.53
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 122.00 = 1248.00 FEET.

*****
FLOW PROCESS FROM NODE 122.00 TO NODE 122.00 IS CODE = 1
-----
>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
-----
TOTAL NUMBER OF STREAMS = 2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:
TIME OF CONCENTRATION(MIN.) = 7.53
RAINFALL INTENSITY(INCH/HR) = 3.47
AREA-AVERAGED Fm(INCH/HR) = 0.04
AREA-AVERAGED Fp(INCH/HR) = 0.42
AREA-AVERAGED Ap = 0.10
EFFECTIVE STREAM AREA(ACRES) = 3.95
TOTAL STREAM AREA(ACRES) = 4.25
PEAK FLOW RATE(CFS) AT CONFLUENCE = 13.10

*****
FLOW PROCESS FROM NODE 120.00 TO NODE 121.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
-----
INITIAL SUBAREA FLOW-LENGTH(FEET) = 526.00
ELEVATION DATA: UPSTREAM(FEET) = 668.05 DOWNSTREAM(FEET) = 661.69

Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 9.011
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.119
SUBAREA Tc AND LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS Tc
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)
COMMERCIAL B 3.40 0.42 0.100 76 9.01
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA RUNOFF(CFS) = 9.41
TOTAL AREA(ACRES) = 3.40 PEAK FLOW RATE(CFS) = 9.41

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*****
FLOW PROCESS FROM NODE 121.00 TO NODE 122.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 656.50 DOWNSTREAM(FEET) = 655.98
FLOW LENGTH(FEET) = 10.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 15.0 INCH PIPE IS 8.4 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 13.28
ESTIMATED PIPE DIAMETER(INCH) = 15.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 9.41
PIPE TRAVEL TIME(MIN.) = 0.01 Tc(MIN.) = 9.02
LONGEST FLOWPATH FROM NODE 120.00 TO NODE 122.00 = 536.00 FEET.

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*****
FLOW PROCESS FROM NODE 122.00 TO NODE 122.00 IS CODE = 1
-----
>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<
>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<
=====
TOTAL NUMBER OF STREAMS = 2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:
TIME OF CONCENTRATION(MIN.) = 9.02
RAINFALL INTENSITY(INCH/HR) = 3.12
AREA-AVERAGED Fm(INCH/HR) = 0.04
AREA-AVERAGED Fp(INCH/HR) = 0.42
AREA-AVERAGED Ap = 0.10
EFFECTIVE STREAM AREA(ACRES) = 3.40
TOTAL STREAM AREA(ACRES) = 3.40
PEAK FLOW RATE(CFS) AT CONFLUENCE = 9.41

```

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	13.10	7.53	3.474	0.42( 0.04)	0.10	3.9	110.00
1	11.14	10.75	2.805	0.42( 0.04)	0.10	4.2	100.00
2	9.41	9.02	3.116	0.42( 0.04)	0.10	3.4	120.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	21.87	7.53	3.474	0.42( 0.04)	0.10	6.8	110.00
2	21.61	9.02	3.116	0.42( 0.04)	0.10	7.5	120.00
3	19.60	10.75	2.805	0.42( 0.04)	0.10	7.7	100.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:  
PEAK FLOW RATE(CFS) = 21.87 Tc(MIN.) = 7.53  
EFFECTIVE AREA(ACRES) = 6.79 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 7.7  
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 122.00 = 1248.00 FEET.

```

*****
FLOW PROCESS FROM NODE 122.00 TO NODE 123.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 655.98 DOWNSTREAM(FEET) = 655.47
FLOW LENGTH(FEET) = 105.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 27.0 INCH PIPE IS 21.2 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.53
ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 21.87
PIPE TRAVEL TIME(MIN.) = 0.27 Tc(MIN.) = 7.80
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 123.00 = 1353.00 FEET.

```

```

*****
FLOW PROCESS FROM NODE 123.00 TO NODE 123.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<
=====
MAINLINE Tc(MIN.) = 7.80
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.402
SUBAREA LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL B 0.75 0.42 0.100 76
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42

```

SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 0.75 SUBAREA RUNOFF(CFS) = 2.27  
EFFECTIVE AREA(ACRES) = 7.54 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 8.4 PEAK FLOW RATE(CFS) = 22.78

\*\*\*\*\*  
FLOW PROCESS FROM NODE 123.00 TO NODE 132.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 654.74 DOWNSTREAM(FEET) = 654.00  
FLOW LENGTH(FEET) = 149.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 27.0 INCH PIPE IS 21.8 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.61  
ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 22.78  
PIPE TRAVEL TIME(MIN.) = 0.38 Tc(MIN.) = 8.17  
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 132.00 = 1502.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:  
TIME OF CONCENTRATION(MIN.) = 8.17  
RAINFALL INTENSITY(INCH/HR) = 3.31  
AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42  
AREA-AVERAGED Ap = 0.10  
EFFECTIVE STREAM AREA(ACRES) = 7.54  
TOTAL STREAM AREA(ACRES) = 8.40  
PEAK FLOW RATE(CFS) AT CONFLUENCE = 22.78

\*\*\*\*\*  
FLOW PROCESS FROM NODE 130.00 TO NODE 131.00 IS CODE = 21  
-----

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<  
>>>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

=====

INITIAL SUBAREA FLOW-LENGTH(FEET) = 546.00  
ELEVATION DATA: UPSTREAM(FEET) = 667.07 DOWNSTREAM(FEET) = 659.91

$T_c = K * [(LENGTH * 3.00) / (ELEVATION CHANGE)] * 0.20$   
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 8.999  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.122  
SUBAREA Tc AND LOSS RATE DATA(AMC III):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN	Tc (MIN.)
COMMERCIAL	B	2.70	0.42	0.100	76	9.00

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA RUNOFF(CFS) = 7.48  
TOTAL AREA(ACRES) = 2.70 PEAK FLOW RATE(CFS) = 7.48

\*\*\*\*\*  
FLOW PROCESS FROM NODE 131.00 TO NODE 132.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 654.91 DOWNSTREAM(FEET) = 654.00  
FLOW LENGTH(FEET) = 118.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 18.0 INCH PIPE IS 11.8 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.08  
ESTIMATED PIPE DIAMETER(INCH) = 18.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 7.48  
PIPE TRAVEL TIME(MIN.) = 0.32 Tc(MIN.) = 9.32  
LONGEST FLOWPATH FROM NODE 130.00 TO NODE 132.00 = 664.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 132.00 TO NODE 132.00 IS CODE = 1  
-----

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<  
>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:  
TIME OF CONCENTRATION(MIN.) = 9.32  
RAINFALL INTENSITY(INCH/HR) = 3.06



AREA-AVERAGED Fm(INCH/HR) = 0.04  
 AREA-AVERAGED Fp(INCH/HR) = 0.42  
 AREA-AVERAGED Ap = 0.10  
 EFFECTIVE STREAM AREA(ACRES) = 2.70  
 TOTAL STREAM AREA(ACRES) = 2.70  
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 7.48

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	22.78	8.17	3.307	0.42( 0.04)	0.10	7.5	110.00
1	22.39	9.67	2.990	0.42( 0.04)	0.10	8.2	120.00
1	20.57	11.40	2.708	0.42( 0.04)	0.10	8.4	100.00
2	7.48	9.32	3.056	0.42( 0.04)	0.10	2.7	130.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
 CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	29.89	8.17	3.307	0.42( 0.04)	0.10	9.9	110.00
2	29.96	9.32	3.056	0.42( 0.04)	0.10	10.8	130.00
3	29.71	9.67	2.990	0.42( 0.04)	0.10	10.9	120.00
4	27.19	11.40	2.708	0.42( 0.04)	0.10	11.1	100.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 29.96 Tc(MIN.) = 9.32  
 EFFECTIVE AREA(ACRES) = 10.78 AREA-AVERAGED Fm(INCH/HR) = 0.04  
 AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
 TOTAL AREA(ACRES) = 11.1  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 132.00 = 1502.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 132.00 TO NODE 143.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
 >>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 653.41 DOWNSTREAM(FEET) = 650.56  
 FLOW LENGTH(FEET) = 182.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 27.0 INCH PIPE IS 17.1 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 11.25  
 ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 29.96  
 PIPE TRAVEL TIME(MIN.) = 0.27 Tc(MIN.) = 9.59  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 143.00 = 1684.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 143.00 TO NODE 143.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<<

TOTAL NUMBER OF STREAMS = 2  
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:  
 TIME OF CONCENTRATION(MIN.) = 9.59  
 RAINFALL INTENSITY(INCH/HR) = 3.00  
 AREA-AVERAGED Fm(INCH/HR) = 0.04  
 AREA-AVERAGED Fp(INCH/HR) = 0.42  
 AREA-AVERAGED Ap = 0.10  
 EFFECTIVE STREAM AREA(ACRES) = 10.78  
 TOTAL STREAM AREA(ACRES) = 11.10  
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 29.96

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 140.00 TO NODE 141.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<<  
 >>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

INITIAL SUBAREA FLOW-LENGTH(FEET) = 233.00  
 ELEVATION DATA: UPSTREAM(FEET) = 662.04 DOWNSTREAM(FEET) = 659.26

$Tc = K * [(LENGTH ** 3.00) / (ELEVATION CHANGE)] * 0.20$   
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 6.523  
 \* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.786  
 SUBAREA Tc AND LOSS RATE DATA(AMC III):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN	Tc (MIN.)
COMMERCIAL	B	1.55	0.42	0.100	76	6.52

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
 SUBAREA RUNOFF(CFS) = 5.22

TOTAL AREA(ACRES) = 1.55 PEAK FLOW RATE(CFS) = 5.22

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*****
FLOW PROCESS FROM NODE 141.00 TO NODE 142.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 655.26 DOWNSTREAM(FEET) = 653.35
FLOW LENGTH(FEET) = 381.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 18.0 INCH PIPE IS 10.7 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.76
ESTIMATED PIPE DIAMETER(INCH) = 18.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 5.22
PIPE TRAVEL TIME(MIN.) = 1.33 Tc(MIN.) = 7.86
LONGEST FLOWPATH FROM NODE 140.00 TO NODE 142.00 = 614.00 FEET.
```

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*****
FLOW PROCESS FROM NODE 142.00 TO NODE 142.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
=====
MAINLINE Tc(MIN.) = 7.86
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.386
SUBAREA LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL B 1.70 0.42 0.100 76
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA AREA(ACRES) = 1.70 SUBAREA RUNOFF(CFS) = 5.12
EFFECTIVE AREA(ACRES) = 3.25 AREA-AVERAGED Fm(INCH/HR) = 0.04
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10
TOTAL AREA(ACRES) = 3.2 PEAK FLOW RATE(CFS) = 9.78
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*****
FLOW PROCESS FROM NODE 142.00 TO NODE 143.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 653.35 DOWNSTREAM(FEET) = 652.33
FLOW LENGTH(FEET) = 205.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 21.0 INCH PIPE IS 14.6 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.49
ESTIMATED PIPE DIAMETER(INCH) = 21.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 9.78
PIPE TRAVEL TIME(MIN.) = 0.62 Tc(MIN.) = 8.48
LONGEST FLOWPATH FROM NODE 140.00 TO NODE 143.00 = 819.00 FEET.
```

```
*****
FLOW PROCESS FROM NODE 143.00 TO NODE 143.00 IS CODE = 1
-----
>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
=====
TOTAL NUMBER OF STREAMS = 2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:
TIME OF CONCENTRATION(MIN.) = 8.48
RAINFALL INTENSITY(INCH/HR) = 3.23
AREA-AVERAGED Fm(INCH/HR) = 0.04
AREA-AVERAGED Fp(INCH/HR) = 0.42
AREA-AVERAGED Ap = 0.10
EFFECTIVE STREAM AREA(ACRES) = 3.25
TOTAL STREAM AREA(ACRES) = 3.25
PEAK FLOW RATE(CFS) AT CONFLUENCE = 9.78
```

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	29.89	8.45	3.241	0.42( 0.04)	0.10	9.9	110.00
1	29.96	9.59	3.004	0.42( 0.04)	0.10	10.8	130.00
1	29.71	9.95	2.940	0.42( 0.04)	0.10	10.9	120.00
1	27.19	11.69	2.669	0.42( 0.04)	0.10	11.1	100.00
2	9.78	8.48	3.235	0.42( 0.04)	0.10	3.2	140.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	39.66	8.45	3.241	0.42( 0.04)	0.10	13.1	110.00

2	39.67	8.48	3.235	0.42( 0.04)	0.10	13.2	140.00
3	39.04	9.59	3.004	0.42( 0.04)	0.10	14.0	130.00
4	38.59	9.95	2.940	0.42( 0.04)	0.10	14.2	120.00
5	35.24	11.69	2.669	0.42( 0.04)	0.10	14.3	100.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 39.67 Tc(MIN.) = 8.48  
 EFFECTIVE AREA(ACRES) = 13.17 AREA-AVERAGED Fm(INCH/HR) = 0.04  
 AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
 TOTAL AREA(ACRES) = 14.3  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 143.00 = 1684.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 143.00 TO NODE 166.00 IS CODE = 31  
 -----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
 >>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 650.56 DOWNSTREAM(FEET) = 645.71  
 FLOW LENGTH(FEET) = 438.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 30.0 INCH PIPE IS 21.6 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 10.46  
 ESTIMATED PIPE DIAMETER(INCH) = 30.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 39.67  
 PIPE TRAVEL TIME(MIN.) = 0.70 Tc(MIN.) = 9.18  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 166.00 = 2122.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 166.00 TO NODE 166.00 IS CODE = 10  
 -----

>>>>MAIN-STREAM MEMORY COPIED ONTO MEMORY BANK # 1 <<<<<

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 150.00 TO NODE 151.00 IS CODE = 21  
 -----

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<  
 >>>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

=====

INITIAL SUBAREA FLOW-LENGTH(FEET) = 294.00  
 ELEVATION DATA: UPSTREAM(FEET) = 663.81 DOWNSTREAM(FEET) = 659.38

$Tc = K * [(LENGTH * 3.00) / (ELEVATION CHANGE)] * 0.20$   
 SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 6.833  
 \* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.682  
 SUBAREA Tc AND LOSS RATE DATA(AMC III):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN	Tc (MIN.)
COMMERCIAL	B	1.65	0.42	0.100	76	6.83

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
 SUBAREA RUNOFF(CFS) = 5.41  
 TOTAL AREA(ACRES) = 1.65 PEAK FLOW RATE(CFS) = 5.41

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 151.00 TO NODE 162.00 IS CODE = 31  
 -----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
 >>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 655.38 DOWNSTREAM(FEET) = 650.01  
 FLOW LENGTH(FEET) = 948.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 18.0 INCH PIPE IS 10.5 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 5.02  
 ESTIMATED PIPE DIAMETER(INCH) = 18.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 5.41  
 PIPE TRAVEL TIME(MIN.) = 3.15 Tc(MIN.) = 9.98  
 LONGEST FLOWPATH FROM NODE 150.00 TO NODE 162.00 = 1242.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 162.00 TO NODE 162.00 IS CODE = 1  
 -----

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:  
 TIME OF CONCENTRATION(MIN.) = 9.98  
 RAINFALL INTENSITY(INCH/HR) = 2.93  
 AREA-AVERAGED Fm(INCH/HR) = 0.04  
 AREA-AVERAGED Fp(INCH/HR) = 0.42  
 AREA-AVERAGED Ap = 0.10  
 EFFECTIVE STREAM AREA(ACRES) = 1.65  
 TOTAL STREAM AREA(ACRES) = 1.65

PEAK FLOW RATE(CFS) AT CONFLUENCE = 5.41

\*\*\*\*\*

FLOW PROCESS FROM NODE 160.00 TO NODE 161.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<  
>>>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

=====

INITIAL SUBAREA FLOW-LENGTH(FEET) = 751.00  
ELEVATION DATA: UPSTREAM(FEET) = 661.01 DOWNSTREAM(FEET) = 654.35

Tc = K\*[(LENGTH\*\* 3.00)/(ELEVATION CHANGE)]\*\*0.20  
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 11.055  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.759  
SUBAREA Tc AND LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS Tc  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)  
COMMERCIAL B 3.75 0.42 0.100 76 11.06  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA RUNOFF(CFS) = 9.17  
TOTAL AREA(ACRES) = 3.75 PEAK FLOW RATE(CFS) = 9.17

\*\*\*\*\*

FLOW PROCESS FROM NODE 161.00 TO NODE 162.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 650.35 DOWNSTREAM(FEET) = 650.01  
FLOW LENGTH(FEET) = 68.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 21.0 INCH PIPE IS 13.9 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.44  
ESTIMATED PIPE DIAMETER(INCH) = 21.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 9.17  
PIPE TRAVEL TIME(MIN.) = 0.21 Tc(MIN.) = 11.26  
LONGEST FLOWPATH FROM NODE 160.00 TO NODE 162.00 = 819.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 162.00 TO NODE 162.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<  
>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:  
TIME OF CONCENTRATION(MIN.) = 11.26  
RAINFALL INTENSITY(INCH/HR) = 2.73  
AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42  
AREA-AVERAGED Ap = 0.10  
EFFECTIVE STREAM AREA(ACRES) = 3.75  
TOTAL STREAM AREA(ACRES) = 3.75  
PEAK FLOW RATE(CFS) AT CONFLUENCE = 9.17

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	5.41	9.98	2.934	0.42( 0.04)	0.10	1.6	150.00
2	9.17	11.26	2.728	0.42( 0.04)	0.10	3.8	160.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	14.15	9.98	2.934	0.42( 0.04)	0.10	5.0	150.00
2	14.19	11.26	2.728	0.42( 0.04)	0.10	5.4	160.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 14.19 Tc(MIN.) = 11.26  
EFFECTIVE AREA(ACRES) = 5.40 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 5.4  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 162.00 = 1242.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 162.00 TO NODE 163.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 650.01 DOWNSTREAM(FEET) = 649.03  
 FLOW LENGTH(FEET) = 263.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 24.0 INCH PIPE IS 19.1 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 5.29  
 ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 14.19  
 PIPE TRAVEL TIME(MIN.) = 0.83 Tc(MIN.) = 12.09  
 LONGEST FLOWPATH FROM NODE 150.00 TO NODE 163.00 = 1505.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 163.00 TO NODE 163.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

MAINLINE Tc(MIN.) = 12.09  
 \* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.615  
 SUBAREA LOSS RATE DATA(AMC III):  
 DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
 LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
 COMMERCIAL B 1.85 0.42 0.100 76  
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
 SUBAREA AREA(ACRES) = 1.85 SUBAREA RUNOFF(CFS) = 4.28  
 EFFECTIVE AREA(ACRES) = 7.25 AREA-AVERAGED Fm(INCH/HR) = 0.04  
 AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
 TOTAL AREA(ACRES) = 7.2 PEAK FLOW RATE(CFS) = 16.78

\*\* PEAK FLOW RATE TABLE \*\*  

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap (INCH/HR)	Ae (ACRES)	HEADWATER NODE
1	16.91	10.81	2.797	0.42( 0.04)	0.10	6.8	150.00
2	16.78	12.09	2.615	0.42( 0.04)	0.10	7.2	160.00

 NEW PEAK FLOW DATA ARE:  
 PEAK FLOW RATE(CFS) = 16.91 Tc(MIN.) = 10.81  
 AREA-AVERAGED Fm(INCH/HR) = 0.04 AREA-AVERAGED Fp(INCH/HR) = 0.42  
 AREA-AVERAGED Ap = 0.10 EFFECTIVE AREA(ACRES) = 6.82

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 163.00 TO NODE 164.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
 >>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 649.03 DOWNSTREAM(FEET) = 648.09  
 FLOW LENGTH(FEET) = 189.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 27.0 INCH PIPE IS 17.2 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 6.34  
 ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 16.91  
 PIPE TRAVEL TIME(MIN.) = 0.50 Tc(MIN.) = 11.30  
 LONGEST FLOWPATH FROM NODE 150.00 TO NODE 164.00 = 1694.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 164.00 TO NODE 164.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

MAINLINE Tc(MIN.) = 11.30  
 \* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.722  
 SUBAREA LOSS RATE DATA(AMC III):  
 DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
 LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
 COMMERCIAL B 1.90 0.42 0.100 76  
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
 SUBAREA AREA(ACRES) = 1.90 SUBAREA RUNOFF(CFS) = 4.58  
 EFFECTIVE AREA(ACRES) = 8.72 AREA-AVERAGED Fm(INCH/HR) = 0.04  
 AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
 TOTAL AREA(ACRES) = 9.1 PEAK FLOW RATE(CFS) = 21.04

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 164.00 TO NODE 165.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
 >>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 648.09 DOWNSTREAM(FEET) = 647.13  
 FLOW LENGTH(FEET) = 192.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 27.0 INCH PIPE IS 20.2 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 6.59  
 ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 21.04  
 PIPE TRAVEL TIME(MIN.) = 0.49 Tc(MIN.) = 11.79

LONGEST FLOWPATH FROM NODE 150.00 TO NODE 165.00 = 1886.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 165.00 TO NODE 165.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

=====

MAINLINE Tc(MIN.) = 11.79  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.655  
SUBAREA LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 2.85 0.42 0.100 76  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 2.85 SUBAREA RUNOFF(CFS) = 6.70  
EFFECTIVE AREA(ACRES) = 11.57 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 12.0 PEAK FLOW RATE(CFS) = 27.21

\*\*\*\*\*

FLOW PROCESS FROM NODE 165.00 TO NODE 166.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 647.13 DOWNSTREAM(FEET) = 645.71  
FLOW LENGTH(FEET) = 282.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 30.0 INCH PIPE IS 21.9 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 7.07  
ESTIMATED PIPE DIAMETER(INCH) = 30.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 27.21  
PIPE TRAVEL TIME(MIN.) = 0.66 Tc(MIN.) = 12.45  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 166.00 = 2168.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 166.00 TO NODE 166.00 IS CODE = 11

>>>>CONFLUENCE MEMORY BANK # 1 WITH THE MAIN-STREAM MEMORY<<<<<

\*\*\*\*\*

\*\* MAIN STREAM CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	27.21	12.45	2.569	0.42( 0.04)	0.10	11.6	150.00
2	26.46	13.76	2.419	0.42( 0.04)	0.10	12.0	160.00

LONGEST FLOWPATH FROM NODE 150.00 TO NODE 166.00 = 2168.00 FEET.

\*\* MEMORY BANK # 1 CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	39.66	9.15	3.091	0.42( 0.04)	0.10	13.1	110.00
2	39.67	9.18	3.085	0.42( 0.04)	0.10	13.2	140.00
3	39.04	10.29	2.880	0.42( 0.04)	0.10	14.0	130.00
4	38.59	10.65	2.822	0.42( 0.04)	0.10	14.2	120.00
5	35.24	12.40	2.576	0.42( 0.04)	0.10	14.3	100.00

LONGEST FLOWPATH FROM NODE 100.00 TO NODE 166.00 = 2122.00 FEET.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	63.78	9.15	3.091	0.42( 0.04)	0.10	21.6	110.00
2	63.82	9.18	3.085	0.42( 0.04)	0.10	21.7	140.00
3	64.29	10.29	2.880	0.42( 0.04)	0.10	23.6	130.00
4	64.18	10.65	2.822	0.42( 0.04)	0.10	24.1	120.00
5	62.40	12.40	2.576	0.42( 0.04)	0.10	25.9	100.00
6	62.35	12.45	2.569	0.42( 0.04)	0.10	25.9	150.00
7	59.53	13.76	2.419	0.42( 0.04)	0.10	26.3	160.00

TOTAL AREA(ACRES) = 26.3

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 64.29 Tc(MIN.) = 10.291  
EFFECTIVE AREA(ACRES) = 23.59 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 26.3  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 166.00 = 2168.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 166.00 TO NODE 166.00 IS CODE = 12

>>>>CLEAR MEMORY BANK # 1 <<<<<

=====

```

*****
FLOW PROCESS FROM NODE 166.00 TO NODE 167.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 645.71 DOWNSTREAM(FEET) = 645.69
FLOW LENGTH(FEET) = 5.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 42.0 INCH PIPE IS 32.9 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 7.96
ESTIMATED PIPE DIAMETER(INCH) = 42.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 64.29
PIPE TRAVEL TIME(MIN.) = 0.01 Tc(MIN.) = 10.30
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 167.00 = 2173.00 FEET.
*****
FLOW PROCESS FROM NODE 167.00 TO NODE 167.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
=====
MAINLINE Tc(MIN.) = 10.30
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.878
SUBAREA LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL B 0.65 0.42 0.100 76
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA AREA(ACRES) = 0.65 SUBAREA RUNOFF(CFS) = 1.66
EFFECTIVE AREA(ACRES) = 24.24 AREA-AVERAGED Fm(INCH/HR) = 0.04
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10
TOTAL AREA(ACRES) = 27.0 PEAK FLOW RATE(CFS) = 64.29
NOTE: PEAK FLOW RATE DEFAULTED TO UPSTREAM VALUE
*****
FLOW PROCESS FROM NODE 167.00 TO NODE 178.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 645.69 DOWNSTREAM(FEET) = 640.96
FLOW LENGTH(FEET) = 208.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 30.0 INCH PIPE IS 24.2 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 15.18
ESTIMATED PIPE DIAMETER(INCH) = 30.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 64.29
PIPE TRAVEL TIME(MIN.) = 0.23 Tc(MIN.) = 10.53
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 178.00 = 2381.00 FEET.
*****
FLOW PROCESS FROM NODE 178.00 TO NODE 178.00 IS CODE = 1
-----
>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
=====
TOTAL NUMBER OF STREAMS = 2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:
TIME OF CONCENTRATION(MIN.) = 10.53
RAINFALL INTENSITY(INCH/HR) = 2.84
AREA-AVERAGED Fm(INCH/HR) = 0.04
AREA-AVERAGED Fp(INCH/HR) = 0.42
AREA-AVERAGED Ap = 0.10
EFFECTIVE STREAM AREA(ACRES) = 24.24
TOTAL STREAM AREA(ACRES) = 27.00
PEAK FLOW RATE(CFS) AT CONFLUENCE = 64.29
*****
FLOW PROCESS FROM NODE 170.00 TO NODE 171.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
=====
INITIAL SUBAREA FLOW-LENGTH(FEET) = 313.00
ELEVATION DATA: UPSTREAM(FEET) = 657.34 DOWNSTREAM(FEET) = 649.63

Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 6.350
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.848
SUBAREA Tc AND LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS Tc
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)
COMMERCIAL B 2.70 0.42 0.100 76 6.35
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100

```

SUBAREA RUNOFF(CFS) = 9.25  
TOTAL AREA(ACRES) = 2.70 PEAK FLOW RATE(CFS) = 9.25

\*\*\*\*\*  
FLOW PROCESS FROM NODE 171.00 TO NODE 172.00 IS CODE = 31

-----  
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

-----  
ELEVATION DATA: UPSTREAM(FEET) = 645.63 DOWNSTREAM(FEET) = 645.47  
FLOW LENGTH(FEET) = 61.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 24.0 INCH PIPE IS 15.6 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.28  
ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 9.25  
PIPE TRAVEL TIME(MIN.) = 0.24 Tc(MIN.) = 6.59  
LONGEST FLOWPATH FROM NODE 170.00 TO NODE 172.00 = 374.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 172.00 TO NODE 172.00 IS CODE = 81

-----  
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

-----  
MAINLINE Tc(MIN.) = 6.59  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.764  
SUBAREA LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 1.05 0.42 0.100 76  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 1.05 SUBAREA RUNOFF(CFS) = 3.52  
EFFECTIVE AREA(ACRES) = 3.75 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 3.8 PEAK FLOW RATE(CFS) = 12.56

\*\*\*\*\*  
FLOW PROCESS FROM NODE 172.00 TO NODE 173.00 IS CODE = 31

-----  
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

-----  
ELEVATION DATA: UPSTREAM(FEET) = 645.47 DOWNSTREAM(FEET) = 644.79  
FLOW LENGTH(FEET) = 136.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 24.0 INCH PIPE IS 15.4 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.89  
ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 12.56  
PIPE TRAVEL TIME(MIN.) = 0.38 Tc(MIN.) = 6.97  
LONGEST FLOWPATH FROM NODE 170.00 TO NODE 173.00 = 510.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 173.00 TO NODE 173.00 IS CODE = 81

-----  
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

-----  
MAINLINE Tc(MIN.) = 6.97  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.638  
SUBAREA LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 1.30 0.42 0.100 76  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 1.30 SUBAREA RUNOFF(CFS) = 4.21  
EFFECTIVE AREA(ACRES) = 5.05 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 5.1 PEAK FLOW RATE(CFS) = 16.34

\*\*\*\*\*  
FLOW PROCESS FROM NODE 173.00 TO NODE 174.00 IS CODE = 31

-----  
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

-----  
ELEVATION DATA: UPSTREAM(FEET) = 644.79 DOWNSTREAM(FEET) = 644.07  
FLOW LENGTH(FEET) = 142.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 24.0 INCH PIPE IS 18.9 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.17  
ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 16.34  
PIPE TRAVEL TIME(MIN.) = 0.38 Tc(MIN.) = 7.36  
LONGEST FLOWPATH FROM NODE 170.00 TO NODE 174.00 = 652.00 FEET.



```

*****
FLOW PROCESS FROM NODE 174.00 TO NODE 174.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<
=====
MAINLINE Tc(MIN.) = 7.36
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.523
SUBAREA LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/   SCS SOIL  AREA    Fp      Ap    SCS
LAND USE            GROUP  (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL          B      1.30    0.42    0.100  76
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA AREA(ACRES) = 1.30    SUBAREA RUNOFF(CFS) = 4.07
EFFECTIVE AREA(ACRES) = 6.35    AREA-AVERAGED Fm(INCH/HR) = 0.04
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10
TOTAL AREA(ACRES) = 6.4    PEAK FLOW RATE(CFS) = 19.89
*****
FLOW PROCESS FROM NODE 174.00 TO NODE 175.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 644.07 DOWNSTREAM(FEET) = 643.37
FLOW LENGTH(FEET) = 140.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 27.0 INCH PIPE IS 19.3 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.54
ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 19.89
PIPE TRAVEL TIME(MIN.) = 0.36 Tc(MIN.) = 7.71
LONGEST FLOWPATH FROM NODE 170.00 TO NODE 175.00 = 792.00 FEET.
*****
FLOW PROCESS FROM NODE 175.00 TO NODE 175.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<
=====
MAINLINE Tc(MIN.) = 7.71
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.424
SUBAREA LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/   SCS SOIL  AREA    Fp      Ap    SCS
LAND USE            GROUP  (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL          B      2.00    0.42    0.100  76
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA AREA(ACRES) = 2.00    SUBAREA RUNOFF(CFS) = 6.09
EFFECTIVE AREA(ACRES) = 8.35    AREA-AVERAGED Fm(INCH/HR) = 0.04
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10
TOTAL AREA(ACRES) = 8.4    PEAK FLOW RATE(CFS) = 25.42
*****
FLOW PROCESS FROM NODE 175.00 TO NODE 176.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 643.37 DOWNSTREAM(FEET) = 642.67
FLOW LENGTH(FEET) = 140.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 30.0 INCH PIPE IS 20.8 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.98
ESTIMATED PIPE DIAMETER(INCH) = 30.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 25.42
PIPE TRAVEL TIME(MIN.) = 0.33 Tc(MIN.) = 8.05
LONGEST FLOWPATH FROM NODE 170.00 TO NODE 176.00 = 932.00 FEET.
*****
FLOW PROCESS FROM NODE 176.00 TO NODE 176.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<
=====
MAINLINE Tc(MIN.) = 8.05
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.338
SUBAREA LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/   SCS SOIL  AREA    Fp      Ap    SCS
LAND USE            GROUP  (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL          B      1.30    0.42    0.100  76
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA AREA(ACRES) = 1.30    SUBAREA RUNOFF(CFS) = 3.86
EFFECTIVE AREA(ACRES) = 9.65    AREA-AVERAGED Fm(INCH/HR) = 0.04
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10

```

TOTAL AREA(ACRES) = 9.7 PEAK FLOW RATE(CFS) = 28.62

\*\*\*\*\*  
FLOW PROCESS FROM NODE 176.00 TO NODE 177.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 642.67 DOWNSTREAM(FEET) = 641.96  
FLOW LENGTH(FEET) = 142.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 30.0 INCH PIPE IS 23.0 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 7.09  
ESTIMATED PIPE DIAMETER(INCH) = 30.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 28.62  
PIPE TRAVEL TIME(MIN.) = 0.33 Tc(MIN.) = 8.38  
LONGEST FLOWPATH FROM NODE 170.00 TO NODE 177.00 = 1074.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 177.00 TO NODE 177.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

MAINLINE Tc(MIN.) = 8.38  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.258  
SUBAREA LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 2.55 0.42 0.100 76  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 2.55 SUBAREA RUNOFF(CFS) = 7.38  
EFFECTIVE AREA(ACRES) = 12.20 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 12.2 PEAK FLOW RATE(CFS) = 35.31

\*\*\*\*\*  
FLOW PROCESS FROM NODE 177.00 TO NODE 178.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 641.96 DOWNSTREAM(FEET) = 640.96  
FLOW LENGTH(FEET) = 201.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 33.0 INCH PIPE IS 24.4 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 7.50  
ESTIMATED PIPE DIAMETER(INCH) = 33.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 35.31  
PIPE TRAVEL TIME(MIN.) = 0.45 Tc(MIN.) = 8.83  
LONGEST FLOWPATH FROM NODE 170.00 TO NODE 178.00 = 1275.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 178.00 TO NODE 178.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<  
>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<

TOTAL NUMBER OF STREAMS = 2  
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:  
TIME OF CONCENTRATION(MIN.) = 8.83  
RAINFALL INTENSITY(INCH/HR) = 3.16  
AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42  
AREA-AVERAGED Ap = 0.10  
EFFECTIVE STREAM AREA(ACRES) = 12.20  
TOTAL STREAM AREA(ACRES) = 12.20  
PEAK FLOW RATE(CFS) AT CONFLUENCE = 35.31

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	63.78	9.39	3.043	0.42( 0.04)	0.10	22.3	110.00
1	63.82	9.42	3.038	0.42( 0.04)	0.10	22.4	140.00
1	64.29	10.53	2.841	0.42( 0.04)	0.10	24.2	130.00
1	64.18	10.89	2.785	0.42( 0.04)	0.10	24.7	120.00
1	62.40	12.64	2.546	0.42( 0.04)	0.10	26.5	100.00
1	62.35	12.69	2.540	0.42( 0.04)	0.10	26.6	150.00
1	59.53	14.00	2.394	0.42( 0.04)	0.10	27.0	160.00
2	35.31	8.83	3.158	0.42( 0.04)	0.10	12.2	170.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	97.56	8.83	3.158	0.42( 0.04)	0.10	33.2	170.00
2	97.78	9.39	3.043	0.42( 0.04)	0.10	34.5	110.00
3	97.76	9.42	3.038	0.42( 0.04)	0.10	34.6	140.00
4	96.00	10.53	2.841	0.42( 0.04)	0.10	36.4	130.00
5	95.25	10.89	2.785	0.42( 0.04)	0.10	36.9	120.00
6	90.77	12.64	2.546	0.42( 0.04)	0.10	38.7	100.00
7	90.65	12.69	2.540	0.42( 0.04)	0.10	38.8	150.00
8	86.18	14.00	2.394	0.42( 0.04)	0.10	39.2	160.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 97.78 Tc(MIN.) = 9.39  
EFFECTIVE AREA(ACRES) = 34.49 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 39.2  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 178.00 = 2381.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 178.00 TO NODE 179.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 640.96 DOWNSTREAM(FEET) = 639.75  
FLOW LENGTH(FEET) = 242.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 48.0 INCH PIPE IS 36.0 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 9.68  
ESTIMATED PIPE DIAMETER(INCH) = 48.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 97.78  
PIPE TRAVEL TIME(MIN.) = 0.42 Tc(MIN.) = 9.81  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 179.00 = 2623.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 179.00 TO NODE 179.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<<

MAINLINE Tc(MIN.) = 9.81  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.965  
SUBAREA LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 0.65 0.42 0.100 76  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 0.65 SUBAREA RUNOFF(CFS) = 1.71  
EFFECTIVE AREA(ACRES) = 35.14 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 39.8 PEAK FLOW RATE(CFS) = 97.78  
NOTE: PEAK FLOW RATE DEFAULTED TO UPSTREAM VALUE

\*\*\*\*\*  
FLOW PROCESS FROM NODE 179.00 TO NODE 185.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 639.75 DOWNSTREAM(FEET) = 637.62  
FLOW LENGTH(FEET) = 426.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 48.0 INCH PIPE IS 36.0 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 9.68  
ESTIMATED PIPE DIAMETER(INCH) = 48.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 97.78  
PIPE TRAVEL TIME(MIN.) = 0.73 Tc(MIN.) = 10.54  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 185.00 = 3049.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 185.00 TO NODE 185.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<<

TOTAL NUMBER OF STREAMS = 2  
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:  
TIME OF CONCENTRATION(MIN.) = 10.54  
RAINFALL INTENSITY(INCH/HR) = 2.84  
AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42  
AREA-AVERAGED Ap = 0.10  
EFFECTIVE STREAM AREA(ACRES) = 35.14  
TOTAL STREAM AREA(ACRES) = 39.85  
PEAK FLOW RATE(CFS) AT CONFLUENCE = 97.78

```

*****
FLOW PROCESS FROM NODE 180.00 TO NODE 181.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
=====
INITIAL SUBAREA FLOW-LENGTH(FEET) = 662.00
ELEVATION DATA: UPSTREAM(FEET) = 653.86 DOWNSTREAM(FEET) = 647.02

Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 10.195
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.896
SUBAREA Tc AND LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS Tc
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)
COMMERCIAL B 3.50 0.42 0.100 76 10.19
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA RUNOFF(CFS) = 8.99
TOTAL AREA(ACRES) = 3.50 PEAK FLOW RATE(CFS) = 8.99

*****
FLOW PROCESS FROM NODE 181.00 TO NODE 182.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 643.02 DOWNSTREAM(FEET) = 641.58
FLOW LENGTH(FEET) = 287.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 21.0 INCH PIPE IS 13.7 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.42
ESTIMATED PIPE DIAMETER(INCH) = 21.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 8.99
PIPE TRAVEL TIME(MIN.) = 0.88 Tc(MIN.) = 11.08
LONGEST FLOWPATH FROM NODE 180.00 TO NODE 182.00 = 949.00 FEET.

*****
FLOW PROCESS FROM NODE 182.00 TO NODE 182.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
=====
MAINLINE Tc(MIN.) = 11.08
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.756
SUBAREA LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL B 2.00 0.42 0.100 76
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA AREA(ACRES) = 2.00 SUBAREA RUNOFF(CFS) = 4.88
EFFECTIVE AREA(ACRES) = 5.50 AREA-AVERAGED Fm(INCH/HR) = 0.04
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10
TOTAL AREA(ACRES) = 5.5 PEAK FLOW RATE(CFS) = 13.43

*****
FLOW PROCESS FROM NODE 182.00 TO NODE 183.00 IS CODE = 31
-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 641.58 DOWNSTREAM(FEET) = 640.63
FLOW LENGTH(FEET) = 189.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 24.0 INCH PIPE IS 16.1 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.98
ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 13.43
PIPE TRAVEL TIME(MIN.) = 0.53 Tc(MIN.) = 11.60
LONGEST FLOWPATH FROM NODE 180.00 TO NODE 183.00 = 1138.00 FEET.

*****
FLOW PROCESS FROM NODE 183.00 TO NODE 183.00 IS CODE = 81
-----
>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
=====
MAINLINE Tc(MIN.) = 11.60
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.680
SUBAREA LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN
COMMERCIAL B 2.00 0.42 0.100 76
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA AREA(ACRES) = 2.00 SUBAREA RUNOFF(CFS) = 4.75

```

EFFECTIVE AREA(ACRES) = 7.50 AREA-AVERAGED Fm(INCH/HR) = 0.04  
 AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
 TOTAL AREA(ACRES) = 7.5 PEAK FLOW RATE(CFS) = 17.80

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 183.00 TO NODE 184.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
 >>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 640.63 DOWNSTREAM(FEET) = 639.69  
 FLOW LENGTH(FEET) = 189.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 27.0 INCH PIPE IS 17.8 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 6.41  
 ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 17.80  
 PIPE TRAVEL TIME(MIN.) = 0.49 Tc(MIN.) = 12.10  
 LONGEST FLOWPATH FROM NODE 180.00 TO NODE 184.00 = 1327.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 184.00 TO NODE 184.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

=====

MAINLINE Tc(MIN.) = 12.10  
 \* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.614  
 SUBAREA LOSS RATE DATA(AMC III):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
COMMERCIAL	B	2.75	0.42	0.100	76

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
 SUBAREA AREA(ACRES) = 2.75 SUBAREA RUNOFF(CFS) = 6.37  
 EFFECTIVE AREA(ACRES) = 10.25 AREA-AVERAGED Fm(INCH/HR) = 0.04  
 AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
 TOTAL AREA(ACRES) = 10.2 PEAK FLOW RATE(CFS) = 23.73

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 184.00 TO NODE 185.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
 >>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 639.69 DOWNSTREAM(FEET) = 637.62  
 FLOW LENGTH(FEET) = 245.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 27.0 INCH PIPE IS 18.1 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 8.38  
 ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 23.73  
 PIPE TRAVEL TIME(MIN.) = 0.49 Tc(MIN.) = 12.58  
 LONGEST FLOWPATH FROM NODE 180.00 TO NODE 185.00 = 1572.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 185.00 TO NODE 185.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<  
 >>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:  
 TIME OF CONCENTRATION(MIN.) = 12.58  
 RAINFALL INTENSITY(INCH/HR) = 2.55  
 AREA-AVERAGED Fm(INCH/HR) = 0.04  
 AREA-AVERAGED Fp(INCH/HR) = 0.42  
 AREA-AVERAGED Ap = 0.10  
 EFFECTIVE STREAM AREA(ACRES) = 10.25  
 TOTAL STREAM AREA(ACRES) = 10.25  
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 23.73

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	97.56	9.98	2.934	0.42( 0.04)	0.10	33.8	170.00
1	97.78	10.54	2.839	0.42( 0.04)	0.10	35.1	110.00
1	97.76	10.57	2.835	0.42( 0.04)	0.10	35.2	140.00
1	96.00	11.68	2.669	0.42( 0.04)	0.10	37.1	130.00
1	95.25	12.04	2.621	0.42( 0.04)	0.10	37.6	120.00
1	90.77	13.80	2.415	0.42( 0.04)	0.10	39.4	100.00
1	90.65	13.86	2.409	0.42( 0.04)	0.10	39.4	150.00
1	86.18	15.20	2.280	0.42( 0.04)	0.10	39.8	160.00
2	23.73	12.58	2.553	0.42( 0.04)	0.10	10.2	180.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO

CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	119.23	9.98	2.934	0.42( 0.04)	0.10	41.9	170.00
2	119.92	10.54	2.839	0.42( 0.04)	0.10	43.7	110.00
3	119.93	10.57	2.835	0.42( 0.04)	0.10	43.8	140.00
4	119.05	11.68	2.669	0.42( 0.04)	0.10	46.6	130.00
5	118.58	12.04	2.621	0.42( 0.04)	0.10	47.4	120.00
6	117.60	12.58	2.553	0.42( 0.04)	0.10	48.4	180.00
7	113.20	13.80	2.415	0.42( 0.04)	0.10	49.6	100.00
8	113.02	13.86	2.409	0.42( 0.04)	0.10	49.7	150.00
9	107.32	15.20	2.280	0.42( 0.04)	0.10	50.1	160.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 119.93 Tc(MIN.) = 10.57  
EFFECTIVE AREA(ACRES) = 43.81 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 50.1  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 185.00 = 3049.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 185.00 TO NODE 186.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<  
-----  
ELEVATION DATA: UPSTREAM(FEET) = 637.62 DOWNSTREAM(FEET) = 637.59  
FLOW LENGTH(FEET) = 5.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 51.0 INCH PIPE IS 36.7 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 10.96  
ESTIMATED PIPE DIAMETER(INCH) = 51.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 119.93  
PIPE TRAVEL TIME(MIN.) = 0.01 Tc(MIN.) = 10.58  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 186.00 = 3054.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 186.00 TO NODE 186.00 IS CODE = 81  
-----

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<  
-----  
MAINLINE Tc(MIN.) = 10.58  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.833  
SUBAREA LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 0.85 0.42 0.100 76  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 0.85 SUBAREA RUNOFF(CFS) = 2.14  
EFFECTIVE AREA(ACRES) = 44.66 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 50.9 PEAK FLOW RATE(CFS) = 119.93  
NOTE: PEAK FLOW RATE DEFAULTED TO UPSTREAM VALUE

\*\*\*\*\*  
FLOW PROCESS FROM NODE 186.00 TO NODE 208.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<  
-----  
ELEVATION DATA: UPSTREAM(FEET) = 637.59 DOWNSTREAM(FEET) = 637.40  
FLOW LENGTH(FEET) = 203.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 69.0 INCH PIPE IS 55.4 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 5.36  
ESTIMATED PIPE DIAMETER(INCH) = 69.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 119.93  
PIPE TRAVEL TIME(MIN.) = 0.63 Tc(MIN.) = 11.21  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 208.00 = 3257.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 208.00 TO NODE 208.00 IS CODE = 10  
-----

>>>>MAIN-STREAM MEMORY COPIED ONTO MEMORY BANK # 1 <<<<<  
-----

\*\*\*\*\*  
FLOW PROCESS FROM NODE 190.00 TO NODE 191.00 IS CODE = 21  
-----

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<  
>>>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<  
-----

INITIAL SUBAREA FLOW-LENGTH(FEET) = 238.00  
ELEVATION DATA: UPSTREAM(FEET) = 646.51 DOWNSTREAM(FEET) = 643.85

Tc = K\*[(LENGTH\*\* 3.00)/(ELEVATION CHANGE)]\*\*0.20  
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 6.666  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.738  
SUBAREA Tc AND LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS Tc  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)  
COMMERCIAL B 1.30 0.42 0.100 76 6.67  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA RUNOFF(CFS) = 4.32  
TOTAL AREA(ACRES) = 1.30 PEAK FLOW RATE(CFS) = 4.32

\*\*\*\*\*  
FLOW PROCESS FROM NODE 191.00 TO NODE 192.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 639.85 DOWNSTREAM(FEET) = 638.26  
FLOW LENGTH(FEET) = 317.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 15.0 INCH PIPE IS 11.1 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.46  
ESTIMATED PIPE DIAMETER(INCH) = 15.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 4.32  
PIPE TRAVEL TIME(MIN.) = 1.19 Tc(MIN.) = 7.85  
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 192.00 = 555.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 192.00 TO NODE 192.00 IS CODE = 81  
-----

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

=====

MAINLINE Tc(MIN.) = 7.85  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.388  
SUBAREA LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 0.30 0.42 0.100 76  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 0.30 SUBAREA RUNOFF(CFS) = 0.90  
EFFECTIVE AREA(ACRES) = 1.60 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 1.6 PEAK FLOW RATE(CFS) = 4.82

\*\*\*\*\*  
FLOW PROCESS FROM NODE 192.00 TO NODE 193.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 638.26 DOWNSTREAM(FEET) = 637.21  
FLOW LENGTH(FEET) = 210.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 15.0 INCH PIPE IS 12.3 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.48  
ESTIMATED PIPE DIAMETER(INCH) = 15.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 4.82  
PIPE TRAVEL TIME(MIN.) = 0.78 Tc(MIN.) = 8.63  
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 193.00 = 765.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 193.00 TO NODE 193.00 IS CODE = 81  
-----

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

=====

MAINLINE Tc(MIN.) = 8.63  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.201  
SUBAREA LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 0.45 0.42 0.100 76  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 0.45 SUBAREA RUNOFF(CFS) = 1.28  
EFFECTIVE AREA(ACRES) = 2.05 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 2.0 PEAK FLOW RATE(CFS) = 5.83

\*\*\*\*\*  
FLOW PROCESS FROM NODE 193.00 TO NODE 202.00 IS CODE = 31

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-----
>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
-----
ELEVATION DATA: UPSTREAM(FEET) = 637.21 DOWNSTREAM(FEET) = 635.24
FLOW LENGTH(FEET) = 395.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 18.0 INCH PIPE IS 11.6 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 4.86
ESTIMATED PIPE DIAMETER(INCH) = 18.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 5.83
PIPE TRAVEL TIME(MIN.) = 1.36 Tc(MIN.) = 9.99
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 202.00 = 1160.00 FEET.

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*****
FLOW PROCESS FROM NODE 202.00 TO NODE 202.00 IS CODE = 1
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>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
-----
TOTAL NUMBER OF STREAMS = 2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:
TIME OF CONCENTRATION(MIN.) = 9.99
RAINFALL INTENSITY(INCH/HR) = 2.93
AREA-AVERAGED Fm(INCH/HR) = 0.04
AREA-AVERAGED Fp(INCH/HR) = 0.42
AREA-AVERAGED Ap = 0.10
EFFECTIVE STREAM AREA(ACRES) = 2.05
TOTAL STREAM AREA(ACRES) = 2.05
PEAK FLOW RATE(CFS) AT CONFLUENCE = 5.83

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*****
FLOW PROCESS FROM NODE 200.00 TO NODE 201.00 IS CODE = 21
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>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<
-----
INITIAL SUBAREA FLOW-LENGTH(FEET) = 265.00
ELEVATION DATA: UPSTREAM(FEET) = 649.00 DOWNSTREAM(FEET) = 642.29

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Tc = K*[(LENGTH** 3.00)/(ELEVATION CHANGE)]**0.20
SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 5.908
* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 4.018
SUBAREA Tc AND LOSS RATE DATA(AMC III):
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS Tc
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)
COMMERCIAL B 3.10 0.42 0.100 76 5.91
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100
SUBAREA RUNOFF(CFS) = 11.09
TOTAL AREA(ACRES) = 3.10 PEAK FLOW RATE(CFS) = 11.09

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*****
FLOW PROCESS FROM NODE 201.00 TO NODE 202.00 IS CODE = 31
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>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
-----
ELEVATION DATA: UPSTREAM(FEET) = 638.29 DOWNSTREAM(FEET) = 635.24
FLOW LENGTH(FEET) = 20.00 MANNING'S N = 0.012
DEPTH OF FLOW IN 12.0 INCH PIPE IS 7.8 INCHES
PIPE-FLOW VELOCITY(FEET/SEC.) = 20.57
ESTIMATED PIPE DIAMETER(INCH) = 12.00 NUMBER OF PIPES = 1
PIPE-FLOW(CFS) = 11.09
PIPE TRAVEL TIME(MIN.) = 0.02 Tc(MIN.) = 5.92
LONGEST FLOWPATH FROM NODE 200.00 TO NODE 202.00 = 285.00 FEET.

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*****
FLOW PROCESS FROM NODE 202.00 TO NODE 202.00 IS CODE = 1
-----

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>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
-----
TOTAL NUMBER OF STREAMS = 2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:
TIME OF CONCENTRATION(MIN.) = 5.92
RAINFALL INTENSITY(INCH/HR) = 4.01
AREA-AVERAGED Fm(INCH/HR) = 0.04
AREA-AVERAGED Fp(INCH/HR) = 0.42
AREA-AVERAGED Ap = 0.10
EFFECTIVE STREAM AREA(ACRES) = 3.10
TOTAL STREAM AREA(ACRES) = 3.10
PEAK FLOW RATE(CFS) AT CONFLUENCE = 11.09

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** CONFLUENCE DATA **

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STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	5.83	9.99	2.932	0.42( 0.04)	0.10	2.0	190.00
2	11.09	5.92	4.011	0.42( 0.04)	0.10	3.1	200.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	15.84	5.92	4.011	0.42( 0.04)	0.10	4.3	200.00
2	13.90	9.99	2.932	0.42( 0.04)	0.10	5.1	190.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 15.84 Tc(MIN.) = 5.92  
EFFECTIVE AREA(ACRES) = 4.32 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 5.1  
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 202.00 = 1160.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 202.00 TO NODE 203.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 638.29 DOWNSTREAM(FEET) = 637.48  
FLOW LENGTH(FEET) = 162.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 24.0 INCH PIPE IS 18.4 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.12  
ESTIMATED PIPE DIAMETER(INCH) = 24.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 15.84  
PIPE TRAVEL TIME(MIN.) = 0.44 Tc(MIN.) = 6.37  
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 203.00 = 1322.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 203.00 TO NODE 203.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<<

MAINLINE Tc(MIN.) = 6.37  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.842  
SUBAREA LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 1.35 0.42 0.100 76  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 1.35 SUBAREA RUNOFF(CFS) = 4.62  
EFFECTIVE AREA(ACRES) = 5.67 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 6.5 PEAK FLOW RATE(CFS) = 19.38

\*\*\*\*\*

FLOW PROCESS FROM NODE 203.00 TO NODE 204.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 637.48 DOWNSTREAM(FEET) = 636.78  
FLOW LENGTH(FEET) = 140.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 27.0 INCH PIPE IS 18.9 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.51  
ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 19.38  
PIPE TRAVEL TIME(MIN.) = 0.36 Tc(MIN.) = 6.72  
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 204.00 = 1462.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 204.00 TO NODE 204.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<<

MAINLINE Tc(MIN.) = 6.72  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.718  
SUBAREA LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 1.30 0.42 0.100 76  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 1.30 SUBAREA RUNOFF(CFS) = 4.30

EFFECTIVE AREA(ACRES) = 6.97 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 7.8 PEAK FLOW RATE(CFS) = 23.04

\*\*\*\*\*  
FLOW PROCESS FROM NODE 204.00 TO NODE 205.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<  
-----

ELEVATION DATA: UPSTREAM(FEET) = 636.78 DOWNSTREAM(FEET) = 636.07  
FLOW LENGTH(FEET) = 141.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 27.0 INCH PIPE IS 21.9 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 6.66  
ESTIMATED PIPE DIAMETER(INCH) = 27.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 23.04  
PIPE TRAVEL TIME(MIN.) = 0.35 Tc(MIN.) = 7.08  
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 205.00 = 1603.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 205.00 TO NODE 205.00 IS CODE = 81  
-----

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<  
-----

MAINLINE Tc(MIN.) = 7.08  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.606  
SUBAREA LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 1.25 0.42 0.100 76  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 1.25 SUBAREA RUNOFF(CFS) = 4.01  
EFFECTIVE AREA(ACRES) = 8.22 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 9.0 PEAK FLOW RATE(CFS) = 26.35

\*\*\*\*\*  
FLOW PROCESS FROM NODE 205.00 TO NODE 206.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<  
-----

ELEVATION DATA: UPSTREAM(FEET) = 636.07 DOWNSTREAM(FEET) = 635.37  
FLOW LENGTH(FEET) = 140.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 30.0 INCH PIPE IS 21.4 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 7.02  
ESTIMATED PIPE DIAMETER(INCH) = 30.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 26.35  
PIPE TRAVEL TIME(MIN.) = 0.33 Tc(MIN.) = 7.41  
LONGEST FLOWPATH FROM NODE 190.00 TO NODE 206.00 = 1743.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 206.00 TO NODE 206.00 IS CODE = 81  
-----

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<  
-----

MAINLINE Tc(MIN.) = 7.41  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.508  
SUBAREA LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 1.50 0.42 0.100 76  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 1.50 SUBAREA RUNOFF(CFS) = 4.68  
EFFECTIVE AREA(ACRES) = 9.72 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 10.5 PEAK FLOW RATE(CFS) = 30.30

\*\*\*\*\*  
FLOW PROCESS FROM NODE 206.00 TO NODE 207.00 IS CODE = 31  
-----

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<  
-----

ELEVATION DATA: UPSTREAM(FEET) = 635.37 DOWNSTREAM(FEET) = 634.65  
FLOW LENGTH(FEET) = 143.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 30.0 INCH PIPE IS 24.2 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 7.14  
ESTIMATED PIPE DIAMETER(INCH) = 30.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 30.30  
PIPE TRAVEL TIME(MIN.) = 0.33 Tc(MIN.) = 7.74

LONGEST FLOWPATH FROM NODE 190.00 TO NODE 207.00 = 1886.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 207.00 TO NODE 207.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

=====

MAINLINE Tc(MIN.) = 7.74

\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 3.416

SUBAREA LOSS RATE DATA(AMC III):

DEVELOPMENT TYPE/ LAND USE	SCS SOIL GROUP	AREA (ACRES)	Fp (INCH/HR)	Ap (DECIMAL)	SCS CN
COMMERCIAL	B	2.75	0.42	0.100	76

SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42

SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100

SUBAREA AREA(ACRES) = 2.75 SUBAREA RUNOFF(CFS) = 8.35

EFFECTIVE AREA(ACRES) = 12.47 AREA-AVERAGED Fm(INCH/HR) = 0.04

AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10

TOTAL AREA(ACRES) = 13.3 PEAK FLOW RATE(CFS) = 37.85

\*\*\*\*\*

FLOW PROCESS FROM NODE 207.00 TO NODE 208.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<

>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 634.65 DOWNSTREAM(FEET) = 633.59

FLOW LENGTH(FEET) = 212.00 MANNING'S N = 0.012

DEPTH OF FLOW IN 33.0 INCH PIPE IS 25.9 INCHES

PIPE-FLOW VELOCITY(FEET/SEC.) = 7.57

ESTIMATED PIPE DIAMETER(INCH) = 33.00 NUMBER OF PIPES = 1

PIPE-FLOW(CFS) = 37.85

PIPE TRAVEL TIME(MIN.) = 0.47 Tc(MIN.) = 8.21

LONGEST FLOWPATH FROM NODE 190.00 TO NODE 208.00 = 2098.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 208.00 TO NODE 208.00 IS CODE = 11

>>>>CONFLUENCE MEMORY BANK # 1 WITH THE MAIN-STREAM MEMORY<<<<<

=====

\*\* MAIN STREAM CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	37.85	8.21	3.298	0.42( 0.04)	0.10	12.5	200.00
2	31.14	12.35	2.582	0.42( 0.04)	0.10	13.3	190.00

LONGEST FLOWPATH FROM NODE 190.00 TO NODE 208.00 = 2098.00 FEET.

\*\* MEMORY BANK # 1 CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	119.23	10.62	2.827	0.42( 0.04)	0.10	42.8	170.00
2	119.92	11.18	2.741	0.42( 0.04)	0.10	44.6	110.00
3	119.93	11.21	2.737	0.42( 0.04)	0.10	44.7	140.00
4	119.05	12.32	2.585	0.42( 0.04)	0.10	47.5	130.00
5	118.58	12.68	2.541	0.42( 0.04)	0.10	48.2	120.00
6	117.60	13.22	2.478	0.42( 0.04)	0.10	49.2	180.00
7	113.20	14.44	2.350	0.42( 0.04)	0.10	50.5	100.00
8	113.02	14.50	2.345	0.42( 0.04)	0.10	50.5	150.00
9	107.32	15.85	2.222	0.42( 0.04)	0.10	50.9	160.00

LONGEST FLOWPATH FROM NODE 150.00 TO NODE 208.00 = 3257.00 FEET.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	145.67	8.21	3.298	0.42( 0.04)	0.10	45.6	200.00
2	153.18	10.62	2.827	0.42( 0.04)	0.10	55.7	170.00
3	152.96	11.18	2.741	0.42( 0.04)	0.10	57.6	110.00
4	152.92	11.21	2.737	0.42( 0.04)	0.10	57.7	140.00
5	150.24	12.32	2.585	0.42( 0.04)	0.10	60.8	130.00
6	150.15	12.35	2.582	0.42( 0.04)	0.10	60.8	190.00
7	149.22	12.68	2.541	0.42( 0.04)	0.10	61.5	120.00
8	147.47	13.22	2.478	0.42( 0.04)	0.10	62.5	180.00
9	141.50	14.44	2.350	0.42( 0.04)	0.10	63.8	100.00
10	141.25	14.50	2.345	0.42( 0.04)	0.10	63.8	150.00
11	134.05	15.85	2.222	0.42( 0.04)	0.10	64.2	160.00

TOTAL AREA(ACRES) = 64.2

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 153.18 Tc(MIN.) = 10.616

EFFECTIVE AREA(ACRES) = 55.74 AREA-AVERAGED Fm(INCH/HR) = 0.04

AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10

TOTAL AREA(ACRES) = 64.2

LONGEST FLOWPATH FROM NODE 150.00 TO NODE 208.00 = 3257.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 208.00 TO NODE 208.00 IS CODE = 12

>>>>CLEAR MEMORY BANK # 1 <<<<<

\*\*\*\*\*

FLOW PROCESS FROM NODE 208.00 TO NODE 209.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<

>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 633.59 DOWNSTREAM(FEET) = 631.80  
FLOW LENGTH(FEET) = 358.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 57.0 INCH PIPE IS 42.4 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 10.84  
ESTIMATED PIPE DIAMETER(INCH) = 57.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 153.18  
PIPE TRAVEL TIME(MIN.) = 0.55 Tc(MIN.) = 11.17  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 209.00 = 3615.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 209.00 TO NODE 209.00 IS CODE = 81

>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<

MAINLINE Tc(MIN.) = 11.17  
\* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.742  
SUBAREA LOSS RATE DATA(AMC III):  
DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
COMMERCIAL B 0.40 0.42 0.100 76  
SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
SUBAREA AREA(ACRES) = 0.40 SUBAREA RUNOFF(CFS) = 0.97  
EFFECTIVE AREA(ACRES) = 56.14 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 64.7 PEAK FLOW RATE(CFS) = 153.18  
NOTE: PEAK FLOW RATE DEFAULTED TO UPSTREAM VALUE

\*\*\*\*\*

FLOW PROCESS FROM NODE 209.00 TO NODE 213.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<

>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 631.80 DOWNSTREAM(FEET) = 631.79  
FLOW LENGTH(FEET) = 132.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 126.0 INCH PIPE IS 92.1 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 2.26  
ESTIMATED PIPE DIAMETER(INCH) = 126.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 153.18  
PIPE TRAVEL TIME(MIN.) = 0.97 Tc(MIN.) = 12.14  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 213.00 = 3747.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 213.00 TO NODE 213.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<

TOTAL NUMBER OF STREAMS = 2  
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:  
TIME OF CONCENTRATION(MIN.) = 12.14  
RAINFALL INTENSITY(INCH/HR) = 2.61  
AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42  
AREA-AVERAGED Ap = 0.10  
EFFECTIVE STREAM AREA(ACRES) = 56.14  
TOTAL STREAM AREA(ACRES) = 64.65  
PEAK FLOW RATE(CFS) AT CONFLUENCE = 153.18

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FLOW PROCESS FROM NODE 210.00 TO NODE 211.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

>>USE TIME-OF-CONCENTRATION NOMOGRAPH FOR INITIAL SUBAREA<<

INITIAL SUBAREA FLOW-LENGTH(FEET) = 544.00  
ELEVATION DATA: UPSTREAM(FEET) = 645.68 DOWNSTREAM(FEET) = 641.86

Tc = K\*[(LENGTH\*\* 3.00)/(ELEVATION CHANGE)]\*\*0.20

SUBAREA ANALYSIS USED MINIMUM Tc(MIN.) = 10.182  
 \* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.899  
 SUBAREA Tc AND LOSS RATE DATA(AMC III):  
 DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS Tc  
 LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN (MIN.)  
 COMMERCIAL B 2.80 0.42 0.100 76 10.18  
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
 SUBAREA RUNOFF(CFS) = 7.20  
 TOTAL AREA(ACRES) = 2.80 PEAK FLOW RATE(CFS) = 7.20

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 211.00 TO NODE 212.00 IS CODE = 31  
 -----  
 >>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
 >>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<  
 -----  
 ELEVATION DATA: UPSTREAM(FEET) = 637.85 DOWNSTREAM(FEET) = 636.80  
 FLOW LENGTH(FEET) = 212.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 18.0 INCH PIPE IS 13.6 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 5.02  
 ESTIMATED PIPE DIAMETER(INCH) = 18.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 7.20  
 PIPE TRAVEL TIME(MIN.) = 0.70 Tc(MIN.) = 10.89  
 LONGEST FLOWPATH FROM NODE 210.00 TO NODE 212.00 = 756.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 212.00 TO NODE 212.00 IS CODE = 81  
 -----  
 >>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<<  
 -----  
 MAINLINE Tc(MIN.) = 10.89  
 \* 100 YEAR RAINFALL INTENSITY(INCH/HR) = 2.785  
 SUBAREA LOSS RATE DATA(AMC III):  
 DEVELOPMENT TYPE/ SCS SOIL AREA Fp Ap SCS  
 LAND USE GROUP (ACRES) (INCH/HR) (DECIMAL) CN  
 COMMERCIAL B 1.15 0.42 0.100 76  
 SUBAREA AVERAGE PERVIOUS LOSS RATE, Fp(INCH/HR) = 0.42  
 SUBAREA AVERAGE PERVIOUS AREA FRACTION, Ap = 0.100  
 SUBAREA AREA(ACRES) = 1.15 SUBAREA RUNOFF(CFS) = 2.84  
 EFFECTIVE AREA(ACRES) = 3.95 AREA-AVERAGED Fm(INCH/HR) = 0.04  
 AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
 TOTAL AREA(ACRES) = 3.9 PEAK FLOW RATE(CFS) = 9.75

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 212.00 TO NODE 213.00 IS CODE = 31  
 -----  
 >>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<<  
 >>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<<  
 -----  
 ELEVATION DATA: UPSTREAM(FEET) = 639.80 DOWNSTREAM(FEET) = 636.61  
 FLOW LENGTH(FEET) = 637.00 MANNING'S N = 0.012  
 DEPTH OF FLOW IN 21.0 INCH PIPE IS 14.5 INCHES  
 PIPE-FLOW VELOCITY(FEET/SEC.) = 5.50  
 ESTIMATED PIPE DIAMETER(INCH) = 21.00 NUMBER OF PIPES = 1  
 PIPE-FLOW(CFS) = 9.75  
 PIPE TRAVEL TIME(MIN.) = 1.93 Tc(MIN.) = 12.82  
 LONGEST FLOWPATH FROM NODE 210.00 TO NODE 213.00 = 1393.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 213.00 TO NODE 213.00 IS CODE = 1  
 -----  
 >>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<<  
 >>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<<  
 -----  
 TOTAL NUMBER OF STREAMS = 2  
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:  
 TIME OF CONCENTRATION(MIN.) = 12.82  
 RAINFALL INTENSITY(INCH/HR) = 2.52  
 AREA-AVERAGED Fm(INCH/HR) = 0.04  
 AREA-AVERAGED Fp(INCH/HR) = 0.42  
 AREA-AVERAGED Ap = 0.10  
 EFFECTIVE STREAM AREA(ACRES) = 3.95  
 TOTAL STREAM AREA(ACRES) = 3.95  
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 9.75

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	145.67	9.77	2.971	0.42( 0.04)	0.10	46.0	200.00
1	153.18	12.14	2.608	0.42( 0.04)	0.10	56.1	170.00
1	152.96	12.70	2.539	0.42( 0.04)	0.10	58.0	110.00
1	152.92	12.73	2.535	0.42( 0.04)	0.10	58.1	140.00

1	150.24	13.87	2.408	0.42( 0.04)	0.10	61.2	130.00
1	150.15	13.90	2.405	0.42( 0.04)	0.10	61.2	190.00
1	149.22	14.23	2.371	0.42( 0.04)	0.10	61.9	120.00
1	147.47	14.77	2.319	0.42( 0.04)	0.10	62.9	180.00
1	141.50	16.01	2.210	0.42( 0.04)	0.10	64.2	100.00
1	141.25	16.06	2.205	0.42( 0.04)	0.10	64.2	150.00
1	134.05	17.43	2.099	0.42( 0.04)	0.10	64.7	160.00
2	9.75	12.82	2.525	0.42( 0.04)	0.10	3.9	210.00

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	154.44	9.77	2.971	0.42( 0.04)	0.10	49.0	200.00
2	162.73	12.14	2.608	0.42( 0.04)	0.10	59.9	170.00
3	162.68	12.70	2.539	0.42( 0.04)	0.10	62.0	110.00
4	162.64	12.73	2.535	0.42( 0.04)	0.10	62.1	140.00
5	162.47	12.82	2.525	0.42( 0.04)	0.10	62.3	210.00
6	159.53	13.87	2.408	0.42( 0.04)	0.10	65.1	130.00
7	159.43	13.90	2.405	0.42( 0.04)	0.10	65.2	190.00
8	158.36	14.23	2.371	0.42( 0.04)	0.10	65.9	120.00
9	156.41	14.77	2.319	0.42( 0.04)	0.10	66.9	180.00
10	150.01	16.01	2.210	0.42( 0.04)	0.10	68.1	100.00
11	149.74	16.06	2.205	0.42( 0.04)	0.10	68.2	150.00
12	142.13	17.43	2.099	0.42( 0.04)	0.10	68.6	160.00

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 162.73 Tc(MIN.) = 12.14  
EFFECTIVE AREA(ACRES) = 59.88 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
TOTAL AREA(ACRES) = 68.6  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 213.00 = 3747.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 213.00 TO NODE 214.00 IS CODE = 31

>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<  
>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<

ELEVATION DATA: UPSTREAM(FEET) = 631.79 DOWNSTREAM(FEET) = 631.56  
FLOW LENGTH(FEET) = 45.00 MANNING'S N = 0.012  
DEPTH OF FLOW IN 57.0 INCH PIPE IS 44.3 INCHES  
PIPE-FLOW VELOCITY(FEET/SEC.) = 11.02  
ESTIMATED PIPE DIAMETER(INCH) = 57.00 NUMBER OF PIPES = 1  
PIPE-FLOW(CFS) = 162.73  
PIPE TRAVEL TIME(MIN.) = 0.07 Tc(MIN.) = 12.21  
LONGEST FLOWPATH FROM NODE 150.00 TO NODE 214.00 = 3792.00 FEET.

END OF STUDY SUMMARY:

TOTAL AREA(ACRES) = 68.6 TC(MIN.) = 12.21  
EFFECTIVE AREA(ACRES) = 59.88 AREA-AVERAGED Fm(INCH/HR) = 0.04  
AREA-AVERAGED Fp(INCH/HR) = 0.42 AREA-AVERAGED Ap = 0.10  
PEAK FLOW RATE(CFS) = 162.73

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	Q (CFS)	Tc (MIN.)	Intensity (INCH/HR)	Fp(Fm) (INCH/HR)	Ap	Ae (ACRES)	HEADWATER NODE
1	154.44	9.84	2.958	0.42( 0.04)	0.10	49.0	200.00
2	162.73	12.21	2.600	0.42( 0.04)	0.10	59.9	170.00
3	162.68	12.77	2.530	0.42( 0.04)	0.10	62.0	110.00
4	162.64	12.80	2.527	0.42( 0.04)	0.10	62.1	140.00
5	162.47	12.88	2.517	0.42( 0.04)	0.10	62.3	210.00
6	159.53	13.94	2.401	0.42( 0.04)	0.10	65.1	130.00
7	159.43	13.97	2.398	0.42( 0.04)	0.10	65.2	190.00
8	158.36	14.30	2.365	0.42( 0.04)	0.10	65.9	120.00
9	156.41	14.84	2.312	0.42( 0.04)	0.10	66.9	180.00
10	150.01	16.08	2.204	0.42( 0.04)	0.10	68.1	100.00
11	149.74	16.13	2.199	0.42( 0.04)	0.10	68.2	150.00
12	142.13	17.50	2.094	0.42( 0.04)	0.10	68.6	160.00

END OF RATIONAL METHOD ANALYSIS

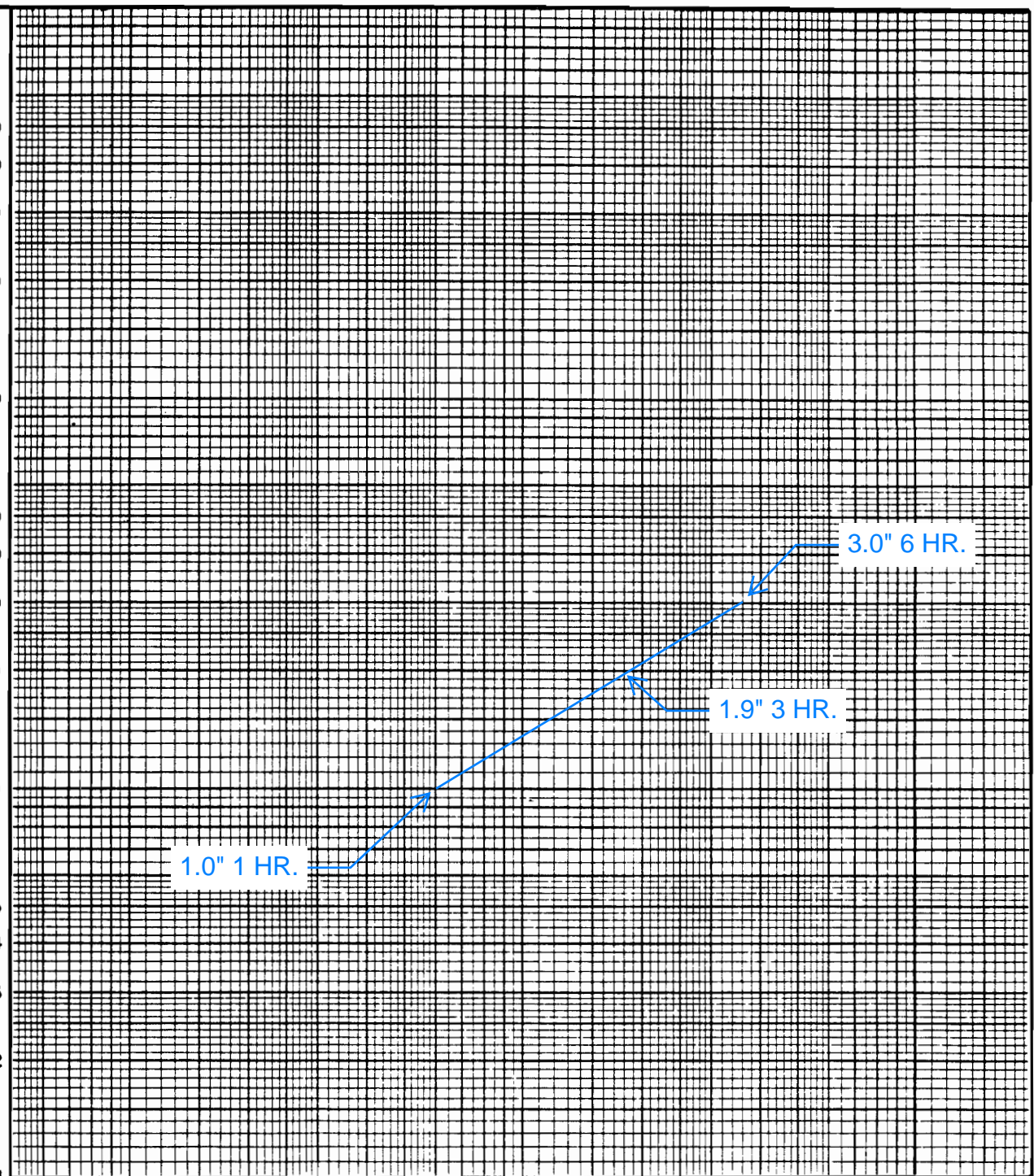
↑

# **APPENDIX C**

## **DETENTION ANALYSIS**

POINT RAINFALL - INCHES

50.0  
40.0  
30.0  
20.0  
10.0  
5.0  
4.0  
3.0  
2.0  
1.0  
0.5  
0.4  
0.3  
0.2  
0.1



5 10 20 30 40 50 100 200 300 400 500 1000

STORM DURATION - MINUTES

PROJECT LOCATION SULTANA AND MERRILL

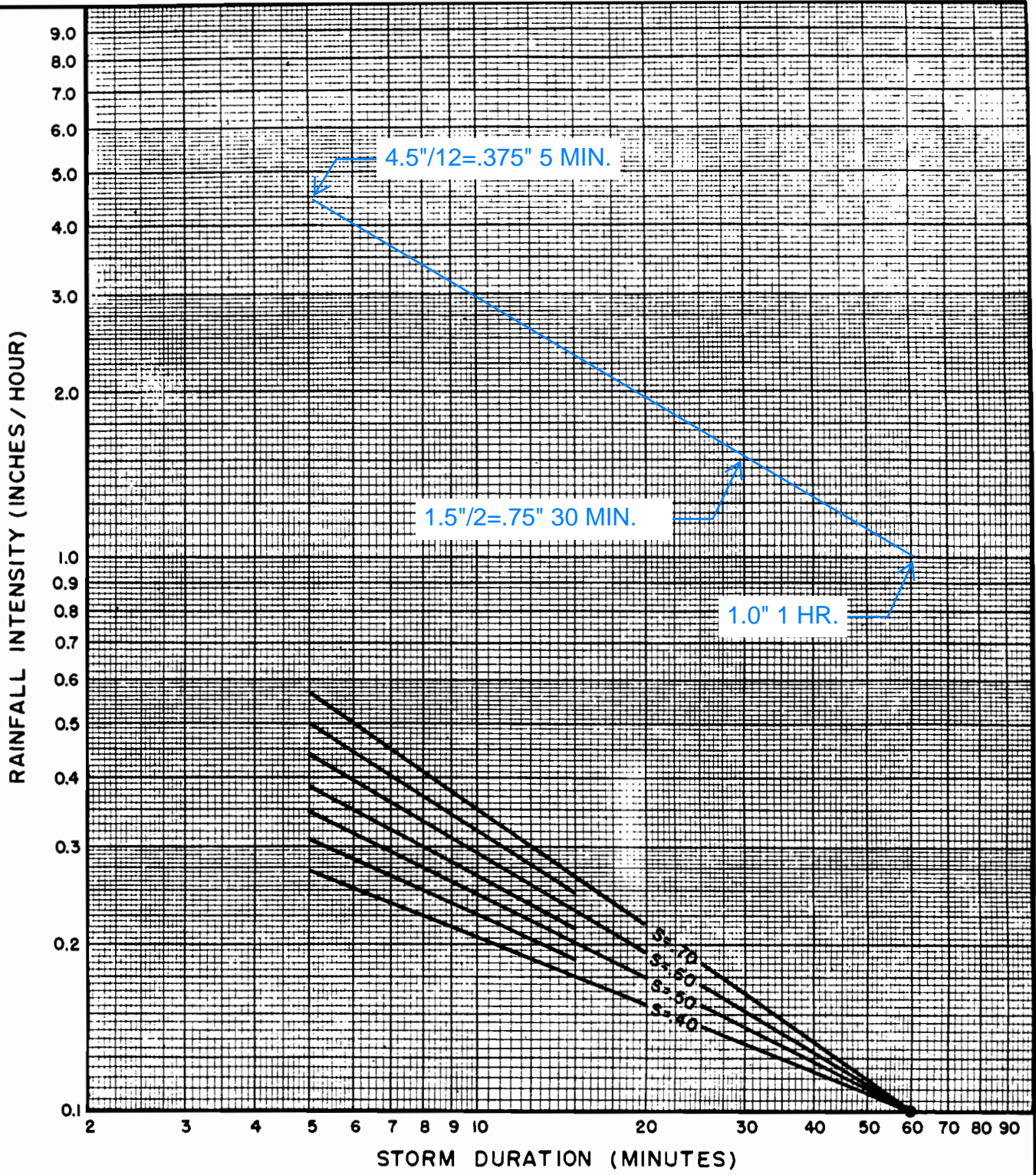
NOTES \_\_\_\_\_

**SAN BERNARDINO COUNTY**  
HYDROLOGY MANUAL

AREA - AVERAGED  
MASS RAINFALL  
PLOTING SHEET

115





DESIGN STORM FREQUENCY = 100 YEARS  
 ONE HOUR POINT RAINFALL = 1 INCHES  
 LOG-LOG SLOPE = 0.60  
 PROJECT LOCATION = SULTANA AND MERRILL

**SAN BERNARDINO COUNTY**  
 HYDROLOGY MANUAL

INTENSITY - DURATION  
 CURVES  
 CALCULATION SHEET

JOB #3857 - S.E. CORNER EUCALYPTUS AVE AND SULTANA, ONTARIO  
 DETENTION IN BUILDING 8 SOUTH TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	$\Sigma$ Volume (c.f.)	$\Sigma$ Volume (ac-ft)	Q Discharge (cfs)
661.11	0.00	0				
			10	10	0.00	1.8
661.20	0.09	230	285	295	0.01	1.9
661.40	0.29	2619	1044	1339	0.03	2.1
661.60	0.49	7816	2125	3464	0.08	2.2
661.80	0.69	13439	3006	6471	0.15	2.3
662.00	0.89	16624	3656	10127	0.23	2.4
662.20	1.09	19936	4339	14466	0.33	2.5
662.40	1.29	23457				

JOB #3857 - S.E. CORNER EUCALYPTUS AVE AND SULTANA, ONTARIO  
 DETENTION IN BUILDING 9 SOUTH TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	$\Sigma$ Volume (c.f.)	$\Sigma$ Volume (ac-ft)	Q Discharge (cfs)
661.69	0.00	0				
			22	22	0.00	2.9
661.80	0.11	398				
			369	390	0.01	3.1
662.00	0.31	3288				
			1083	1474	0.03	3.3
662.20	0.51	7544				
			1824	3298	0.08	3.6
662.40	0.71	10698				
			2437	5735	0.13	3.7
662.60	0.91	13674				
			3074	8809	0.20	3.9
662.80	1.11	17067				

JOB #3857 - S.E. CORNER EUCALYPTUS AVE AND SULTANA, ONTARIO  
 DETENTION IN BUILDING 10 SOUTH TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	$\Sigma$ Volume (c.f.)	$\Sigma$ Volume (ac-ft)	Q Discharge (cfs)
663.18	0.00	0	0	0	0.00	
663.20	0.02	11.7	149	149	0.00	9.3
663.40	0.22	1482	734	884	0.02	10.1
663.60	0.42	5862	1739	2623	0.06	10.8
663.80	0.62	11527				

JOB #3857 - S.E. CORNER EUCALYPTUS AVE AND SULTANA, ONTARIO  
 DETENTION IN BUILDING 11 SOUTH TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	$\Sigma$ Volume (c.f.)	$\Sigma$ Volume (ac-ft)	Q Discharge (cfs)
654.35	0.00	0				
			4	4	0.00	
654.40	0.05	164	122	126	0.00	2.9
654.60	0.25	1056	957	1083	0.02	3.1
654.80	0.45	8518	3192	4276	0.10	3.3
655.00	0.65	23406	6282	10558	0.24	3.6
655.20	0.85	39410	8871	19428	0.45	3.7
655.40	1.05	49300	10748	30177	0.69	3.9
655.60	1.25	58180	12541	42717	0.98	4.1
655.80	1.45	67228				

JOB #3857 - S.E. CORNER EUCALYPTUS AVE AND SULTANA, ONTARIO  
 DETENTION IN BUILDING 12 NORTH TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	$\Sigma$ Volume (c.f.)	$\Sigma$ Volume (ac-ft)	Q Discharge (cfs)
649.63	0.00	0				
			471	471	0.01	1.1
649.80	0.17	5546				
			3419	3891	0.09	1.1
650.00	0.37	28645				
			9046	12936	0.30	1.2
650.20	0.57	61810				
			14489	27425	0.63	1.3
650.40	0.77	83078				
			17998	45423	1.04	1.4
650.60	0.97	96900				
			20666	66089	1.52	1.4
650.80	1.17	109763				
			22844	88933	2.04	1.5
651.00	1.37	118677				
			24554	113487	2.61	1.6
651.20	1.57	126862				
			26160	139647	3.21	1.6
651.40	1.77	134741				
			27743	167390	3.84	1.7
651.60	1.97	142691				
			29363	196754	4.52	1.7
651.80	2.17	150944				
			31030	227783	5.23	1.7
652.00	2.37	159352				
			32720	260504	5.98	1.7
652.20	2.57	167850				

JOB #3857 - S.E. CORNER EUCALYPTUS AVE AND SULTANA, ONTARIO  
 DETENTION IN BUILDING 12 SOUTH TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	$\Sigma$ Volume (c.f.)	$\Sigma$ Volume (ac-ft)	Q Discharge (cfs)
647.20	0.00	191				
			390	390	0.01	1.8
647.40	0.20	3706				
			2101	2490	0.06	1.9
647.60	0.40	17299				
			5138	7628	0.18	2.1
647.80	0.60	34083				
			8029	15658	0.36	2.2
648.00	0.80	46209				
			10113	25771	0.59	2.3
648.20	1.00	54925				
			11897	37668	0.86	2.4
648.40	1.20	64044				
			13721	51389	1.18	2.5
648.60	1.40	73163				
			15443	66831	1.53	2.6
648.80	1.60	81264				

JOB #3857 - S.E. CORNER EUCALYPTUS AVE AND SULTANA, ONTARIO  
 DETENTION IN BUILDING 13 NORTH TRUCK YARD

Elevation	Depth (feet)	Area (sq. ft.)	Volume (c.f.)	$\Sigma$ Volume (c.f.)	$\Sigma$ Volume (ac-ft)	Q Discharge (cfs)
642.29	0.00	0				
			114	114	0.00	1.1
642.40	0.11	2144	2113	2226	0.05	1.1
642.60	0.31	18984	7008	9234	0.21	1.2
642.80	0.51	51096	12946	22180	0.51	1.3
643.00	0.71	78364	17092	39272	0.90	1.4
643.20	0.91	92556	19849	59121	1.36	1.4
643.40	1.11	105933	22252	81373	1.87	1.5
643.60	1.31	116585	24197	105570	2.42	1.6
643.80	1.51	125384	25918	131488	3.02	1.6
644.00	1.71	133800	27590	159079	3.65	1.7
644.20	1.91	142104	29266	188345	4.32	1.7
644.40	2.11	150561	30984	219330	5.04	1.7
644.60	2.31	159283	32746	252076	5.79	1.7
644.80	2.51	168180				



\*\*\*\*\*  
 SMALL AREA UNIT HYDROGRAPH MODEL  
 =====

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 Ver. 23.0 Release Date: 07/01/2016 License ID 1435

Analysis prepared by:

THIENES ENGINEERING, INC.  
 14349 FIRESTONE BLVD  
 LA MIRIADA, CA 90638  
 714-521-4811

\*\*\*\*\*  
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Problem Descriptions:

TEI JOB NUMBER 3857  
 PONDING IN BUILDING 8 TRUCK YARD  
 100-YEAR STORM EVENT  
 -----

RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90  
 TOTAL CATCHMENT AREA (ACRES) = 3.45  
 SOIL-LOSS RATE, Fm, (INCH/HR) = 0.042  
 LOW LOSS FRACTION = 0.079  
 TIME OF CONCENTRATION (MIN.) = 9.30  
 SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA  
 USER SPECIFIED RAINFALL VALUES ARE USED  
 RETURN FREQUENCY (YEARS) = 100  
 5-MINUTE POINT RAINFALL VALUE (INCHES) = 0.38  
 30-MINUTE POINT RAINFALL VALUE (INCHES) = 0.75  
 1-HOUR POINT RAINFALL VALUE (INCHES) = 1.00  
 3-HOUR POINT RAINFALL VALUE (INCHES) = 1.90  
 6-HOUR POINT RAINFALL VALUE (INCHES) = 3.00  
 24-HOUR POINT RAINFALL VALUE (INCHES) = 6.00  
 -----

TOTAL CATCHMENT RUNOFF VOLUME (ACRE-FEET) = 1.43  
 TOTAL CATCHMENT SOIL-LOSS VOLUME (ACRE-FEET) = 0.30  
 -----

\*\*\*\*\*

TIME (HOURS)	VOLUME (AF)	Q (CFS)	0.	2.5	5.0	7.5	10.0
0.03	0.0000	0.00	Q	.	.	.	.
0.19	0.0023	0.36	.Q	.	.	.	.
0.34	0.0069	0.36	.Q	.	.	.	.
0.50	0.0115	0.36	.Q	.	.	.	.
0.65	0.0162	0.36	.Q	.	.	.	.
0.81	0.0208	0.37	.Q	.	.	.	.
0.96	0.0255	0.37	.Q	.	.	.	.
1.12	0.0302	0.37	.Q	.	.	.	.
1.27	0.0350	0.37	.Q	.	.	.	.
1.43	0.0397	0.37	.Q	.	.	.	.
1.58	0.0445	0.38	.Q	.	.	.	.
1.74	0.0493	0.38	.Q	.	.	.	.
1.89	0.0542	0.38	.Q	.	.	.	.
2.05	0.0591	0.38	.Q	.	.	.	.
2.20	0.0639	0.38	.Q	.	.	.	.
2.36	0.0689	0.38	.Q	.	.	.	.
2.51	0.0738	0.39	.Q	.	.	.	.
2.67	0.0788	0.39	.Q	.	.	.	.
2.82	0.0838	0.39	.Q	.	.	.	.
2.98	0.0888	0.39	.Q	.	.	.	.
3.13	0.0939	0.40	.Q	.	.	.	.
3.29	0.0990	0.40	.Q	.	.	.	.
3.44	0.1041	0.40	.Q	.	.	.	.
3.60	0.1093	0.40	.Q	.	.	.	.
3.75	0.1145	0.41	.Q	.	.	.	.

3.91	0.1197	0.41	.Q	.	.	.	.
4.06	0.1250	0.41	.Q	.	.	.	.
4.22	0.1303	0.41	.Q	.	.	.	.
4.38	0.1356	0.42	.Q	.	.	.	.
4.53	0.1409	0.42	.Q	.	.	.	.
4.68	0.1463	0.42	.Q	.	.	.	.
4.84	0.1518	0.43	.Q	.	.	.	.
4.99	0.1572	0.43	.Q	.	.	.	.
5.15	0.1627	0.43	.Q	.	.	.	.
5.30	0.1683	0.44	.Q	.	.	.	.
5.46	0.1739	0.44	.Q	.	.	.	.
5.61	0.1795	0.44	.Q	.	.	.	.
5.77	0.1852	0.44	.Q	.	.	.	.
5.93	0.1909	0.45	.Q	.	.	.	.
6.08	0.1966	0.45	.Q	.	.	.	.
6.23	0.2024	0.46	.Q	.	.	.	.
6.39	0.2083	0.46	.Q	.	.	.	.
6.54	0.2142	0.46	.Q	.	.	.	.
6.70	0.2201	0.46	.Q	.	.	.	.
6.86	0.2261	0.47	.Q	.	.	.	.
7.01	0.2322	0.47	.Q	.	.	.	.
7.16	0.2382	0.48	.Q	.	.	.	.
7.32	0.2444	0.48	.Q	.	.	.	.
7.47	0.2506	0.49	.Q	.	.	.	.
7.63	0.2568	0.49	.Q	.	.	.	.
7.78	0.2632	0.50	.Q	.	.	.	.
7.94	0.2695	0.50	.Q	.	.	.	.
8.09	0.2760	0.51	. Q	.	.	.	.
8.25	0.2825	0.51	. Q	.	.	.	.
8.40	0.2890	0.52	. Q	.	.	.	.
8.56	0.2956	0.52	. Q	.	.	.	.
8.71	0.3023	0.53	. Q	.	.	.	.
8.87	0.3091	0.53	. Q	.	.	.	.
9.02	0.3159	0.54	. Q	.	.	.	.
9.18	0.3228	0.54	. Q	.	.	.	.
9.34	0.3298	0.55	. Q	.	.	.	.
9.49	0.3369	0.55	. Q	.	.	.	.
9.65	0.3440	0.56	. Q	.	.	.	.
9.80	0.3513	0.57	. Q	.	.	.	.
9.95	0.3586	0.58	. Q	.	.	.	.
10.11	0.3660	0.58	. Q	.	.	.	.
10.26	0.3735	0.59	. Q	.	.	.	.
10.42	0.3812	0.60	. Q	.	.	.	.
10.57	0.3889	0.61	. Q	.	.	.	.
10.73	0.3967	0.61	. Q	.	.	.	.
10.88	0.4046	0.63	. Q	.	.	.	.
11.04	0.4127	0.63	. Q	.	.	.	.
11.20	0.4209	0.65	. Q	.	.	.	.
11.35	0.4292	0.65	. Q	.	.	.	.
11.51	0.4376	0.67	. Q	.	.	.	.
11.66	0.4462	0.67	. Q	.	.	.	.
11.82	0.4550	0.69	. Q	.	.	.	.
11.97	0.4639	0.70	. Q	.	.	.	.
12.12	0.4740	0.88	. Q	.	.	.	.
12.28	0.4857	0.95	. Q	.	.	.	.
12.43	0.4980	0.97	. Q	.	.	.	.
12.59	0.5105	0.98	. Q	.	.	.	.
12.74	0.5232	1.00	. Q	.	.	.	.
12.90	0.5361	1.01	. Q	.	.	.	.
13.05	0.5492	1.03	. Q	.	.	.	.
13.21	0.5625	1.05	. Q	.	.	.	.
13.37	0.5761	1.07	. Q	.	.	.	.
13.52	0.5899	1.09	. Q	.	.	.	.
13.68	0.6040	1.12	. Q	.	.	.	.
13.83	0.6184	1.13	. Q	.	.	.	.
13.98	0.6332	1.17	. Q	.	.	.	.
14.14	0.6480	1.14	. Q	.	.	.	.
14.30	0.6624	1.10	. Q	.	.	.	.
14.45	0.6767	1.13	. Q	.	.	.	.
14.60	0.6916	1.19	. Q	.	.	.	.
14.76	0.7071	1.23	. Q	.	.	.	.
14.91	0.7234	1.31	. Q	.	.	.	.
15.07	0.7405	1.36	. Q	.	.	.	.

15.23	0.7588	1.49	.	Q	.	.	.	.
15.38	0.7784	1.57	.	Q	.	.	.	.
15.53	0.7969	1.30	.	Q	.	.	.	.
15.69	0.8146	1.47	.	Q	.	.	.	.
15.85	0.8366	1.95	.	Q	.	.	.	.
16.00	0.8668	2.77	.	.	Q	.	.	.
16.16	0.9454	9.50	.	.	.	.	Q	.
16.31	1.0170	1.68	.	Q	.	.	.	.
16.47	1.0371	1.45	.	Q	.	.	.	.
16.62	1.0555	1.42	.	Q	.	.	.	.
16.77	1.0727	1.27	.	Q	.	.	.	.
16.93	1.0883	1.16	.	Q	.	.	.	.
17.08	1.1026	1.08	.	Q	.	.	.	.
17.24	1.1169	1.15	.	Q	.	.	.	.
17.39	1.1313	1.10	.	Q	.	.	.	.
17.55	1.1452	1.06	.	Q	.	.	.	.
17.70	1.1585	1.02	.	Q	.	.	.	.
17.86	1.1714	0.99	.	Q	.	.	.	.
18.02	1.1839	0.96	.	Q	.	.	.	.
18.17	1.1946	0.71	.	Q	.	.	.	.
18.33	1.2035	0.68	.	Q	.	.	.	.
18.48	1.2121	0.66	.	Q	.	.	.	.
18.64	1.2204	0.64	.	Q	.	.	.	.
18.79	1.2284	0.62	.	Q	.	.	.	.
18.94	1.2363	0.60	.	Q	.	.	.	.
19.10	1.2439	0.59	.	Q	.	.	.	.
19.26	1.2513	0.57	.	Q	.	.	.	.
19.41	1.2585	0.56	.	Q	.	.	.	.
19.57	1.2656	0.55	.	Q	.	.	.	.
19.72	1.2725	0.53	.	Q	.	.	.	.
19.88	1.2793	0.52	.	Q	.	.	.	.
20.03	1.2859	0.51	.	Q	.	.	.	.
20.18	1.2924	0.50	.	Q	.	.	.	.
20.34	1.2988	0.49	.	Q	.	.	.	.
20.49	1.3050	0.48	.	Q	.	.	.	.
20.65	1.3112	0.48	.	Q	.	.	.	.
20.81	1.3172	0.47	.	Q	.	.	.	.
20.96	1.3231	0.46	.	Q	.	.	.	.
21.11	1.3290	0.45	.	Q	.	.	.	.
21.27	1.3347	0.45	.	Q	.	.	.	.
21.42	1.3404	0.44	.	Q	.	.	.	.
21.58	1.3460	0.43	.	Q	.	.	.	.
21.73	1.3515	0.43	.	Q	.	.	.	.
21.89	1.3569	0.42	.	Q	.	.	.	.
22.05	1.3623	0.42	.	Q	.	.	.	.
22.20	1.3676	0.41	.	Q	.	.	.	.
22.36	1.3728	0.41	.	Q	.	.	.	.
22.51	1.3780	0.40	.	Q	.	.	.	.
22.67	1.3831	0.40	.	Q	.	.	.	.
22.82	1.3881	0.39	.	Q	.	.	.	.
22.98	1.3931	0.39	.	Q	.	.	.	.
23.13	1.3980	0.38	.	Q	.	.	.	.
23.28	1.4029	0.38	.	Q	.	.	.	.
23.44	1.4077	0.37	.	Q	.	.	.	.
23.59	1.4125	0.37	.	Q	.	.	.	.
23.75	1.4172	0.37	.	Q	.	.	.	.
23.91	1.4219	0.36	.	Q	.	.	.	.
24.06	1.4265	0.36	.	Q	.	.	.	.
24.22	1.4288	0.00	Q	.	.	.	.	.

-----

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
 (Note: 100% of Peak Flow Rate estimate assumed to have  
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1441.5
10%	353.4
20%	27.9
30%	9.3
40%	9.3

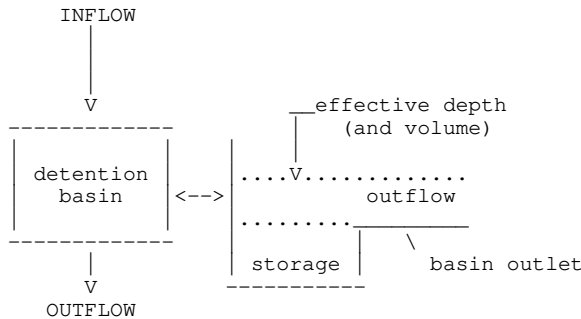
50%	9.3
60%	9.3
70%	9.3
80%	9.3
90%	9.3

Problem Descriptions:  
 TEI JOB NUMBER 3857  
 PONDING IN BUILDING 8 TRUCK YARD  
 100-YEAR STORM EVENT

=====

FLOW-THROUGH DETENTION BASIN MODEL

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
 CONSTANT HYDROGRAPH TIME UNIT(MINUTES) = 9.300  
 DEAD STORAGE (AF) = 0.00  
 SPECIFIED DEAD STORAGE (AF) FILLED = 0.00  
 ASSUMED INITIAL DEPTH(FEET) IN STORAGE BASIN = 0.00



DEPTH-VS.-STORAGE AND DEPTH-VS.-DISCHARGE INFORMATION:

TOTAL NUMBER OF BASIN DEPTH INFORMATION ENTRIES = 8

* (FEET)	(ACRE-FEET)	STORAGE (AF)	OUTFLOW (CFS)	** (FEET)	(ACRE-FEET)	**STORAGE (AF)	OUTFLOW (CFS)
* 0.000	0.000	0.000	0.000**	0.090	0.010	0.010	1.800*
* 0.290	0.010	0.010	1.900**	0.490	0.030	0.030	2.100*
* 0.690	0.080	0.080	2.200**	0.890	0.150	0.150	2.300*
* 1.090	0.230	0.230	2.400**	1.290	0.330	0.330	2.500*

BASIN STORAGE, OUTFLOW AND DEPTH ROUTING VALUES:

INTERVAL NUMBER	DEPTH (FEET)	{S-O*DT/2} (ACRE-FEET)	{S+O*DT/2} (ACRE-FEET)
1	0.00	0.00000	0.00000
2	0.09	-0.00153	0.02153
3	0.29	-0.00217	0.02217
4	0.49	0.01655	0.04345
5	0.69	0.06591	0.09409
6	0.89	0.13527	0.16473
7	1.09	0.21463	0.24537
8	1.29	0.31399	0.34601

WHERE S=STORAGE (AF) ; O=OUTFLOW (AF/MIN.) ; DT=UNIT INTERVAL (MIN.)

DETENTION BASIN ROUTING RESULTS:

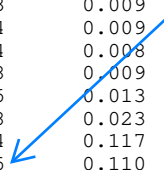
NOTE: COMPUTED BASIN DEPTH, OUTFLOW, AND STORAGE QUANTITIES OCCUR AT THE GIVEN TIME. BASIN INFLOW VALUES REPRESENT THE AVERAGE INFLOW DURING THE RECENT HYDROGRAPH UNIT INTERVAL.

TIME (HRS)	DEAD-STORAGE FILLED (AF)	INFLOW (CFS)	EFFECTIVE DEPTH (FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
0.035	0.000	0.00	0.00	0.00	0.000
0.190	0.000	0.36	0.02	0.19	0.002
0.345	0.000	0.36	0.02	0.38	0.002
0.500	0.000	0.36	0.02	0.39	0.002

0.655	0.000	0.36	0.02	0.39	0.002
0.810	0.000	0.37	0.02	0.39	0.002
0.965	0.000	0.37	0.02	0.39	0.002
1.120	0.000	0.37	0.02	0.39	0.002
1.275	0.000	0.37	0.02	0.40	0.002
1.430	0.000	0.37	0.02	0.40	0.002
1.585	0.000	0.38	0.02	0.40	0.002
1.740	0.000	0.38	0.02	0.40	0.002
1.895	0.000	0.38	0.02	0.40	0.002
2.050	0.000	0.38	0.02	0.41	0.002
2.205	0.000	0.38	0.02	0.41	0.002
2.360	0.000	0.38	0.02	0.41	0.002
2.515	0.000	0.39	0.02	0.41	0.002
2.670	0.000	0.39	0.02	0.42	0.002
2.825	0.000	0.39	0.02	0.42	0.002
2.980	0.000	0.39	0.02	0.42	0.002
3.135	0.000	0.40	0.02	0.42	0.002
3.290	0.000	0.40	0.02	0.43	0.002
3.445	0.000	0.40	0.02	0.43	0.002
3.600	0.000	0.40	0.02	0.43	0.002
3.755	0.000	0.41	0.02	0.43	0.002
3.910	0.000	0.41	0.02	0.44	0.002
4.065	0.000	0.41	0.02	0.44	0.002
4.220	0.000	0.41	0.02	0.44	0.002
4.375	0.000	0.42	0.02	0.45	0.002
4.530	0.000	0.42	0.02	0.45	0.002
4.685	0.000	0.42	0.02	0.45	0.003
4.840	0.000	0.43	0.02	0.45	0.003
4.995	0.000	0.43	0.02	0.46	0.003
5.150	0.000	0.43	0.02	0.46	0.003
5.305	0.000	0.44	0.02	0.46	0.003
5.460	0.000	0.44	0.02	0.47	0.003
5.615	0.000	0.44	0.02	0.47	0.003
5.770	0.000	0.44	0.02	0.47	0.003
5.925	0.000	0.45	0.02	0.48	0.003
6.080	0.000	0.45	0.02	0.48	0.003
6.235	0.000	0.46	0.02	0.48	0.003
6.390	0.000	0.46	0.02	0.49	0.003
6.545	0.000	0.46	0.02	0.49	0.003
6.700	0.000	0.46	0.02	0.50	0.003
6.855	0.000	0.47	0.03	0.50	0.003
7.010	0.000	0.47	0.03	0.50	0.003
7.165	0.000	0.48	0.03	0.51	0.003
7.320	0.000	0.48	0.03	0.51	0.003
7.475	0.000	0.49	0.03	0.52	0.003
7.630	0.000	0.49	0.03	0.52	0.003
7.785	0.000	0.50	0.03	0.53	0.003
7.940	0.000	0.50	0.03	0.53	0.003
8.095	0.000	0.51	0.03	0.54	0.003
8.250	0.000	0.51	0.03	0.54	0.003
8.405	0.000	0.52	0.03	0.55	0.003
8.560	0.000	0.52	0.03	0.55	0.003
8.715	0.000	0.53	0.03	0.56	0.003
8.870	0.000	0.53	0.03	0.57	0.003
9.025	0.000	0.54	0.03	0.57	0.003
9.180	0.000	0.54	0.03	0.58	0.003
9.335	0.000	0.55	0.03	0.58	0.003
9.490	0.000	0.55	0.03	0.59	0.003
9.645	0.000	0.56	0.03	0.60	0.003
9.800	0.000	0.57	0.03	0.61	0.003
9.955	0.000	0.58	0.03	0.61	0.003
10.110	0.000	0.58	0.03	0.62	0.003
10.265	0.000	0.59	0.03	0.63	0.004
10.420	0.000	0.60	0.03	0.64	0.004
10.575	0.000	0.61	0.03	0.65	0.004
10.730	0.000	0.61	0.03	0.65	0.004
10.885	0.000	0.63	0.03	0.66	0.004
11.040	0.000	0.63	0.03	0.67	0.004
11.195	0.000	0.65	0.03	0.68	0.004
11.350	0.000	0.65	0.03	0.69	0.004
11.505	0.000	0.67	0.04	0.71	0.004
11.660	0.000	0.67	0.04	0.72	0.004
11.815	0.000	0.69	0.04	0.73	0.004

11.970	0.000	0.70	0.04	0.74	0.004
12.125	0.000	0.88	0.05	0.84	0.005
12.280	0.000	0.95	0.05	0.98	0.006
12.435	0.000	0.97	0.05	1.03	0.006
12.590	0.000	0.98	0.05	1.04	0.006
12.745	0.000	1.00	0.05	1.06	0.006
12.900	0.000	1.01	0.05	1.08	0.006
13.055	0.000	1.03	0.06	1.09	0.006
13.210	0.000	1.05	0.06	1.11	0.006
13.365	0.000	1.07	0.06	1.13	0.006
13.520	0.000	1.09	0.06	1.16	0.006
13.675	0.000	1.12	0.06	1.18	0.007
13.830	0.000	1.13	0.06	1.21	0.007
13.985	0.000	1.17	0.06	1.23	0.007
14.140	0.000	1.14	0.06	1.24	0.007
14.295	0.000	1.10	0.06	1.20	0.007
14.450	0.000	1.13	0.06	1.20	0.007
14.605	0.000	1.19	0.06	1.24	0.007
14.760	0.000	1.23	0.07	1.30	0.007
14.915	0.000	1.31	0.07	1.36	0.008
15.070	0.000	1.36	0.07	1.43	0.008
15.225	0.000	1.49	0.08	1.53	0.009
15.380	0.000	1.57	0.08	1.64	0.009
15.535	0.000	1.30	0.07	1.54	0.008
15.690	0.000	1.47	0.08	1.48	0.009
15.845	0.000	1.95	0.32	1.75	0.013
16.000	0.000	2.77	0.42	1.98	0.023
16.155	0.000	9.50	0.80	2.14	0.117
16.310	0.000	1.68	0.78	2.25	0.110
16.465	0.000	1.45	0.75	2.24	0.100
16.620	0.000	1.42	0.72	2.22	0.090
16.775	0.000	1.27	0.68	2.20	0.078
16.930	0.000	1.16	0.63	2.18	0.064
17.085	0.000	1.08	0.57	2.16	0.051
17.240	0.000	1.15	0.52	2.13	0.038
17.395	0.000	1.10	0.45	2.09	0.026
17.550	0.000	1.06	0.33	2.00	0.014
17.705	0.000	1.02	0.06	1.56	0.007
17.860	0.000	0.99	0.05	1.13	0.006
18.015	0.000	0.96	0.05	1.04	0.006
18.170	0.000	0.71	0.04	0.89	0.004
18.325	0.000	0.68	0.04	0.74	0.004
18.480	0.000	0.66	0.04	0.72	0.004
18.635	0.000	0.64	0.03	0.70	0.004
18.790	0.000	0.62	0.03	0.67	0.004
18.945	0.000	0.60	0.03	0.65	0.004
19.100	0.000	0.59	0.03	0.64	0.003
19.255	0.000	0.57	0.03	0.62	0.003
19.410	0.000	0.56	0.03	0.61	0.003
19.565	0.000	0.55	0.03	0.59	0.003
19.720	0.000	0.53	0.03	0.58	0.003
19.875	0.000	0.52	0.03	0.57	0.003
20.030	0.000	0.51	0.03	0.55	0.003
20.185	0.000	0.50	0.03	0.54	0.003
20.340	0.000	0.49	0.03	0.53	0.003
20.495	0.000	0.48	0.03	0.52	0.003
20.650	0.000	0.48	0.03	0.51	0.003
20.805	0.000	0.47	0.03	0.51	0.003
20.960	0.000	0.46	0.02	0.50	0.003
21.115	0.000	0.45	0.02	0.49	0.003
21.270	0.000	0.45	0.02	0.48	0.003
21.425	0.000	0.44	0.02	0.47	0.003
21.580	0.000	0.43	0.02	0.47	0.003
21.735	0.000	0.43	0.02	0.46	0.003
21.890	0.000	0.42	0.02	0.45	0.003
22.045	0.000	0.42	0.02	0.45	0.002
22.200	0.000	0.41	0.02	0.44	0.002
22.355	0.000	0.41	0.02	0.44	0.002
22.510	0.000	0.40	0.02	0.43	0.002
22.665	0.000	0.40	0.02	0.43	0.002
22.820	0.000	0.39	0.02	0.42	0.002
22.975	0.000	0.39	0.02	0.42	0.002
23.130	0.000	0.38	0.02	0.41	0.002

PEAK DISCHARGE



23.285	0.000	0.38	0.02	0.41	0.002
23.440	0.000	0.37	0.02	0.40	0.002
23.595	0.000	0.37	0.02	0.40	0.002
23.750	0.000	0.37	0.02	0.39	0.002
23.905	0.000	0.36	0.02	0.39	0.002
24.060	0.000	0.36	0.02	0.39	0.002
24.215	0.000	0.00	0.00	0.19	0.000
24.370	0.000	0.00	0.00	0.00	0.000

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 SMALL AREA UNIT HYDROGRAPH MODEL  
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Analysis prepared by:

THIENES ENGINEERING, INC.  
 14349 FIRESTONE BLVD  
 LA MIRIADA, CA 90638  
 714-521-4811

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 Problem Descriptions:

TEI JOB NUMBER 3857  
 PONDING IN BUILDING 9 TRUCK YARD  
 100-YEAR STORM EVENT  
 -----

RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90  
 TOTAL CATCHMENT AREA (ACRES) = 4.10  
 SOIL-LOSS RATE, Fm, (INCH/HR) = 0.042  
 LOW LOSS FRACTION = 0.079  
 TIME OF CONCENTRATION (MIN.) = 9.00  
 SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA  
 USER SPECIFIED RAINFALL VALUES ARE USED  
 RETURN FREQUENCY (YEARS) = 100  
 5-MINUTE POINT RAINFALL VALUE (INCHES) = 0.38  
 30-MINUTE POINT RAINFALL VALUE (INCHES) = 0.75  
 1-HOUR POINT RAINFALL VALUE (INCHES) = 1.00  
 3-HOUR POINT RAINFALL VALUE (INCHES) = 1.90  
 6-HOUR POINT RAINFALL VALUE (INCHES) = 3.00  
 24-HOUR POINT RAINFALL VALUE (INCHES) = 6.00

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 TOTAL CATCHMENT RUNOFF VOLUME (ACRE-FEET) = 1.70  
 TOTAL CATCHMENT SOIL-LOSS VOLUME (ACRE-FEET) = 0.35

\*\*\*\*\*

TIME (HOURS)	VOLUME (AF)	Q (CFS)	0.	5.0	10.0	15.0	20.0
0.10	0.0000	0.00	Q	.	.	.	.
0.25	0.0026	0.43	Q	.	.	.	.
0.40	0.0079	0.43	Q	.	.	.	.
0.55	0.0133	0.43	Q	.	.	.	.
0.70	0.0186	0.43	Q	.	.	.	.
0.85	0.0240	0.44	Q	.	.	.	.
1.00	0.0294	0.44	Q	.	.	.	.
1.15	0.0348	0.44	Q	.	.	.	.
1.30	0.0403	0.44	Q	.	.	.	.
1.45	0.0458	0.44	Q	.	.	.	.
1.60	0.0513	0.45	Q	.	.	.	.
1.75	0.0568	0.45	Q	.	.	.	.
1.90	0.0624	0.45	Q	.	.	.	.
2.05	0.0680	0.45	Q	.	.	.	.
2.20	0.0736	0.45	Q	.	.	.	.
2.35	0.0793	0.46	Q	.	.	.	.
2.50	0.0850	0.46	Q	.	.	.	.
2.65	0.0907	0.46	Q	.	.	.	.
2.80	0.0965	0.47	Q	.	.	.	.
2.95	0.1022	0.47	Q	.	.	.	.
3.10	0.1081	0.47	Q	.	.	.	.
3.25	0.1139	0.47	Q	.	.	.	.
3.40	0.1198	0.48	Q	.	.	.	.
3.55	0.1257	0.48	Q	.	.	.	.
3.70	0.1317	0.48	Q	.	.	.	.



3.85	0.1377	0.49	Q	.	.	.	.
4.00	0.1437	0.49	Q	.	.	.	.
4.15	0.1498	0.49	Q	.	.	.	.
4.30	0.1559	0.49	Q	.	.	.	.
4.45	0.1620	0.50	Q	.	.	.	.
4.60	0.1682	0.50	Q	.	.	.	.
4.75	0.1744	0.50	.Q	.	.	.	.
4.90	0.1807	0.51	.Q	.	.	.	.
5.05	0.1870	0.51	.Q	.	.	.	.
5.20	0.1934	0.51	.Q	.	.	.	.
5.35	0.1998	0.52	.Q	.	.	.	.
5.50	0.2062	0.52	.Q	.	.	.	.
5.65	0.2127	0.53	.Q	.	.	.	.
5.80	0.2192	0.53	.Q	.	.	.	.
5.95	0.2258	0.53	.Q	.	.	.	.
6.10	0.2324	0.54	.Q	.	.	.	.
6.25	0.2391	0.54	.Q	.	.	.	.
6.40	0.2458	0.54	.Q	.	.	.	.
6.55	0.2526	0.55	.Q	.	.	.	.
6.70	0.2595	0.55	.Q	.	.	.	.
6.85	0.2663	0.56	.Q	.	.	.	.
7.00	0.2733	0.56	.Q	.	.	.	.
7.15	0.2803	0.57	.Q	.	.	.	.
7.30	0.2874	0.57	.Q	.	.	.	.
7.45	0.2945	0.58	.Q	.	.	.	.
7.60	0.3017	0.58	.Q	.	.	.	.
7.75	0.3089	0.59	.Q	.	.	.	.
7.90	0.3162	0.59	.Q	.	.	.	.
8.05	0.3236	0.60	.Q	.	.	.	.
8.20	0.3310	0.60	.Q	.	.	.	.
8.35	0.3386	0.61	.Q	.	.	.	.
8.50	0.3462	0.61	.Q	.	.	.	.
8.65	0.3538	0.62	.Q	.	.	.	.
8.80	0.3616	0.63	.Q	.	.	.	.
8.95	0.3694	0.64	.Q	.	.	.	.
9.10	0.3773	0.64	.Q	.	.	.	.
9.25	0.3853	0.65	.Q	.	.	.	.
9.40	0.3934	0.65	.Q	.	.	.	.
9.55	0.4015	0.66	.Q	.	.	.	.
9.70	0.4098	0.67	.Q	.	.	.	.
9.85	0.4182	0.68	.Q	.	.	.	.
10.00	0.4266	0.69	.Q	.	.	.	.
10.15	0.4352	0.70	.Q	.	.	.	.
10.30	0.4439	0.70	.Q	.	.	.	.
10.45	0.4526	0.71	.Q	.	.	.	.
10.60	0.4615	0.72	.Q	.	.	.	.
10.75	0.4706	0.73	.Q	.	.	.	.
10.90	0.4797	0.74	.Q	.	.	.	.
11.05	0.4890	0.76	.Q	.	.	.	.
11.20	0.4984	0.76	.Q	.	.	.	.
11.35	0.5080	0.78	.Q	.	.	.	.
11.50	0.5177	0.79	.Q	.	.	.	.
11.65	0.5276	0.81	.Q	.	.	.	.
11.80	0.5376	0.81	.Q	.	.	.	.
11.95	0.5478	0.83	.Q	.	.	.	.
12.10	0.5582	0.84	.Q	.	.	.	.
12.25	0.5705	1.13	. Q	.	.	.	.
12.40	0.5846	1.14	. Q	.	.	.	.
12.55	0.5990	1.17	. Q	.	.	.	.
12.70	0.6135	1.18	. Q	.	.	.	.
12.85	0.6282	1.20	. Q	.	.	.	.
13.00	0.6432	1.21	. Q	.	.	.	.
13.15	0.6585	1.24	. Q	.	.	.	.
13.30	0.6739	1.26	. Q	.	.	.	.
13.45	0.6897	1.29	. Q	.	.	.	.
13.60	0.7058	1.31	. Q	.	.	.	.
13.75	0.7222	1.34	. Q	.	.	.	.
13.90	0.7390	1.36	. Q	.	.	.	.
14.05	0.7561	1.41	. Q	.	.	.	.
14.20	0.7727	1.27	. Q	.	.	.	.
14.35	0.7889	1.33	. Q	.	.	.	.
14.50	0.8055	1.36	. Q	.	.	.	.
14.65	0.8229	1.44	. Q	.	.	.	.

14.80	0.8410	1.48	. Q	.	.	.	.
14.95	0.8600	1.58	. Q	.	.	.	.
15.10	0.8800	1.64	. Q	.	.	.	.
15.25	0.9013	1.80	. Q	.	.	.	.
15.40	0.9242	1.90	. Q	.	.	.	.
15.55	0.9458	1.58	. Q	.	.	.	.
15.70	0.9666	1.78	. Q	.	.	.	.
15.85	0.9923	2.37	. Q	.	.	.	.
16.00	1.0279	3.36	. Q	.	.	.	.
16.15	1.1201	11.53	.	.	Q	.	.
16.30	1.2041	2.02	. Q	.	.	.	.
16.45	1.2267	1.62	. Q	.	.	.	.
16.60	1.2474	1.71	. Q	.	.	.	.
16.75	1.2675	1.53	. Q	.	.	.	.
16.90	1.2856	1.40	. Q	.	.	.	.
17.05	1.3024	1.30	. Q	.	.	.	.
17.20	1.3190	1.38	. Q	.	.	.	.
17.35	1.3358	1.32	. Q	.	.	.	.
17.50	1.3519	1.27	. Q	.	.	.	.
17.65	1.3674	1.23	. Q	.	.	.	.
17.80	1.3823	1.19	. Q	.	.	.	.
17.95	1.3969	1.16	. Q	.	.	.	.
18.10	1.4110	1.12	. Q	.	.	.	.
18.25	1.4231	0.82	.Q	.	.	.	.
18.40	1.4331	0.80	.Q	.	.	.	.
18.55	1.4429	0.77	.Q	.	.	.	.
18.70	1.4523	0.75	.Q	.	.	.	.
18.85	1.4614	0.73	.Q	.	.	.	.
19.00	1.4703	0.71	.Q	.	.	.	.
19.15	1.4790	0.69	.Q	.	.	.	.
19.30	1.4875	0.67	.Q	.	.	.	.
19.45	1.4957	0.66	.Q	.	.	.	.
19.60	1.5038	0.64	.Q	.	.	.	.
19.75	1.5117	0.63	.Q	.	.	.	.
19.90	1.5195	0.62	.Q	.	.	.	.
20.05	1.5271	0.61	.Q	.	.	.	.
20.20	1.5345	0.60	.Q	.	.	.	.
20.35	1.5418	0.58	.Q	.	.	.	.
20.50	1.5490	0.57	.Q	.	.	.	.
20.65	1.5561	0.56	.Q	.	.	.	.
20.80	1.5630	0.56	.Q	.	.	.	.
20.95	1.5698	0.55	.Q	.	.	.	.
21.10	1.5766	0.54	.Q	.	.	.	.
21.25	1.5832	0.53	.Q	.	.	.	.
21.40	1.5897	0.52	.Q	.	.	.	.
21.55	1.5962	0.52	.Q	.	.	.	.
21.70	1.6025	0.51	.Q	.	.	.	.
21.85	1.6088	0.50	.Q	.	.	.	.
22.00	1.6150	0.50	Q	.	.	.	.
22.15	1.6211	0.49	Q	.	.	.	.
22.30	1.6271	0.48	Q	.	.	.	.
22.45	1.6331	0.48	Q	.	.	.	.
22.60	1.6390	0.47	Q	.	.	.	.
22.75	1.6448	0.47	Q	.	.	.	.
22.90	1.6505	0.46	Q	.	.	.	.
23.05	1.6562	0.46	Q	.	.	.	.
23.20	1.6619	0.45	Q	.	.	.	.
23.35	1.6674	0.45	Q	.	.	.	.
23.50	1.6729	0.44	Q	.	.	.	.
23.65	1.6784	0.44	Q	.	.	.	.
23.80	1.6838	0.43	Q	.	.	.	.
23.95	1.6892	0.43	Q	.	.	.	.
24.10	1.6945	0.43	Q	.	.	.	.
24.25	1.6971	0.00	Q	.	.	.	.

-----  
TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====

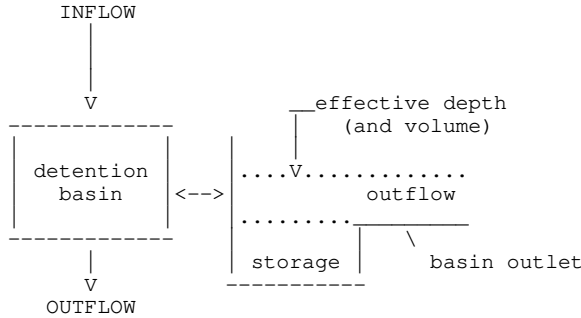
0%	1440.0
10%	333.0
20%	27.0
30%	9.0
40%	9.0
50%	9.0
60%	9.0
70%	9.0
80%	9.0
90%	9.0

Problem Descriptions:  
 TEI JOB NUMBER 3857  
 PONDING IN BUILDING 9 TRUCK YARD  
 100-YEAR STORM EVENT

=====

FLOW-THROUGH DETENTION BASIN MODEL

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
 CONSTANT HYDROGRAPH TIME UNIT (MINUTES) = 9.000  
 DEAD STORAGE (AF) = 0.00  
 SPECIFIED DEAD STORAGE (AF) FILLED = 0.00  
 ASSUMED INITIAL DEPTH (FEET) IN STORAGE BASIN = 0.00



DEPTH-VS.-STORAGE AND DEPTH-VS.-DISCHARGE INFORMATION:

TOTAL NUMBER OF BASIN DEPTH INFORMATION ENTRIES = 7

* (FEET)	(ACRE-FEET)	STORAGE (ACRE-FEET)	OUTFLOW (CFS)	** (FEET)	**BASIN-DEPTH (FEET)	STORAGE (ACRE-FEET)	OUTFLOW (CFS)	*
* 0.000	0.000	0.000	0.000**	0.110	0.010	2.900*		
* 0.310	0.010	3.100**	0.510	0.030	3.300*			
* 0.710	0.080	3.600**	0.910	0.130	3.700*			
* 1.110	0.200	3.900**						

-----

BASIN STORAGE, OUTFLOW AND DEPTH ROUTING VALUES:

INTERVAL NUMBER	DEPTH (FEET)	{S-O*DT/2} (ACRE-FEET)	{S+O*DT/2} (ACRE-FEET)
1	0.00	0.00000	0.00000
2	0.11	-0.00798	0.02798
3	0.31	-0.00921	0.02921
4	0.51	0.00955	0.05045
5	0.71	0.05769	0.10231
6	0.91	0.10707	0.15293
7	1.11	0.17583	0.22417

WHERE S=STORAGE (AF) ; O=OUTFLOW (AF/MIN.) ; DT=UNIT INTERVAL (MIN.)

-----

DETENTION BASIN ROUTING RESULTS:

NOTE: COMPUTED BASIN DEPTH, OUTFLOW, AND STORAGE QUANTITIES OCCUR AT THE GIVEN TIME. BASIN INFLOW VALUES REPRESENT THE AVERAGE INFLOW DURING THE RECENT HYDROGRAPH UNIT INTERVAL.

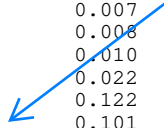
TIME (HRS)	DEAD-STORAGE FILLED (AF)	INFLOW (CFS)	EFFECTIVE DEPTH (FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
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-----

0.100	0.000	0.00	0.00	0.00	0.000
0.250	0.000	0.43	0.02	0.27	0.002
0.400	0.000	0.43	0.02	0.55	0.002
0.550	0.000	0.43	0.02	0.55	0.002
0.700	0.000	0.43	0.02	0.55	0.002
0.850	0.000	0.44	0.02	0.56	0.002
1.000	0.000	0.44	0.02	0.56	0.002
1.150	0.000	0.44	0.02	0.56	0.002
1.300	0.000	0.44	0.02	0.57	0.002
1.450	0.000	0.44	0.02	0.57	0.002
1.600	0.000	0.45	0.02	0.57	0.002
1.750	0.000	0.45	0.02	0.57	0.002
1.900	0.000	0.45	0.02	0.58	0.002
2.050	0.000	0.45	0.02	0.58	0.002
2.200	0.000	0.45	0.02	0.58	0.002
2.350	0.000	0.46	0.02	0.59	0.002
2.500	0.000	0.46	0.02	0.59	0.002
2.650	0.000	0.46	0.02	0.59	0.002
2.800	0.000	0.47	0.02	0.60	0.002
2.950	0.000	0.47	0.02	0.60	0.002
3.100	0.000	0.47	0.02	0.60	0.002
3.250	0.000	0.47	0.02	0.61	0.002
3.400	0.000	0.48	0.02	0.61	0.002
3.550	0.000	0.48	0.02	0.61	0.002
3.700	0.000	0.48	0.02	0.62	0.002
3.850	0.000	0.49	0.02	0.62	0.002
4.000	0.000	0.49	0.02	0.63	0.002
4.150	0.000	0.49	0.02	0.63	0.002
4.300	0.000	0.49	0.02	0.63	0.002
4.450	0.000	0.50	0.02	0.64	0.002
4.600	0.000	0.50	0.02	0.64	0.002
4.750	0.000	0.50	0.02	0.65	0.002
4.900	0.000	0.51	0.02	0.65	0.002
5.050	0.000	0.51	0.02	0.65	0.002
5.200	0.000	0.51	0.03	0.66	0.002
5.350	0.000	0.52	0.03	0.66	0.002
5.500	0.000	0.52	0.03	0.67	0.002
5.650	0.000	0.53	0.03	0.67	0.002
5.800	0.000	0.53	0.03	0.68	0.002
5.950	0.000	0.53	0.03	0.68	0.002
6.100	0.000	0.54	0.03	0.69	0.002
6.250	0.000	0.54	0.03	0.69	0.002
6.400	0.000	0.54	0.03	0.70	0.002
6.550	0.000	0.55	0.03	0.70	0.002
6.700	0.000	0.55	0.03	0.71	0.002
6.850	0.000	0.56	0.03	0.71	0.002
7.000	0.000	0.56	0.03	0.72	0.002
7.150	0.000	0.57	0.03	0.73	0.003
7.300	0.000	0.57	0.03	0.73	0.003
7.450	0.000	0.58	0.03	0.74	0.003
7.600	0.000	0.58	0.03	0.74	0.003
7.750	0.000	0.59	0.03	0.75	0.003
7.900	0.000	0.59	0.03	0.76	0.003
8.050	0.000	0.60	0.03	0.76	0.003
8.200	0.000	0.60	0.03	0.77	0.003
8.350	0.000	0.61	0.03	0.78	0.003
8.500	0.000	0.61	0.03	0.79	0.003
8.650	0.000	0.62	0.03	0.79	0.003
8.800	0.000	0.63	0.03	0.80	0.003
8.950	0.000	0.64	0.03	0.81	0.003
9.100	0.000	0.64	0.03	0.82	0.003
9.250	0.000	0.65	0.03	0.83	0.003
9.400	0.000	0.65	0.03	0.84	0.003
9.550	0.000	0.66	0.03	0.85	0.003
9.700	0.000	0.67	0.03	0.86	0.003
9.850	0.000	0.68	0.03	0.87	0.003
10.000	0.000	0.69	0.03	0.88	0.003
10.150	0.000	0.70	0.03	0.89	0.003
10.300	0.000	0.70	0.03	0.90	0.003
10.450	0.000	0.71	0.03	0.91	0.003
10.600	0.000	0.72	0.04	0.92	0.003
10.750	0.000	0.73	0.04	0.94	0.003
10.900	0.000	0.74	0.04	0.95	0.003

11.050	0.000	0.76	0.04	0.96	0.003
11.200	0.000	0.76	0.04	0.98	0.003
11.350	0.000	0.78	0.04	0.99	0.003
11.500	0.000	0.79	0.04	1.01	0.003
11.650	0.000	0.81	0.04	1.02	0.004
11.800	0.000	0.81	0.04	1.04	0.004
11.950	0.000	0.83	0.04	1.06	0.004
12.100	0.000	0.84	0.04	1.08	0.004
12.250	0.000	1.13	0.06	1.27	0.005
12.400	0.000	1.14	0.06	1.46	0.005
12.550	0.000	1.17	0.06	1.48	0.005
12.700	0.000	1.18	0.06	1.51	0.005
12.850	0.000	1.20	0.06	1.53	0.005
13.000	0.000	1.21	0.06	1.55	0.005
13.150	0.000	1.24	0.06	1.58	0.006
13.300	0.000	1.26	0.06	1.61	0.006
13.450	0.000	1.29	0.06	1.64	0.006
13.600	0.000	1.31	0.06	1.67	0.006
13.750	0.000	1.34	0.07	1.70	0.006
13.900	0.000	1.36	0.07	1.74	0.006
14.050	0.000	1.41	0.07	1.78	0.006
14.200	0.000	1.27	0.06	1.72	0.006
14.350	0.000	1.33	0.06	1.67	0.006
14.500	0.000	1.36	0.07	1.73	0.006
14.650	0.000	1.44	0.07	1.80	0.006
14.800	0.000	1.48	0.07	1.88	0.007
14.950	0.000	1.58	0.08	1.97	0.007
15.100	0.000	1.64	0.08	2.07	0.007
15.250	0.000	1.80	0.09	2.21	0.008
15.400	0.000	1.90	0.09	2.37	0.008
15.550	0.000	1.58	0.08	2.24	0.007
15.700	0.000	1.78	0.09	2.16	0.008
15.850	0.000	2.37	0.31	2.69	0.010
16.000	0.000	3.36	0.43	3.16	0.022
16.150	0.000	11.53	0.88	3.45	0.122
16.300	0.000	2.02	0.80	3.66	0.101
16.450	0.000	1.62	0.70	3.61	0.077
16.600	0.000	1.71	0.61	3.51	0.055
16.750	0.000	1.53	0.52	3.38	0.032
16.900	0.000	1.40	0.18	3.14	0.010
17.050	0.000	1.30	0.06	2.32	0.006
17.200	0.000	1.38	0.07	1.72	0.006
17.350	0.000	1.32	0.06	1.74	0.006
17.500	0.000	1.27	0.06	1.67	0.006
17.650	0.000	1.23	0.06	1.61	0.005
17.800	0.000	1.19	0.06	1.55	0.005
17.950	0.000	1.16	0.06	1.51	0.005
18.100	0.000	1.12	0.05	1.46	0.005
18.250	0.000	0.82	0.04	1.25	0.004
18.400	0.000	0.80	0.04	1.04	0.004
18.550	0.000	0.77	0.04	1.01	0.003
18.700	0.000	0.75	0.04	0.98	0.003
18.850	0.000	0.73	0.04	0.95	0.003
19.000	0.000	0.71	0.03	0.92	0.003
19.150	0.000	0.69	0.03	0.90	0.003
19.300	0.000	0.67	0.03	0.88	0.003
19.450	0.000	0.66	0.03	0.86	0.003
19.600	0.000	0.64	0.03	0.84	0.003
19.750	0.000	0.63	0.03	0.82	0.003
19.900	0.000	0.62	0.03	0.80	0.003
20.050	0.000	0.61	0.03	0.79	0.003
20.200	0.000	0.60	0.03	0.77	0.003
20.350	0.000	0.58	0.03	0.76	0.003
20.500	0.000	0.57	0.03	0.74	0.003
20.650	0.000	0.56	0.03	0.73	0.003
20.800	0.000	0.56	0.03	0.72	0.002
20.950	0.000	0.55	0.03	0.71	0.002
21.100	0.000	0.54	0.03	0.70	0.002
21.250	0.000	0.53	0.03	0.69	0.002
21.400	0.000	0.52	0.03	0.68	0.002
21.550	0.000	0.52	0.03	0.67	0.002
21.700	0.000	0.51	0.02	0.66	0.002
21.850	0.000	0.50	0.02	0.65	0.002

PEAK DISCHARGE



22.000	0.000	0.50	0.02	0.64	0.002
22.150	0.000	0.49	0.02	0.63	0.002
22.300	0.000	0.48	0.02	0.63	0.002
22.450	0.000	0.48	0.02	0.62	0.002
22.600	0.000	0.47	0.02	0.61	0.002
22.750	0.000	0.47	0.02	0.60	0.002
22.900	0.000	0.46	0.02	0.60	0.002
23.050	0.000	0.46	0.02	0.59	0.002
23.200	0.000	0.45	0.02	0.58	0.002
23.350	0.000	0.45	0.02	0.58	0.002
23.500	0.000	0.44	0.02	0.57	0.002
23.650	0.000	0.44	0.02	0.57	0.002
23.800	0.000	0.43	0.02	0.56	0.002
23.950	0.000	0.43	0.02	0.55	0.002
24.100	0.000	0.43	0.02	0.55	0.002
24.250	0.000	0.00	0.00	0.27	0.000
24.400	0.000	0.00	0.00	0.00	0.000

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 SMALL AREA UNIT HYDROGRAPH MODEL  
 =====

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 Ver. 23.0 Release Date: 07/01/2016 License ID 1435

Analysis prepared by:

THIENES ENGINEERING, INC.  
 14349 FIRESTONE BLVD  
 LA MIRIADA, CA 90638  
 714-521-4811

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Problem Descriptions:  
 TEI JOB NUMBER 3857  
 BUILDING 10 TRUCK YARD  
 100-YEAR STORM EVENT  
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RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90  
 TOTAL CATCHMENT AREA (ACRES) = 3.25  
 SOIL-LOSS RATE, Fm, (INCH/HR) = 0.042  
 LOW LOSS FRACTION = 0.079  
 TIME OF CONCENTRATION (MIN.) = 6.30  
 SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA  
 USER SPECIFIED RAINFALL VALUES ARE USED  
 RETURN FREQUENCY (YEARS) = 100  
 5-MINUTE POINT RAINFALL VALUE (INCHES) = 0.38  
 30-MINUTE POINT RAINFALL VALUE (INCHES) = 0.75  
 1-HOUR POINT RAINFALL VALUE (INCHES) = 1.00  
 3-HOUR POINT RAINFALL VALUE (INCHES) = 1.90  
 6-HOUR POINT RAINFALL VALUE (INCHES) = 3.00  
 24-HOUR POINT RAINFALL VALUE (INCHES) = 6.00

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 TOTAL CATCHMENT RUNOFF VOLUME (ACRE-FEET) = 1.35  
 TOTAL CATCHMENT SOIL-LOSS VOLUME (ACRE-FEET) = 0.28

\*\*\*\*\*

TIME (HOURS)	VOLUME (AF)	Q (CFS)	0.	5.0	10.0	15.0	20.0
0.04	0.0000	0.00	Q	.	.	.	.
0.14	0.0015	0.34	Q	.	.	.	.
0.25	0.0044	0.34	Q	.	.	.	.
0.35	0.0073	0.34	Q	.	.	.	.
0.46	0.0103	0.34	Q	.	.	.	.
0.56	0.0133	0.34	Q	.	.	.	.
0.67	0.0162	0.34	Q	.	.	.	.
0.77	0.0192	0.34	Q	.	.	.	.
0.88	0.0222	0.35	Q	.	.	.	.
0.98	0.0252	0.35	Q	.	.	.	.
1.09	0.0282	0.35	Q	.	.	.	.
1.19	0.0312	0.35	Q	.	.	.	.
1.30	0.0343	0.35	Q	.	.	.	.
1.40	0.0373	0.35	Q	.	.	.	.
1.51	0.0404	0.35	Q	.	.	.	.
1.61	0.0434	0.35	Q	.	.	.	.
1.72	0.0465	0.36	Q	.	.	.	.
1.82	0.0496	0.36	Q	.	.	.	.
1.93	0.0527	0.36	Q	.	.	.	.
2.03	0.0558	0.36	Q	.	.	.	.
2.14	0.0589	0.36	Q	.	.	.	.
2.24	0.0621	0.36	Q	.	.	.	.
2.35	0.0652	0.36	Q	.	.	.	.
2.45	0.0684	0.37	Q	.	.	.	.
2.56	0.0716	0.37	Q	.	.	.	.

2.66	0.0747	0.37	Q	.	.	.	.
2.77	0.0779	0.37	Q	.	.	.	.
2.87	0.0811	0.37	Q	.	.	.	.
2.98	0.0844	0.37	Q	.	.	.	.
3.08	0.0876	0.37	Q	.	.	.	.
3.19	0.0909	0.37	Q	.	.	.	.
3.29	0.0941	0.38	Q	.	.	.	.
3.40	0.0974	0.38	Q	.	.	.	.
3.50	0.1007	0.38	Q	.	.	.	.
3.61	0.1040	0.38	Q	.	.	.	.
3.71	0.1073	0.38	Q	.	.	.	.
3.82	0.1106	0.38	Q	.	.	.	.
3.92	0.1140	0.39	Q	.	.	.	.
4.03	0.1173	0.39	Q	.	.	.	.
4.13	0.1207	0.39	Q	.	.	.	.
4.24	0.1241	0.39	Q	.	.	.	.
4.34	0.1275	0.39	Q	.	.	.	.
4.45	0.1309	0.39	Q	.	.	.	.
4.55	0.1343	0.40	Q	.	.	.	.
4.66	0.1378	0.40	Q	.	.	.	.
4.76	0.1413	0.40	Q	.	.	.	.
4.87	0.1447	0.40	Q	.	.	.	.
4.97	0.1482	0.40	Q	.	.	.	.
5.08	0.1518	0.41	Q	.	.	.	.
5.18	0.1553	0.41	Q	.	.	.	.
5.29	0.1588	0.41	Q	.	.	.	.
5.39	0.1624	0.41	Q	.	.	.	.
5.50	0.1660	0.41	Q	.	.	.	.
5.61	0.1696	0.42	Q	.	.	.	.
5.71	0.1732	0.42	Q	.	.	.	.
5.82	0.1768	0.42	Q	.	.	.	.
5.92	0.1805	0.42	Q	.	.	.	.
6.02	0.1842	0.43	Q	.	.	.	.
6.13	0.1879	0.43	Q	.	.	.	.
6.23	0.1916	0.43	Q	.	.	.	.
6.34	0.1953	0.43	Q	.	.	.	.
6.44	0.1991	0.43	Q	.	.	.	.
6.55	0.2028	0.44	Q	.	.	.	.
6.65	0.2066	0.44	Q	.	.	.	.
6.76	0.2105	0.44	Q	.	.	.	.
6.86	0.2143	0.44	Q	.	.	.	.
6.97	0.2182	0.45	Q	.	.	.	.
7.07	0.2220	0.45	Q	.	.	.	.
7.18	0.2259	0.45	Q	.	.	.	.
7.28	0.2299	0.45	Q	.	.	.	.
7.39	0.2338	0.46	Q	.	.	.	.
7.49	0.2378	0.46	Q	.	.	.	.
7.60	0.2418	0.46	Q	.	.	.	.
7.70	0.2458	0.47	Q	.	.	.	.
7.81	0.2499	0.47	Q	.	.	.	.
7.91	0.2539	0.47	Q	.	.	.	.
8.02	0.2581	0.47	Q	.	.	.	.
8.12	0.2622	0.48	Q	.	.	.	.
8.23	0.2663	0.48	Q	.	.	.	.
8.34	0.2705	0.48	Q	.	.	.	.
8.44	0.2747	0.49	Q	.	.	.	.
8.55	0.2790	0.49	Q	.	.	.	.
8.65	0.2832	0.49	Q	.	.	.	.
8.76	0.2875	0.50	Q	.	.	.	.
8.86	0.2919	0.50	.Q	.	.	.	.
8.96	0.2962	0.51	.Q	.	.	.	.
9.07	0.3006	0.51	.Q	.	.	.	.
9.18	0.3051	0.51	.Q	.	.	.	.
9.28	0.3095	0.52	.Q	.	.	.	.
9.38	0.3140	0.52	.Q	.	.	.	.
9.49	0.3186	0.52	.Q	.	.	.	.
9.60	0.3231	0.53	.Q	.	.	.	.
9.70	0.3277	0.53	.Q	.	.	.	.
9.80	0.3324	0.54	.Q	.	.	.	.
9.91	0.3371	0.54	.Q	.	.	.	.
10.01	0.3418	0.55	.Q	.	.	.	.
10.12	0.3465	0.55	.Q	.	.	.	.
10.23	0.3514	0.56	.Q	.	.	.	.



10.33	0.3562	0.56	.Q	.	.	.	.
10.43	0.3611	0.57	.Q	.	.	.	.
10.54	0.3660	0.57	.Q	.	.	.	.
10.65	0.3710	0.58	.Q	.	.	.	.
10.75	0.3761	0.58	.Q	.	.	.	.
10.85	0.3811	0.59	.Q	.	.	.	.
10.96	0.3863	0.59	.Q	.	.	.	.
11.06	0.3915	0.60	.Q	.	.	.	.
11.17	0.3967	0.61	.Q	.	.	.	.
11.27	0.4020	0.62	.Q	.	.	.	.
11.38	0.4074	0.62	.Q	.	.	.	.
11.48	0.4128	0.63	.Q	.	.	.	.
11.59	0.4183	0.63	.Q	.	.	.	.
11.70	0.4238	0.64	.Q	.	.	.	.
11.80	0.4294	0.65	.Q	.	.	.	.
11.90	0.4351	0.66	.Q	.	.	.	.
12.01	0.4409	0.67	.Q	.	.	.	.
12.11	0.4476	0.89	.Q	.	.	.	.
12.22	0.4554	0.90	.Q	.	.	.	.
12.32	0.4632	0.91	.Q	.	.	.	.
12.43	0.4711	0.91	.Q	.	.	.	.
12.53	0.4791	0.93	.Q	.	.	.	.
12.64	0.4871	0.93	.Q	.	.	.	.
12.74	0.4953	0.95	.Q	.	.	.	.
12.85	0.5035	0.95	.Q	.	.	.	.
12.95	0.5118	0.97	.Q	.	.	.	.
13.06	0.5203	0.97	.Q	.	.	.	.
13.16	0.5288	0.99	.Q	.	.	.	.
13.27	0.5374	1.00	.Q	.	.	.	.
13.38	0.5461	1.02	.Q	.	.	.	.
13.48	0.5550	1.02	.Q	.	.	.	.
13.59	0.5640	1.04	.Q	.	.	.	.
13.69	0.5731	1.05	.Q	.	.	.	.
13.80	0.5823	1.08	.Q	.	.	.	.
13.90	0.5917	1.09	.Q	.	.	.	.
14.01	0.6013	1.11	.Q	.	.	.	.
14.11	0.6106	1.05	.Q	.	.	.	.
14.22	0.6197	1.03	.Q	.	.	.	.
14.32	0.6287	1.05	.Q	.	.	.	.
14.43	0.6379	1.08	.Q	.	.	.	.
14.53	0.6474	1.10	.Q	.	.	.	.
14.63	0.6571	1.14	.Q	.	.	.	.
14.74	0.6671	1.17	.Q	.	.	.	.
14.85	0.6775	1.22	.Q	.	.	.	.
14.95	0.6883	1.25	.Q	.	.	.	.
15.05	0.6994	1.32	.Q	.	.	.	.
15.16	0.7111	1.36	.Q	.	.	.	.
15.27	0.7233	1.46	.Q	.	.	.	.
15.37	0.7362	1.52	.Q	.	.	.	.
15.48	0.7480	1.20	.Q	.	.	.	.
15.58	0.7588	1.29	.Q	.	.	.	.
15.68	0.7711	1.55	.Q	.	.	.	.
15.79	0.7849	1.64	.Q	.	.	.	.
15.90	0.8024	2.38	.Q	.	.	.	.
16.00	0.8272	3.35	.Q	.	.	.	.
16.10	0.8914	11.43	.Q	.	.	.	.
16.21	0.9493	1.90	.Q	.	.	.	.
16.32	0.9636	1.40	.Q	.	.	.	.
16.42	0.9754	1.34	.Q	.	.	.	.
16.52	0.9873	1.41	.Q	.	.	.	.
16.63	0.9990	1.29	.Q	.	.	.	.
16.73	1.0098	1.19	.Q	.	.	.	.
16.84	1.0198	1.12	.Q	.	.	.	.
16.94	1.0293	1.06	.Q	.	.	.	.
17.05	1.0383	1.01	.Q	.	.	.	.
17.16	1.0475	1.10	.Q	.	.	.	.
17.26	1.0569	1.06	.Q	.	.	.	.
17.36	1.0660	1.03	.Q	.	.	.	.
17.47	1.0748	1.01	.Q	.	.	.	.
17.58	1.0835	0.98	.Q	.	.	.	.
17.68	1.0919	0.96	.Q	.	.	.	.
17.78	1.1001	0.94	.Q	.	.	.	.
17.89	1.1082	0.92	.Q	.	.	.	.

17.99	1.1161	0.90	.Q	.	.	.	.
18.10	1.1230	0.70	.Q	.	.	.	.
18.20	1.1289	0.65	.Q	.	.	.	.
18.31	1.1345	0.64	.Q	.	.	.	.
18.42	1.1400	0.62	.Q	.	.	.	.
18.52	1.1454	0.61	.Q	.	.	.	.
18.62	1.1506	0.60	.Q	.	.	.	.
18.73	1.1558	0.59	.Q	.	.	.	.
18.83	1.1608	0.57	.Q	.	.	.	.
18.94	1.1657	0.56	.Q	.	.	.	.
19.05	1.1706	0.55	.Q	.	.	.	.
19.15	1.1754	0.54	.Q	.	.	.	.
19.26	1.1800	0.54	.Q	.	.	.	.
19.36	1.1846	0.53	.Q	.	.	.	.
19.47	1.1892	0.52	.Q	.	.	.	.
19.57	1.1936	0.51	.Q	.	.	.	.
19.67	1.1980	0.50	.Q	.	.	.	.
19.78	1.2024	0.50	Q	.	.	.	.
19.89	1.2066	0.49	Q	.	.	.	.
19.99	1.2109	0.48	Q	.	.	.	.
20.09	1.2150	0.48	Q	.	.	.	.
20.20	1.2191	0.47	Q	.	.	.	.
20.31	1.2232	0.46	Q	.	.	.	.
20.41	1.2272	0.46	Q	.	.	.	.
20.52	1.2311	0.45	Q	.	.	.	.
20.62	1.2350	0.45	Q	.	.	.	.
20.73	1.2389	0.44	Q	.	.	.	.
20.83	1.2427	0.44	Q	.	.	.	.
20.93	1.2465	0.43	Q	.	.	.	.
21.04	1.2502	0.43	Q	.	.	.	.
21.14	1.2539	0.42	Q	.	.	.	.
21.25	1.2576	0.42	Q	.	.	.	.
21.36	1.2612	0.41	Q	.	.	.	.
21.46	1.2648	0.41	Q	.	.	.	.
21.57	1.2683	0.41	Q	.	.	.	.
21.67	1.2718	0.40	Q	.	.	.	.
21.77	1.2753	0.40	Q	.	.	.	.
21.88	1.2788	0.40	Q	.	.	.	.
21.98	1.2822	0.39	Q	.	.	.	.
22.09	1.2856	0.39	Q	.	.	.	.
22.19	1.2889	0.39	Q	.	.	.	.
22.30	1.2922	0.38	Q	.	.	.	.
22.41	1.2955	0.38	Q	.	.	.	.
22.51	1.2988	0.38	Q	.	.	.	.
22.61	1.3021	0.37	Q	.	.	.	.
22.72	1.3053	0.37	Q	.	.	.	.
22.83	1.3085	0.37	Q	.	.	.	.
22.93	1.3117	0.36	Q	.	.	.	.
23.03	1.3148	0.36	Q	.	.	.	.
23.14	1.3179	0.36	Q	.	.	.	.
23.25	1.3210	0.36	Q	.	.	.	.
23.35	1.3241	0.35	Q	.	.	.	.
23.45	1.3272	0.35	Q	.	.	.	.
23.56	1.3302	0.35	Q	.	.	.	.
23.67	1.3332	0.35	Q	.	.	.	.
23.77	1.3362	0.34	Q	.	.	.	.
23.88	1.3392	0.34	Q	.	.	.	.
23.98	1.3421	0.34	Q	.	.	.	.
24.08	1.3451	0.34	Q	.	.	.	.
24.19	1.3465	0.00	Q	.	.	.	.

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TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1442.7
10%	132.3
20%	18.9
30%	6.3

40% 6.3  
 50% 6.3  
 60% 6.3  
 70% 6.3  
 80% 6.3  
 90% 6.3

Problem Descriptions:  
 TEI JOB NUMBER 3857  
 BUILDING 10 TRUCK YARD  
 100-YEAR STORM EVENT

RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90  
 TOTAL CATCHMENT AREA (ACRES) = 3.25  
 SOIL-LOSS RATE, Fm, (INCH/HR) = 0.042  
 LOW LOSS FRACTION = 0.079  
 TIME OF CONCENTRATION (MIN.) = 6.30  
 SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA  
 USER SPECIFIED RAINFALL VALUES ARE USED  
 RETURN FREQUENCY (YEARS) = 100  
 5-MINUTE POINT RAINFALL VALUE (INCHES) = 0.38  
 30-MINUTE POINT RAINFALL VALUE (INCHES) = 0.75  
 1-HOUR POINT RAINFALL VALUE (INCHES) = 1.00  
 3-HOUR POINT RAINFALL VALUE (INCHES) = 1.90  
 6-HOUR POINT RAINFALL VALUE (INCHES) = 3.00  
 24-HOUR POINT RAINFALL VALUE (INCHES) = 6.00

TOTAL CATCHMENT RUNOFF VOLUME (ACRE-FEET) = 1.35  
 TOTAL CATCHMENT SOIL-LOSS VOLUME (ACRE-FEET) = 0.28

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TIME (HOURS)	VOLUME (AF)	Q (CFS)	0.	5.0	10.0	15.0	20.0
0.04	0.0000	0.00	Q	.	.	.	.
0.14	0.0015	0.34	Q	.	.	.	.
0.25	0.0044	0.34	Q	.	.	.	.
0.35	0.0073	0.34	Q	.	.	.	.
0.46	0.0103	0.34	Q	.	.	.	.
0.56	0.0133	0.34	Q	.	.	.	.
0.67	0.0162	0.34	Q	.	.	.	.
0.77	0.0192	0.34	Q	.	.	.	.
0.88	0.0222	0.35	Q	.	.	.	.
0.98	0.0252	0.35	Q	.	.	.	.
1.09	0.0282	0.35	Q	.	.	.	.
1.19	0.0312	0.35	Q	.	.	.	.
1.30	0.0343	0.35	Q	.	.	.	.
1.40	0.0373	0.35	Q	.	.	.	.
1.51	0.0404	0.35	Q	.	.	.	.
1.61	0.0434	0.35	Q	.	.	.	.
1.72	0.0465	0.36	Q	.	.	.	.
1.82	0.0496	0.36	Q	.	.	.	.
1.93	0.0527	0.36	Q	.	.	.	.
2.03	0.0558	0.36	Q	.	.	.	.
2.14	0.0589	0.36	Q	.	.	.	.
2.24	0.0621	0.36	Q	.	.	.	.
2.35	0.0652	0.36	Q	.	.	.	.
2.45	0.0684	0.37	Q	.	.	.	.
2.56	0.0716	0.37	Q	.	.	.	.
2.66	0.0747	0.37	Q	.	.	.	.
2.77	0.0779	0.37	Q	.	.	.	.
2.87	0.0811	0.37	Q	.	.	.	.
2.98	0.0844	0.37	Q	.	.	.	.
3.08	0.0876	0.37	Q	.	.	.	.
3.19	0.0909	0.37	Q	.	.	.	.
3.29	0.0941	0.38	Q	.	.	.	.
3.40	0.0974	0.38	Q	.	.	.	.
3.50	0.1007	0.38	Q	.	.	.	.
3.61	0.1040	0.38	Q	.	.	.	.

3.71	0.1073	0.38	Q	.	.	.	.
3.82	0.1106	0.38	Q	.	.	.	.
3.92	0.1140	0.39	Q	.	.	.	.
4.03	0.1173	0.39	Q	.	.	.	.
4.13	0.1207	0.39	Q	.	.	.	.
4.24	0.1241	0.39	Q	.	.	.	.
4.34	0.1275	0.39	Q	.	.	.	.
4.45	0.1309	0.39	Q	.	.	.	.
4.55	0.1343	0.40	Q	.	.	.	.
4.66	0.1378	0.40	Q	.	.	.	.
4.76	0.1413	0.40	Q	.	.	.	.
4.87	0.1447	0.40	Q	.	.	.	.
4.97	0.1482	0.40	Q	.	.	.	.
5.08	0.1518	0.41	Q	.	.	.	.
5.18	0.1553	0.41	Q	.	.	.	.
5.29	0.1588	0.41	Q	.	.	.	.
5.39	0.1624	0.41	Q	.	.	.	.
5.50	0.1660	0.41	Q	.	.	.	.
5.61	0.1696	0.42	Q	.	.	.	.
5.71	0.1732	0.42	Q	.	.	.	.
5.82	0.1768	0.42	Q	.	.	.	.
5.92	0.1805	0.42	Q	.	.	.	.
6.02	0.1842	0.43	Q	.	.	.	.
6.13	0.1879	0.43	Q	.	.	.	.
6.23	0.1916	0.43	Q	.	.	.	.
6.34	0.1953	0.43	Q	.	.	.	.
6.44	0.1991	0.43	Q	.	.	.	.
6.55	0.2028	0.44	Q	.	.	.	.
6.65	0.2066	0.44	Q	.	.	.	.
6.76	0.2105	0.44	Q	.	.	.	.
6.86	0.2143	0.44	Q	.	.	.	.
6.97	0.2182	0.45	Q	.	.	.	.
7.07	0.2220	0.45	Q	.	.	.	.
7.18	0.2259	0.45	Q	.	.	.	.
7.28	0.2299	0.45	Q	.	.	.	.
7.39	0.2338	0.46	Q	.	.	.	.
7.49	0.2378	0.46	Q	.	.	.	.
7.60	0.2418	0.46	Q	.	.	.	.
7.70	0.2458	0.47	Q	.	.	.	.
7.81	0.2499	0.47	Q	.	.	.	.
7.91	0.2539	0.47	Q	.	.	.	.
8.02	0.2581	0.47	Q	.	.	.	.
8.12	0.2622	0.48	Q	.	.	.	.
8.23	0.2663	0.48	Q	.	.	.	.
8.34	0.2705	0.48	Q	.	.	.	.
8.44	0.2747	0.49	Q	.	.	.	.
8.55	0.2790	0.49	Q	.	.	.	.
8.65	0.2832	0.49	Q	.	.	.	.
8.76	0.2875	0.50	Q	.	.	.	.
8.86	0.2919	0.50	.Q	.	.	.	.
8.96	0.2962	0.51	.Q	.	.	.	.
9.07	0.3006	0.51	.Q	.	.	.	.
9.18	0.3051	0.51	.Q	.	.	.	.
9.28	0.3095	0.52	.Q	.	.	.	.
9.38	0.3140	0.52	.Q	.	.	.	.
9.49	0.3186	0.52	.Q	.	.	.	.
9.60	0.3231	0.53	.Q	.	.	.	.
9.70	0.3277	0.53	.Q	.	.	.	.
9.80	0.3324	0.54	.Q	.	.	.	.
9.91	0.3371	0.54	.Q	.	.	.	.
10.01	0.3418	0.55	.Q	.	.	.	.
10.12	0.3465	0.55	.Q	.	.	.	.
10.23	0.3514	0.56	.Q	.	.	.	.
10.33	0.3562	0.56	.Q	.	.	.	.
10.43	0.3611	0.57	.Q	.	.	.	.
10.54	0.3660	0.57	.Q	.	.	.	.
10.65	0.3710	0.58	.Q	.	.	.	.
10.75	0.3761	0.58	.Q	.	.	.	.
10.85	0.3811	0.59	.Q	.	.	.	.
10.96	0.3863	0.59	.Q	.	.	.	.
11.06	0.3915	0.60	.Q	.	.	.	.
11.17	0.3967	0.61	.Q	.	.	.	.
11.27	0.4020	0.62	.Q	.	.	.	.

11.38	0.4074	0.62	.Q	.	.	.	.
11.48	0.4128	0.63	.Q	.	.	.	.
11.59	0.4183	0.63	.Q	.	.	.	.
11.70	0.4238	0.64	.Q	.	.	.	.
11.80	0.4294	0.65	.Q	.	.	.	.
11.90	0.4351	0.66	.Q	.	.	.	.
12.01	0.4409	0.67	.Q	.	.	.	.
12.11	0.4476	0.89	.Q	.	.	.	.
12.22	0.4554	0.90	.Q	.	.	.	.
12.32	0.4632	0.91	.Q	.	.	.	.
12.43	0.4711	0.91	.Q	.	.	.	.
12.53	0.4791	0.93	.Q	.	.	.	.
12.64	0.4871	0.93	.Q	.	.	.	.
12.74	0.4953	0.95	.Q	.	.	.	.
12.85	0.5035	0.95	.Q	.	.	.	.
12.95	0.5118	0.97	.Q	.	.	.	.
13.06	0.5203	0.97	.Q	.	.	.	.
13.16	0.5288	0.99	.Q	.	.	.	.
13.27	0.5374	1.00	.Q	.	.	.	.
13.38	0.5461	1.02	.Q	.	.	.	.
13.48	0.5550	1.02	.Q	.	.	.	.
13.59	0.5640	1.04	.Q	.	.	.	.
13.69	0.5731	1.05	.Q	.	.	.	.
13.80	0.5823	1.08	.Q	.	.	.	.
13.90	0.5917	1.09	.Q	.	.	.	.
14.01	0.6013	1.11	.Q	.	.	.	.
14.11	0.6106	1.05	.Q	.	.	.	.
14.22	0.6197	1.03	.Q	.	.	.	.
14.32	0.6287	1.05	.Q	.	.	.	.
14.43	0.6379	1.08	.Q	.	.	.	.
14.53	0.6474	1.10	.Q	.	.	.	.
14.63	0.6571	1.14	.Q	.	.	.	.
14.74	0.6671	1.17	.Q	.	.	.	.
14.85	0.6775	1.22	.Q	.	.	.	.
14.95	0.6883	1.25	.Q	.	.	.	.
15.05	0.6994	1.32	.Q	.	.	.	.
15.16	0.7111	1.36	.Q	.	.	.	.
15.27	0.7233	1.46	.Q	.	.	.	.
15.37	0.7362	1.52	.Q	.	.	.	.
15.48	0.7480	1.20	.Q	.	.	.	.
15.58	0.7588	1.29	.Q	.	.	.	.
15.68	0.7711	1.55	.Q	.	.	.	.
15.79	0.7849	1.64	.Q	.	.	.	.
15.90	0.8024	2.38	.Q	.	.	.	.
16.00	0.8272	3.35	.Q	.	.	.	.
16.10	0.8914	11.43	.Q	.	.Q	.	.
16.21	0.9493	1.90	.Q	.	.	.	.
16.32	0.9636	1.40	.Q	.	.	.	.
16.42	0.9754	1.34	.Q	.	.	.	.
16.52	0.9873	1.41	.Q	.	.	.	.
16.63	0.9990	1.29	.Q	.	.	.	.
16.73	1.0098	1.19	.Q	.	.	.	.
16.84	1.0198	1.12	.Q	.	.	.	.
16.94	1.0293	1.06	.Q	.	.	.	.
17.05	1.0383	1.01	.Q	.	.	.	.
17.16	1.0475	1.10	.Q	.	.	.	.
17.26	1.0569	1.06	.Q	.	.	.	.
17.36	1.0660	1.03	.Q	.	.	.	.
17.47	1.0748	1.01	.Q	.	.	.	.
17.58	1.0835	0.98	.Q	.	.	.	.
17.68	1.0919	0.96	.Q	.	.	.	.
17.78	1.1001	0.94	.Q	.	.	.	.
17.89	1.1082	0.92	.Q	.	.	.	.
17.99	1.1161	0.90	.Q	.	.	.	.
18.10	1.1230	0.70	.Q	.	.	.	.
18.20	1.1289	0.65	.Q	.	.	.	.
18.31	1.1345	0.64	.Q	.	.	.	.
18.42	1.1400	0.62	.Q	.	.	.	.
18.52	1.1454	0.61	.Q	.	.	.	.
18.62	1.1506	0.60	.Q	.	.	.	.
18.73	1.1558	0.59	.Q	.	.	.	.
18.83	1.1608	0.57	.Q	.	.	.	.
18.94	1.1657	0.56	.Q	.	.	.	.

19.05	1.1706	0.55	.Q	.	.	.	.
19.15	1.1754	0.54	.Q	.	.	.	.
19.26	1.1800	0.54	.Q	.	.	.	.
19.36	1.1846	0.53	.Q	.	.	.	.
19.47	1.1892	0.52	.Q	.	.	.	.
19.57	1.1936	0.51	.Q	.	.	.	.
19.67	1.1980	0.50	.Q	.	.	.	.
19.78	1.2024	0.50	Q	.	.	.	.
19.89	1.2066	0.49	Q	.	.	.	.
19.99	1.2109	0.48	Q	.	.	.	.
20.09	1.2150	0.48	Q	.	.	.	.
20.20	1.2191	0.47	Q	.	.	.	.
20.31	1.2232	0.46	Q	.	.	.	.
20.41	1.2272	0.46	Q	.	.	.	.
20.52	1.2311	0.45	Q	.	.	.	.
20.62	1.2350	0.45	Q	.	.	.	.
20.73	1.2389	0.44	Q	.	.	.	.
20.83	1.2427	0.44	Q	.	.	.	.
20.93	1.2465	0.43	Q	.	.	.	.
21.04	1.2502	0.43	Q	.	.	.	.
21.14	1.2539	0.42	Q	.	.	.	.
21.25	1.2576	0.42	Q	.	.	.	.
21.36	1.2612	0.41	Q	.	.	.	.
21.46	1.2648	0.41	Q	.	.	.	.
21.57	1.2683	0.41	Q	.	.	.	.
21.67	1.2718	0.40	Q	.	.	.	.
21.77	1.2753	0.40	Q	.	.	.	.
21.88	1.2788	0.40	Q	.	.	.	.
21.98	1.2822	0.39	Q	.	.	.	.
22.09	1.2856	0.39	Q	.	.	.	.
22.19	1.2889	0.39	Q	.	.	.	.
22.30	1.2922	0.38	Q	.	.	.	.
22.41	1.2955	0.38	Q	.	.	.	.
22.51	1.2988	0.38	Q	.	.	.	.
22.61	1.3021	0.37	Q	.	.	.	.
22.72	1.3053	0.37	Q	.	.	.	.
22.83	1.3085	0.37	Q	.	.	.	.
22.93	1.3117	0.36	Q	.	.	.	.
23.03	1.3148	0.36	Q	.	.	.	.
23.14	1.3179	0.36	Q	.	.	.	.
23.25	1.3210	0.36	Q	.	.	.	.
23.35	1.3241	0.35	Q	.	.	.	.
23.45	1.3272	0.35	Q	.	.	.	.
23.56	1.3302	0.35	Q	.	.	.	.
23.67	1.3332	0.35	Q	.	.	.	.
23.77	1.3362	0.34	Q	.	.	.	.
23.88	1.3392	0.34	Q	.	.	.	.
23.98	1.3421	0.34	Q	.	.	.	.
24.08	1.3451	0.34	Q	.	.	.	.
24.19	1.3465	0.00	Q	.	.	.	.

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TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1442.7
10%	132.3
20%	18.9
30%	6.3
40%	6.3
50%	6.3
60%	6.3
70%	6.3
80%	6.3
90%	6.3

Problem Descriptions:  
TEI JOB NUMBER 3857  
BUILDING 10 TRUCK YARD

100-YEAR STORM EVENT

RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90  
 TOTAL CATCHMENT AREA(ACRES) = 3.25  
 SOIL-LOSS RATE, Fm, (INCH/HR) = 0.042  
 LOW LOSS FRACTION = 0.079  
 TIME OF CONCENTRATION (MIN.) = 6.30  
 SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA  
 USER SPECIFIED RAINFALL VALUES ARE USED  
 RETURN FREQUENCY (YEARS) = 100  
 5-MINUTE POINT RAINFALL VALUE (INCHES) = 0.38  
 30-MINUTE POINT RAINFALL VALUE (INCHES) = 0.75  
 1-HOUR POINT RAINFALL VALUE (INCHES) = 1.00  
 3-HOUR POINT RAINFALL VALUE (INCHES) = 1.90  
 6-HOUR POINT RAINFALL VALUE (INCHES) = 3.00  
 24-HOUR POINT RAINFALL VALUE (INCHES) = 6.00

TOTAL CATCHMENT RUNOFF VOLUME (ACRE-FEET) = 1.35  
 TOTAL CATCHMENT SOIL-LOSS VOLUME (ACRE-FEET) = 0.28

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TIME (HOURS)	VOLUME (AF)	Q (CFS)	0.	5.0	10.0	15.0	20.0
0.04	0.0000	0.00	Q	.	.	.	.
0.14	0.0015	0.34	Q	.	.	.	.
0.25	0.0044	0.34	Q	.	.	.	.
0.35	0.0073	0.34	Q	.	.	.	.
0.46	0.0103	0.34	Q	.	.	.	.
0.56	0.0133	0.34	Q	.	.	.	.
0.67	0.0162	0.34	Q	.	.	.	.
0.77	0.0192	0.34	Q	.	.	.	.
0.88	0.0222	0.35	Q	.	.	.	.
0.98	0.0252	0.35	Q	.	.	.	.
1.09	0.0282	0.35	Q	.	.	.	.
1.19	0.0312	0.35	Q	.	.	.	.
1.30	0.0343	0.35	Q	.	.	.	.
1.40	0.0373	0.35	Q	.	.	.	.
1.51	0.0404	0.35	Q	.	.	.	.
1.61	0.0434	0.35	Q	.	.	.	.
1.72	0.0465	0.36	Q	.	.	.	.
1.82	0.0496	0.36	Q	.	.	.	.
1.93	0.0527	0.36	Q	.	.	.	.
2.03	0.0558	0.36	Q	.	.	.	.
2.14	0.0589	0.36	Q	.	.	.	.
2.24	0.0621	0.36	Q	.	.	.	.
2.35	0.0652	0.36	Q	.	.	.	.
2.45	0.0684	0.37	Q	.	.	.	.
2.56	0.0716	0.37	Q	.	.	.	.
2.66	0.0747	0.37	Q	.	.	.	.
2.77	0.0779	0.37	Q	.	.	.	.
2.87	0.0811	0.37	Q	.	.	.	.
2.98	0.0844	0.37	Q	.	.	.	.
3.08	0.0876	0.37	Q	.	.	.	.
3.19	0.0909	0.37	Q	.	.	.	.
3.29	0.0941	0.38	Q	.	.	.	.
3.40	0.0974	0.38	Q	.	.	.	.
3.50	0.1007	0.38	Q	.	.	.	.
3.61	0.1040	0.38	Q	.	.	.	.
3.71	0.1073	0.38	Q	.	.	.	.
3.82	0.1106	0.38	Q	.	.	.	.
3.92	0.1140	0.39	Q	.	.	.	.
4.03	0.1173	0.39	Q	.	.	.	.
4.13	0.1207	0.39	Q	.	.	.	.
4.24	0.1241	0.39	Q	.	.	.	.
4.34	0.1275	0.39	Q	.	.	.	.
4.45	0.1309	0.39	Q	.	.	.	.
4.55	0.1343	0.40	Q	.	.	.	.
4.66	0.1378	0.40	Q	.	.	.	.

4.76	0.1413	0.40	Q	.	.	.	.
4.87	0.1447	0.40	Q	.	.	.	.
4.97	0.1482	0.40	Q	.	.	.	.
5.08	0.1518	0.41	Q	.	.	.	.
5.18	0.1553	0.41	Q	.	.	.	.
5.29	0.1588	0.41	Q	.	.	.	.
5.39	0.1624	0.41	Q	.	.	.	.
5.50	0.1660	0.41	Q	.	.	.	.
5.61	0.1696	0.42	Q	.	.	.	.
5.71	0.1732	0.42	Q	.	.	.	.
5.82	0.1768	0.42	Q	.	.	.	.
5.92	0.1805	0.42	Q	.	.	.	.
6.02	0.1842	0.43	Q	.	.	.	.
6.13	0.1879	0.43	Q	.	.	.	.
6.23	0.1916	0.43	Q	.	.	.	.
6.34	0.1953	0.43	Q	.	.	.	.
6.44	0.1991	0.43	Q	.	.	.	.
6.55	0.2028	0.44	Q	.	.	.	.
6.65	0.2066	0.44	Q	.	.	.	.
6.76	0.2105	0.44	Q	.	.	.	.
6.86	0.2143	0.44	Q	.	.	.	.
6.97	0.2182	0.45	Q	.	.	.	.
7.07	0.2220	0.45	Q	.	.	.	.
7.18	0.2259	0.45	Q	.	.	.	.
7.28	0.2299	0.45	Q	.	.	.	.
7.39	0.2338	0.46	Q	.	.	.	.
7.49	0.2378	0.46	Q	.	.	.	.
7.60	0.2418	0.46	Q	.	.	.	.
7.70	0.2458	0.47	Q	.	.	.	.
7.81	0.2499	0.47	Q	.	.	.	.
7.91	0.2539	0.47	Q	.	.	.	.
8.02	0.2581	0.47	Q	.	.	.	.
8.12	0.2622	0.48	Q	.	.	.	.
8.23	0.2663	0.48	Q	.	.	.	.
8.34	0.2705	0.48	Q	.	.	.	.
8.44	0.2747	0.49	Q	.	.	.	.
8.55	0.2790	0.49	Q	.	.	.	.
8.65	0.2832	0.49	Q	.	.	.	.
8.76	0.2875	0.50	Q	.	.	.	.
8.86	0.2919	0.50	.Q	.	.	.	.
8.96	0.2962	0.51	.Q	.	.	.	.
9.07	0.3006	0.51	.Q	.	.	.	.
9.18	0.3051	0.51	.Q	.	.	.	.
9.28	0.3095	0.52	.Q	.	.	.	.
9.38	0.3140	0.52	.Q	.	.	.	.
9.49	0.3186	0.52	.Q	.	.	.	.
9.60	0.3231	0.53	.Q	.	.	.	.
9.70	0.3277	0.53	.Q	.	.	.	.
9.80	0.3324	0.54	.Q	.	.	.	.
9.91	0.3371	0.54	.Q	.	.	.	.
10.01	0.3418	0.55	.Q	.	.	.	.
10.12	0.3465	0.55	.Q	.	.	.	.
10.23	0.3514	0.56	.Q	.	.	.	.
10.33	0.3562	0.56	.Q	.	.	.	.
10.43	0.3611	0.57	.Q	.	.	.	.
10.54	0.3660	0.57	.Q	.	.	.	.
10.65	0.3710	0.58	.Q	.	.	.	.
10.75	0.3761	0.58	.Q	.	.	.	.
10.85	0.3811	0.59	.Q	.	.	.	.
10.96	0.3863	0.59	.Q	.	.	.	.
11.06	0.3915	0.60	.Q	.	.	.	.
11.17	0.3967	0.61	.Q	.	.	.	.
11.27	0.4020	0.62	.Q	.	.	.	.
11.38	0.4074	0.62	.Q	.	.	.	.
11.48	0.4128	0.63	.Q	.	.	.	.
11.59	0.4183	0.63	.Q	.	.	.	.
11.70	0.4238	0.64	.Q	.	.	.	.
11.80	0.4294	0.65	.Q	.	.	.	.
11.90	0.4351	0.66	.Q	.	.	.	.
12.01	0.4409	0.67	.Q	.	.	.	.
12.11	0.4476	0.89	.Q	.	.	.	.
12.22	0.4554	0.90	.Q	.	.	.	.
12.32	0.4632	0.91	.Q	.	.	.	.



12.43	0.4711	0.91	.Q	.	.	.	.
12.53	0.4791	0.93	.Q	.	.	.	.
12.64	0.4871	0.93	.Q	.	.	.	.
12.74	0.4953	0.95	.Q	.	.	.	.
12.85	0.5035	0.95	.Q	.	.	.	.
12.95	0.5118	0.97	.Q	.	.	.	.
13.06	0.5203	0.97	.Q	.	.	.	.
13.16	0.5288	0.99	.Q	.	.	.	.
13.27	0.5374	1.00	.Q	.	.	.	.
13.38	0.5461	1.02	. Q	.	.	.	.
13.48	0.5550	1.02	. Q	.	.	.	.
13.59	0.5640	1.04	. Q	.	.	.	.
13.69	0.5731	1.05	. Q	.	.	.	.
13.80	0.5823	1.08	. Q	.	.	.	.
13.90	0.5917	1.09	. Q	.	.	.	.
14.01	0.6013	1.11	. Q	.	.	.	.
14.11	0.6106	1.05	. Q	.	.	.	.
14.22	0.6197	1.03	. Q	.	.	.	.
14.32	0.6287	1.05	. Q	.	.	.	.
14.43	0.6379	1.08	. Q	.	.	.	.
14.53	0.6474	1.10	. Q	.	.	.	.
14.63	0.6571	1.14	. Q	.	.	.	.
14.74	0.6671	1.17	. Q	.	.	.	.
14.85	0.6775	1.22	. Q	.	.	.	.
14.95	0.6883	1.25	. Q	.	.	.	.
15.05	0.6994	1.32	. Q	.	.	.	.
15.16	0.7111	1.36	. Q	.	.	.	.
15.27	0.7233	1.46	. Q	.	.	.	.
15.37	0.7362	1.52	. Q	.	.	.	.
15.48	0.7480	1.20	. Q	.	.	.	.
15.58	0.7588	1.29	. Q	.	.	.	.
15.68	0.7711	1.55	. Q	.	.	.	.
15.79	0.7849	1.64	. Q	.	.	.	.
15.90	0.8024	2.38	. Q	.	.	.	.
16.00	0.8272	3.35	. Q	.	.	.	.
16.10	0.8914	11.43	.	.	. Q	.	.
16.21	0.9493	1.90	. Q	.	.	.	.
16.32	0.9636	1.40	. Q	.	.	.	.
16.42	0.9754	1.34	. Q	.	.	.	.
16.52	0.9873	1.41	. Q	.	.	.	.
16.63	0.9990	1.29	. Q	.	.	.	.
16.73	1.0098	1.19	. Q	.	.	.	.
16.84	1.0198	1.12	. Q	.	.	.	.
16.94	1.0293	1.06	. Q	.	.	.	.
17.05	1.0383	1.01	. Q	.	.	.	.
17.16	1.0475	1.10	. Q	.	.	.	.
17.26	1.0569	1.06	. Q	.	.	.	.
17.36	1.0660	1.03	. Q	.	.	.	.
17.47	1.0748	1.01	. Q	.	.	.	.
17.58	1.0835	0.98	.Q	.	.	.	.
17.68	1.0919	0.96	.Q	.	.	.	.
17.78	1.1001	0.94	.Q	.	.	.	.
17.89	1.1082	0.92	.Q	.	.	.	.
17.99	1.1161	0.90	.Q	.	.	.	.
18.10	1.1230	0.70	.Q	.	.	.	.
18.20	1.1289	0.65	.Q	.	.	.	.
18.31	1.1345	0.64	.Q	.	.	.	.
18.42	1.1400	0.62	.Q	.	.	.	.
18.52	1.1454	0.61	.Q	.	.	.	.
18.62	1.1506	0.60	.Q	.	.	.	.
18.73	1.1558	0.59	.Q	.	.	.	.
18.83	1.1608	0.57	.Q	.	.	.	.
18.94	1.1657	0.56	.Q	.	.	.	.
19.05	1.1706	0.55	.Q	.	.	.	.
19.15	1.1754	0.54	.Q	.	.	.	.
19.26	1.1800	0.54	.Q	.	.	.	.
19.36	1.1846	0.53	.Q	.	.	.	.
19.47	1.1892	0.52	.Q	.	.	.	.
19.57	1.1936	0.51	.Q	.	.	.	.
19.67	1.1980	0.50	.Q	.	.	.	.
19.78	1.2024	0.50	Q	.	.	.	.
19.89	1.2066	0.49	Q	.	.	.	.
19.99	1.2109	0.48	Q	.	.	.	.

20.09	1.2150	0.48	Q	.	.	.	.
20.20	1.2191	0.47	Q	.	.	.	.
20.31	1.2232	0.46	Q	.	.	.	.
20.41	1.2272	0.46	Q	.	.	.	.
20.52	1.2311	0.45	Q	.	.	.	.
20.62	1.2350	0.45	Q	.	.	.	.
20.73	1.2389	0.44	Q	.	.	.	.
20.83	1.2427	0.44	Q	.	.	.	.
20.93	1.2465	0.43	Q	.	.	.	.
21.04	1.2502	0.43	Q	.	.	.	.
21.14	1.2539	0.42	Q	.	.	.	.
21.25	1.2576	0.42	Q	.	.	.	.
21.36	1.2612	0.41	Q	.	.	.	.
21.46	1.2648	0.41	Q	.	.	.	.
21.57	1.2683	0.41	Q	.	.	.	.
21.67	1.2718	0.40	Q	.	.	.	.
21.77	1.2753	0.40	Q	.	.	.	.
21.88	1.2788	0.40	Q	.	.	.	.
21.98	1.2822	0.39	Q	.	.	.	.
22.09	1.2856	0.39	Q	.	.	.	.
22.19	1.2889	0.39	Q	.	.	.	.
22.30	1.2922	0.38	Q	.	.	.	.
22.41	1.2955	0.38	Q	.	.	.	.
22.51	1.2988	0.38	Q	.	.	.	.
22.61	1.3021	0.37	Q	.	.	.	.
22.72	1.3053	0.37	Q	.	.	.	.
22.83	1.3085	0.37	Q	.	.	.	.
22.93	1.3117	0.36	Q	.	.	.	.
23.03	1.3148	0.36	Q	.	.	.	.
23.14	1.3179	0.36	Q	.	.	.	.
23.25	1.3210	0.36	Q	.	.	.	.
23.35	1.3241	0.35	Q	.	.	.	.
23.45	1.3272	0.35	Q	.	.	.	.
23.56	1.3302	0.35	Q	.	.	.	.
23.67	1.3332	0.35	Q	.	.	.	.
23.77	1.3362	0.34	Q	.	.	.	.
23.88	1.3392	0.34	Q	.	.	.	.
23.98	1.3421	0.34	Q	.	.	.	.
24.08	1.3451	0.34	Q	.	.	.	.
24.19	1.3465	0.00	Q	.	.	.	.

-----  
TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1442.7
10%	132.3
20%	18.9
30%	6.3
40%	6.3
50%	6.3
60%	6.3
70%	6.3
80%	6.3
90%	6.3

Problem Descriptions:  
TEI JOB NUMBER 3857  
BUILDING 10 TRUCK YARD  
100-YEAR STORM EVENT

-----  
RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90  
TOTAL CATCHMENT AREA(ACRES) = 3.25  
SOIL-LOSS RATE, Fm, (INCH/HR) = 0.042  
LOW LOSS FRACTION = 0.079  
TIME OF CONCENTRATION(MIN.) = 6.30  
SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA

USER SPECIFIED RAINFALL VALUES ARE USED  
 RETURN FREQUENCY(YEARS) = 100  
 5-MINUTE POINT RAINFALL VALUE (INCHES) = 0.38  
 30-MINUTE POINT RAINFALL VALUE (INCHES) = 0.75  
 1-HOUR POINT RAINFALL VALUE (INCHES) = 1.00  
 3-HOUR POINT RAINFALL VALUE (INCHES) = 1.90  
 6-HOUR POINT RAINFALL VALUE (INCHES) = 3.00  
 24-HOUR POINT RAINFALL VALUE (INCHES) = 6.00

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 TOTAL CATCHMENT RUNOFF VOLUME (ACRE-FEET) = 1.35  
 TOTAL CATCHMENT SOIL-LOSS VOLUME (ACRE-FEET) = 0.28

\*\*\*\*\*

TIME (HOURS)	VOLUME (AF)	Q (CFS)	0.	5.0	10.0	15.0	20.0
0.04	0.0000	0.00	Q	.	.	.	.
0.14	0.0015	0.34	Q	.	.	.	.
0.25	0.0044	0.34	Q	.	.	.	.
0.35	0.0073	0.34	Q	.	.	.	.
0.46	0.0103	0.34	Q	.	.	.	.
0.56	0.0133	0.34	Q	.	.	.	.
0.67	0.0162	0.34	Q	.	.	.	.
0.77	0.0192	0.34	Q	.	.	.	.
0.88	0.0222	0.35	Q	.	.	.	.
0.98	0.0252	0.35	Q	.	.	.	.
1.09	0.0282	0.35	Q	.	.	.	.
1.19	0.0312	0.35	Q	.	.	.	.
1.30	0.0343	0.35	Q	.	.	.	.
1.40	0.0373	0.35	Q	.	.	.	.
1.51	0.0404	0.35	Q	.	.	.	.
1.61	0.0434	0.35	Q	.	.	.	.
1.72	0.0465	0.36	Q	.	.	.	.
1.82	0.0496	0.36	Q	.	.	.	.
1.93	0.0527	0.36	Q	.	.	.	.
2.03	0.0558	0.36	Q	.	.	.	.
2.14	0.0589	0.36	Q	.	.	.	.
2.24	0.0621	0.36	Q	.	.	.	.
2.35	0.0652	0.36	Q	.	.	.	.
2.45	0.0684	0.37	Q	.	.	.	.
2.56	0.0716	0.37	Q	.	.	.	.
2.66	0.0747	0.37	Q	.	.	.	.
2.77	0.0779	0.37	Q	.	.	.	.
2.87	0.0811	0.37	Q	.	.	.	.
2.98	0.0844	0.37	Q	.	.	.	.
3.08	0.0876	0.37	Q	.	.	.	.
3.19	0.0909	0.37	Q	.	.	.	.
3.29	0.0941	0.38	Q	.	.	.	.
3.40	0.0974	0.38	Q	.	.	.	.
3.50	0.1007	0.38	Q	.	.	.	.
3.61	0.1040	0.38	Q	.	.	.	.
3.71	0.1073	0.38	Q	.	.	.	.
3.82	0.1106	0.38	Q	.	.	.	.
3.92	0.1140	0.39	Q	.	.	.	.
4.03	0.1173	0.39	Q	.	.	.	.
4.13	0.1207	0.39	Q	.	.	.	.
4.24	0.1241	0.39	Q	.	.	.	.
4.34	0.1275	0.39	Q	.	.	.	.
4.45	0.1309	0.39	Q	.	.	.	.
4.55	0.1343	0.40	Q	.	.	.	.
4.66	0.1378	0.40	Q	.	.	.	.
4.76	0.1413	0.40	Q	.	.	.	.
4.87	0.1447	0.40	Q	.	.	.	.
4.97	0.1482	0.40	Q	.	.	.	.
5.08	0.1518	0.41	Q	.	.	.	.
5.18	0.1553	0.41	Q	.	.	.	.
5.29	0.1588	0.41	Q	.	.	.	.
5.39	0.1624	0.41	Q	.	.	.	.
5.50	0.1660	0.41	Q	.	.	.	.
5.61	0.1696	0.42	Q	.	.	.	.
5.71	0.1732	0.42	Q	.	.	.	.

5.82	0.1768	0.42	Q	.	.	.	.
5.92	0.1805	0.42	Q	.	.	.	.
6.02	0.1842	0.43	Q	.	.	.	.
6.13	0.1879	0.43	Q	.	.	.	.
6.23	0.1916	0.43	Q	.	.	.	.
6.34	0.1953	0.43	Q	.	.	.	.
6.44	0.1991	0.43	Q	.	.	.	.
6.55	0.2028	0.44	Q	.	.	.	.
6.65	0.2066	0.44	Q	.	.	.	.
6.76	0.2105	0.44	Q	.	.	.	.
6.86	0.2143	0.44	Q	.	.	.	.
6.97	0.2182	0.45	Q	.	.	.	.
7.07	0.2220	0.45	Q	.	.	.	.
7.18	0.2259	0.45	Q	.	.	.	.
7.28	0.2299	0.45	Q	.	.	.	.
7.39	0.2338	0.46	Q	.	.	.	.
7.49	0.2378	0.46	Q	.	.	.	.
7.60	0.2418	0.46	Q	.	.	.	.
7.70	0.2458	0.47	Q	.	.	.	.
7.81	0.2499	0.47	Q	.	.	.	.
7.91	0.2539	0.47	Q	.	.	.	.
8.02	0.2581	0.47	Q	.	.	.	.
8.12	0.2622	0.48	Q	.	.	.	.
8.23	0.2663	0.48	Q	.	.	.	.
8.34	0.2705	0.48	Q	.	.	.	.
8.44	0.2747	0.49	Q	.	.	.	.
8.55	0.2790	0.49	Q	.	.	.	.
8.65	0.2832	0.49	Q	.	.	.	.
8.76	0.2875	0.50	Q	.	.	.	.
8.86	0.2919	0.50	.Q	.	.	.	.
8.96	0.2962	0.51	.Q	.	.	.	.
9.07	0.3006	0.51	.Q	.	.	.	.
9.18	0.3051	0.51	.Q	.	.	.	.
9.28	0.3095	0.52	.Q	.	.	.	.
9.38	0.3140	0.52	.Q	.	.	.	.
9.49	0.3186	0.52	.Q	.	.	.	.
9.60	0.3231	0.53	.Q	.	.	.	.
9.70	0.3277	0.53	.Q	.	.	.	.
9.80	0.3324	0.54	.Q	.	.	.	.
9.91	0.3371	0.54	.Q	.	.	.	.
10.01	0.3418	0.55	.Q	.	.	.	.
10.12	0.3465	0.55	.Q	.	.	.	.
10.23	0.3514	0.56	.Q	.	.	.	.
10.33	0.3562	0.56	.Q	.	.	.	.
10.43	0.3611	0.57	.Q	.	.	.	.
10.54	0.3660	0.57	.Q	.	.	.	.
10.65	0.3710	0.58	.Q	.	.	.	.
10.75	0.3761	0.58	.Q	.	.	.	.
10.85	0.3811	0.59	.Q	.	.	.	.
10.96	0.3863	0.59	.Q	.	.	.	.
11.06	0.3915	0.60	.Q	.	.	.	.
11.17	0.3967	0.61	.Q	.	.	.	.
11.27	0.4020	0.62	.Q	.	.	.	.
11.38	0.4074	0.62	.Q	.	.	.	.
11.48	0.4128	0.63	.Q	.	.	.	.
11.59	0.4183	0.63	.Q	.	.	.	.
11.70	0.4238	0.64	.Q	.	.	.	.
11.80	0.4294	0.65	.Q	.	.	.	.
11.90	0.4351	0.66	.Q	.	.	.	.
12.01	0.4409	0.67	.Q	.	.	.	.
12.11	0.4476	0.89	.Q	.	.	.	.
12.22	0.4554	0.90	.Q	.	.	.	.
12.32	0.4632	0.91	.Q	.	.	.	.
12.43	0.4711	0.91	.Q	.	.	.	.
12.53	0.4791	0.93	.Q	.	.	.	.
12.64	0.4871	0.93	.Q	.	.	.	.
12.74	0.4953	0.95	.Q	.	.	.	.
12.85	0.5035	0.95	.Q	.	.	.	.
12.95	0.5118	0.97	.Q	.	.	.	.
13.06	0.5203	0.97	.Q	.	.	.	.
13.16	0.5288	0.99	.Q	.	.	.	.
13.27	0.5374	1.00	.Q	.	.	.	.
13.38	0.5461	1.02	.Q	.	.	.	.

13.48	0.5550	1.02	. Q	.	.	.	.
13.59	0.5640	1.04	. Q	.	.	.	.
13.69	0.5731	1.05	. Q	.	.	.	.
13.80	0.5823	1.08	. Q	.	.	.	.
13.90	0.5917	1.09	. Q	.	.	.	.
14.01	0.6013	1.11	. Q	.	.	.	.
14.11	0.6106	1.05	. Q	.	.	.	.
14.22	0.6197	1.03	. Q	.	.	.	.
14.32	0.6287	1.05	. Q	.	.	.	.
14.43	0.6379	1.08	. Q	.	.	.	.
14.53	0.6474	1.10	. Q	.	.	.	.
14.63	0.6571	1.14	. Q	.	.	.	.
14.74	0.6671	1.17	. Q	.	.	.	.
14.85	0.6775	1.22	. Q	.	.	.	.
14.95	0.6883	1.25	. Q	.	.	.	.
15.05	0.6994	1.32	. Q	.	.	.	.
15.16	0.7111	1.36	. Q	.	.	.	.
15.27	0.7233	1.46	. Q	.	.	.	.
15.37	0.7362	1.52	. Q	.	.	.	.
15.48	0.7480	1.20	. Q	.	.	.	.
15.58	0.7588	1.29	. Q	.	.	.	.
15.68	0.7711	1.55	. Q	.	.	.	.
15.79	0.7849	1.64	. Q	.	.	.	.
15.90	0.8024	2.38	. Q	.	.	.	.
16.00	0.8272	3.35	. Q	.	.	.	.
16.10	0.8914	11.43	.	.	.	Q	.
16.21	0.9493	1.90	. Q	.	.	.	.
16.32	0.9636	1.40	. Q	.	.	.	.
16.42	0.9754	1.34	. Q	.	.	.	.
16.52	0.9873	1.41	. Q	.	.	.	.
16.63	0.9990	1.29	. Q	.	.	.	.
16.73	1.0098	1.19	. Q	.	.	.	.
16.84	1.0198	1.12	. Q	.	.	.	.
16.94	1.0293	1.06	. Q	.	.	.	.
17.05	1.0383	1.01	. Q	.	.	.	.
17.16	1.0475	1.10	. Q	.	.	.	.
17.26	1.0569	1.06	. Q	.	.	.	.
17.36	1.0660	1.03	. Q	.	.	.	.
17.47	1.0748	1.01	. Q	.	.	.	.
17.58	1.0835	0.98	.Q	.	.	.	.
17.68	1.0919	0.96	.Q	.	.	.	.
17.78	1.1001	0.94	.Q	.	.	.	.
17.89	1.1082	0.92	.Q	.	.	.	.
17.99	1.1161	0.90	.Q	.	.	.	.
18.10	1.1230	0.70	.Q	.	.	.	.
18.20	1.1289	0.65	.Q	.	.	.	.
18.31	1.1345	0.64	.Q	.	.	.	.
18.42	1.1400	0.62	.Q	.	.	.	.
18.52	1.1454	0.61	.Q	.	.	.	.
18.62	1.1506	0.60	.Q	.	.	.	.
18.73	1.1558	0.59	.Q	.	.	.	.
18.83	1.1608	0.57	.Q	.	.	.	.
18.94	1.1657	0.56	.Q	.	.	.	.
19.05	1.1706	0.55	.Q	.	.	.	.
19.15	1.1754	0.54	.Q	.	.	.	.
19.26	1.1800	0.54	.Q	.	.	.	.
19.36	1.1846	0.53	.Q	.	.	.	.
19.47	1.1892	0.52	.Q	.	.	.	.
19.57	1.1936	0.51	.Q	.	.	.	.
19.67	1.1980	0.50	.Q	.	.	.	.
19.78	1.2024	0.50	Q	.	.	.	.
19.89	1.2066	0.49	Q	.	.	.	.
19.99	1.2109	0.48	Q	.	.	.	.
20.09	1.2150	0.48	Q	.	.	.	.
20.20	1.2191	0.47	Q	.	.	.	.
20.31	1.2232	0.46	Q	.	.	.	.
20.41	1.2272	0.46	Q	.	.	.	.
20.52	1.2311	0.45	Q	.	.	.	.
20.62	1.2350	0.45	Q	.	.	.	.
20.73	1.2389	0.44	Q	.	.	.	.
20.83	1.2427	0.44	Q	.	.	.	.
20.93	1.2465	0.43	Q	.	.	.	.
21.04	1.2502	0.43	Q	.	.	.	.

21.14	1.2539	0.42	Q	.	.	.	.
21.25	1.2576	0.42	Q	.	.	.	.
21.36	1.2612	0.41	Q	.	.	.	.
21.46	1.2648	0.41	Q	.	.	.	.
21.57	1.2683	0.41	Q	.	.	.	.
21.67	1.2718	0.40	Q	.	.	.	.
21.77	1.2753	0.40	Q	.	.	.	.
21.88	1.2788	0.40	Q	.	.	.	.
21.98	1.2822	0.39	Q	.	.	.	.
22.09	1.2856	0.39	Q	.	.	.	.
22.19	1.2889	0.39	Q	.	.	.	.
22.30	1.2922	0.38	Q	.	.	.	.
22.41	1.2955	0.38	Q	.	.	.	.
22.51	1.2988	0.38	Q	.	.	.	.
22.61	1.3021	0.37	Q	.	.	.	.
22.72	1.3053	0.37	Q	.	.	.	.
22.83	1.3085	0.37	Q	.	.	.	.
22.93	1.3117	0.36	Q	.	.	.	.
23.03	1.3148	0.36	Q	.	.	.	.
23.14	1.3179	0.36	Q	.	.	.	.
23.25	1.3210	0.36	Q	.	.	.	.
23.35	1.3241	0.35	Q	.	.	.	.
23.45	1.3272	0.35	Q	.	.	.	.
23.56	1.3302	0.35	Q	.	.	.	.
23.67	1.3332	0.35	Q	.	.	.	.
23.77	1.3362	0.34	Q	.	.	.	.
23.88	1.3392	0.34	Q	.	.	.	.
23.98	1.3421	0.34	Q	.	.	.	.
24.08	1.3451	0.34	Q	.	.	.	.
24.19	1.3465	0.00	Q	.	.	.	.

-----  
 TIME DURATION (minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
 (Note: 100% of Peak Flow Rate estimate assumed to have  
 an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1442.7
10%	132.3
20%	18.9
30%	6.3
40%	6.3
50%	6.3
60%	6.3
70%	6.3
80%	6.3
90%	6.3

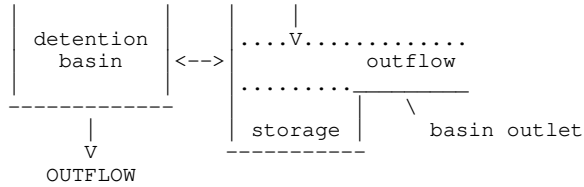
Problem Descriptions:  
 TEI JOB NUMBER 3857  
 BUILDING 10 TRUCK YARD  
 100-YEAR STORM EVENT

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FLOW-THROUGH DETENTION BASIN MODEL

SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
 CONSTANT HYDROGRAPH TIME UNIT (MINUTES) = 6.300  
 DEAD STORAGE (AF) = 0.00  
 SPECIFIED DEAD STORAGE (AF) FILLED = 0.00  
 ASSUMED INITIAL DEPTH (FEET) IN STORAGE BASIN = 0.00





DEPTH-VS.-STORAGE AND DEPTH-VS.-DISCHARGE INFORMATION:

TOTAL NUMBER OF BASIN DEPTH INFORMATION ENTRIES = 4

* (FEET)	(ACRE-FEET)	OUTFLOW (CFS)	** (FEET)	**BASIN-DEPTH STORAGE (ACRE-FEET)	OUTFLOW (CFS)
* 0.000	0.000	0.000**	0.220	0.010	9.300*
* 0.420	0.020	10.100**	0.620	0.060	10.800*

BASIN STORAGE, OUTFLOW AND DEPTH ROUTING VALUES:

INTERVAL NUMBER	DEPTH (FEET)	{S-O*DT/2} (ACRE-FEET)	{S+O*DT/2} (ACRE-FEET)
1	0.00	0.00000	0.00000
2	0.22	-0.03035	0.05035
3	0.42	-0.02382	0.06382
4	0.62	0.01314	0.10686

WHERE S=STORAGE (AF) ; O=OUTFLOW (AF/MIN.) ; DT=UNIT INTERVAL (MIN.)

DETENTION BASIN ROUTING RESULTS:

NOTE: COMPUTED BASIN DEPTH, OUTFLOW, AND STORAGE QUANTITIES OCCUR AT THE GIVEN TIME. BASIN INFLOW VALUES REPRESENT THE AVERAGE INFLOW DURING THE RECENT HYDROGRAPH UNIT INTERVAL.

TIME (HRS)	DEAD-STORAGE FILLED (AF)	INFLOW (CFS)	EFFECTIVE DEPTH (FT)	OUTFLOW (CFS)	EFFECTIVE VOLUME (AF)
0.040	0.000	0.00	0.00	0.00	0.000
0.145	0.000	0.34	0.01	0.27	0.001
0.250	0.000	0.34	0.01	0.54	0.001
0.355	0.000	0.34	0.01	0.54	0.001
0.460	0.000	0.34	0.01	0.55	0.001
0.565	0.000	0.34	0.01	0.55	0.001
0.670	0.000	0.34	0.01	0.55	0.001
0.775	0.000	0.34	0.01	0.55	0.001
0.880	0.000	0.35	0.01	0.55	0.001
0.985	0.000	0.35	0.01	0.55	0.001
1.090	0.000	0.35	0.01	0.56	0.001
1.195	0.000	0.35	0.01	0.56	0.001
1.300	0.000	0.35	0.01	0.56	0.001
1.405	0.000	0.35	0.01	0.56	0.001
1.510	0.000	0.35	0.01	0.56	0.001
1.615	0.000	0.35	0.01	0.57	0.001
1.720	0.000	0.36	0.01	0.57	0.001
1.825	0.000	0.36	0.01	0.57	0.001
1.930	0.000	0.36	0.01	0.57	0.001
2.035	0.000	0.36	0.01	0.57	0.001
2.140	0.000	0.36	0.01	0.58	0.001
2.245	0.000	0.36	0.01	0.58	0.001
2.350	0.000	0.36	0.01	0.58	0.001
2.455	0.000	0.37	0.01	0.58	0.001
2.560	0.000	0.37	0.01	0.59	0.001
2.665	0.000	0.37	0.01	0.59	0.001
2.770	0.000	0.37	0.01	0.59	0.001
2.875	0.000	0.37	0.01	0.59	0.001
2.980	0.000	0.37	0.01	0.60	0.001
3.085	0.000	0.37	0.01	0.60	0.001
3.190	0.000	0.37	0.01	0.60	0.001
3.295	0.000	0.38	0.01	0.60	0.001
3.400	0.000	0.38	0.01	0.60	0.001
3.505	0.000	0.38	0.01	0.61	0.001
3.610	0.000	0.38	0.01	0.61	0.001
3.715	0.000	0.38	0.01	0.61	0.001
3.820	0.000	0.38	0.01	0.62	0.001
3.925	0.000	0.39	0.01	0.62	0.001
4.030	0.000	0.39	0.01	0.62	0.001

4.135	0.000	0.39	0.01	0.62	0.001
4.240	0.000	0.39	0.01	0.63	0.001
4.345	0.000	0.39	0.01	0.63	0.001
4.450	0.000	0.39	0.01	0.63	0.001
4.555	0.000	0.40	0.02	0.63	0.001
4.660	0.000	0.40	0.02	0.64	0.001
4.765	0.000	0.40	0.02	0.64	0.001
4.870	0.000	0.40	0.02	0.64	0.001
4.975	0.000	0.40	0.02	0.65	0.001
5.080	0.000	0.41	0.02	0.65	0.001
5.185	0.000	0.41	0.02	0.65	0.001
5.290	0.000	0.41	0.02	0.66	0.001
5.395	0.000	0.41	0.02	0.66	0.001
5.500	0.000	0.41	0.02	0.66	0.001
5.605	0.000	0.42	0.02	0.67	0.001
5.710	0.000	0.42	0.02	0.67	0.001
5.815	0.000	0.42	0.02	0.67	0.001
5.920	0.000	0.42	0.02	0.68	0.001
6.025	0.000	0.43	0.02	0.68	0.001
6.130	0.000	0.43	0.02	0.68	0.001
6.235	0.000	0.43	0.02	0.69	0.001
6.340	0.000	0.43	0.02	0.69	0.001
6.445	0.000	0.43	0.02	0.69	0.001
6.550	0.000	0.44	0.02	0.70	0.001
6.655	0.000	0.44	0.02	0.70	0.001
6.760	0.000	0.44	0.02	0.70	0.001
6.865	0.000	0.44	0.02	0.71	0.001
6.970	0.000	0.45	0.02	0.71	0.001
7.075	0.000	0.45	0.02	0.72	0.001
7.180	0.000	0.45	0.02	0.72	0.001
7.285	0.000	0.45	0.02	0.73	0.001
7.390	0.000	0.46	0.02	0.73	0.001
7.495	0.000	0.46	0.02	0.73	0.001
7.600	0.000	0.46	0.02	0.74	0.001
7.705	0.000	0.47	0.02	0.74	0.001
7.810	0.000	0.47	0.02	0.75	0.001
7.915	0.000	0.47	0.02	0.75	0.001
8.020	0.000	0.47	0.02	0.76	0.001
8.125	0.000	0.48	0.02	0.76	0.001
8.230	0.000	0.48	0.02	0.77	0.001
8.335	0.000	0.48	0.02	0.77	0.001
8.440	0.000	0.49	0.02	0.78	0.001
8.545	0.000	0.49	0.02	0.78	0.001
8.650	0.000	0.49	0.02	0.79	0.001
8.755	0.000	0.50	0.02	0.79	0.001
8.860	0.000	0.50	0.02	0.80	0.001
8.965	0.000	0.51	0.02	0.81	0.001
9.070	0.000	0.51	0.02	0.81	0.001
9.175	0.000	0.51	0.02	0.82	0.001
9.280	0.000	0.52	0.02	0.82	0.001
9.385	0.000	0.52	0.02	0.83	0.001
9.490	0.000	0.52	0.02	0.84	0.001
9.595	0.000	0.53	0.02	0.84	0.001
9.700	0.000	0.53	0.02	0.85	0.001
9.805	0.000	0.54	0.02	0.86	0.001
9.910	0.000	0.54	0.02	0.86	0.001
10.015	0.000	0.55	0.02	0.87	0.001
10.120	0.000	0.55	0.02	0.88	0.001
10.225	0.000	0.56	0.02	0.89	0.001
10.330	0.000	0.56	0.02	0.90	0.001
10.435	0.000	0.57	0.02	0.90	0.001
10.540	0.000	0.57	0.02	0.91	0.001
10.645	0.000	0.58	0.02	0.92	0.001
10.750	0.000	0.58	0.02	0.93	0.001
10.855	0.000	0.59	0.02	0.94	0.001
10.960	0.000	0.59	0.02	0.95	0.001
11.065	0.000	0.60	0.02	0.96	0.001
11.170	0.000	0.61	0.02	0.97	0.001
11.275	0.000	0.62	0.02	0.98	0.001
11.380	0.000	0.62	0.02	0.99	0.001
11.485	0.000	0.63	0.02	1.00	0.001
11.590	0.000	0.63	0.02	1.01	0.001
11.695	0.000	0.64	0.02	1.02	0.001



11.800	0.000	0.65	0.02	1.04	0.001
11.905	0.000	0.66	0.03	1.05	0.001
12.010	0.000	0.67	0.03	1.06	0.001
12.115	0.000	0.89	0.03	1.25	0.002
12.220	0.000	0.90	0.03	1.43	0.002
12.325	0.000	0.91	0.03	1.45	0.002
12.430	0.000	0.91	0.03	1.46	0.002
12.535	0.000	0.93	0.04	1.47	0.002
12.640	0.000	0.93	0.04	1.49	0.002
12.745	0.000	0.95	0.04	1.50	0.002
12.850	0.000	0.95	0.04	1.52	0.002
12.955	0.000	0.97	0.04	1.54	0.002
13.060	0.000	0.97	0.04	1.56	0.002
13.165	0.000	0.99	0.04	1.57	0.002
13.270	0.000	1.00	0.04	1.59	0.002
13.375	0.000	1.02	0.04	1.61	0.002
13.480	0.000	1.02	0.04	1.64	0.002
13.585	0.000	1.04	0.04	1.66	0.002
13.690	0.000	1.05	0.04	1.68	0.002
13.795	0.000	1.08	0.04	1.71	0.002
13.900	0.000	1.09	0.04	1.73	0.002
14.005	0.000	1.11	0.04	1.76	0.002
14.110	0.000	1.05	0.04	1.73	0.002
14.215	0.000	1.03	0.04	1.67	0.002
14.320	0.000	1.05	0.04	1.66	0.002
14.425	0.000	1.08	0.04	1.70	0.002
14.530	0.000	1.10	0.04	1.75	0.002
14.635	0.000	1.14	0.04	1.80	0.002
14.740	0.000	1.17	0.04	1.85	0.002
14.845	0.000	1.22	0.05	1.92	0.002
14.950	0.000	1.25	0.05	1.98	0.002
15.055	0.000	1.32	0.05	2.06	0.002
15.160	0.000	1.36	0.05	2.15	0.002
15.265	0.000	1.46	0.06	2.26	0.003
15.370	0.000	1.52	0.06	2.38	0.003
15.475	0.000	1.20	0.05	2.18	0.002
15.580	0.000	1.29	0.05	1.99	0.002
15.685	0.000	1.55	0.06	2.28	0.003
15.790	0.000	1.64	0.06	2.56	0.003
15.895	0.000	2.38	0.09	3.22	0.004
16.000	0.000	3.35	0.13	4.59	0.006
16.105	0.000	11.43	0.58	8.03	0.053
16.210	0.000	1.90	0.10	7.47	0.005
16.315	0.000	1.40	0.05	3.25	0.002
16.420	0.000	1.34	0.05	2.19	0.002
16.525	0.000	1.41	0.05	2.20	0.002
16.630	0.000	1.29	0.05	2.16	0.002
16.735	0.000	1.19	0.05	1.99	0.002
16.840	0.000	1.12	0.04	1.86	0.002
16.945	0.000	1.06	0.04	1.75	0.002
17.050	0.000	1.01	0.04	1.66	0.002
17.155	0.000	1.10	0.04	1.69	0.002
17.260	0.000	1.06	0.04	1.73	0.002
17.365	0.000	1.03	0.04	1.68	0.002
17.470	0.000	1.01	0.04	1.64	0.002
17.575	0.000	0.98	0.04	1.59	0.002
17.680	0.000	0.96	0.04	1.56	0.002
17.785	0.000	0.94	0.04	1.52	0.002
17.890	0.000	0.92	0.03	1.49	0.002
17.995	0.000	0.90	0.03	1.46	0.002
18.100	0.000	0.70	0.03	1.29	0.001
18.205	0.000	0.65	0.02	1.09	0.001
18.310	0.000	0.64	0.02	1.04	0.001
18.415	0.000	0.62	0.02	1.01	0.001
18.520	0.000	0.61	0.02	0.99	0.001
18.625	0.000	0.60	0.02	0.97	0.001
18.730	0.000	0.59	0.02	0.95	0.001
18.835	0.000	0.57	0.02	0.93	0.001
18.940	0.000	0.56	0.02	0.91	0.001
19.045	0.000	0.55	0.02	0.90	0.001
19.150	0.000	0.54	0.02	0.88	0.001
19.255	0.000	0.54	0.02	0.87	0.001
19.360	0.000	0.53	0.02	0.85	0.001

PEAK DISCHARGE

19.465	0.000	0.52	0.02	0.84	0.001
19.570	0.000	0.51	0.02	0.82	0.001
19.675	0.000	0.50	0.02	0.81	0.001
19.780	0.000	0.50	0.02	0.80	0.001
19.885	0.000	0.49	0.02	0.79	0.001
19.990	0.000	0.48	0.02	0.78	0.001
20.095	0.000	0.48	0.02	0.77	0.001
20.200	0.000	0.47	0.02	0.76	0.001
20.305	0.000	0.46	0.02	0.75	0.001
20.410	0.000	0.46	0.02	0.74	0.001
20.515	0.000	0.45	0.02	0.73	0.001
20.620	0.000	0.45	0.02	0.72	0.001
20.725	0.000	0.44	0.02	0.71	0.001
20.830	0.000	0.44	0.02	0.70	0.001
20.935	0.000	0.43	0.02	0.70	0.001
21.040	0.000	0.43	0.02	0.69	0.001
21.145	0.000	0.42	0.02	0.68	0.001
21.250	0.000	0.42	0.02	0.68	0.001
21.355	0.000	0.41	0.02	0.67	0.001
21.460	0.000	0.41	0.02	0.66	0.001
21.565	0.000	0.41	0.02	0.66	0.001
21.670	0.000	0.40	0.02	0.65	0.001
21.775	0.000	0.40	0.02	0.64	0.001
21.880	0.000	0.40	0.02	0.64	0.001
21.985	0.000	0.39	0.01	0.63	0.001
22.090	0.000	0.39	0.01	0.63	0.001
22.195	0.000	0.39	0.01	0.62	0.001
22.300	0.000	0.38	0.01	0.62	0.001
22.405	0.000	0.38	0.01	0.61	0.001
22.510	0.000	0.38	0.01	0.60	0.001
22.615	0.000	0.37	0.01	0.60	0.001
22.720	0.000	0.37	0.01	0.60	0.001
22.825	0.000	0.37	0.01	0.59	0.001
22.930	0.000	0.36	0.01	0.59	0.001
23.035	0.000	0.36	0.01	0.58	0.001
23.140	0.000	0.36	0.01	0.58	0.001
23.245	0.000	0.36	0.01	0.57	0.001
23.350	0.000	0.35	0.01	0.57	0.001
23.455	0.000	0.35	0.01	0.56	0.001
23.560	0.000	0.35	0.01	0.56	0.001
23.665	0.000	0.35	0.01	0.56	0.001
23.770	0.000	0.34	0.01	0.55	0.001
23.875	0.000	0.34	0.01	0.55	0.001
23.980	0.000	0.34	0.01	0.55	0.001
24.085	0.000	0.34	0.01	0.54	0.001
24.190	0.000	0.00	0.00	0.27	0.000
24.295	0.000	0.00	0.00	0.00	0.000

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F L O O D   R O U T I N G   A N A L Y S I S  
USING COUNTY HYDROLOGY MANUAL OF SAN BERNARDINO(1986)  
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Ver. 23.0 Release Date: 07/01/2016 License ID 1435

Analysis prepared by:

THIENES ENGINEERING, INC.  
14349 FIRESTONE BLVD  
LA MIRIADA, CA 90638  
714-521-4811

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* TEI JOB NO 3857 \*  
\* BUILDING 11 SOUTH \*  
\* 100-YEAR STORM EVENT \*  
\*\*\*\*\*

FILE NAME: W:\3857\BLDG11S.DAT  
TIME/DATE OF STUDY: 09:45 12/28/2021

\*\*\*\*\*

FLOW PROCESS FROM NODE 160.00 TO NODE 165.00 IS CODE = 1

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>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<  
=====

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 10.400 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.160 HOURS  
CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.  
THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)  
MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.042  
LOW LOSS FRACTION = 0.079  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.38  
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.75  
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.00  
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.90  
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 3.00  
SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 6.00

PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE FACTOR = 1.000  
30-MINUTE FACTOR = 1.000  
1-HOUR FACTOR = 1.000  
3-HOUR FACTOR = 1.000  
6-HOUR FACTOR = 1.000  
24-HOUR FACTOR = 1.000

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 52.083

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UNIT HYDROGRAPH DETERMINATION

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INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	4.818	6.060
2	32.056	34.259
3	71.281	49.335
4	91.414	25.322
5	97.580	7.756
6	98.965	1.741
7	99.516	0.693
8	99.806	0.365
9	99.952	0.183
10	100.000	0.061

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TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 0.3768  
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 4.8206  
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2 4 - H O U R   S T O R M  
R U N O F F   H Y D R O G R A P H

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HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS(CFS)  
(Note: Time indicated is at END of Each Unit Intervals)  
-----

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	7.5	15.0	22.5	30.0
0.083	0.0004	0.06	Q	.	.	.	.
0.167	0.0031	0.39	Q	.	.	.	.
0.250	0.0090	0.86	VQ	.	.	.	.
0.333	0.0166	1.11	VQ	.	.	.	.
0.417	0.0248	1.18	VQ	.	.	.	.
0.500	0.0331	1.20	VQ	.	.	.	.
0.583	0.0414	1.21	VQ	.	.	.	.
0.667	0.0498	1.22	VQ	.	.	.	.
0.750	0.0583	1.23	VQ	.	.	.	.
0.833	0.0668	1.23	VQ	.	.	.	.
0.917	0.0752	1.23	VQ	.	.	.	.
1.000	0.0838	1.24	VQ	.	.	.	.
1.083	0.0923	1.24	VQ	.	.	.	.
1.167	0.1009	1.24	VQ	.	.	.	.
1.250	0.1094	1.25	VQ	.	.	.	.
1.333	0.1181	1.25	VQ	.	.	.	.
1.417	0.1267	1.25	.Q	.	.	.	.
1.500	0.1353	1.26	.Q	.	.	.	.
1.583	0.1440	1.26	.Q	.	.	.	.
1.667	0.1527	1.26	.Q	.	.	.	.
1.750	0.1615	1.27	.Q	.	.	.	.
1.833	0.1702	1.27	.Q	.	.	.	.
1.917	0.1790	1.28	.Q	.	.	.	.
2.000	0.1878	1.28	.Q	.	.	.	.
2.083	0.1967	1.28	.Q	.	.	.	.
2.167	0.2055	1.29	.Q	.	.	.	.
2.250	0.2144	1.29	.Q	.	.	.	.
2.333	0.2233	1.29	.Q	.	.	.	.
2.417	0.2323	1.30	.Q	.	.	.	.
2.500	0.2412	1.30	.QV	.	.	.	.
2.583	0.2502	1.31	.QV	.	.	.	.
2.667	0.2592	1.31	.QV	.	.	.	.
2.750	0.2683	1.31	.QV	.	.	.	.
2.833	0.2774	1.32	.QV	.	.	.	.
2.917	0.2865	1.32	.QV	.	.	.	.
3.000	0.2956	1.33	.QV	.	.	.	.
3.083	0.3048	1.33	.QV	.	.	.	.
3.167	0.3140	1.33	.QV	.	.	.	.
3.250	0.3232	1.34	.QV	.	.	.	.
3.333	0.3325	1.34	.QV	.	.	.	.
3.417	0.3417	1.35	.QV	.	.	.	.
3.500	0.3511	1.35	.QV	.	.	.	.
3.583	0.3604	1.36	.QV	.	.	.	.
3.667	0.3698	1.36	.Q V	.	.	.	.
3.750	0.3792	1.37	.Q V	.	.	.	.
3.833	0.3886	1.37	.Q V	.	.	.	.
3.917	0.3981	1.37	.Q V	.	.	.	.
4.000	0.4076	1.38	.Q V	.	.	.	.
4.083	0.4171	1.38	.Q V	.	.	.	.
4.167	0.4267	1.39	.Q V	.	.	.	.
4.250	0.4363	1.39	.Q V	.	.	.	.
4.333	0.4459	1.40	.Q V	.	.	.	.
4.417	0.4556	1.40	.Q V	.	.	.	.
4.500	0.4653	1.41	.Q V	.	.	.	.
4.583	0.4750	1.41	.Q V	.	.	.	.
4.667	0.4848	1.42	.Q V	.	.	.	.
4.750	0.4946	1.42	.Q V	.	.	.	.
4.833	0.5044	1.43	.Q V	.	.	.	.
4.917	0.5143	1.43	.Q V	.	.	.	.
5.000	0.5242	1.44	.Q V	.	.	.	.
5.083	0.5342	1.45	.Q V	.	.	.	.
5.167	0.5442	1.45	.Q V	.	.	.	.
5.250	0.5542	1.46	.Q V	.	.	.	.
5.333	0.5643	1.46	.Q V	.	.	.	.
5.417	0.5744	1.47	.Q V	.	.	.	.
5.500	0.5845	1.47	.Q V	.	.	.	.
5.583	0.5947	1.48	.Q V	.	.	.	.

5.667	0.6049	1.48	.Q	V	.	.	.	.
5.750	0.6152	1.49	.Q	V	.	.	.	.
5.833	0.6255	1.50	.Q	V	.	.	.	.
5.917	0.6358	1.50	.Q	V	.	.	.	.
6.000	0.6462	1.51	.Q	V	.	.	.	.
6.083	0.6567	1.51	.Q	V	.	.	.	.
6.167	0.6671	1.52	.Q	V	.	.	.	.
6.250	0.6777	1.53	.Q	V	.	.	.	.
6.333	0.6882	1.53	.Q	V	.	.	.	.
6.417	0.6988	1.54	.Q	V	.	.	.	.
6.500	0.7095	1.55	.Q	V	.	.	.	.
6.583	0.7202	1.55	.Q	V	.	.	.	.
6.667	0.7309	1.56	.Q	V	.	.	.	.
6.750	0.7417	1.57	.Q	V	.	.	.	.
6.833	0.7525	1.57	.Q	V	.	.	.	.
6.917	0.7634	1.58	.Q	V	.	.	.	.
7.000	0.7744	1.59	.Q	V	.	.	.	.
7.083	0.7854	1.60	.Q	V	.	.	.	.
7.167	0.7964	1.60	.Q	V	.	.	.	.
7.250	0.8075	1.61	.Q	V	.	.	.	.
7.333	0.8186	1.62	.Q	V	.	.	.	.
7.417	0.8298	1.62	.Q	V	.	.	.	.
7.500	0.8411	1.63	.Q	V	.	.	.	.
7.583	0.8523	1.64	.Q	V	.	.	.	.
7.667	0.8637	1.65	.Q	V	.	.	.	.
7.750	0.8751	1.66	.Q	V	.	.	.	.
7.833	0.8866	1.66	.Q	V	.	.	.	.
7.917	0.8981	1.67	.Q	V	.	.	.	.
8.000	0.9097	1.68	.Q	V	.	.	.	.
8.083	0.9213	1.69	.Q	V	.	.	.	.
8.167	0.9330	1.70	.Q	V	.	.	.	.
8.250	0.9448	1.71	.Q	V	.	.	.	.
8.333	0.9566	1.72	.Q	V	.	.	.	.
8.417	0.9685	1.73	.Q	V	.	.	.	.
8.500	0.9804	1.73	.Q	V	.	.	.	.
8.583	0.9924	1.74	.Q	V	.	.	.	.
8.667	1.0045	1.75	.Q	V	.	.	.	.
8.750	1.0167	1.76	.Q	V	.	.	.	.
8.833	1.0289	1.77	.Q	V	.	.	.	.
8.917	1.0412	1.78	.Q	V	.	.	.	.
9.000	1.0535	1.79	.Q	V	.	.	.	.
9.083	1.0660	1.80	.Q	V	.	.	.	.
9.167	1.0785	1.81	.Q	V	.	.	.	.
9.250	1.0910	1.83	.Q	V	.	.	.	.
9.333	1.1037	1.84	.Q	V	.	.	.	.
9.417	1.1164	1.85	.Q	V	.	.	.	.
9.500	1.1292	1.86	.Q	V	.	.	.	.
9.583	1.1421	1.87	.Q	V	.	.	.	.
9.667	1.1551	1.88	.Q	V	.	.	.	.
9.750	1.1681	1.89	.Q	V	.	.	.	.
9.833	1.1812	1.91	.Q	V	.	.	.	.
9.917	1.1945	1.92	.Q	V	.	.	.	.
10.000	1.2078	1.93	.Q	V	.	.	.	.
10.083	1.2212	1.95	.Q	V	.	.	.	.
10.167	1.2347	1.96	.Q	V	.	.	.	.
10.250	1.2482	1.97	.Q	V	.	.	.	.
10.333	1.2619	1.99	.Q	V	.	.	.	.
10.417	1.2757	2.00	.Q	V	.	.	.	.
10.500	1.2896	2.01	.Q	V	.	.	.	.
10.583	1.3036	2.03	.Q	V	.	.	.	.
10.667	1.3176	2.04	.Q	V	.	.	.	.
10.750	1.3318	2.06	.Q	.V	.	.	.	.
10.833	1.3461	2.08	.Q	.V	.	.	.	.
10.917	1.3605	2.09	.Q	.V	.	.	.	.
11.000	1.3751	2.11	.Q	.V	.	.	.	.
11.083	1.3897	2.13	.Q	.V	.	.	.	.
11.167	1.4045	2.14	.Q	.V	.	.	.	.
11.250	1.4193	2.16	.Q	.V	.	.	.	.
11.333	1.4343	2.18	.Q	.V	.	.	.	.
11.417	1.4495	2.20	.Q	.V	.	.	.	.
11.500	1.4648	2.22	.Q	.V	.	.	.	.
11.583	1.4802	2.24	.Q	.V	.	.	.	.
11.667	1.4957	2.26	.Q	.V	.	.	.	.
11.750	1.5114	2.28	.Q	.V	.	.	.	.
11.833	1.5272	2.30	.Q	.V	.	.	.	.
11.917	1.5432	2.32	.Q	.V	.	.	.	.
12.000	1.5594	2.34	.Q	.V	.	.	.	.
12.083	1.5759	2.40	.Q	.V	.	.	.	.
12.167	1.5941	2.64	.Q	.V	.	.	.	.
12.250	1.6145	2.96	.Q	.V	.	.	.	.
12.333	1.6361	3.14	.Q	.V	.	.	.	.
12.417	1.6582	3.21	.Q	.V	.	.	.	.
12.500	1.6806	3.25	.Q	.V	.	.	.	.

12.583	1.7032	3.28	.	Q	.	V	.	.	.
12.667	1.7259	3.30	.	Q	.	V	.	.	.
12.750	1.7489	3.33	.	Q	.	V	.	.	.
12.833	1.7720	3.36	.	Q	.	V	.	.	.
12.917	1.7954	3.39	.	Q	.	V	.	.	.
13.000	1.8189	3.42	.	Q	.	V	.	.	.
13.083	1.8427	3.45	.	Q	.	V	.	.	.
13.167	1.8666	3.48	.	Q	.	V	.	.	.
13.250	1.8908	3.51	.	Q	.	V	.	.	.
13.333	1.9153	3.55	.	Q	.	V	.	.	.
13.417	1.9399	3.58	.	Q	.	V	.	.	.
13.500	1.9649	3.62	.	Q	.	V	.	.	.
13.583	1.9901	3.66	.	Q	.	V	.	.	.
13.667	2.0155	3.70	.	Q	.	V	.	.	.
13.750	2.0413	3.74	.	Q	.	V	.	.	.
13.833	2.0673	3.78	.	Q	.	V	.	.	.
13.917	2.0937	3.83	.	Q	.	V	.	.	.
14.000	2.1204	3.88	.	Q	.	V	.	.	.
14.083	2.1473	3.91	.	Q	.	V	.	.	.
14.167	2.1737	3.84	.	Q	.	V	.	.	.
14.250	2.1993	3.72	.	Q	.	V	.	.	.
14.333	2.2247	3.69	.	Q	.	V	.	.	.
14.417	2.2504	3.73	.	Q	.	V	.	.	.
14.500	2.2765	3.79	.	Q	.	V	.	.	.
14.583	2.3032	3.87	.	Q	.	V	.	.	.
14.667	2.3304	3.95	.	Q	.	V	.	.	.
14.750	2.3583	4.04	.	Q	.	V	.	.	.
14.833	2.3868	4.14	.	Q	.	V	.	.	.
14.917	2.4161	4.25	.	Q	.	V	.	.	.
15.000	2.4461	4.37	.	Q	.	V	.	.	.
15.083	2.4771	4.50	.	Q	.	V	.	.	.
15.167	2.5090	4.64	.	Q	.	V	.	.	.
15.250	2.5421	4.80	.	Q	.	.V	.	.	.
15.333	2.5764	4.98	.	Q	.	.V	.	.	.
15.417	2.6117	5.12	.	Q	.	.V	.	.	.
15.500	2.6455	4.91	.	Q	.	.V	.	.	.
15.583	2.6768	4.55	.	Q	.	.V	.	.	.
15.667	2.7083	4.57	.	Q	.	.V	.	.	.
15.750	2.7421	4.90	.	Q	.	.V	.	.	.
15.833	2.7790	5.36	.	Q	.	.V	.	.	.
15.917	2.8208	6.08	.	Q	.	.V	.	.	.
16.000	2.8733	7.62	.	Q	.	.V	.	.	.
16.083	2.9545	11.79	.	.	Q	.V	.	.	.
16.167	3.1010	21.28	.	.	.	.V	.	.	.
16.250	3.2702	24.57	.	.	.	.V	.	Q	.
16.333	3.3769	15.49	.	.	.	Q	.	.V	.
16.417	3.4360	8.58	.	.	.Q	.	.	.V	.
16.500	3.4773	5.99	.	Q	.	.	.	.V	.
16.583	3.5152	5.51	.	Q	.	.	.	.V	.
16.667	3.5509	5.18	.	Q	.	.	.	.V	.
16.750	3.5841	4.82	.	Q	.	.	.	.V	.
16.833	3.6150	4.49	.	Q	.	.	.	.V	.
16.917	3.6441	4.23	.	Q	.	.	.	.V	.
17.000	3.6718	4.02	.	Q	.	.	.	.V	.
17.083	3.6985	3.87	.	Q	.	.	.	.V	.
17.167	3.7250	3.85	.	Q	.	.	.	.V	.
17.250	3.7518	3.90	.	Q	.	.	.	.V	.
17.333	3.7785	3.88	.	Q	.	.	.	.V	.
17.417	3.8047	3.81	.	Q	.	.	.	.V	.
17.500	3.8304	3.72	.	Q	.	.	.	.V	.
17.583	3.8555	3.65	.	Q	.	.	.	.V	.
17.667	3.8801	3.57	.	Q	.	.	.	.V	.
17.750	3.9042	3.50	.	Q	.	.	.	.V	.
17.833	3.9279	3.44	.	Q	.	.	.	.V	.
17.917	3.9512	3.38	.	Q	.	.	.	.V	.
18.000	3.9741	3.32	.	Q	.	.	.	.V	.
18.083	3.9964	3.24	.	Q	.	.	.	.V	.
18.167	4.0169	2.98	.	Q	.	.	.	.V	.
18.250	4.0350	2.63	.	Q	.	.	.	.V	.
18.333	4.0517	2.43	.	Q	.	.	.	.V	.
18.417	4.0678	2.33	.	Q	.	.	.	.V	.
18.500	4.0835	2.28	.	Q	.	.	.	.V	.
18.583	4.0988	2.23	.	Q	.	.	.	.V	.
18.667	4.1140	2.19	.	Q	.	.	.	.V	.
18.750	4.1288	2.16	.	Q	.	.	.	.V	.
18.833	4.1434	2.12	.	Q	.	.	.	.V	.
18.917	4.1578	2.09	.	Q	.	.	.	.V	.
19.000	4.1719	2.06	.	Q	.	.	.	.V	.
19.083	4.1859	2.02	.	Q	.	.	.	.V	.
19.167	4.1996	2.00	.	Q	.	.	.	.V	.
19.250	4.2132	1.97	.	Q	.	.	.	.V	.
19.333	4.2265	1.94	.	Q	.	.	.	.V	.
19.417	4.2397	1.92	.	Q	.	.	.	.V	.

19.500	4.2528	1.89	. Q	.	.	.	V	.
19.583	4.2656	1.87	. Q	.	.	.	V	.
19.667	4.2783	1.84	. Q	.	.	.	V	.
19.750	4.2909	1.82	. Q	.	.	.	V	.
19.833	4.3033	1.80	. Q	.	.	.	V	.
19.917	4.3155	1.78	. Q	.	.	.	V	.
20.000	4.3277	1.76	. Q	.	.	.	V	.
20.083	4.3396	1.74	. Q	.	.	.	V	.
20.167	4.3515	1.72	. Q	.	.	.	V	.
20.250	4.3633	1.70	. Q	.	.	.	V	.
20.333	4.3749	1.69	. Q	.	.	.	V	.
20.417	4.3864	1.67	. Q	.	.	.	V	.
20.500	4.3978	1.65	. Q	.	.	.	V	.
20.583	4.4090	1.64	. Q	.	.	.	V	.
20.667	4.4202	1.62	. Q	.	.	.	V	.
20.750	4.4313	1.61	. Q	.	.	.	V	.
20.833	4.4423	1.59	. Q	.	.	.	V	.
20.917	4.4531	1.58	. Q	.	.	.	V	.
21.000	4.4639	1.56	. Q	.	.	.	V	.
21.083	4.4746	1.55	. Q	.	.	.	V	.
21.167	4.4852	1.54	. Q	.	.	.	V	.
21.250	4.4957	1.52	. Q	.	.	.	V	.
21.333	4.5061	1.51	. Q	.	.	.	V	.
21.417	4.5164	1.50	. Q	.	.	.	V	.
21.500	4.5267	1.49	. Q	.	.	.	V	.
21.583	4.5368	1.48	. Q	.	.	.	V	.
21.667	4.5469	1.47	. Q	.	.	.	V	.
21.750	4.5570	1.45	. Q	.	.	.	V	.
21.833	4.5669	1.44	. Q	.	.	.	V	.
21.917	4.5768	1.43	. Q	.	.	.	V	.
22.000	4.5866	1.42	. Q	.	.	.	V	.
22.083	4.5963	1.41	. Q	.	.	.	V	.
22.167	4.6059	1.40	. Q	.	.	.	V	.
22.250	4.6155	1.39	. Q	.	.	.	V	.
22.333	4.6250	1.38	. Q	.	.	.	V	.
22.417	4.6345	1.37	. Q	.	.	.	V	.
22.500	4.6439	1.36	. Q	.	.	.	V	.
22.583	4.6532	1.36	. Q	.	.	.	V	.
22.667	4.6625	1.35	. Q	.	.	.	V	.
22.750	4.6717	1.34	. Q	.	.	.	V	.
22.833	4.6809	1.33	. Q	.	.	.	V	.
22.917	4.6900	1.32	. Q	.	.	.	V	.
23.000	4.6990	1.31	. Q	.	.	.	V	.
23.083	4.7080	1.30	. Q	.	.	.	V	.
23.167	4.7169	1.30	. Q	.	.	.	V	.
23.250	4.7258	1.29	. Q	.	.	.	V	.
23.333	4.7346	1.28	. Q	.	.	.	V	.
23.417	4.7434	1.27	. Q	.	.	.	V	.
23.500	4.7521	1.27	. Q	.	.	.	V	.
23.583	4.7608	1.26	. Q	.	.	.	V	.
23.667	4.7694	1.25	. Q	.	.	.	V	.
23.750	4.7780	1.25	. Q	.	.	.	V	.
23.833	4.7865	1.24	. Q	.	.	.	V	.
23.917	4.7950	1.23	. Q	.	.	.	V	.
24.000	4.8035	1.23	. Q	.	.	.	V	.
24.083	4.8115	1.16	. Q	.	.	.	V	.
24.167	4.8171	0.83	. Q	.	.	.	V	.
24.250	4.8195	0.35	. Q	.	.	.	V	.
24.333	4.8203	0.10	. Q	.	.	.	V	.
24.417	4.8205	0.03	. Q	.	.	.	V	.
24.500	4.8206	0.01	. Q	.	.	.	V	.
24.583	4.8206	0.01	. Q	.	.	.	V	.

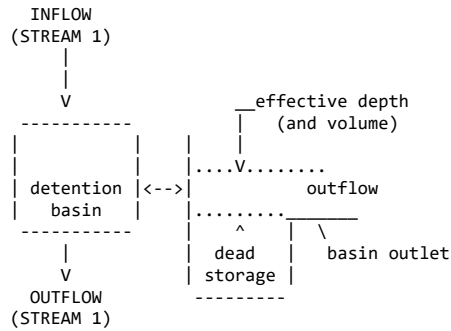
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TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1475.0
10%	370.0
20%	65.0
30%	30.0
40%	20.0
50%	15.0
60%	15.0
70%	10.0
80%	10.0
90%	5.0

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FLOW PROCESS FROM NODE 160.00 TO NODE 165.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #1<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 1  
 THROUGH A FLOW-THROUGH DETENTION BASIN  
 SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
 DEAD STORAGE(AF) = 0.000  
 SPECIFIED DEAD STORAGE(AF) FILLED = 0.000  
 SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000  
 DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.45	3.10	0.100
3	0.65	3.30	0.240
4	0.85	3.60	0.450
5	1.25	3.70	0.690
6	1.45	3.90	0.980

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):  
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;  
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH(FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
0.083	0.000	0.06	0.00	0.00	0.0	0.000
0.167	0.000	0.39	0.00	0.01	0.0	0.003
0.250	0.000	0.86	0.00	0.03	0.2	0.008
0.333	0.000	1.11	0.00	0.06	0.3	0.013
0.417	0.000	1.18	0.00	0.08	0.5	0.018
0.500	0.000	1.20	0.00	0.10	0.6	0.022
0.583	0.000	1.21	0.00	0.11	0.7	0.025
0.667	0.000	1.22	0.00	0.13	0.8	0.028
0.750	0.000	1.23	0.00	0.14	0.9	0.030
0.833	0.000	1.23	0.00	0.14	1.0	0.032
0.917	0.000	1.23	0.00	0.15	1.0	0.034
1.000	0.000	1.24	0.00	0.16	1.1	0.035
1.083	0.000	1.24	0.00	0.16	1.1	0.036
1.167	0.000	1.24	0.00	0.16	1.1	0.037
1.250	0.000	1.25	0.00	0.17	1.1	0.037
1.333	0.000	1.25	0.00	0.17	1.2	0.038
1.417	0.000	1.25	0.00	0.17	1.2	0.038
1.500	0.000	1.26	0.00	0.17	1.2	0.039
1.583	0.000	1.26	0.00	0.18	1.2	0.039
1.667	0.000	1.26	0.00	0.18	1.2	0.039
1.750	0.000	1.27	0.00	0.18	1.2	0.040
1.833	0.000	1.27	0.00	0.18	1.2	0.040
1.917	0.000	1.28	0.00	0.18	1.2	0.040
2.000	0.000	1.28	0.00	0.18	1.2	0.040
2.083	0.000	1.28	0.00	0.18	1.3	0.041
2.167	0.000	1.29	0.00	0.18	1.3	0.041
2.250	0.000	1.29	0.00	0.18	1.3	0.041
2.333	0.000	1.29	0.00	0.18	1.3	0.041
2.417	0.000	1.30	0.00	0.19	1.3	0.041
2.500	0.000	1.30	0.00	0.19	1.3	0.041



2.583	0.000	1.31	0.00	0.19	1.3	0.042
2.667	0.000	1.31	0.00	0.19	1.3	0.042
2.750	0.000	1.31	0.00	0.19	1.3	0.042
2.833	0.000	1.32	0.00	0.19	1.3	0.042
2.917	0.000	1.32	0.00	0.19	1.3	0.042
3.000	0.000	1.33	0.00	0.19	1.3	0.042
3.083	0.000	1.33	0.00	0.19	1.3	0.042
3.167	0.000	1.33	0.00	0.19	1.3	0.042
3.250	0.000	1.34	0.00	0.19	1.3	0.043
3.333	0.000	1.34	0.00	0.19	1.3	0.043
3.417	0.000	1.35	0.00	0.19	1.3	0.043
3.500	0.000	1.35	0.00	0.19	1.3	0.043
3.583	0.000	1.36	0.00	0.19	1.3	0.043
3.667	0.000	1.36	0.00	0.19	1.3	0.043
3.750	0.000	1.37	0.00	0.20	1.3	0.043
3.833	0.000	1.37	0.00	0.20	1.3	0.044
3.917	0.000	1.37	0.00	0.20	1.4	0.044
4.000	0.000	1.38	0.00	0.20	1.4	0.044
4.083	0.000	1.38	0.00	0.20	1.4	0.044
4.167	0.000	1.39	0.00	0.20	1.4	0.044
4.250	0.000	1.39	0.00	0.20	1.4	0.044
4.333	0.000	1.40	0.00	0.20	1.4	0.044
4.417	0.000	1.40	0.00	0.20	1.4	0.045
4.500	0.000	1.41	0.00	0.20	1.4	0.045
4.583	0.000	1.41	0.00	0.20	1.4	0.045
4.667	0.000	1.42	0.00	0.20	1.4	0.045
4.750	0.000	1.42	0.00	0.20	1.4	0.045
4.833	0.000	1.43	0.00	0.20	1.4	0.045
4.917	0.000	1.43	0.00	0.21	1.4	0.046
5.000	0.000	1.44	0.00	0.21	1.4	0.046
5.083	0.000	1.45	0.00	0.21	1.4	0.046
5.167	0.000	1.45	0.00	0.21	1.4	0.046
5.250	0.000	1.46	0.00	0.21	1.4	0.046
5.333	0.000	1.46	0.00	0.21	1.4	0.046
5.417	0.000	1.47	0.00	0.21	1.4	0.047
5.500	0.000	1.47	0.00	0.21	1.4	0.047
5.583	0.000	1.48	0.00	0.21	1.5	0.047
5.667	0.000	1.48	0.00	0.21	1.5	0.047
5.750	0.000	1.49	0.00	0.21	1.5	0.047
5.833	0.000	1.50	0.00	0.21	1.5	0.047
5.917	0.000	1.50	0.00	0.21	1.5	0.048
6.000	0.000	1.51	0.00	0.22	1.5	0.048
6.083	0.000	1.51	0.00	0.22	1.5	0.048
6.167	0.000	1.52	0.00	0.22	1.5	0.048
6.250	0.000	1.53	0.00	0.22	1.5	0.048
6.333	0.000	1.53	0.00	0.22	1.5	0.049
6.417	0.000	1.54	0.00	0.22	1.5	0.049
6.500	0.000	1.55	0.00	0.22	1.5	0.049
6.583	0.000	1.55	0.00	0.22	1.5	0.049
6.667	0.000	1.56	0.00	0.22	1.5	0.049
6.750	0.000	1.57	0.00	0.22	1.5	0.050
6.833	0.000	1.57	0.00	0.22	1.5	0.050
6.917	0.000	1.58	0.00	0.23	1.5	0.050
7.000	0.000	1.59	0.00	0.23	1.6	0.050
7.083	0.000	1.60	0.00	0.23	1.6	0.051
7.167	0.000	1.60	0.00	0.23	1.6	0.051
7.250	0.000	1.61	0.00	0.23	1.6	0.051
7.333	0.000	1.62	0.00	0.23	1.6	0.051
7.417	0.000	1.62	0.00	0.23	1.6	0.051
7.500	0.000	1.63	0.00	0.23	1.6	0.052
7.583	0.000	1.64	0.00	0.23	1.6	0.052
7.667	0.000	1.65	0.00	0.23	1.6	0.052
7.750	0.000	1.66	0.00	0.24	1.6	0.052
7.833	0.000	1.66	0.00	0.24	1.6	0.053
7.917	0.000	1.67	0.00	0.24	1.6	0.053
8.000	0.000	1.68	0.00	0.24	1.6	0.053
8.083	0.000	1.69	0.00	0.24	1.7	0.053
8.167	0.000	1.70	0.00	0.24	1.7	0.054
8.250	0.000	1.71	0.00	0.24	1.7	0.054
8.333	0.000	1.72	0.00	0.24	1.7	0.054
8.417	0.000	1.73	0.00	0.25	1.7	0.055
8.500	0.000	1.73	0.00	0.25	1.7	0.055
8.583	0.000	1.74	0.00	0.25	1.7	0.055
8.667	0.000	1.75	0.00	0.25	1.7	0.055
8.750	0.000	1.76	0.00	0.25	1.7	0.056
8.833	0.000	1.77	0.00	0.25	1.7	0.056
8.917	0.000	1.78	0.00	0.25	1.7	0.056
9.000	0.000	1.79	0.00	0.25	1.7	0.057
9.083	0.000	1.80	0.00	0.26	1.8	0.057
9.167	0.000	1.81	0.00	0.26	1.8	0.057
9.250	0.000	1.83	0.00	0.26	1.8	0.058
9.333	0.000	1.84	0.00	0.26	1.8	0.058
9.417	0.000	1.85	0.00	0.26	1.8	0.058

9.500	0.000	1.86	0.00	0.26	1.8	0.059
9.583	0.000	1.87	0.00	0.27	1.8	0.059
9.667	0.000	1.88	0.00	0.27	1.8	0.059
9.750	0.000	1.89	0.00	0.27	1.8	0.060
9.833	0.000	1.91	0.00	0.27	1.9	0.060
9.917	0.000	1.92	0.00	0.27	1.9	0.060
10.000	0.000	1.93	0.00	0.27	1.9	0.061
10.083	0.000	1.95	0.00	0.28	1.9	0.061
10.167	0.000	1.96	0.00	0.28	1.9	0.062
10.250	0.000	1.97	0.00	0.28	1.9	0.062
10.333	0.000	1.99	0.00	0.28	1.9	0.062
10.417	0.000	2.00	0.00	0.28	1.9	0.063
10.500	0.000	2.01	0.00	0.28	2.0	0.063
10.583	0.000	2.03	0.00	0.29	2.0	0.064
10.667	0.000	2.04	0.00	0.29	2.0	0.064
10.750	0.000	2.06	0.00	0.29	2.0	0.065
10.833	0.000	2.08	0.00	0.29	2.0	0.065
10.917	0.000	2.09	0.00	0.29	2.0	0.065
11.000	0.000	2.11	0.00	0.30	2.0	0.066
11.083	0.000	2.13	0.00	0.30	2.1	0.066
11.167	0.000	2.14	0.00	0.30	2.1	0.067
11.250	0.000	2.16	0.00	0.30	2.1	0.068
11.333	0.000	2.18	0.00	0.31	2.1	0.068
11.417	0.000	2.20	0.00	0.31	2.1	0.069
11.500	0.000	2.22	0.00	0.31	2.1	0.069
11.583	0.000	2.24	0.00	0.31	2.2	0.070
11.667	0.000	2.26	0.00	0.32	2.2	0.070
11.750	0.000	2.28	0.00	0.32	2.2	0.071
11.833	0.000	2.30	0.00	0.32	2.2	0.072
11.917	0.000	2.32	0.00	0.32	2.2	0.072
12.000	0.000	2.34	0.00	0.33	2.2	0.073
12.083	0.000	2.40	0.00	0.33	2.3	0.074
12.167	0.000	2.64	0.00	0.34	2.3	0.076
12.250	0.000	2.96	0.00	0.36	2.4	0.080
12.333	0.000	3.14	0.00	0.38	2.5	0.084
12.417	0.000	3.21	0.00	0.39	2.7	0.088
12.500	0.000	3.25	0.00	0.41	2.8	0.091
12.583	0.000	3.28	0.00	0.42	2.9	0.094
12.667	0.000	3.30	0.00	0.43	2.9	0.096
12.750	0.000	3.33	0.00	0.44	3.0	0.098
12.833	0.000	3.36	0.00	0.45	3.1	0.100
12.917	0.000	3.39	0.00	0.45	3.1	0.102
13.000	0.000	3.42	0.00	0.46	3.1	0.105
13.083	0.000	3.45	0.00	0.46	3.1	0.107
13.167	0.000	3.48	0.00	0.46	3.1	0.109
13.250	0.000	3.51	0.00	0.47	3.1	0.112
13.333	0.000	3.55	0.00	0.47	3.1	0.115
13.417	0.000	3.58	0.00	0.48	3.1	0.118
13.500	0.000	3.62	0.00	0.48	3.1	0.122
13.583	0.000	3.66	0.00	0.49	3.1	0.125
13.667	0.000	3.70	0.00	0.49	3.1	0.129
13.750	0.000	3.74	0.00	0.50	3.1	0.133
13.833	0.000	3.78	0.00	0.50	3.2	0.138
13.917	0.000	3.83	0.00	0.51	3.2	0.142
14.000	0.000	3.88	0.00	0.52	3.2	0.147
14.083	0.000	3.91	0.00	0.52	3.2	0.152
14.167	0.000	3.84	0.00	0.53	3.2	0.157
14.250	0.000	3.72	0.00	0.54	3.2	0.160
14.333	0.000	3.69	0.00	0.54	3.2	0.164
14.417	0.000	3.73	0.00	0.55	3.2	0.168
14.500	0.000	3.79	0.00	0.55	3.2	0.172
14.583	0.000	3.87	0.00	0.56	3.2	0.176
14.667	0.000	3.95	0.00	0.57	3.2	0.181
14.750	0.000	4.04	0.00	0.57	3.2	0.187
14.833	0.000	4.14	0.00	0.58	3.2	0.193
14.917	0.000	4.25	0.00	0.59	3.2	0.200
15.000	0.000	4.37	0.00	0.60	3.2	0.208
15.083	0.000	4.50	0.00	0.62	3.3	0.216
15.167	0.000	4.64	0.00	0.63	3.3	0.226
15.250	0.000	4.80	0.00	0.64	3.3	0.236
15.333	0.000	4.98	0.00	0.66	3.3	0.248
15.417	0.000	5.12	0.00	0.67	3.3	0.260
15.500	0.000	4.91	0.00	0.68	3.3	0.271
15.583	0.000	4.55	0.00	0.69	3.4	0.279
15.667	0.000	4.57	0.00	0.70	3.4	0.288
15.750	0.000	4.90	0.00	0.71	3.4	0.298
15.833	0.000	5.36	0.00	0.72	3.4	0.312
15.917	0.000	6.08	0.00	0.74	3.4	0.330
16.000	0.000	7.62	0.00	0.76	3.4	0.359
16.083	0.000	11.79	0.00	0.82	3.5	0.416
16.167	0.000	21.28	0.00	1.00	3.6	0.538
16.250	0.000	24.57	0.00	1.24	3.7	0.682
16.333	0.000	15.49	0.00	1.30	3.7	0.763

16.417	0.000	8.58	0.00	1.32	3.8	0.796
16.500	0.000	5.99	0.00	1.33	3.8	0.811
16.583	0.000	5.51	0.00	1.34	3.8	0.823
16.667	0.000	5.18	0.00	1.35	3.8	0.832
16.750	0.000	4.82	0.00	1.35	3.8	0.839
16.833	0.000	4.49	0.00	1.36	3.8	0.844
16.917	0.000	4.23	0.00	1.36	3.8	0.847
17.000	0.000	4.02	0.00	1.36	3.8	0.848
17.083	0.000	3.87	0.00	1.36	3.8	0.849
17.167	0.000	3.85	0.00	1.36	3.8	0.849
17.250	0.000	3.90	0.00	1.36	3.8	0.850
17.333	0.000	3.88	0.00	1.36	3.8	0.850
17.417	0.000	3.81	0.00	1.36	3.8	0.850
17.500	0.000	3.72	0.00	1.36	3.8	0.850
17.583	0.000	3.65	0.00	1.36	3.8	0.848
17.667	0.000	3.57	0.00	1.36	3.8	0.847
17.750	0.000	3.50	0.00	1.36	3.8	0.845
17.833	0.000	3.44	0.00	1.35	3.8	0.842
17.917	0.000	3.38	0.00	1.35	3.8	0.839
18.000	0.000	3.32	0.00	1.35	3.8	0.836
18.083	0.000	3.24	0.00	1.35	3.8	0.832
18.167	0.000	2.98	0.00	1.34	3.8	0.826
18.250	0.000	2.63	0.00	1.34	3.8	0.818
18.333	0.000	2.43	0.00	1.33	3.8	0.809
18.417	0.000	2.33	0.00	1.33	3.8	0.799
18.500	0.000	2.28	0.00	1.32	3.8	0.789
18.583	0.000	2.23	0.00	1.31	3.8	0.778
18.667	0.000	2.19	0.00	1.30	3.8	0.768
18.750	0.000	2.16	0.00	1.30	3.7	0.757
18.833	0.000	2.12	0.00	1.29	3.7	0.745
18.917	0.000	2.09	0.00	1.28	3.7	0.734
19.000	0.000	2.06	0.00	1.27	3.7	0.723
19.083	0.000	2.02	0.00	1.26	3.7	0.711
19.167	0.000	2.00	0.00	1.26	3.7	0.699
19.250	0.000	1.97	0.00	1.25	3.7	0.687
19.333	0.000	1.94	0.00	1.23	3.7	0.675
19.417	0.000	1.92	0.00	1.20	3.7	0.663
19.500	0.000	1.89	0.00	1.18	3.7	0.650
19.583	0.000	1.87	0.00	1.16	3.7	0.638
19.667	0.000	1.84	0.00	1.14	3.7	0.625
19.750	0.000	1.82	0.00	1.12	3.7	0.613
19.833	0.000	1.80	0.00	1.10	3.7	0.600
19.917	0.000	1.78	0.00	1.08	3.7	0.587
20.000	0.000	1.76	0.00	1.06	3.7	0.574
20.083	0.000	1.74	0.00	1.03	3.6	0.561
20.167	0.000	1.72	0.00	1.01	3.6	0.547
20.250	0.000	1.70	0.00	0.99	3.6	0.534
20.333	0.000	1.69	0.00	0.97	3.6	0.521
20.417	0.000	1.67	0.00	0.95	3.6	0.507
20.500	0.000	1.65	0.00	0.92	3.6	0.494
20.583	0.000	1.64	0.00	0.90	3.6	0.480
20.667	0.000	1.62	0.00	0.88	3.6	0.466
20.750	0.000	1.61	0.00	0.85	3.6	0.453
20.833	0.000	1.59	0.00	0.84	3.6	0.439
20.917	0.000	1.58	0.00	0.83	3.6	0.425
21.000	0.000	1.56	0.00	0.81	3.6	0.411
21.083	0.000	1.55	0.00	0.80	3.5	0.398
21.167	0.000	1.54	0.00	0.79	3.5	0.384
21.250	0.000	1.52	0.00	0.77	3.5	0.371
21.333	0.000	1.51	0.00	0.76	3.5	0.357
21.417	0.000	1.50	0.00	0.75	3.5	0.344
21.500	0.000	1.49	0.00	0.74	3.4	0.330
21.583	0.000	1.48	0.00	0.72	3.4	0.317
21.667	0.000	1.47	0.00	0.71	3.4	0.303
21.750	0.000	1.45	0.00	0.70	3.4	0.290
21.833	0.000	1.44	0.00	0.69	3.4	0.277
21.917	0.000	1.43	0.00	0.67	3.3	0.264
22.000	0.000	1.42	0.00	0.66	3.3	0.251
22.083	0.000	1.41	0.00	0.65	3.3	0.238
22.167	0.000	1.40	0.00	0.63	3.3	0.225
22.250	0.000	1.39	0.00	0.61	3.3	0.212
22.333	0.000	1.38	0.00	0.59	3.3	0.199
22.417	0.000	1.37	0.00	0.57	3.2	0.186
22.500	0.000	1.36	0.00	0.55	3.2	0.173
22.583	0.000	1.36	0.00	0.54	3.2	0.161
22.667	0.000	1.35	0.00	0.52	3.2	0.148
22.750	0.000	1.34	0.00	0.50	3.2	0.135
22.833	0.000	1.33	0.00	0.48	3.1	0.123
22.917	0.000	1.32	0.00	0.47	3.1	0.111
23.000	0.000	1.31	0.00	0.44	3.1	0.098
23.083	0.000	1.30	0.00	0.39	2.9	0.088
23.167	0.000	1.30	0.00	0.35	2.6	0.079
23.250	0.000	1.29	0.00	0.32	2.3	0.072

23.333	0.000	1.28	0.00	0.30	2.1	0.066
23.417	0.000	1.27	0.00	0.27	2.0	0.061
23.500	0.000	1.27	0.00	0.26	1.8	0.057
23.583	0.000	1.26	0.00	0.24	1.7	0.054
23.667	0.000	1.25	0.00	0.23	1.6	0.051
23.750	0.000	1.25	0.00	0.22	1.6	0.049
23.833	0.000	1.24	0.00	0.21	1.5	0.047
23.917	0.000	1.23	0.00	0.21	1.4	0.046

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PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 4.821 AF  
BASIN STORAGE = 0.000 AF (WITH 0.000 AF INITIALLY FILLED)  
OUTFLOW VOLUME = 4.821 AF  
LOSS VOLUME = 0.000 AF

=====

END OF FLOODSCx ROUTING ANALYSIS

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F L O O D   R O U T I N G   A N A L Y S I S  
USING COUNTY HYDROLOGY MANUAL OF SAN BERNARDINO(1986)  
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Ver. 23.0 Release Date: 07/01/2016 License ID 1435

Analysis prepared by:

THIENES ENGINEERING, INC.  
14349 FIRESTONE BLVD  
LA MIRIADA, CA 90638  
714-521-4811

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* TEI JOB NO 3857 \*  
\* BUILDING 12 NORTH \*  
\* 100-YEAR STORM EVENT \*  
\*\*\*\*\*

FILE NAME: W:\3857\BLDG12N.DAT  
TIME/DATE OF STUDY: 09:55 12/28/2021

\*\*\*\*\*  
FLOW PROCESS FROM NODE 170.00 TO NODE 177.00 IS CODE = 1  
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>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<

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(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 12.200 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.110 HOURS  
CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.  
THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)  
MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.042  
LOW LOSS FRACTION = 0.079  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.38  
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.75  
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.00  
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.90  
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 3.00  
SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 6.00

PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE FACTOR = 0.999  
30-MINUTE FACTOR = 0.999  
1-HOUR FACTOR = 0.999  
3-HOUR FACTOR = 1.000  
6-HOUR FACTOR = 1.000  
24-HOUR FACTOR = 1.000

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 75.758

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UNIT HYDROGRAPH DETERMINATION  
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INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	10.090	14.887
2	59.010	72.178
3	92.268	49.070
4	98.542	9.257
5	99.502	1.416
6	99.801	0.441
7	99.950	0.220
8	100.000	0.073

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TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 0.4420  
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TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 5.6549

↑

2 4 - H O U R   S T O R M  
R U N O F F   H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS(CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	10.0	20.0	30.0	40.0
0.083	0.0010	0.14	Q	.	.	.	.
0.167	0.0067	0.84	Q	.	.	.	.
0.250	0.0158	1.31	VQ	.	.	.	.
0.333	0.0254	1.40	VQ	.	.	.	.
0.417	0.0352	1.42	VQ	.	.	.	.
0.500	0.0450	1.43	VQ	.	.	.	.
0.583	0.0549	1.43	VQ	.	.	.	.
0.667	0.0648	1.44	VQ	.	.	.	.
0.750	0.0747	1.44	VQ	.	.	.	.
0.833	0.0847	1.45	VQ	.	.	.	.
0.917	0.0946	1.45	VQ	.	.	.	.
1.000	0.1046	1.45	VQ	.	.	.	.
1.083	0.1147	1.46	VQ	.	.	.	.
1.167	0.1247	1.46	VQ	.	.	.	.
1.250	0.1348	1.46	VQ	.	.	.	.
1.333	0.1449	1.47	.Q	.	.	.	.
1.417	0.1551	1.47	.Q	.	.	.	.
1.500	0.1653	1.48	.Q	.	.	.	.
1.583	0.1755	1.48	.Q	.	.	.	.
1.667	0.1857	1.49	.Q	.	.	.	.
1.750	0.1960	1.49	.Q	.	.	.	.
1.833	0.2063	1.49	.Q	.	.	.	.
1.917	0.2166	1.50	.Q	.	.	.	.
2.000	0.2269	1.50	.Q	.	.	.	.
2.083	0.2373	1.51	.Q	.	.	.	.
2.167	0.2477	1.51	.Q	.	.	.	.
2.250	0.2582	1.52	.Q	.	.	.	.
2.333	0.2687	1.52	.Q	.	.	.	.
2.417	0.2792	1.53	.Q	.	.	.	.
2.500	0.2897	1.53	.QV	.	.	.	.
2.583	0.3003	1.54	.QV	.	.	.	.
2.667	0.3109	1.54	.QV	.	.	.	.
2.750	0.3215	1.54	.QV	.	.	.	.
2.833	0.3322	1.55	.QV	.	.	.	.
2.917	0.3429	1.55	.QV	.	.	.	.
3.000	0.3536	1.56	.QV	.	.	.	.
3.083	0.3644	1.56	.QV	.	.	.	.
3.167	0.3752	1.57	.QV	.	.	.	.
3.250	0.3861	1.57	.QV	.	.	.	.
3.333	0.3969	1.58	.QV	.	.	.	.
3.417	0.4078	1.58	.QV	.	.	.	.
3.500	0.4188	1.59	.QV	.	.	.	.
3.583	0.4298	1.59	.Q V	.	.	.	.
3.667	0.4408	1.60	.Q V	.	.	.	.
3.750	0.4519	1.61	.Q V	.	.	.	.
3.833	0.4629	1.61	.Q V	.	.	.	.
3.917	0.4741	1.62	.Q V	.	.	.	.
4.000	0.4852	1.62	.Q V	.	.	.	.
4.083	0.4965	1.63	.Q V	.	.	.	.
4.167	0.5077	1.63	.Q V	.	.	.	.
4.250	0.5190	1.64	.Q V	.	.	.	.
4.333	0.5303	1.64	.Q V	.	.	.	.
4.417	0.5417	1.65	.Q V	.	.	.	.
4.500	0.5531	1.66	.Q V	.	.	.	.
4.583	0.5645	1.66	.Q V	.	.	.	.
4.667	0.5760	1.67	.Q V	.	.	.	.
4.750	0.5876	1.67	.Q V	.	.	.	.
4.833	0.5991	1.68	.Q V	.	.	.	.
4.917	0.6107	1.69	.Q V	.	.	.	.
5.000	0.6224	1.69	.Q V	.	.	.	.
5.083	0.6341	1.70	.Q V	.	.	.	.
5.167	0.6459	1.71	.Q V	.	.	.	.
5.250	0.6576	1.71	.Q V	.	.	.	.
5.333	0.6695	1.72	.Q V	.	.	.	.
5.417	0.6814	1.73	.Q V	.	.	.	.
5.500	0.6933	1.73	.Q V	.	.	.	.
5.583	0.7053	1.74	.Q V	.	.	.	.
5.667	0.7173	1.75	.Q V	.	.	.	.
5.750	0.7294	1.75	.Q V	.	.	.	.

5.833	0.7415	1.76	.Q	V	.	.	.	.
5.917	0.7536	1.77	.Q	V	.	.	.	.
6.000	0.7659	1.77	.Q	V	.	.	.	.
6.083	0.7781	1.78	.Q	V	.	.	.	.
6.167	0.7905	1.79	.Q	V	.	.	.	.
6.250	0.8028	1.80	.Q	V	.	.	.	.
6.333	0.8152	1.80	.Q	V	.	.	.	.
6.417	0.8277	1.81	.Q	V	.	.	.	.
6.500	0.8403	1.82	.Q	V	.	.	.	.
6.583	0.8528	1.83	.Q	V	.	.	.	.
6.667	0.8655	1.84	.Q	V	.	.	.	.
6.750	0.8782	1.84	.Q	V	.	.	.	.
6.833	0.8909	1.85	.Q	V	.	.	.	.
6.917	0.9037	1.86	.Q	V	.	.	.	.
7.000	0.9166	1.87	.Q	V	.	.	.	.
7.083	0.9295	1.88	.Q	V	.	.	.	.
7.167	0.9425	1.89	.Q	V	.	.	.	.
7.250	0.9555	1.89	.Q	V	.	.	.	.
7.333	0.9686	1.90	.Q	V	.	.	.	.
7.417	0.9818	1.91	.Q	V	.	.	.	.
7.500	0.9950	1.92	.Q	V	.	.	.	.
7.583	1.0083	1.93	.Q	V	.	.	.	.
7.667	1.0217	1.94	.Q	V	.	.	.	.
7.750	1.0351	1.95	.Q	V	.	.	.	.
7.833	1.0486	1.96	.Q	V	.	.	.	.
7.917	1.0622	1.97	.Q	V	.	.	.	.
8.000	1.0758	1.98	.Q	V	.	.	.	.
8.083	1.0895	1.99	.Q	V	.	.	.	.
8.167	1.1033	2.00	.Q	V	.	.	.	.
8.250	1.1171	2.01	.Q	V	.	.	.	.
8.333	1.1310	2.02	.Q	V	.	.	.	.
8.417	1.1450	2.03	.Q	V	.	.	.	.
8.500	1.1591	2.04	.Q	V	.	.	.	.
8.583	1.1732	2.05	.Q	V	.	.	.	.
8.667	1.1874	2.06	.Q	V	.	.	.	.
8.750	1.2017	2.08	.Q	V	.	.	.	.
8.833	1.2161	2.09	.Q	V	.	.	.	.
8.917	1.2306	2.10	.Q	V	.	.	.	.
9.000	1.2451	2.11	.Q	V	.	.	.	.
9.083	1.2598	2.12	.Q	V	.	.	.	.
9.167	1.2745	2.14	.Q	V	.	.	.	.
9.250	1.2893	2.15	.Q	V	.	.	.	.
9.333	1.3042	2.16	.Q	V	.	.	.	.
9.417	1.3192	2.18	.Q	V	.	.	.	.
9.500	1.3343	2.19	.Q	V	.	.	.	.
9.583	1.3494	2.20	.Q	V	.	.	.	.
9.667	1.3647	2.22	.Q	V	.	.	.	.
9.750	1.3801	2.23	.Q	V	.	.	.	.
9.833	1.3955	2.25	.Q	V	.	.	.	.
9.917	1.4111	2.26	.Q	V	.	.	.	.
10.000	1.4268	2.28	.Q	V	.	.	.	.
10.083	1.4426	2.29	.Q	V	.	.	.	.
10.167	1.4585	2.31	.Q	V	.	.	.	.
10.250	1.4745	2.32	.Q	V	.	.	.	.
10.333	1.4906	2.34	.Q	V	.	.	.	.
10.417	1.5068	2.36	.Q	V	.	.	.	.
10.500	1.5232	2.37	.Q	V	.	.	.	.
10.583	1.5397	2.39	.Q	V	.	.	.	.
10.667	1.5563	2.41	.Q	.V	.	.	.	.
10.750	1.5730	2.43	.Q	.V	.	.	.	.
10.833	1.5898	2.45	.Q	.V	.	.	.	.
10.917	1.6068	2.47	.Q	.V	.	.	.	.
11.000	1.6239	2.49	.Q	.V	.	.	.	.
11.083	1.6412	2.51	.Q	.V	.	.	.	.
11.167	1.6586	2.53	.Q	.V	.	.	.	.
11.250	1.6762	2.55	.Q	.V	.	.	.	.
11.333	1.6939	2.57	.Q	.V	.	.	.	.
11.417	1.7117	2.59	.Q	.V	.	.	.	.
11.500	1.7297	2.62	.Q	.V	.	.	.	.
11.583	1.7479	2.64	.Q	.V	.	.	.	.
11.667	1.7662	2.66	.Q	.V	.	.	.	.
11.750	1.7848	2.69	.Q	.V	.	.	.	.
11.833	1.8035	2.71	.Q	.V	.	.	.	.
11.917	1.8223	2.74	.Q	.V	.	.	.	.
12.000	1.8414	2.77	.Q	.V	.	.	.	.
12.083	1.8613	2.89	.Q	.V	.	.	.	.
12.167	1.8844	3.36	.Q	.V	.	.	.	.
12.250	1.9097	3.68	.Q	.V	.	.	.	.
12.333	1.9357	3.77	.Q	.V	.	.	.	.
12.417	1.9618	3.80	.Q	.V	.	.	.	.
12.500	1.9883	3.84	.Q	.V	.	.	.	.
12.583	2.0149	3.87	.Q	.V	.	.	.	.
12.667	2.0417	3.90	.Q	.V	.	.	.	.

12.750	2.0688	3.93	.	Q	.	V	.	.	.	.
12.833	2.0961	3.96	.	Q	.	V	.	.	.	.
12.917	2.1236	4.00	.	Q	.	V	.	.	.	.
13.000	2.1514	4.03	.	Q	.	V	.	.	.	.
13.083	2.1794	4.07	.	Q	.	V	.	.	.	.
13.167	2.2077	4.11	.	Q	.	V	.	.	.	.
13.250	2.2362	4.15	.	Q	.	V	.	.	.	.
13.333	2.2651	4.19	.	Q	.	V	.	.	.	.
13.417	2.2942	4.23	.	Q	.	V	.	.	.	.
13.500	2.3237	4.28	.	Q	.	V	.	.	.	.
13.583	2.3534	4.32	.	Q	.	V	.	.	.	.
13.667	2.3835	4.37	.	Q	.	V	.	.	.	.
13.750	2.4139	4.42	.	Q	.	V	.	.	.	.
13.833	2.4447	4.47	.	Q	.	V	.	.	.	.
13.917	2.4759	4.53	.	Q	.	V	.	.	.	.
14.000	2.5075	4.59	.	Q	.	V	.	.	.	.
14.083	2.5391	4.59	.	Q	.	V	.	.	.	.
14.167	2.5694	4.40	.	Q	.	V	.	.	.	.
14.250	2.5990	4.29	.	Q	.	V	.	.	.	.
14.333	2.6289	4.34	.	Q	.	V	.	.	.	.
14.417	2.6593	4.41	.	Q	.	V	.	.	.	.
14.500	2.6903	4.51	.	Q	.	V	.	.	.	.
14.583	2.7219	4.60	.	Q	.	V	.	.	.	.
14.667	2.7543	4.70	.	Q	.	V	.	.	.	.
14.750	2.7875	4.81	.	Q	.	V	.	.	.	.
14.833	2.8215	4.94	.	Q	.	V	.	.	.	.
14.917	2.8564	5.06	.	Q	.	V	.	.	.	.
15.000	2.8923	5.22	.	Q	.	V	.	.	.	.
15.083	2.9293	5.37	.	Q	.	V	.	.	.	.
15.167	2.9676	5.56	.	Q	.	V	.	.	.	.
15.250	3.0072	5.75	.	Q	.	V	.	.	.	.
15.333	3.0485	6.00	.	Q	.	V	.	.	.	.
15.417	3.0902	6.06	.	Q	.	V	.	.	.	.
15.500	3.1277	5.44	.	Q	.	V	.	.	.	.
15.583	3.1632	5.15	.	Q	.	V	.	.	.	.
15.667	3.2012	5.52	.	Q	.	V	.	.	.	.
15.750	3.2428	6.04	.	Q	.	V	.	.	.	.
15.833	3.2886	6.66	.	Q	.	V	.	.	.	.
15.917	3.3422	7.77	.	Q	.	V	.	.	.	.
16.000	3.4142	10.46	.	Q	.	V	.	.	.	.
16.083	3.5385	18.05	.	.	.	Q	.	V	.	Q
16.167	3.7752	34.37	.	.	.	.	.	V	.	.
16.250	3.9465	24.87	.	.	.	.	.	Q	V	.
16.333	4.0198	10.64	.	.	Q	.	.	.	V	.
16.417	4.0662	6.74	.	.	Q	.	.	.	V	.
16.500	4.1096	6.31	.	.	Q	.	.	.	V	.
16.583	4.1521	6.17	.	.	Q	.	.	.	V	.
16.667	4.1916	5.73	.	.	Q	.	.	.	V	.
16.750	4.2284	5.34	.	.	Q	.	.	.	V	.
16.833	4.2631	5.04	.	.	Q	.	.	.	V	.
16.917	4.2961	4.79	.	.	Q	.	.	.	V	.
17.000	4.3277	4.58	.	.	Q	.	.	.	V	.
17.083	4.3583	4.45	.	.	Q	.	.	.	V	.
17.167	4.3897	4.55	.	.	Q	.	.	.	V	.
17.250	4.4213	4.59	.	.	Q	.	.	.	V	.
17.333	4.4523	4.51	.	.	Q	.	.	.	V	.
17.417	4.4827	4.41	.	.	Q	.	.	.	V	.
17.500	4.5123	4.31	.	.	Q	.	.	.	V	.
17.583	4.5414	4.22	.	.	Q	.	.	.	V	.
17.667	4.5699	4.14	.	.	Q	.	.	.	V	.
17.750	4.5979	4.06	.	.	Q	.	.	.	V	.
17.833	4.6253	3.99	.	.	Q	.	.	.	V	.
17.917	4.6523	3.92	.	.	Q	.	.	.	V	.
18.000	4.6789	3.86	.	.	Q	.	.	.	V	.
18.083	4.7045	3.71	.	.	Q	.	.	.	V	.
18.167	4.7266	3.21	.	.	Q	.	.	.	V	.
18.250	4.7463	2.86	.	.	Q	.	.	.	V	.
18.333	4.7652	2.75	.	.	Q	.	.	.	V	.
18.417	4.7837	2.69	.	.	Q	.	.	.	V	.
18.500	4.8018	2.64	.	.	Q	.	.	.	V	.
18.583	4.8197	2.59	.	.	Q	.	.	.	V	.
18.667	4.8372	2.54	.	.	Q	.	.	.	V	.
18.750	4.8544	2.50	.	.	Q	.	.	.	V	.
18.833	4.8714	2.46	.	.	Q	.	.	.	V	.
18.917	4.8881	2.42	.	.	Q	.	.	.	V	.
19.000	4.9045	2.39	.	.	Q	.	.	.	V	.
19.083	4.9207	2.35	.	.	Q	.	.	.	V	.
19.167	4.9367	2.32	.	.	Q	.	.	.	V	.
19.250	4.9524	2.29	.	.	Q	.	.	.	V	.
19.333	4.9680	2.26	.	.	Q	.	.	.	V	.
19.417	4.9833	2.23	.	.	Q	.	.	.	V	.
19.500	4.9985	2.20	.	.	Q	.	.	.	V	.
19.583	5.0134	2.17	.	.	Q	.	.	.	V	.



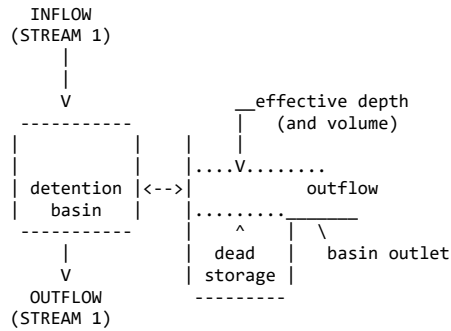
19.667	5.0282	2.15	. Q	.	.	.	V	.
19.750	5.0428	2.12	. Q	.	.	.	V	.
19.833	5.0573	2.10	. Q	.	.	.	V	.
19.917	5.0716	2.07	. Q	.	.	.	V	.
20.000	5.0857	2.05	. Q	.	.	.	V	.
20.083	5.0997	2.03	. Q	.	.	.	V	.
20.167	5.1135	2.01	. Q	.	.	.	V	.
20.250	5.1272	1.99	. Q	.	.	.	V	.
20.333	5.1407	1.97	. Q	.	.	.	V	.
20.417	5.1541	1.95	. Q	.	.	.	V	.
20.500	5.1674	1.93	. Q	.	.	.	V	.
20.583	5.1805	1.91	. Q	.	.	.	V	.
20.667	5.1936	1.89	. Q	.	.	.	V	.
20.750	5.2065	1.87	. Q	.	.	.	V	.
20.833	5.2193	1.86	. Q	.	.	.	V	.
20.917	5.2319	1.84	. Q	.	.	.	V	.
21.000	5.2445	1.83	. Q	.	.	.	V	.
21.083	5.2570	1.81	. Q	.	.	.	V	.
21.167	5.2693	1.79	. Q	.	.	.	V	.
21.250	5.2816	1.78	. Q	.	.	.	V	.
21.333	5.2937	1.76	. Q	.	.	.	V	.
21.417	5.3058	1.75	. Q	.	.	.	V	.
21.500	5.3178	1.74	. Q	.	.	.	V	.
21.583	5.3296	1.72	. Q	.	.	.	V	.
21.667	5.3414	1.71	. Q	.	.	.	V	.
21.750	5.3531	1.70	. Q	.	.	.	V	.
21.833	5.3647	1.68	. Q	.	.	.	V	.
21.917	5.3762	1.67	. Q	.	.	.	V	.
22.000	5.3877	1.66	. Q	.	.	.	V	.
22.083	5.3990	1.65	. Q	.	.	.	V	.
22.167	5.4103	1.64	. Q	.	.	.	V	.
22.250	5.4215	1.63	. Q	.	.	.	V	.
22.333	5.4326	1.61	. Q	.	.	.	V	.
22.417	5.4437	1.60	. Q	.	.	.	V	.
22.500	5.4546	1.59	. Q	.	.	.	V	.
22.583	5.4655	1.58	. Q	.	.	.	V	.
22.667	5.4764	1.57	. Q	.	.	.	V	.
22.750	5.4871	1.56	. Q	.	.	.	V	.
22.833	5.4978	1.55	. Q	.	.	.	V	.
22.917	5.5085	1.54	. Q	.	.	.	V	.
23.000	5.5190	1.53	. Q	.	.	.	V	.
23.083	5.5295	1.52	. Q	.	.	.	V	.
23.167	5.5400	1.52	. Q	.	.	.	V	.
23.250	5.5503	1.51	. Q	.	.	.	V	.
23.333	5.5606	1.50	. Q	.	.	.	V	.
23.417	5.5709	1.49	. Q	.	.	.	V	.
23.500	5.5811	1.48	. Q	.	.	.	V	.
23.583	5.5912	1.47	. Q	.	.	.	V	.
23.667	5.6013	1.46	. Q	.	.	.	V	.
23.750	5.6113	1.46	. Q	.	.	.	V	.
23.833	5.6213	1.45	. Q	.	.	.	V	.
23.917	5.6312	1.44	. Q	.	.	.	V	.
24.000	5.6411	1.43	. Q	.	.	.	V	.
24.083	5.6499	1.28	. Q	.	.	.	V	.
24.167	5.6540	0.58	Q	.	.	.	V	.
24.250	5.6547	0.11	Q	.	.	.	V	.
24.333	5.6549	0.02	Q	.	.	.	V	.
24.417	5.6549	0.01	Q	.	.	.	V	.

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TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1465.0
10%	355.0
20%	30.0
30%	25.0
40%	15.0
50%	15.0
60%	10.0
70%	10.0
80%	5.0
90%	5.0

\*\*\*\*\*  
FLOW PROCESS FROM NODE 170.00 TO NODE 177.00 IS CODE = 3.1

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>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #1<<<<<<  
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ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 1  
 THROUGH A FLOW-THROUGH DETENTION BASIN  
 SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
 DEAD STORAGE(AF) = 0.000  
 SPECIFIED DEAD STORAGE(AF) FILLED = 0.000  
 SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000  
 DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.17	1.10	0.010
3	0.37	1.12	0.090
4	0.57	1.20	0.300
5	0.77	1.30	0.630
6	0.97	1.40	1.040
7	1.17	1.42	1.520
8	1.37	1.50	2.040
9	1.57	1.60	2.610
10	1.77	1.62	3.210
11	1.97	1.70	3.840
12	2.17	1.72	4.520
13	2.37	1.74	5.230
14	2.57	1.76	5.980

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):  
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;  
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN EFFECTIVE DEPTH(FT)	MEAN OUTFLOW (CFS)	MEAN EFFECTIVE VOLUME(AF)
0.083	0.000	0.14	0.00	0.01	0.0	0.001
0.167	0.000	0.84	0.00	0.08	0.3	0.004
0.250	0.000	1.31	0.00	0.15	0.7	0.009
0.333	0.000	1.40	0.00	0.17	1.0	0.011
0.417	0.000	1.42	0.00	0.18	1.1	0.013
0.500	0.000	1.43	0.00	0.18	1.1	0.016
0.583	0.000	1.43	0.00	0.19	1.1	0.018
0.667	0.000	1.44	0.00	0.20	1.1	0.020
0.750	0.000	1.44	0.00	0.20	1.1	0.023
0.833	0.000	1.45	0.00	0.21	1.1	0.025
0.917	0.000	1.45	0.00	0.21	1.1	0.027
1.000	0.000	1.45	0.00	0.22	1.1	0.030
1.083	0.000	1.46	0.00	0.23	1.1	0.032
1.167	0.000	1.46	0.00	0.23	1.1	0.035
1.250	0.000	1.46	0.00	0.24	1.1	0.037
1.333	0.000	1.47	0.00	0.24	1.1	0.039
1.417	0.000	1.47	0.00	0.25	1.1	0.042
1.500	0.000	1.48	0.00	0.26	1.1	0.045
1.583	0.000	1.48	0.00	0.26	1.1	0.047
1.667	0.000	1.49	0.00	0.27	1.1	0.050
1.750	0.000	1.49	0.00	0.28	1.1	0.052
1.833	0.000	1.49	0.00	0.28	1.1	0.055
1.917	0.000	1.50	0.00	0.29	1.1	0.058
2.000	0.000	1.50	0.00	0.30	1.1	0.060
2.083	0.000	1.51	0.00	0.30	1.1	0.063
2.167	0.000	1.51	0.00	0.31	1.1	0.066

2.250	0.000	1.52	0.00	0.32	1.1	0.069
2.333	0.000	1.52	0.00	0.32	1.1	0.071
2.417	0.000	1.53	0.00	0.33	1.1	0.074
2.500	0.000	1.53	0.00	0.34	1.1	0.077
2.583	0.000	1.54	0.00	0.34	1.1	0.080
2.667	0.000	1.54	0.00	0.35	1.1	0.083
2.750	0.000	1.54	0.00	0.36	1.1	0.086
2.833	0.000	1.55	0.00	0.37	1.1	0.089
2.917	0.000	1.55	0.00	0.37	1.1	0.092
3.000	0.000	1.56	0.00	0.37	1.1	0.095
3.083	0.000	1.56	0.00	0.38	1.1	0.098
3.167	0.000	1.57	0.00	0.38	1.1	0.101
3.250	0.000	1.57	0.00	0.38	1.1	0.104
3.333	0.000	1.58	0.00	0.39	1.1	0.107
3.417	0.000	1.58	0.00	0.39	1.1	0.110
3.500	0.000	1.59	0.00	0.39	1.1	0.113
3.583	0.000	1.59	0.00	0.40	1.1	0.117
3.667	0.000	1.60	0.00	0.40	1.1	0.120
3.750	0.000	1.61	0.00	0.40	1.1	0.123
3.833	0.000	1.61	0.00	0.40	1.1	0.126
3.917	0.000	1.62	0.00	0.41	1.1	0.130
4.000	0.000	1.62	0.00	0.41	1.1	0.133
4.083	0.000	1.63	0.00	0.41	1.1	0.136
4.167	0.000	1.63	0.00	0.42	1.1	0.140
4.250	0.000	1.64	0.00	0.42	1.1	0.143
4.333	0.000	1.64	0.00	0.42	1.1	0.147
4.417	0.000	1.65	0.00	0.43	1.1	0.150
4.500	0.000	1.66	0.00	0.43	1.1	0.154
4.583	0.000	1.66	0.00	0.43	1.1	0.157
4.667	0.000	1.67	0.00	0.44	1.1	0.161
4.750	0.000	1.67	0.00	0.44	1.1	0.165
4.833	0.000	1.68	0.00	0.44	1.1	0.168
4.917	0.000	1.69	0.00	0.45	1.2	0.172
5.000	0.000	1.69	0.00	0.45	1.2	0.176
5.083	0.000	1.70	0.00	0.46	1.2	0.179
5.167	0.000	1.71	0.00	0.46	1.2	0.183
5.250	0.000	1.71	0.00	0.46	1.2	0.187
5.333	0.000	1.72	0.00	0.47	1.2	0.191
5.417	0.000	1.73	0.00	0.47	1.2	0.195
5.500	0.000	1.73	0.00	0.47	1.2	0.199
5.583	0.000	1.74	0.00	0.48	1.2	0.203
5.667	0.000	1.75	0.00	0.48	1.2	0.207
5.750	0.000	1.75	0.00	0.48	1.2	0.211
5.833	0.000	1.76	0.00	0.49	1.2	0.215
5.917	0.000	1.77	0.00	0.49	1.2	0.219
6.000	0.000	1.77	0.00	0.50	1.2	0.223
6.083	0.000	1.78	0.00	0.50	1.2	0.227
6.167	0.000	1.79	0.00	0.50	1.2	0.232
6.250	0.000	1.80	0.00	0.51	1.2	0.236
6.333	0.000	1.80	0.00	0.51	1.2	0.240
6.417	0.000	1.81	0.00	0.52	1.2	0.244
6.500	0.000	1.82	0.00	0.52	1.2	0.249
6.583	0.000	1.83	0.00	0.53	1.2	0.253
6.667	0.000	1.84	0.00	0.53	1.2	0.258
6.750	0.000	1.84	0.00	0.53	1.2	0.262
6.833	0.000	1.85	0.00	0.54	1.2	0.267
6.917	0.000	1.86	0.00	0.54	1.2	0.272
7.000	0.000	1.87	0.00	0.55	1.2	0.276
7.083	0.000	1.88	0.00	0.55	1.2	0.281
7.167	0.000	1.89	0.00	0.56	1.2	0.286
7.250	0.000	1.89	0.00	0.56	1.2	0.291
7.333	0.000	1.90	0.00	0.57	1.2	0.295
7.417	0.000	1.91	0.00	0.57	1.2	0.300
7.500	0.000	1.92	0.00	0.57	1.2	0.305
7.583	0.000	1.93	0.00	0.58	1.2	0.310
7.667	0.000	1.94	0.00	0.58	1.2	0.315
7.750	0.000	1.95	0.00	0.58	1.2	0.320
7.833	0.000	1.96	0.00	0.59	1.2	0.326
7.917	0.000	1.97	0.00	0.59	1.2	0.331
8.000	0.000	1.98	0.00	0.59	1.2	0.336
8.083	0.000	1.99	0.00	0.60	1.2	0.342
8.167	0.000	2.00	0.00	0.60	1.2	0.347
8.250	0.000	2.01	0.00	0.60	1.2	0.352
8.333	0.000	2.02	0.00	0.61	1.2	0.358
8.417	0.000	2.03	0.00	0.61	1.2	0.364
8.500	0.000	2.04	0.00	0.61	1.2	0.369
8.583	0.000	2.05	0.00	0.62	1.2	0.375
8.667	0.000	2.06	0.00	0.62	1.2	0.381
8.750	0.000	2.08	0.00	0.62	1.2	0.387
8.833	0.000	2.09	0.00	0.63	1.2	0.393
8.917	0.000	2.10	0.00	0.63	1.2	0.399
9.000	0.000	2.11	0.00	0.63	1.2	0.405
9.083	0.000	2.12	0.00	0.64	1.2	0.411

9.167	0.000	2.14	0.00	0.64	1.2	0.417
9.250	0.000	2.15	0.00	0.64	1.2	0.423
9.333	0.000	2.16	0.00	0.65	1.2	0.430
9.417	0.000	2.18	0.00	0.65	1.2	0.436
9.500	0.000	2.19	0.00	0.66	1.2	0.443
9.583	0.000	2.20	0.00	0.66	1.2	0.449
9.667	0.000	2.22	0.00	0.66	1.2	0.456
9.750	0.000	2.23	0.00	0.67	1.2	0.463
9.833	0.000	2.25	0.00	0.67	1.3	0.470
9.917	0.000	2.26	0.00	0.68	1.3	0.476
10.000	0.000	2.28	0.00	0.68	1.3	0.483
10.083	0.000	2.29	0.00	0.69	1.3	0.491
10.167	0.000	2.31	0.00	0.69	1.3	0.498
10.250	0.000	2.32	0.00	0.69	1.3	0.505
10.333	0.000	2.34	0.00	0.70	1.3	0.513
10.417	0.000	2.36	0.00	0.70	1.3	0.520
10.500	0.000	2.37	0.00	0.71	1.3	0.528
10.583	0.000	2.39	0.00	0.71	1.3	0.535
10.667	0.000	2.41	0.00	0.72	1.3	0.543
10.750	0.000	2.43	0.00	0.72	1.3	0.551
10.833	0.000	2.45	0.00	0.73	1.3	0.559
10.917	0.000	2.47	0.00	0.73	1.3	0.567
11.000	0.000	2.49	0.00	0.74	1.3	0.576
11.083	0.000	2.51	0.00	0.74	1.3	0.584
11.167	0.000	2.53	0.00	0.75	1.3	0.593
11.250	0.000	2.55	0.00	0.75	1.3	0.601
11.333	0.000	2.57	0.00	0.76	1.3	0.610
11.417	0.000	2.59	0.00	0.76	1.3	0.619
11.500	0.000	2.62	0.00	0.77	1.3	0.628
11.583	0.000	2.64	0.00	0.77	1.3	0.637
11.667	0.000	2.66	0.00	0.78	1.3	0.647
11.750	0.000	2.69	0.00	0.78	1.3	0.656
11.833	0.000	2.71	0.00	0.79	1.3	0.666
11.917	0.000	2.74	0.00	0.79	1.3	0.676
12.000	0.000	2.77	0.00	0.80	1.3	0.686
12.083	0.000	2.89	0.00	0.80	1.3	0.697
12.167	0.000	3.36	0.00	0.81	1.3	0.711
12.250	0.000	3.68	0.00	0.82	1.3	0.727
12.333	0.000	3.77	0.00	0.83	1.3	0.744
12.417	0.000	3.80	0.00	0.83	1.3	0.761
12.500	0.000	3.84	0.00	0.84	1.3	0.778
12.583	0.000	3.87	0.00	0.85	1.3	0.795
12.667	0.000	3.90	0.00	0.86	1.3	0.813
12.750	0.000	3.93	0.00	0.87	1.3	0.831
12.833	0.000	3.96	0.00	0.88	1.4	0.849
12.917	0.000	4.00	0.00	0.89	1.4	0.867
13.000	0.000	4.03	0.00	0.89	1.4	0.885
13.083	0.000	4.07	0.00	0.90	1.4	0.904
13.167	0.000	4.11	0.00	0.91	1.4	0.923
13.250	0.000	4.15	0.00	0.92	1.4	0.942
13.333	0.000	4.19	0.00	0.93	1.4	0.961
13.417	0.000	4.23	0.00	0.94	1.4	0.981
13.500	0.000	4.28	0.00	0.95	1.4	1.001
13.583	0.000	4.32	0.00	0.96	1.4	1.021
13.667	0.000	4.37	0.00	0.97	1.4	1.041
13.750	0.000	4.42	0.00	0.98	1.4	1.062
13.833	0.000	4.47	0.00	0.99	1.4	1.083
13.917	0.000	4.53	0.00	1.00	1.4	1.105
14.000	0.000	4.59	0.00	1.01	1.4	1.127
14.083	0.000	4.59	0.00	1.02	1.4	1.149
14.167	0.000	4.40	0.00	1.02	1.4	1.169
14.250	0.000	4.29	0.00	1.03	1.4	1.189
14.333	0.000	4.34	0.00	1.04	1.4	1.209
14.417	0.000	4.41	0.00	1.05	1.4	1.230
14.500	0.000	4.51	0.00	1.06	1.4	1.251
14.583	0.000	4.60	0.00	1.07	1.4	1.273
14.667	0.000	4.70	0.00	1.08	1.4	1.296
14.750	0.000	4.81	0.00	1.09	1.4	1.320
14.833	0.000	4.94	0.00	1.10	1.4	1.344
14.917	0.000	5.06	0.00	1.11	1.4	1.369
15.000	0.000	5.22	0.00	1.12	1.4	1.395
15.083	0.000	5.37	0.00	1.13	1.4	1.422
15.167	0.000	5.56	0.00	1.14	1.4	1.451
15.250	0.000	5.75	0.00	1.15	1.4	1.481
15.333	0.000	6.00	0.00	1.17	1.4	1.512
15.417	0.000	6.06	0.00	1.18	1.4	1.544
15.500	0.000	5.44	0.00	1.19	1.4	1.572
15.583	0.000	5.15	0.00	1.20	1.4	1.598
15.667	0.000	5.52	0.00	1.21	1.4	1.626
15.750	0.000	6.04	0.00	1.22	1.4	1.657
15.833	0.000	6.66	0.00	1.24	1.4	1.693
15.917	0.000	7.77	0.00	1.25	1.5	1.737
16.000	0.000	10.46	0.00	1.28	1.5	1.799

16.083	0.000	18.05	0.00	1.32	1.5	1.913
16.167	0.000	34.37	0.00	1.40	1.5	2.139
16.250	0.000	24.87	0.00	1.46	1.5	2.300
16.333	0.000	10.64	0.00	1.48	1.6	2.363
16.417	0.000	6.74	0.00	1.50	1.6	2.398
16.500	0.000	6.31	0.00	1.51	1.6	2.431
16.583	0.000	6.17	0.00	1.52	1.6	2.463
16.667	0.000	5.73	0.00	1.53	1.6	2.491
16.750	0.000	5.34	0.00	1.54	1.6	2.517
16.833	0.000	5.04	0.00	1.55	1.6	2.541
16.917	0.000	4.79	0.00	1.55	1.6	2.563
17.000	0.000	4.58	0.00	1.56	1.6	2.584
17.083	0.000	4.45	0.00	1.57	1.6	2.603
17.167	0.000	4.55	0.00	1.57	1.6	2.624
17.250	0.000	4.59	0.00	1.58	1.6	2.644
17.333	0.000	4.51	0.00	1.59	1.6	2.664
17.417	0.000	4.41	0.00	1.59	1.6	2.684
17.500	0.000	4.31	0.00	1.60	1.6	2.702
17.583	0.000	4.22	0.00	1.61	1.6	2.720
17.667	0.000	4.14	0.00	1.61	1.6	2.738
17.750	0.000	4.06	0.00	1.62	1.6	2.755
17.833	0.000	3.99	0.00	1.62	1.6	2.771
17.917	0.000	3.92	0.00	1.63	1.6	2.787
18.000	0.000	3.86	0.00	1.63	1.6	2.802
18.083	0.000	3.71	0.00	1.64	1.6	2.817
18.167	0.000	3.21	0.00	1.64	1.6	2.828
18.250	0.000	2.86	0.00	1.65	1.6	2.837
18.333	0.000	2.75	0.00	1.65	1.6	2.844
18.417	0.000	2.69	0.00	1.65	1.6	2.852
18.500	0.000	2.64	0.00	1.65	1.6	2.859
18.583	0.000	2.59	0.00	1.66	1.6	2.866
18.667	0.000	2.54	0.00	1.66	1.6	2.872
18.750	0.000	2.50	0.00	1.66	1.6	2.878
18.833	0.000	2.46	0.00	1.66	1.6	2.884
18.917	0.000	2.42	0.00	1.66	1.6	2.890
19.000	0.000	2.39	0.00	1.67	1.6	2.895
19.083	0.000	2.35	0.00	1.67	1.6	2.900
19.167	0.000	2.32	0.00	1.67	1.6	2.905
19.250	0.000	2.29	0.00	1.67	1.6	2.910
19.333	0.000	2.26	0.00	1.67	1.6	2.914
19.417	0.000	2.23	0.00	1.67	1.6	2.918
19.500	0.000	2.20	0.00	1.67	1.6	2.923
19.583	0.000	2.17	0.00	1.68	1.6	2.926
19.667	0.000	2.15	0.00	1.68	1.6	2.930
19.750	0.000	2.12	0.00	1.68	1.6	2.934
19.833	0.000	2.10	0.00	1.68	1.6	2.937
19.917	0.000	2.07	0.00	1.68	1.6	2.940
20.000	0.000	2.05	0.00	1.68	1.6	2.943
20.083	0.000	2.03	0.00	1.68	1.6	2.946
20.167	0.000	2.01	0.00	1.68	1.6	2.949
20.250	0.000	1.99	0.00	1.68	1.6	2.951
20.333	0.000	1.97	0.00	1.68	1.6	2.954
20.417	0.000	1.95	0.00	1.69	1.6	2.956
20.500	0.000	1.93	0.00	1.69	1.6	2.958
20.583	0.000	1.91	0.00	1.69	1.6	2.960
20.667	0.000	1.89	0.00	1.69	1.6	2.962
20.750	0.000	1.87	0.00	1.69	1.6	2.964
20.833	0.000	1.86	0.00	1.69	1.6	2.966
20.917	0.000	1.84	0.00	1.69	1.6	2.967
21.000	0.000	1.83	0.00	1.69	1.6	2.969
21.083	0.000	1.81	0.00	1.69	1.6	2.970
21.167	0.000	1.79	0.00	1.69	1.6	2.971
21.250	0.000	1.78	0.00	1.69	1.6	2.973
21.333	0.000	1.76	0.00	1.69	1.6	2.974
21.417	0.000	1.75	0.00	1.69	1.6	2.975
21.500	0.000	1.74	0.00	1.69	1.6	2.975
21.583	0.000	1.72	0.00	1.69	1.6	2.976
21.667	0.000	1.71	0.00	1.69	1.6	2.977
21.750	0.000	1.70	0.00	1.69	1.6	2.977
21.833	0.000	1.68	0.00	1.69	1.6	2.978
21.917	0.000	1.67	0.00	1.69	1.6	2.978
22.000	0.000	1.66	0.00	1.69	1.6	2.979
22.083	0.000	1.65	0.00	1.69	1.6	2.979
22.167	0.000	1.64	0.00	1.69	1.6	2.979
22.250	0.000	1.63	0.00	1.69	1.6	2.979
22.333	0.000	1.61	0.00	1.69	1.6	2.979
22.417	0.000	1.60	0.00	1.69	1.6	2.979
22.500	0.000	1.59	0.00	1.69	1.6	2.979
22.583	0.000	1.58	0.00	1.69	1.6	2.979
22.667	0.000	1.57	0.00	1.69	1.6	2.979
22.750	0.000	1.56	0.00	1.69	1.6	2.978
22.833	0.000	1.55	0.00	1.69	1.6	2.978
22.917	0.000	1.54	0.00	1.69	1.6	2.977

23.000	0.000	1.53	0.00	1.69	1.6	2.977
23.083	0.000	1.52	0.00	1.69	1.6	2.976
23.167	0.000	1.52	0.00	1.69	1.6	2.976
23.250	0.000	1.51	0.00	1.69	1.6	2.975
23.333	0.000	1.50	0.00	1.69	1.6	2.974
23.417	0.000	1.49	0.00	1.69	1.6	2.973
23.500	0.000	1.48	0.00	1.69	1.6	2.972
23.583	0.000	1.47	0.00	1.69	1.6	2.971
23.667	0.000	1.46	0.00	1.69	1.6	2.970
23.750	0.000	1.46	0.00	1.69	1.6	2.969
23.833	0.000	1.45	0.00	1.69	1.6	2.968
23.917	0.000	1.44	0.00	1.69	1.6	2.967

-----  
PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 5.655 AF  
BASIN STORAGE = 0.000 AF (WITH 0.000 AF INITIALLY FILLED)  
OUTFLOW VOLUME = 5.655 AF  
LOSS VOLUME = 0.000 AF

=====  
END OF FLOODSCx ROUTING ANALYSIS



\*\*\*\*\*

F L O O D   R O U T I N G   A N A L Y S I S  
USING COUNTY HYDROLOGY MANUAL OF SAN BERNARDINO(1986)  
(c) Copyright 1989-2016 Advanced Engineering Software (aes)  
Ver. 23.0 Release Date: 07/01/2016 License ID 1435

Analysis prepared by:

THIENES ENGINEERING, INC.  
14349 FIRESTONE BLVD  
LA MIRIADA, CA 90638  
714-521-4811

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* TEI JOB NO 3857 \*  
\* BUILDING 12 SOUTH \*  
\* \*  
\*\*\*\*\*

FILE NAME: W:\3857\BLDG12S.DAT  
TIME/DATE OF STUDY: 08:19 12/27/2021

\*\*\*\*\*

FLOW PROCESS FROM NODE 180.00 TO NODE 184.00 IS CODE = 1

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>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<  
=====

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 10.250 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.161 HOURS  
CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.  
THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)  
MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.042  
LOW LOSS FRACTION = 0.079  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.38  
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.75  
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.00  
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.90  
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 3.00  
SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 6.00

PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE FACTOR = 1.000  
30-MINUTE FACTOR = 1.000  
1-HOUR FACTOR = 1.000  
3-HOUR FACTOR = 1.000  
6-HOUR FACTOR = 1.000  
24-HOUR FACTOR = 1.000

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 51.760

-----  
UNIT HYDROGRAPH DETERMINATION  
-----

INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	4.760	5.901
2	31.685	33.376
3	70.796	48.482
4	91.182	25.271
5	97.507	7.841
6	98.931	1.765
7	99.512	0.720
8	99.805	0.363
9	99.951	0.181
10	100.000	0.060

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TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 0.3714  
TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 4.7511  
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2 4 - H O U R   S T O R M  
R U N O F F   H Y D R O G R A P H

-----  
HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS(CFS)  
(Note: Time indicated is at END of Each Unit Intervals)  
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TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	7.5	15.0	22.5	30.0
0.083	0.0004	0.06	Q	.	.	.	.
0.167	0.0030	0.38	Q	.	.	.	.
0.250	0.0088	0.84	VQ	.	.	.	.
0.333	0.0163	1.09	VQ	.	.	.	.
0.417	0.0243	1.17	VQ	.	.	.	.
0.500	0.0325	1.19	VQ	.	.	.	.
0.583	0.0407	1.20	VQ	.	.	.	.
0.667	0.0490	1.20	VQ	.	.	.	.
0.750	0.0573	1.21	VQ	.	.	.	.
0.833	0.0657	1.21	VQ	.	.	.	.
0.917	0.0741	1.22	VQ	.	.	.	.
1.000	0.0824	1.22	VQ	.	.	.	.
1.083	0.0909	1.22	VQ	.	.	.	.
1.167	0.0993	1.23	VQ	.	.	.	.
1.250	0.1078	1.23	VQ	.	.	.	.
1.333	0.1162	1.23	VQ	.	.	.	.
1.417	0.1248	1.24	.Q	.	.	.	.
1.500	0.1333	1.24	.Q	.	.	.	.
1.583	0.1418	1.24	.Q	.	.	.	.
1.667	0.1504	1.25	.Q	.	.	.	.
1.750	0.1590	1.25	.Q	.	.	.	.
1.833	0.1677	1.25	.Q	.	.	.	.
1.917	0.1763	1.26	.Q	.	.	.	.
2.000	0.1850	1.26	.Q	.	.	.	.
2.083	0.1937	1.26	.Q	.	.	.	.
2.167	0.2024	1.27	.Q	.	.	.	.
2.250	0.2112	1.27	.Q	.	.	.	.
2.333	0.2200	1.28	.Q	.	.	.	.
2.417	0.2288	1.28	.Q	.	.	.	.
2.500	0.2376	1.28	.QV	.	.	.	.
2.583	0.2465	1.29	.QV	.	.	.	.
2.667	0.2554	1.29	.QV	.	.	.	.
2.750	0.2643	1.30	.QV	.	.	.	.
2.833	0.2733	1.30	.QV	.	.	.	.
2.917	0.2822	1.30	.QV	.	.	.	.
3.000	0.2912	1.31	.QV	.	.	.	.
3.083	0.3003	1.31	.QV	.	.	.	.
3.167	0.3093	1.32	.QV	.	.	.	.
3.250	0.3184	1.32	.QV	.	.	.	.
3.333	0.3275	1.32	.QV	.	.	.	.
3.417	0.3367	1.33	.QV	.	.	.	.
3.500	0.3459	1.33	.QV	.	.	.	.
3.583	0.3551	1.34	.QV	.	.	.	.
3.667	0.3643	1.34	.Q V	.	.	.	.
3.750	0.3736	1.35	.Q V	.	.	.	.
3.833	0.3829	1.35	.Q V	.	.	.	.
3.917	0.3922	1.36	.Q V	.	.	.	.
4.000	0.4016	1.36	.Q V	.	.	.	.
4.083	0.4110	1.36	.Q V	.	.	.	.
4.167	0.4204	1.37	.Q V	.	.	.	.
4.250	0.4299	1.37	.Q V	.	.	.	.
4.333	0.4394	1.38	.Q V	.	.	.	.
4.417	0.4489	1.38	.Q V	.	.	.	.
4.500	0.4585	1.39	.Q V	.	.	.	.
4.583	0.4681	1.39	.Q V	.	.	.	.
4.667	0.4777	1.40	.Q V	.	.	.	.
4.750	0.4873	1.40	.Q V	.	.	.	.
4.833	0.4970	1.41	.Q V	.	.	.	.
4.917	0.5068	1.41	.Q V	.	.	.	.
5.000	0.5166	1.42	.Q V	.	.	.	.
5.083	0.5264	1.42	.Q V	.	.	.	.
5.167	0.5362	1.43	.Q V	.	.	.	.
5.250	0.5461	1.43	.Q V	.	.	.	.
5.333	0.5560	1.44	.Q V	.	.	.	.
5.417	0.5660	1.45	.Q V	.	.	.	.
5.500	0.5760	1.45	.Q V	.	.	.	.
5.583	0.5860	1.46	.Q V	.	.	.	.



5.667	0.5961	1.46	.Q	V	.	.	.	.
5.750	0.6062	1.47	.Q	V	.	.	.	.
5.833	0.6163	1.47	.Q	V	.	.	.	.
5.917	0.6265	1.48	.Q	V	.	.	.	.
6.000	0.6368	1.49	.Q	V	.	.	.	.
6.083	0.6471	1.49	.Q	V	.	.	.	.
6.167	0.6574	1.50	.Q	V	.	.	.	.
6.250	0.6678	1.51	.Q	V	.	.	.	.
6.333	0.6782	1.51	.Q	V	.	.	.	.
6.417	0.6886	1.52	.Q	V	.	.	.	.
6.500	0.6991	1.52	.Q	V	.	.	.	.
6.583	0.7097	1.53	.Q	V	.	.	.	.
6.667	0.7202	1.54	.Q	V	.	.	.	.
6.750	0.7309	1.54	.Q	V	.	.	.	.
6.833	0.7416	1.55	.Q	V	.	.	.	.
6.917	0.7523	1.56	.Q	V	.	.	.	.
7.000	0.7631	1.56	.Q	V	.	.	.	.
7.083	0.7739	1.57	.Q	V	.	.	.	.
7.167	0.7848	1.58	.Q	V	.	.	.	.
7.250	0.7957	1.59	.Q	V	.	.	.	.
7.333	0.8067	1.59	.Q	V	.	.	.	.
7.417	0.8177	1.60	.Q	V	.	.	.	.
7.500	0.8288	1.61	.Q	V	.	.	.	.
7.583	0.8399	1.62	.Q	V	.	.	.	.
7.667	0.8511	1.62	.Q	V	.	.	.	.
7.750	0.8623	1.63	.Q	V	.	.	.	.
7.833	0.8736	1.64	.Q	V	.	.	.	.
7.917	0.8850	1.65	.Q	V	.	.	.	.
8.000	0.8964	1.66	.Q	V	.	.	.	.
8.083	0.9079	1.67	.Q	V	.	.	.	.
8.167	0.9194	1.67	.Q	V	.	.	.	.
8.250	0.9310	1.68	.Q	V	.	.	.	.
8.333	0.9427	1.69	.Q	V	.	.	.	.
8.417	0.9544	1.70	.Q	V	.	.	.	.
8.500	0.9661	1.71	.Q	V	.	.	.	.
8.583	0.9780	1.72	.Q	V	.	.	.	.
8.667	0.9899	1.73	.Q	V	.	.	.	.
8.750	1.0019	1.74	.Q	V	.	.	.	.
8.833	1.0139	1.75	.Q	V	.	.	.	.
8.917	1.0260	1.76	.Q	V	.	.	.	.
9.000	1.0382	1.77	.Q	V	.	.	.	.
9.083	1.0504	1.78	.Q	V	.	.	.	.
9.167	1.0627	1.79	.Q	V	.	.	.	.
9.250	1.0751	1.80	.Q	V	.	.	.	.
9.333	1.0876	1.81	.Q	V	.	.	.	.
9.417	1.1001	1.82	.Q	V	.	.	.	.
9.500	1.1128	1.83	.Q	V	.	.	.	.
9.583	1.1255	1.84	.Q	V	.	.	.	.
9.667	1.1382	1.86	.Q	V	.	.	.	.
9.750	1.1511	1.87	.Q	V	.	.	.	.
9.833	1.1640	1.88	.Q	V	.	.	.	.
9.917	1.1771	1.89	.Q	V	.	.	.	.
10.000	1.1902	1.90	.Q	V	.	.	.	.
10.083	1.2034	1.92	.Q	V	.	.	.	.
10.167	1.2167	1.93	.Q	V	.	.	.	.
10.250	1.2301	1.94	.Q	V	.	.	.	.
10.333	1.2436	1.96	.Q	V	.	.	.	.
10.417	1.2571	1.97	.Q	V	.	.	.	.
10.500	1.2708	1.99	.Q	V	.	.	.	.
10.583	1.2846	2.00	.Q	V	.	.	.	.
10.667	1.2985	2.01	.Q	V	.	.	.	.
10.750	1.3124	2.03	.Q	.V	.	.	.	.
10.833	1.3265	2.05	.Q	.V	.	.	.	.
10.917	1.3407	2.06	.Q	.V	.	.	.	.
11.000	1.3550	2.08	.Q	.V	.	.	.	.
11.083	1.3695	2.09	.Q	.V	.	.	.	.
11.167	1.3840	2.11	.Q	.V	.	.	.	.
11.250	1.3987	2.13	.Q	.V	.	.	.	.
11.333	1.4135	2.15	.Q	.V	.	.	.	.
11.417	1.4284	2.17	.Q	.V	.	.	.	.
11.500	1.4434	2.18	.Q	.V	.	.	.	.
11.583	1.4586	2.20	.Q	.V	.	.	.	.
11.667	1.4739	2.22	.Q	.V	.	.	.	.
11.750	1.4894	2.25	.Q	.V	.	.	.	.
11.833	1.5050	2.27	.Q	.V	.	.	.	.
11.917	1.5208	2.29	.Q	.V	.	.	.	.
12.000	1.5367	2.31	.Q	.V	.	.	.	.
12.083	1.5530	2.37	.Q	.V	.	.	.	.
12.167	1.5709	2.60	.Q	.V	.	.	.	.
12.250	1.5910	2.92	.Q	.V	.	.	.	.
12.333	1.6123	3.09	.Q	.V	.	.	.	.
12.417	1.6341	3.16	.Q	.V	.	.	.	.
12.500	1.6561	3.20	.Q	.V	.	.	.	.

12.583	1.6783	3.23	.	Q	.	V	.	.	.	.
12.667	1.7008	3.26	.	Q	.	V	.	.	.	.
12.750	1.7234	3.28	.	Q	.	V	.	.	.	.
12.833	1.7462	3.31	.	Q	.	V	.	.	.	.
12.917	1.7692	3.34	.	Q	.	V	.	.	.	.
13.000	1.7924	3.37	.	Q	.	V	.	.	.	.
13.083	1.8158	3.40	.	Q	.	V	.	.	.	.
13.167	1.8394	3.43	.	Q	.	V	.	.	.	.
13.250	1.8633	3.46	.	Q	.	V	.	.	.	.
13.333	1.8873	3.50	.	Q	.	V	.	.	.	.
13.417	1.9116	3.53	.	Q	.	V	.	.	.	.
13.500	1.9362	3.57	.	Q	.	V	.	.	.	.
13.583	1.9610	3.60	.	Q	.	V	.	.	.	.
13.667	1.9861	3.64	.	Q	.	V	.	.	.	.
13.750	2.0115	3.69	.	Q	.	V	.	.	.	.
13.833	2.0372	3.73	.	Q	.	V	.	.	.	.
13.917	2.0632	3.77	.	Q	.	V	.	.	.	.
14.000	2.0895	3.82	.	Q	.	V	.	.	.	.
14.083	2.1160	3.85	.	Q	.	V	.	.	.	.
14.167	2.1421	3.78	.	Q	.	V	.	.	.	.
14.250	2.1673	3.66	.	Q	.	V	.	.	.	.
14.333	2.1923	3.63	.	Q	.	V	.	.	.	.
14.417	2.2176	3.67	.	Q	.	V	.	.	.	.
14.500	2.2434	3.74	.	Q	.	V	.	.	.	.
14.583	2.2697	3.81	.	Q	.	V	.	.	.	.
14.667	2.2965	3.90	.	Q	.	V	.	.	.	.
14.750	2.3239	3.98	.	Q	.	V	.	.	.	.
14.833	2.3520	4.08	.	Q	.	V	.	.	.	.
14.917	2.3809	4.19	.	Q	.	V	.	.	.	.
15.000	2.4105	4.30	.	Q	.	V	.	.	.	.
15.083	2.4410	4.43	.	Q	.	V	.	.	.	.
15.167	2.4725	4.57	.	Q	.	V	.	.	.	.
15.250	2.5050	4.73	.	Q	.	.V	.	.	.	.
15.333	2.5388	4.91	.	Q	.	.V	.	.	.	.
15.417	2.5736	5.04	.	Q	.	.V	.	.	.	.
15.500	2.6069	4.84	.	Q	.	.V	.	.	.	.
15.583	2.6378	4.49	.	Q	.	.V	.	.	.	.
15.667	2.6689	4.50	.	Q	.	.V	.	.	.	.
15.750	2.7021	4.82	.	Q	.	.V	.	.	.	.
15.833	2.7384	5.28	.	Q	.	.V	.	.	.	.
15.917	2.7796	5.98	.	Q	.	.V	.	.	.	.
16.000	2.8312	7.49	.	Q.	.	.V	.	.	.	.
16.083	2.9109	11.57	.	.	Q	.V	.	.	.	.
16.167	3.0544	20.85	.	.	.	.V	Q	.	.	.
16.250	3.2210	24.19	.	.	.	.V	Q	.	Q	.
16.333	3.3270	15.39	.	.	.	Q	.V	.	.	.
16.417	3.3858	8.53	.	.	.Q	.	.V	.	.	.
16.500	3.4266	5.93	.	Q	.	.	.V	.	.	.
16.583	3.4641	5.44	.	Q	.	.	.V	.	.	.
16.667	3.4993	5.11	.	Q	.	.	.V	.	.	.
16.750	3.5320	4.75	.	Q	.	.	.V	.	.	.
16.833	3.5625	4.43	.	Q	.	.	.V	.	.	.
16.917	3.5912	4.17	.	Q	.	.	.V	.	.	.
17.000	3.6185	3.97	.	Q	.	.	.V	.	.	.
17.083	3.6448	3.82	.	Q	.	.	.V	.	.	.
17.167	3.6709	3.79	.	Q	.	.	.V	.	.	.
17.250	3.6974	3.84	.	Q	.	.	.V	.	.	.
17.333	3.7237	3.82	.	Q	.	.	.V	.	.	.
17.417	3.7496	3.75	.	Q	.	.	.V	.	.	.
17.500	3.7748	3.67	.	Q	.	.	.V	.	.	.
17.583	3.7996	3.59	.	Q	.	.	.V	.	.	.
17.667	3.8238	3.52	.	Q	.	.	.V	.	.	.
17.750	3.8476	3.45	.	Q	.	.	.V	.	.	.
17.833	3.8710	3.39	.	Q	.	.	.V	.	.	.
17.917	3.8939	3.33	.	Q	.	.	.V	.	.	.
18.000	3.9165	3.28	.	Q	.	.	.V	.	.	.
18.083	3.9385	3.19	.	Q	.	.	.V	.	.	.
18.167	3.9587	2.94	.	Q	.	.	.V	.	.	.
18.250	3.9766	2.59	.	Q	.	.	.V	.	.	.
18.333	3.9930	2.39	.	Q	.	.	.V	.	.	.
18.417	4.0089	2.30	.	Q	.	.	.V	.	.	.
18.500	4.0244	2.25	.	Q	.	.	.V	.	.	.
18.583	4.0395	2.20	.	Q	.	.	.V	.	.	.
18.667	4.0544	2.16	.	Q	.	.	.V	.	.	.
18.750	4.0691	2.13	.	Q	.	.	.V	.	.	.
18.833	4.0835	2.09	.	Q	.	.	.V	.	.	.
18.917	4.0976	2.06	.	Q	.	.	.V	.	.	.
19.000	4.1116	2.03	.	Q	.	.	.V	.	.	.
19.083	4.1253	2.00	.	Q	.	.	.V	.	.	.
19.167	4.1389	1.97	.	Q	.	.	.V	.	.	.
19.250	4.1522	1.94	.	Q	.	.	.V	.	.	.
19.333	4.1654	1.91	.	Q	.	.	.V	.	.	.
19.417	4.1784	1.89	.	Q	.	.	.V	.	.	.

19.500	4.1913	1.86	. Q	.	.	.	V	.
19.583	4.2039	1.84	. Q	.	.	.	V	.
19.667	4.2165	1.82	. Q	.	.	.	V	.
19.750	4.2288	1.80	. Q	.	.	.	V	.
19.833	4.2411	1.78	. Q	.	.	.	V	.
19.917	4.2531	1.75	. Q	.	.	.	V	.
20.000	4.2651	1.74	. Q	.	.	.	V	.
20.083	4.2769	1.72	. Q	.	.	.	V	.
20.167	4.2886	1.70	. Q	.	.	.	V	.
20.250	4.3002	1.68	. Q	.	.	.	V	.
20.333	4.3116	1.66	. Q	.	.	.	V	.
20.417	4.3230	1.65	. Q	.	.	.	V	.
20.500	4.3342	1.63	. Q	.	.	.	V	.
20.583	4.3453	1.61	. Q	.	.	.	V	.
20.667	4.3563	1.60	. Q	.	.	.	V	.
20.750	4.3672	1.58	. Q	.	.	.	V	.
20.833	4.3781	1.57	. Q	.	.	.	V	.
20.917	4.3888	1.56	. Q	.	.	.	V	.
21.000	4.3994	1.54	. Q	.	.	.	V	.
21.083	4.4099	1.53	. Q	.	.	.	V	.
21.167	4.4204	1.52	. Q	.	.	.	V	.
21.250	4.4307	1.50	. Q	.	.	.	V	.
21.333	4.4410	1.49	. Q	.	.	.	V	.
21.417	4.4512	1.48	. Q	.	.	.	V	.
21.500	4.4613	1.47	. Q	.	.	.	V	.
21.583	4.4713	1.46	. Q	.	.	.	V	.
21.667	4.4812	1.44	. Q	.	.	.	V	.
21.750	4.4911	1.43	. Q	.	.	.	V	.
21.833	4.5009	1.42	. Q	.	.	.	V	.
21.917	4.5106	1.41	. Q	.	.	.	V	.
22.000	4.5203	1.40	. Q	.	.	.	V	.
22.083	4.5299	1.39	. Q	.	.	.	V	.
22.167	4.5394	1.38	. Q	.	.	.	V	.
22.250	4.5488	1.37	. Q	.	.	.	V	.
22.333	4.5582	1.36	. Q	.	.	.	V	.
22.417	4.5675	1.35	. Q	.	.	.	V	.
22.500	4.5768	1.34	. Q	.	.	.	V	.
22.583	4.5860	1.34	. Q	.	.	.	V	.
22.667	4.5951	1.33	. Q	.	.	.	V	.
22.750	4.6042	1.32	. Q	.	.	.	V	.
22.833	4.6132	1.31	. Q	.	.	.	V	.
22.917	4.6222	1.30	. Q	.	.	.	V	.
23.000	4.6311	1.29	. Q	.	.	.	V	.
23.083	4.6400	1.29	. Q	.	.	.	V	.
23.167	4.6488	1.28	. Q	.	.	.	V	.
23.250	4.6575	1.27	. Q	.	.	.	V	.
23.333	4.6662	1.26	. Q	.	.	.	V	.
23.417	4.6749	1.26	. Q	.	.	.	V	.
23.500	4.6835	1.25	. Q	.	.	.	V	.
23.583	4.6920	1.24	. Q	.	.	.	V	.
23.667	4.7005	1.23	. Q	.	.	.	V	.
23.750	4.7090	1.23	. Q	.	.	.	V	.
23.833	4.7174	1.22	. Q	.	.	.	V	.
23.917	4.7258	1.21	. Q	.	.	.	V	.
24.000	4.7341	1.21	. Q	.	.	.	V	.
24.083	4.7420	1.14	. Q	.	.	.	V	.
24.167	4.7476	0.82	. Q	.	.	.	V	.
24.250	4.7500	0.35	Q	.	.	.	V	.
24.333	4.7507	0.11	Q	.	.	.	V	.
24.417	4.7509	0.03	Q	.	.	.	V	.
24.500	4.7510	0.01	Q	.	.	.	V	.
24.583	4.7511	0.01	Q	.	.	.	V	.

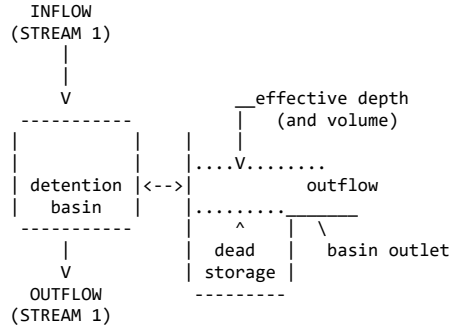
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TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
=====	=====
0%	1475.0
10%	370.0
20%	70.0
30%	30.0
40%	20.0
50%	15.0
60%	15.0
70%	10.0
80%	10.0
90%	5.0

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FLOW PROCESS FROM NODE 180.00 TO NODE 184.00 IS CODE = 3.1

>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #1<<<<<



ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 1 THROUGH A FLOW-THROUGH DETENTION BASIN SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:

DEAD STORAGE(AF) = 0.000  
 SPECIFIED DEAD STORAGE(AF) FILLED = 0.000  
 SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000  
 DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.20	1.80	0.010
3	0.40	1.90	0.060
4	0.60	2.10	0.180
5	0.80	2.20	0.360
6	1.00	2.30	0.590
7	1.20	2.40	0.860
8	1.40	2.50	1.180
9	1.60	2.60	1.530

===== MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS): (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time; MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	EFFECTIVE DEPTH(FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
0.083	0.000	0.06	0.00	0.00	0.0	0.000
0.167	0.000	0.38	0.00	0.03	0.2	0.002
0.250	0.000	0.84	0.00	0.08	0.5	0.004
0.333	0.000	1.09	0.00	0.11	0.9	0.006
0.417	0.000	1.17	0.00	0.13	1.1	0.006
0.500	0.000	1.19	0.00	0.13	1.2	0.007
0.583	0.000	1.20	0.00	0.13	1.2	0.007
0.667	0.000	1.20	0.00	0.13	1.2	0.007
0.750	0.000	1.21	0.00	0.13	1.2	0.007
0.833	0.000	1.21	0.00	0.13	1.2	0.007
0.917	0.000	1.22	0.00	0.13	1.2	0.007
1.000	0.000	1.22	0.00	0.14	1.2	0.007
1.083	0.000	1.22	0.00	0.14	1.2	0.007
1.167	0.000	1.23	0.00	0.14	1.2	0.007
1.250	0.000	1.23	0.00	0.14	1.2	0.007
1.333	0.000	1.23	0.00	0.14	1.2	0.007
1.417	0.000	1.24	0.00	0.14	1.2	0.007
1.500	0.000	1.24	0.00	0.14	1.2	0.007
1.583	0.000	1.24	0.00	0.14	1.2	0.007
1.667	0.000	1.25	0.00	0.14	1.2	0.007
1.750	0.000	1.25	0.00	0.14	1.2	0.007
1.833	0.000	1.25	0.00	0.14	1.3	0.007
1.917	0.000	1.26	0.00	0.14	1.3	0.007
2.000	0.000	1.26	0.00	0.14	1.3	0.007
2.083	0.000	1.26	0.00	0.14	1.3	0.007
2.167	0.000	1.27	0.00	0.14	1.3	0.007
2.250	0.000	1.27	0.00	0.14	1.3	0.007

2.333	0.000	1.28	0.00	0.14	1.3	0.007
2.417	0.000	1.28	0.00	0.14	1.3	0.007
2.500	0.000	1.28	0.00	0.14	1.3	0.007
2.583	0.000	1.29	0.00	0.14	1.3	0.007
2.667	0.000	1.29	0.00	0.14	1.3	0.007
2.750	0.000	1.30	0.00	0.14	1.3	0.007
2.833	0.000	1.30	0.00	0.14	1.3	0.007
2.917	0.000	1.30	0.00	0.14	1.3	0.007
3.000	0.000	1.31	0.00	0.15	1.3	0.007
3.083	0.000	1.31	0.00	0.15	1.3	0.007
3.167	0.000	1.32	0.00	0.15	1.3	0.007
3.250	0.000	1.32	0.00	0.15	1.3	0.007
3.333	0.000	1.32	0.00	0.15	1.3	0.007
3.417	0.000	1.33	0.00	0.15	1.3	0.007
3.500	0.000	1.33	0.00	0.15	1.3	0.007
3.583	0.000	1.34	0.00	0.15	1.3	0.007
3.667	0.000	1.34	0.00	0.15	1.3	0.007
3.750	0.000	1.35	0.00	0.15	1.3	0.007
3.833	0.000	1.35	0.00	0.15	1.3	0.007
3.917	0.000	1.36	0.00	0.15	1.4	0.008
4.000	0.000	1.36	0.00	0.15	1.4	0.008
4.083	0.000	1.36	0.00	0.15	1.4	0.008
4.167	0.000	1.37	0.00	0.15	1.4	0.008
4.250	0.000	1.37	0.00	0.15	1.4	0.008
4.333	0.000	1.38	0.00	0.15	1.4	0.008
4.417	0.000	1.38	0.00	0.15	1.4	0.008
4.500	0.000	1.39	0.00	0.15	1.4	0.008
4.583	0.000	1.39	0.00	0.15	1.4	0.008
4.667	0.000	1.40	0.00	0.16	1.4	0.008
4.750	0.000	1.40	0.00	0.16	1.4	0.008
4.833	0.000	1.41	0.00	0.16	1.4	0.008
4.917	0.000	1.41	0.00	0.16	1.4	0.008
5.000	0.000	1.42	0.00	0.16	1.4	0.008
5.083	0.000	1.42	0.00	0.16	1.4	0.008
5.167	0.000	1.43	0.00	0.16	1.4	0.008
5.250	0.000	1.43	0.00	0.16	1.4	0.008
5.333	0.000	1.44	0.00	0.16	1.4	0.008
5.417	0.000	1.45	0.00	0.16	1.4	0.008
5.500	0.000	1.45	0.00	0.16	1.4	0.008
5.583	0.000	1.46	0.00	0.16	1.5	0.008
5.667	0.000	1.46	0.00	0.16	1.5	0.008
5.750	0.000	1.47	0.00	0.16	1.5	0.008
5.833	0.000	1.47	0.00	0.16	1.5	0.008
5.917	0.000	1.48	0.00	0.16	1.5	0.008
6.000	0.000	1.49	0.00	0.16	1.5	0.008
6.083	0.000	1.49	0.00	0.17	1.5	0.008
6.167	0.000	1.50	0.00	0.17	1.5	0.008
6.250	0.000	1.51	0.00	0.17	1.5	0.008
6.333	0.000	1.51	0.00	0.17	1.5	0.008
6.417	0.000	1.52	0.00	0.17	1.5	0.008
6.500	0.000	1.52	0.00	0.17	1.5	0.008
6.583	0.000	1.53	0.00	0.17	1.5	0.008
6.667	0.000	1.54	0.00	0.17	1.5	0.009
6.750	0.000	1.54	0.00	0.17	1.5	0.009
6.833	0.000	1.55	0.00	0.17	1.5	0.009
6.917	0.000	1.56	0.00	0.17	1.6	0.009
7.000	0.000	1.56	0.00	0.17	1.6	0.009
7.083	0.000	1.57	0.00	0.17	1.6	0.009
7.167	0.000	1.58	0.00	0.18	1.6	0.009
7.250	0.000	1.59	0.00	0.18	1.6	0.009
7.333	0.000	1.59	0.00	0.18	1.6	0.009
7.417	0.000	1.60	0.00	0.18	1.6	0.009
7.500	0.000	1.61	0.00	0.18	1.6	0.009
7.583	0.000	1.62	0.00	0.18	1.6	0.009
7.667	0.000	1.62	0.00	0.18	1.6	0.009
7.750	0.000	1.63	0.00	0.18	1.6	0.009
7.833	0.000	1.64	0.00	0.18	1.6	0.009
7.917	0.000	1.65	0.00	0.18	1.6	0.009
8.000	0.000	1.66	0.00	0.18	1.7	0.009
8.083	0.000	1.67	0.00	0.18	1.7	0.009
8.167	0.000	1.67	0.00	0.19	1.7	0.009
8.250	0.000	1.68	0.00	0.19	1.7	0.009
8.333	0.000	1.69	0.00	0.19	1.7	0.009
8.417	0.000	1.70	0.00	0.19	1.7	0.009
8.500	0.000	1.71	0.00	0.19	1.7	0.009
8.583	0.000	1.72	0.00	0.19	1.7	0.010
8.667	0.000	1.73	0.00	0.19	1.7	0.010
8.750	0.000	1.74	0.00	0.19	1.7	0.010
8.833	0.000	1.75	0.00	0.19	1.7	0.010
8.917	0.000	1.76	0.00	0.19	1.7	0.010
9.000	0.000	1.77	0.00	0.20	1.8	0.010
9.083	0.000	1.78	0.00	0.20	1.8	0.010
9.167	0.000	1.79	0.00	0.20	1.8	0.010

9.250	0.000	1.80	0.00	0.20	1.8	0.010
9.333	0.000	1.81	0.00	0.20	1.8	0.010
9.417	0.000	1.82	0.00	0.20	1.8	0.010
9.500	0.000	1.83	0.00	0.20	1.8	0.010
9.583	0.000	1.84	0.00	0.20	1.8	0.011
9.667	0.000	1.86	0.00	0.20	1.8	0.011
9.750	0.000	1.87	0.00	0.21	1.8	0.012
9.833	0.000	1.88	0.00	0.21	1.8	0.012
9.917	0.000	1.89	0.00	0.21	1.8	0.013
10.000	0.000	1.90	0.00	0.21	1.8	0.013
10.083	0.000	1.92	0.00	0.22	1.8	0.014
10.167	0.000	1.93	0.00	0.22	1.8	0.015
10.250	0.000	1.94	0.00	0.22	1.8	0.016
10.333	0.000	1.96	0.00	0.23	1.8	0.017
10.417	0.000	1.97	0.00	0.23	1.8	0.018
10.500	0.000	1.99	0.00	0.24	1.8	0.019
10.583	0.000	2.00	0.00	0.24	1.8	0.020
10.667	0.000	2.01	0.00	0.25	1.8	0.022
10.750	0.000	2.03	0.00	0.25	1.8	0.023
10.833	0.000	2.05	0.00	0.26	1.8	0.025
10.917	0.000	2.06	0.00	0.26	1.8	0.026
11.000	0.000	2.08	0.00	0.27	1.8	0.028
11.083	0.000	2.09	0.00	0.28	1.8	0.030
11.167	0.000	2.11	0.00	0.29	1.8	0.031
11.250	0.000	2.13	0.00	0.29	1.8	0.033
11.333	0.000	2.15	0.00	0.30	1.8	0.035
11.417	0.000	2.17	0.00	0.31	1.9	0.038
11.500	0.000	2.18	0.00	0.32	1.9	0.040
11.583	0.000	2.20	0.00	0.33	1.9	0.042
11.667	0.000	2.22	0.00	0.34	1.9	0.045
11.750	0.000	2.25	0.00	0.35	1.9	0.047
11.833	0.000	2.27	0.00	0.36	1.9	0.050
11.917	0.000	2.29	0.00	0.37	1.9	0.053
12.000	0.000	2.31	0.00	0.38	1.9	0.056
12.083	0.000	2.37	0.00	0.40	1.9	0.059
12.167	0.000	2.60	0.00	0.41	1.9	0.064
12.250	0.000	2.92	0.00	0.42	1.9	0.071
12.333	0.000	3.09	0.00	0.43	1.9	0.079
12.417	0.000	3.16	0.00	0.45	1.9	0.087
12.500	0.000	3.20	0.00	0.46	2.0	0.096
12.583	0.000	3.23	0.00	0.47	2.0	0.104
12.667	0.000	3.26	0.00	0.49	2.0	0.113
12.750	0.000	3.28	0.00	0.50	2.0	0.122
12.833	0.000	3.31	0.00	0.52	2.0	0.131
12.917	0.000	3.34	0.00	0.53	2.0	0.140
13.000	0.000	3.37	0.00	0.55	2.0	0.149
13.083	0.000	3.40	0.00	0.56	2.1	0.158
13.167	0.000	3.43	0.00	0.58	2.1	0.168
13.250	0.000	3.46	0.00	0.60	2.1	0.177
13.333	0.000	3.50	0.00	0.61	2.1	0.187
13.417	0.000	3.53	0.00	0.62	2.1	0.197
13.500	0.000	3.57	0.00	0.63	2.1	0.207
13.583	0.000	3.60	0.00	0.64	2.1	0.217
13.667	0.000	3.64	0.00	0.65	2.1	0.227
13.750	0.000	3.69	0.00	0.66	2.1	0.238
13.833	0.000	3.73	0.00	0.68	2.1	0.249
13.917	0.000	3.77	0.00	0.69	2.1	0.260
14.000	0.000	3.82	0.00	0.70	2.1	0.272
14.083	0.000	3.85	0.00	0.72	2.2	0.284
14.167	0.000	3.78	0.00	0.73	2.2	0.295
14.250	0.000	3.66	0.00	0.74	2.2	0.305
14.333	0.000	3.63	0.00	0.75	2.2	0.315
14.417	0.000	3.67	0.00	0.76	2.2	0.325
14.500	0.000	3.74	0.00	0.77	2.2	0.336
14.583	0.000	3.81	0.00	0.79	2.2	0.347
14.667	0.000	3.90	0.00	0.80	2.2	0.359
14.750	0.000	3.98	0.00	0.81	2.2	0.371
14.833	0.000	4.08	0.00	0.82	2.2	0.384
14.917	0.000	4.19	0.00	0.83	2.2	0.398
15.000	0.000	4.30	0.00	0.85	2.2	0.412
15.083	0.000	4.43	0.00	0.86	2.2	0.427
15.167	0.000	4.57	0.00	0.87	2.2	0.443
15.250	0.000	4.73	0.00	0.89	2.2	0.461
15.333	0.000	4.91	0.00	0.90	2.2	0.479
15.417	0.000	5.04	0.00	0.92	2.3	0.498
15.500	0.000	4.84	0.00	0.94	2.3	0.516
15.583	0.000	4.49	0.00	0.95	2.3	0.531
15.667	0.000	4.50	0.00	0.96	2.3	0.546
15.750	0.000	4.82	0.00	0.98	2.3	0.564
15.833	0.000	5.28	0.00	1.00	2.3	0.584
15.917	0.000	5.98	0.00	1.01	2.3	0.610
16.000	0.000	7.49	0.00	1.04	2.3	0.645
16.083	0.000	11.57	0.00	1.09	2.3	0.709

16.167	0.000	20.85	0.00	1.18	2.4	0.836
16.250	0.000	24.19	0.00	1.28	2.4	0.986
16.333	0.000	15.39	0.00	1.33	2.5	1.075
16.417	0.000	8.53	0.00	1.36	2.5	1.117
16.500	0.000	5.93	0.00	1.38	2.5	1.141
16.583	0.000	5.44	0.00	1.39	2.5	1.161
16.667	0.000	5.11	0.00	1.40	2.5	1.179
16.750	0.000	4.75	0.00	1.41	2.5	1.195
16.833	0.000	4.43	0.00	1.42	2.5	1.208
16.917	0.000	4.17	0.00	1.42	2.5	1.219
17.000	0.000	3.97	0.00	1.43	2.5	1.229
17.083	0.000	3.82	0.00	1.43	2.5	1.238
17.167	0.000	3.79	0.00	1.44	2.5	1.247
17.250	0.000	3.84	0.00	1.44	2.5	1.256
17.333	0.000	3.82	0.00	1.45	2.5	1.265
17.417	0.000	3.75	0.00	1.45	2.5	1.274
17.500	0.000	3.67	0.00	1.46	2.5	1.281
17.583	0.000	3.59	0.00	1.46	2.5	1.289
17.667	0.000	3.52	0.00	1.47	2.5	1.296
17.750	0.000	3.45	0.00	1.47	2.5	1.302
17.833	0.000	3.39	0.00	1.47	2.5	1.308
17.917	0.000	3.33	0.00	1.48	2.5	1.313
18.000	0.000	3.28	0.00	1.48	2.5	1.318
18.083	0.000	3.19	0.00	1.48	2.5	1.323
18.167	0.000	2.94	0.00	1.48	2.5	1.326
18.250	0.000	2.59	0.00	1.48	2.5	1.326
18.333	0.000	2.39	0.00	1.48	2.5	1.325
18.417	0.000	2.30	0.00	1.48	2.5	1.323
18.500	0.000	2.25	0.00	1.48	2.5	1.321
18.583	0.000	2.20	0.00	1.48	2.5	1.319
18.667	0.000	2.16	0.00	1.48	2.5	1.316
18.750	0.000	2.13	0.00	1.48	2.5	1.313
18.833	0.000	2.09	0.00	1.47	2.5	1.310
18.917	0.000	2.06	0.00	1.47	2.5	1.307
19.000	0.000	2.03	0.00	1.47	2.5	1.304
19.083	0.000	2.00	0.00	1.47	2.5	1.300
19.167	0.000	1.97	0.00	1.47	2.5	1.296
19.250	0.000	1.94	0.00	1.46	2.5	1.292
19.333	0.000	1.91	0.00	1.46	2.5	1.288
19.417	0.000	1.89	0.00	1.46	2.5	1.283
19.500	0.000	1.86	0.00	1.46	2.5	1.279
19.583	0.000	1.84	0.00	1.45	2.5	1.274
19.667	0.000	1.82	0.00	1.45	2.5	1.269
19.750	0.000	1.80	0.00	1.45	2.5	1.264
19.833	0.000	1.78	0.00	1.45	2.5	1.259
19.917	0.000	1.75	0.00	1.44	2.5	1.254
20.000	0.000	1.74	0.00	1.44	2.5	1.248
20.083	0.000	1.72	0.00	1.44	2.5	1.243
20.167	0.000	1.70	0.00	1.43	2.5	1.237
20.250	0.000	1.68	0.00	1.43	2.5	1.231
20.333	0.000	1.66	0.00	1.43	2.5	1.225
20.417	0.000	1.65	0.00	1.42	2.5	1.219
20.500	0.000	1.63	0.00	1.42	2.5	1.213
20.583	0.000	1.61	0.00	1.42	2.5	1.207
20.667	0.000	1.60	0.00	1.41	2.5	1.201
20.750	0.000	1.58	0.00	1.41	2.5	1.195
20.833	0.000	1.57	0.00	1.40	2.5	1.188
20.917	0.000	1.56	0.00	1.40	2.5	1.182
21.000	0.000	1.54	0.00	1.40	2.5	1.175
21.083	0.000	1.53	0.00	1.39	2.5	1.168
21.167	0.000	1.52	0.00	1.39	2.5	1.162
21.250	0.000	1.50	0.00	1.38	2.5	1.155
21.333	0.000	1.49	0.00	1.38	2.5	1.148
21.417	0.000	1.48	0.00	1.38	2.5	1.141
21.500	0.000	1.47	0.00	1.37	2.5	1.134
21.583	0.000	1.46	0.00	1.37	2.5	1.127
21.667	0.000	1.44	0.00	1.36	2.5	1.120
21.750	0.000	1.43	0.00	1.36	2.5	1.112
21.833	0.000	1.42	0.00	1.35	2.5	1.105
21.917	0.000	1.41	0.00	1.35	2.5	1.098
22.000	0.000	1.40	0.00	1.34	2.5	1.091
22.083	0.000	1.39	0.00	1.34	2.5	1.083
22.167	0.000	1.38	0.00	1.33	2.5	1.076
22.250	0.000	1.37	0.00	1.33	2.5	1.068
22.333	0.000	1.36	0.00	1.33	2.5	1.060
22.417	0.000	1.35	0.00	1.32	2.5	1.053
22.500	0.000	1.34	0.00	1.32	2.5	1.045
22.583	0.000	1.34	0.00	1.31	2.5	1.037
22.667	0.000	1.33	0.00	1.31	2.5	1.030
22.750	0.000	1.32	0.00	1.30	2.5	1.022
22.833	0.000	1.31	0.00	1.30	2.4	1.014
22.917	0.000	1.30	0.00	1.29	2.4	1.006
23.000	0.000	1.29	0.00	1.29	2.4	0.998

23.083	0.000	1.29	0.00	1.28	2.4	0.990
23.167	0.000	1.28	0.00	1.28	2.4	0.982
23.250	0.000	1.27	0.00	1.27	2.4	0.974
23.333	0.000	1.26	0.00	1.27	2.4	0.966
23.417	0.000	1.26	0.00	1.26	2.4	0.958
23.500	0.000	1.25	0.00	1.26	2.4	0.950
23.583	0.000	1.24	0.00	1.25	2.4	0.942
23.667	0.000	1.23	0.00	1.25	2.4	0.934
23.750	0.000	1.23	0.00	1.24	2.4	0.925
23.833	0.000	1.22	0.00	1.24	2.4	0.917
23.917	0.000	1.21	0.00	1.23	2.4	0.909

-----  
PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 4.751 AF  
BASIN STORAGE = 0.000 AF (WITH 0.000 AF INITIALLY FILLED)  
OUTFLOW VOLUME = 4.751 AF  
LOSS VOLUME = 0.000 AF

=====

END OF FLOODSCx ROUTING ANALYSIS

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F L O O D   R O U T I N G   A N A L Y S I S  
USING COUNTY HYDROLOGY MANUAL OF SAN BERNARDINO(1986)  
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Ver. 23.0 Release Date: 07/01/2016 License ID 1435

Analysis prepared by:

THIENES ENGINEERING, INC.  
14349 FIRESTONE BLVD  
LA MIRIADA, CA 90638  
714-521-4811

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* TEI JOB NO 3857 \*  
\* BUILDING 13 N \*  
\* \*  
\*\*\*\*\*

FILE NAME: W:\3857\BLDG13N.DAT  
TIME/DATE OF STUDY: 10:12 12/28/2021

\*\*\*\*\*

FLOW PROCESS FROM NODE 190.00 TO NODE 207.00 IS CODE = 1

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>>>>SUBAREA RUNOFF (UNIT-HYDROGRAPH ANALYSIS)<<<<<  
=====

(UNIT-HYDROGRAPH ADDED TO STREAM #1)

WATERSHED AREA = 13.300 ACRES  
BASEFLOW = 0.000 CFS/SQUARE-MILE  
\*USER ENTERED "LAG" TIME = 0.102 HOURS  
CAUTION: LAG TIME IS LESS THAN 0.50 HOURS.  
THE 5-MINUTE PERIOD UH MODEL (USED IN THIS COMPUTER PROGRAM)  
MAY BE TOO LARGE FOR PEAK FLOW ESTIMATES.  
VALLEY(DEVELOPED) S-GRAPH SELECTED  
MAXIMUM WATERSHED LOSS RATE(INCH/HOUR) = 0.042  
LOW LOSS FRACTION = 0.079  
\*HYDROGRAPH MODEL #1 SPECIFIED\*

SPECIFIED PEAK 5-MINUTES RAINFALL(INCH)= 0.38  
SPECIFIED PEAK 30-MINUTES RAINFALL(INCH)= 0.75  
SPECIFIED PEAK 1-HOUR RAINFALL(INCH) = 1.00  
SPECIFIED PEAK 3-HOUR RAINFALL(INCH) = 1.90  
SPECIFIED PEAK 6-HOUR RAINFALL(INCH) = 3.00  
SPECIFIED PEAK 24-HOUR RAINFALL(INCH) = 6.00

PRECIPITATION DEPTH-AREA REDUCTION FACTORS:  
5-MINUTE FACTOR = 0.999  
30-MINUTE FACTOR = 0.999  
1-HOUR FACTOR = 0.999  
3-HOUR FACTOR = 1.000  
6-HOUR FACTOR = 1.000  
24-HOUR FACTOR = 1.000

UNIT HYDROGRAPH TIME UNIT = 5.000 MINUTES  
UNIT INTERVAL PERCENTAGE OF LAG-TIME = 81.699

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UNIT HYDROGRAPH DETERMINATION  
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INTERVAL NUMBER	"S" GRAPH MEAN VALUES	UNIT HYDROGRAPH ORDINATES(CFS)
1	11.641	18.724
2	64.860	85.602
3	94.495	47.667
4	98.940	7.149
5	99.538	0.963
6	99.815	0.445
7	99.954	0.223
8	100.000	0.074

-----  
TOTAL SOIL-LOSS VOLUME(ACRE-FEET) = 0.4819

TOTAL STORM RUNOFF VOLUME(ACRE-FEET) = 6.1648

↑

2 4 - H O U R   S T O R M  
R U N O F F   H Y D R O G R A P H

HYDROGRAPH IN FIVE-MINUTE UNIT INTERVALS(CFS)  
(Note: Time indicated is at END of Each Unit Intervals)

TIME(HRS)	VOLUME(AF)	Q(CFS)	0.	10.0	20.0	30.0	40.0
0.083	0.0012	0.18	Q	.	.	.	.
0.167	0.0081	1.00	VQ	.	.	.	.
0.250	0.0182	1.46	VQ	.	.	.	.
0.333	0.0288	1.53	VQ	.	.	.	.
0.417	0.0394	1.55	VQ	.	.	.	.
0.500	0.0502	1.56	VQ	.	.	.	.
0.583	0.0609	1.56	VQ	.	.	.	.
0.667	0.0717	1.57	VQ	.	.	.	.
0.750	0.0825	1.57	VQ	.	.	.	.
0.833	0.0934	1.58	VQ	.	.	.	.
0.917	0.1043	1.58	VQ	.	.	.	.
1.000	0.1152	1.58	VQ	.	.	.	.
1.083	0.1261	1.59	VQ	.	.	.	.
1.167	0.1371	1.59	VQ	.	.	.	.
1.250	0.1481	1.60	VQ	.	.	.	.
1.333	0.1591	1.60	.Q	.	.	.	.
1.417	0.1702	1.61	.Q	.	.	.	.
1.500	0.1813	1.61	.Q	.	.	.	.
1.583	0.1924	1.62	.Q	.	.	.	.
1.667	0.2036	1.62	.Q	.	.	.	.
1.750	0.2148	1.62	.Q	.	.	.	.
1.833	0.2260	1.63	.Q	.	.	.	.
1.917	0.2372	1.63	.Q	.	.	.	.
2.000	0.2485	1.64	.Q	.	.	.	.
2.083	0.2599	1.64	.Q	.	.	.	.
2.167	0.2712	1.65	.Q	.	.	.	.
2.250	0.2826	1.65	.Q	.	.	.	.
2.333	0.2940	1.66	.Q	.	.	.	.
2.417	0.3055	1.66	.Q	.	.	.	.
2.500	0.3170	1.67	.QV	.	.	.	.
2.583	0.3285	1.67	.QV	.	.	.	.
2.667	0.3401	1.68	.QV	.	.	.	.
2.750	0.3517	1.68	.QV	.	.	.	.
2.833	0.3633	1.69	.QV	.	.	.	.
2.917	0.3750	1.69	.QV	.	.	.	.
3.000	0.3867	1.70	.QV	.	.	.	.
3.083	0.3984	1.71	.QV	.	.	.	.
3.167	0.4102	1.71	.QV	.	.	.	.
3.250	0.4220	1.72	.QV	.	.	.	.
3.333	0.4339	1.72	.QV	.	.	.	.
3.417	0.4458	1.73	.QV	.	.	.	.
3.500	0.4578	1.73	.QV	.	.	.	.
3.583	0.4697	1.74	.Q V	.	.	.	.
3.667	0.4817	1.75	.Q V	.	.	.	.
3.750	0.4938	1.75	.Q V	.	.	.	.
3.833	0.5059	1.76	.Q V	.	.	.	.
3.917	0.5180	1.76	.Q V	.	.	.	.
4.000	0.5302	1.77	.Q V	.	.	.	.
4.083	0.5425	1.77	.Q V	.	.	.	.
4.167	0.5547	1.78	.Q V	.	.	.	.
4.250	0.5670	1.79	.Q V	.	.	.	.
4.333	0.5794	1.79	.Q V	.	.	.	.
4.417	0.5918	1.80	.Q V	.	.	.	.
4.500	0.6042	1.81	.Q V	.	.	.	.
4.583	0.6167	1.81	.Q V	.	.	.	.
4.667	0.6292	1.82	.Q V	.	.	.	.
4.750	0.6418	1.83	.Q V	.	.	.	.
4.833	0.6544	1.83	.Q V	.	.	.	.
4.917	0.6671	1.84	.Q V	.	.	.	.
5.000	0.6798	1.85	.Q V	.	.	.	.
5.083	0.6926	1.85	.Q V	.	.	.	.
5.167	0.7054	1.86	.Q V	.	.	.	.
5.250	0.7182	1.87	.Q V	.	.	.	.
5.333	0.7311	1.87	.Q V	.	.	.	.
5.417	0.7441	1.88	.Q V	.	.	.	.
5.500	0.7571	1.89	.Q V	.	.	.	.
5.583	0.7702	1.90	.Q V	.	.	.	.
5.667	0.7833	1.90	.Q V	.	.	.	.
5.750	0.7965	1.91	.Q V	.	.	.	.

5.833	0.8097	1.92	.Q	V	.	.	.	.
5.917	0.8229	1.93	.Q	V	.	.	.	.
6.000	0.8363	1.93	.Q	V	.	.	.	.
6.083	0.8496	1.94	.Q	V	.	.	.	.
6.167	0.8631	1.95	.Q	V	.	.	.	.
6.250	0.8766	1.96	.Q	V	.	.	.	.
6.333	0.8901	1.97	.Q	V	.	.	.	.
6.417	0.9037	1.98	.Q	V	.	.	.	.
6.500	0.9174	1.98	.Q	V	.	.	.	.
6.583	0.9311	1.99	.Q	V	.	.	.	.
6.667	0.9449	2.00	.Q	V	.	.	.	.
6.750	0.9587	2.01	.Q	V	.	.	.	.
6.833	0.9726	2.02	.Q	V	.	.	.	.
6.917	0.9866	2.03	.Q	V	.	.	.	.
7.000	1.0006	2.04	.Q	V	.	.	.	.
7.083	1.0147	2.05	.Q	V	.	.	.	.
7.167	1.0289	2.06	.Q	V	.	.	.	.
7.250	1.0431	2.07	.Q	V	.	.	.	.
7.333	1.0574	2.08	.Q	V	.	.	.	.
7.417	1.0718	2.09	.Q	V	.	.	.	.
7.500	1.0862	2.10	.Q	V	.	.	.	.
7.583	1.1007	2.11	.Q	V	.	.	.	.
7.667	1.1153	2.12	.Q	V	.	.	.	.
7.750	1.1299	2.13	.Q	V	.	.	.	.
7.833	1.1446	2.14	.Q	V	.	.	.	.
7.917	1.1594	2.15	.Q	V	.	.	.	.
8.000	1.1743	2.16	.Q	V	.	.	.	.
8.083	1.1892	2.17	.Q	V	.	.	.	.
8.167	1.2043	2.18	.Q	V	.	.	.	.
8.250	1.2194	2.19	.Q	V	.	.	.	.
8.333	1.2345	2.20	.Q	V	.	.	.	.
8.417	1.2498	2.22	.Q	V	.	.	.	.
8.500	1.2651	2.23	.Q	V	.	.	.	.
8.583	1.2806	2.24	.Q	V	.	.	.	.
8.667	1.2961	2.25	.Q	V	.	.	.	.
8.750	1.3117	2.26	.Q	V	.	.	.	.
8.833	1.3274	2.28	.Q	V	.	.	.	.
8.917	1.3431	2.29	.Q	V	.	.	.	.
9.000	1.3590	2.30	.Q	V	.	.	.	.
9.083	1.3750	2.32	.Q	V	.	.	.	.
9.167	1.3910	2.33	.Q	V	.	.	.	.
9.250	1.4072	2.34	.Q	V	.	.	.	.
9.333	1.4234	2.36	.Q	V	.	.	.	.
9.417	1.4398	2.37	.Q	V	.	.	.	.
9.500	1.4562	2.39	.Q	V	.	.	.	.
9.583	1.4728	2.40	.Q	V	.	.	.	.
9.667	1.4894	2.42	.Q	V	.	.	.	.
9.750	1.5062	2.43	.Q	V	.	.	.	.
9.833	1.5231	2.45	.Q	V	.	.	.	.
9.917	1.5401	2.47	.Q	V	.	.	.	.
10.000	1.5572	2.48	.Q	V	.	.	.	.
10.083	1.5744	2.50	.Q	V	.	.	.	.
10.167	1.5917	2.52	.Q	V	.	.	.	.
10.250	1.6092	2.53	.Q	V	.	.	.	.
10.333	1.6268	2.55	.Q	V	.	.	.	.
10.417	1.6445	2.57	.Q	V	.	.	.	.
10.500	1.6623	2.59	.Q	V	.	.	.	.
10.583	1.6803	2.61	.Q	V	.	.	.	.
10.667	1.6984	2.63	.Q	.V	.	.	.	.
10.750	1.7166	2.65	.Q	.V	.	.	.	.
10.833	1.7350	2.67	.Q	.V	.	.	.	.
10.917	1.7536	2.69	.Q	.V	.	.	.	.
11.000	1.7722	2.71	.Q	.V	.	.	.	.
11.083	1.7911	2.73	.Q	.V	.	.	.	.
11.167	1.8101	2.76	.Q	.V	.	.	.	.
11.250	1.8292	2.78	.Q	.V	.	.	.	.
11.333	1.8485	2.81	.Q	.V	.	.	.	.
11.417	1.8680	2.83	.Q	.V	.	.	.	.
11.500	1.8877	2.85	.Q	.V	.	.	.	.
11.583	1.9075	2.88	.Q	.V	.	.	.	.
11.667	1.9275	2.91	.Q	.V	.	.	.	.
11.750	1.9477	2.93	.Q	.V	.	.	.	.
11.833	1.9681	2.96	.Q	.V	.	.	.	.
11.917	1.9887	2.99	.Q	.V	.	.	.	.
12.000	2.0095	3.02	.Q	.V	.	.	.	.
12.083	2.0313	3.16	.Q	.V	.	.	.	.
12.167	2.0569	3.72	.Q	.V	.	.	.	.
12.250	2.0847	4.04	.Q	.V	.	.	.	.
12.333	2.1130	4.11	.Q	.V	.	.	.	.
12.417	2.1416	4.15	.Q	.V	.	.	.	.
12.500	2.1704	4.18	.Q	.V	.	.	.	.
12.583	2.1995	4.22	.Q	.V	.	.	.	.
12.667	2.2288	4.25	.Q	.V	.	.	.	.

12.750	2.2583	4.29	.	Q	.	V	.	.	.
12.833	2.2881	4.32	.	Q	.	V	.	.	.
12.917	2.3181	4.36	.	Q	.	V	.	.	.
13.000	2.3484	4.40	.	Q	.	V	.	.	.
13.083	2.3790	4.44	.	Q	.	V	.	.	.
13.167	2.4099	4.48	.	Q	.	V	.	.	.
13.250	2.4410	4.52	.	Q	.	V	.	.	.
13.333	2.4725	4.57	.	Q	.	V	.	.	.
13.417	2.5043	4.61	.	Q	.	V	.	.	.
13.500	2.5364	4.67	.	Q	.	V	.	.	.
13.583	2.5689	4.71	.	Q	.	V	.	.	.
13.667	2.6017	4.77	.	Q	.	V	.	.	.
13.750	2.6349	4.82	.	Q	.	V	.	.	.
13.833	2.6686	4.88	.	Q	.	V	.	.	.
13.917	2.7026	4.94	.	Q	.	V	.	.	.
14.000	2.7371	5.01	.	Q	.	V	.	.	.
14.083	2.7715	5.00	.	Q	.	V	.	.	.
14.167	2.8044	4.77	.	Q	.	V	.	.	.
14.250	2.8366	4.67	.	Q	.	V	.	.	.
14.333	2.8692	4.74	.	Q	.	V	.	.	.
14.417	2.9024	4.82	.	Q	.	V	.	.	.
14.500	2.9363	4.92	.	Q	.	V	.	.	.
14.583	2.9709	5.02	.	Q	.	V	.	.	.
14.667	3.0063	5.14	.	Q	.	V	.	.	.
14.750	3.0425	5.26	.	Q	.	V	.	.	.
14.833	3.0797	5.40	.	Q	.	V	.	.	.
14.917	3.1178	5.54	.	Q	.	V	.	.	.
15.000	3.1571	5.70	.	Q	.	V	.	.	.
15.083	3.1975	5.87	.	Q	.	V	.	.	.
15.167	3.2394	6.08	.	Q	.	.V	.	.	.
15.250	3.2827	6.29	.	Q	.	.V	.	.	.
15.333	3.3279	6.57	.	Q	.	.V	.	.	.
15.417	3.3734	6.61	.	Q	.	.V	.	.	.
15.500	3.4137	5.85	.	Q	.	.V	.	.	.
15.583	3.4523	5.61	.	Q	.	.V	.	.	.
15.667	3.4941	6.07	.	Q	.	.V	.	.	.
15.750	3.5398	6.64	.	Q	.	.V	.	.	.
15.833	3.5903	7.33	.	Q	.	.V	.	.	.
15.917	3.6497	8.62	.	Q	.	.V	.	.	.
16.000	3.7306	11.75	.	.Q	.	.V	.	.	.
16.083	3.8734	20.74	.	.	.	Q	.	.	.
16.167	4.1442	39.32	.	.	.	.	.	.	Q.
16.250	4.3170	25.09	.	.	.	.	.	.	.
16.333	4.3891	10.47	.	.	.	.	.	.	.
16.417	4.4375	7.03	.	.	.	.	.	.	.
16.500	4.4849	6.88	.	Q	.	.	.	.	.
16.583	4.5310	6.70	.	Q	.	.	.	.	.
16.667	4.5737	6.20	.	Q	.	.	.	.	.
16.750	4.6136	5.79	.	Q	.	.	.	.	.
16.833	4.6512	5.47	.	Q	.	.	.	.	.
16.917	4.6870	5.20	.	Q	.	.	.	.	.
17.000	4.7213	4.97	.	Q	.	.	.	.	.
17.083	4.7546	4.84	.	Q	.	.	.	.	.
17.167	4.7889	4.98	.	Q	.	.	.	.	.
17.250	4.8234	5.01	.	Q	.	.	.	.	.
17.333	4.8572	4.90	.	Q	.	.	.	.	.
17.417	4.8902	4.79	.	Q	.	.	.	.	.
17.500	4.9224	4.69	.	Q	.	.	.	.	.
17.583	4.9540	4.59	.	Q	.	.	.	.	.
17.667	4.9850	4.50	.	Q	.	.	.	.	.
17.750	5.0155	4.42	.	Q	.	.	.	.	.
17.833	5.0454	4.34	.	Q	.	.	.	.	.
17.917	5.0748	4.27	.	Q	.	.	.	.	.
18.000	5.1037	4.20	.	Q	.	.	.	.	.
18.083	5.1314	4.02	.	Q	.	.	.	.	.
18.167	5.1551	3.44	.	Q	.	.	.	.	.
18.250	5.1763	3.09	.	Q	.	.	.	.	.
18.333	5.1969	2.98	.	Q	.	.	.	.	.
18.417	5.2170	2.92	.	Q	.	.	.	.	.
18.500	5.2368	2.87	.	Q	.	.	.	.	.
18.583	5.2562	2.82	.	Q	.	.	.	.	.
18.667	5.2752	2.77	.	Q	.	.	.	.	.
18.750	5.2940	2.72	.	Q	.	.	.	.	.
18.833	5.3124	2.68	.	Q	.	.	.	.	.
18.917	5.3306	2.64	.	Q	.	.	.	.	.
19.000	5.3485	2.60	.	Q	.	.	.	.	.
19.083	5.3661	2.56	.	Q	.	.	.	.	.
19.167	5.3835	2.53	.	Q	.	.	.	.	.
19.250	5.4007	2.49	.	Q	.	.	.	.	.
19.333	5.4176	2.46	.	Q	.	.	.	.	.
19.417	5.4343	2.43	.	Q	.	.	.	.	.
19.500	5.4508	2.40	.	Q	.	.	.	.	.
19.583	5.4671	2.37	.	Q	.	.	.	.	.

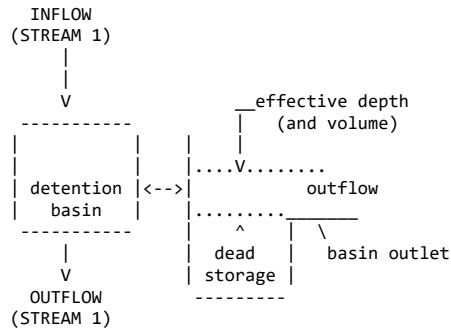
19.667	5.4832	2.34	. Q	.	.	.	V	.
19.750	5.4991	2.31	. Q	.	.	.	V	.
19.833	5.5148	2.28	. Q	.	.	.	V	.
19.917	5.5304	2.26	. Q	.	.	.	V	.
20.000	5.5458	2.23	. Q	.	.	.	V	.
20.083	5.5610	2.21	. Q	.	.	.	V	.
20.167	5.5760	2.19	. Q	.	.	.	V	.
20.250	5.5909	2.16	. Q	.	.	.	V	.
20.333	5.6057	2.14	. Q	.	.	.	V	.
20.417	5.6203	2.12	. Q	.	.	.	V	.
20.500	5.6347	2.10	. Q	.	.	.	V	.
20.583	5.6491	2.08	. Q	.	.	.	V	.
20.667	5.6632	2.06	. Q	.	.	.	V	.
20.750	5.6773	2.04	. Q	.	.	.	V	.
20.833	5.6912	2.02	. Q	.	.	.	V	.
20.917	5.7051	2.01	. Q	.	.	.	V	.
21.000	5.7187	1.99	. Q	.	.	.	V	.
21.083	5.7323	1.97	. Q	.	.	.	V	.
21.167	5.7458	1.95	. Q	.	.	.	V	.
21.250	5.7591	1.94	. Q	.	.	.	V	.
21.333	5.7724	1.92	. Q	.	.	.	V	.
21.417	5.7855	1.91	. Q	.	.	.	V	.
21.500	5.7985	1.89	. Q	.	.	.	V	.
21.583	5.8115	1.88	. Q	.	.	.	V	.
21.667	5.8243	1.86	. Q	.	.	.	V	.
21.750	5.8370	1.85	. Q	.	.	.	V	.
21.833	5.8497	1.84	. Q	.	.	.	V	.
21.917	5.8622	1.82	. Q	.	.	.	V	.
22.000	5.8747	1.81	. Q	.	.	.	V	.
22.083	5.8870	1.80	. Q	.	.	.	V	.
22.167	5.8993	1.78	. Q	.	.	.	V	.
22.250	5.9115	1.77	. Q	.	.	.	V	.
22.333	5.9236	1.76	. Q	.	.	.	V	.
22.417	5.9357	1.75	. Q	.	.	.	V	.
22.500	5.9476	1.74	. Q	.	.	.	V	.
22.583	5.9595	1.72	. Q	.	.	.	V	.
22.667	5.9713	1.71	. Q	.	.	.	V	.
22.750	5.9830	1.70	. Q	.	.	.	V	.
22.833	5.9947	1.69	. Q	.	.	.	V	.
22.917	6.0063	1.68	. Q	.	.	.	V	.
23.000	6.0178	1.67	. Q	.	.	.	V	.
23.083	6.0292	1.66	. Q	.	.	.	V	.
23.167	6.0406	1.65	. Q	.	.	.	V	.
23.250	6.0519	1.64	. Q	.	.	.	V	.
23.333	6.0631	1.63	. Q	.	.	.	V	.
23.417	6.0743	1.62	. Q	.	.	.	V	.
23.500	6.0854	1.61	. Q	.	.	.	V	.
23.583	6.0965	1.60	. Q	.	.	.	V	.
23.667	6.1075	1.60	. Q	.	.	.	V	.
23.750	6.1184	1.59	. Q	.	.	.	V	.
23.833	6.1292	1.58	. Q	.	.	.	V	.
23.917	6.1400	1.57	. Q	.	.	.	V	.
24.000	6.1508	1.56	. Q	.	.	.	V	.
24.083	6.1602	1.37	. Q	.	.	.	V	.
24.167	6.1640	0.55	Q	.	.	.	V	.
24.250	6.1646	0.09	Q	.	.	.	V	.
24.333	6.1647	0.02	Q	.	.	.	V	.
24.417	6.1648	0.01	Q	.	.	.	V	.

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TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:  
(Note: 100% of Peak Flow Rate estimate assumed to have  
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1465.0
10%	355.0
20%	30.0
30%	15.0
40%	15.0
50%	15.0
60%	10.0
70%	5.0
80%	5.0
90%	5.0

\*\*\*\*\*  
FLOW PROCESS FROM NODE 190.00 TO NODE 207.00 IS CODE = 3.1

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>>>>FLOW-THROUGH DETENTION BASIN ROUTING MODEL APPLIED TO STREAM #1<<<<<  
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ROUTE RUNOFF HYDROGRAPH FROM STREAM NUMBER 1  
 THROUGH A FLOW-THROUGH DETENTION BASIN  
 SPECIFIED BASIN CONDITIONS ARE AS FOLLOWS:  
 DEAD STORAGE(AF) = 0.000  
 SPECIFIED DEAD STORAGE(AF) FILLED = 0.000  
 SPECIFIED EFFECTIVE VOLUME(AF) FILLED ABOVE OUTLET = 0.000  
 DETENTION BASIN CONSTANT LOSS RATE(CFS) = 0.00

BASIN DEPTH VERSUS OUTFLOW AND STORAGE INFORMATION:

INTERVAL NUMBER	DEPTH (FT)	OUTFLOW (CFS)	STORAGE (AF)
1	0.00	0.00	0.000
2	0.11	1.10	0.010
3	0.31	1.12	0.050
4	0.51	1.20	0.210
5	0.71	1.30	0.510
6	0.91	1.40	0.900
7	1.11	1.42	1.360
8	1.31	1.50	1.870
9	1.51	1.60	2.420
10	1.71	1.62	3.020
11	1.91	1.70	3.650
12	2.11	1.72	4.320
13	2.31	1.74	5.040
14	2.51	1.76	5.790

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MODIFIED-PULS BASIN ROUTING MODEL RESULTS(5-MINUTE COMPUTATION INTERVALS):  
 (Note: Computed EFFECTIVE DEPTH and VOLUME are estimated at the clock time;  
 MEAN OUTFLOW is the average value during the unit interval.)

CLOCK TIME (HRS)	DEAD-STORAGE FILLED(AF)	INFLOW (CFS)	LOSS (CFS)	MEAN EFFECTIVE DEPTH(FT)	MEAN OUTFLOW (CFS)	EFFECTIVE VOLUME(AF)
0.083	0.000	0.18	0.00	0.01	0.0	0.001
0.167	0.000	1.00	0.00	0.06	0.3	0.005
0.250	0.000	1.46	0.00	0.11	0.8	0.010
0.333	0.000	1.53	0.00	0.12	1.1	0.013
0.417	0.000	1.55	0.00	0.14	1.1	0.016
0.500	0.000	1.56	0.00	0.16	1.1	0.019
0.583	0.000	1.56	0.00	0.17	1.1	0.022
0.667	0.000	1.57	0.00	0.19	1.1	0.025
0.750	0.000	1.57	0.00	0.20	1.1	0.029
0.833	0.000	1.58	0.00	0.22	1.1	0.032
0.917	0.000	1.58	0.00	0.23	1.1	0.035
1.000	0.000	1.58	0.00	0.25	1.1	0.038
1.083	0.000	1.59	0.00	0.27	1.1	0.041
1.167	0.000	1.59	0.00	0.28	1.1	0.045
1.250	0.000	1.60	0.00	0.30	1.1	0.048
1.333	0.000	1.60	0.00	0.31	1.1	0.051
1.417	0.000	1.61	0.00	0.32	1.1	0.055
1.500	0.000	1.61	0.00	0.32	1.1	0.058
1.583	0.000	1.62	0.00	0.32	1.1	0.061
1.667	0.000	1.62	0.00	0.33	1.1	0.065
1.750	0.000	1.62	0.00	0.33	1.1	0.068
1.833	0.000	1.63	0.00	0.34	1.1	0.072
1.917	0.000	1.63	0.00	0.34	1.1	0.075
2.000	0.000	1.64	0.00	0.35	1.1	0.079
2.083	0.000	1.64	0.00	0.35	1.1	0.082
2.167	0.000	1.65	0.00	0.35	1.1	0.086

2.250	0.000	1.65	0.00	0.36	1.1	0.089
2.333	0.000	1.66	0.00	0.36	1.1	0.093
2.417	0.000	1.66	0.00	0.37	1.1	0.096
2.500	0.000	1.67	0.00	0.37	1.1	0.100
2.583	0.000	1.67	0.00	0.38	1.1	0.104
2.667	0.000	1.68	0.00	0.38	1.1	0.107
2.750	0.000	1.68	0.00	0.39	1.1	0.111
2.833	0.000	1.69	0.00	0.39	1.2	0.115
2.917	0.000	1.69	0.00	0.40	1.2	0.118
3.000	0.000	1.70	0.00	0.40	1.2	0.122
3.083	0.000	1.71	0.00	0.40	1.2	0.126
3.167	0.000	1.71	0.00	0.41	1.2	0.130
3.250	0.000	1.72	0.00	0.41	1.2	0.134
3.333	0.000	1.72	0.00	0.42	1.2	0.137
3.417	0.000	1.73	0.00	0.42	1.2	0.141
3.500	0.000	1.73	0.00	0.43	1.2	0.145
3.583	0.000	1.74	0.00	0.43	1.2	0.149
3.667	0.000	1.75	0.00	0.44	1.2	0.153
3.750	0.000	1.75	0.00	0.44	1.2	0.157
3.833	0.000	1.76	0.00	0.45	1.2	0.161
3.917	0.000	1.76	0.00	0.45	1.2	0.165
4.000	0.000	1.77	0.00	0.46	1.2	0.169
4.083	0.000	1.77	0.00	0.46	1.2	0.173
4.167	0.000	1.78	0.00	0.47	1.2	0.177
4.250	0.000	1.79	0.00	0.47	1.2	0.182
4.333	0.000	1.79	0.00	0.48	1.2	0.186
4.417	0.000	1.80	0.00	0.48	1.2	0.190
4.500	0.000	1.81	0.00	0.49	1.2	0.194
4.583	0.000	1.81	0.00	0.50	1.2	0.198
4.667	0.000	1.82	0.00	0.50	1.2	0.203
4.750	0.000	1.83	0.00	0.51	1.2	0.207
4.833	0.000	1.83	0.00	0.51	1.2	0.211
4.917	0.000	1.84	0.00	0.51	1.2	0.216
5.000	0.000	1.85	0.00	0.52	1.2	0.220
5.083	0.000	1.85	0.00	0.52	1.2	0.225
5.167	0.000	1.86	0.00	0.52	1.2	0.229
5.250	0.000	1.87	0.00	0.53	1.2	0.234
5.333	0.000	1.87	0.00	0.53	1.2	0.238
5.417	0.000	1.88	0.00	0.53	1.2	0.243
5.500	0.000	1.89	0.00	0.54	1.2	0.248
5.583	0.000	1.90	0.00	0.54	1.2	0.252
5.667	0.000	1.90	0.00	0.54	1.2	0.257
5.750	0.000	1.91	0.00	0.54	1.2	0.262
5.833	0.000	1.92	0.00	0.55	1.2	0.267
5.917	0.000	1.93	0.00	0.55	1.2	0.272
6.000	0.000	1.93	0.00	0.55	1.2	0.277
6.083	0.000	1.94	0.00	0.56	1.2	0.281
6.167	0.000	1.95	0.00	0.56	1.2	0.286
6.250	0.000	1.96	0.00	0.56	1.2	0.292
6.333	0.000	1.97	0.00	0.57	1.2	0.297
6.417	0.000	1.98	0.00	0.57	1.2	0.302
6.500	0.000	1.98	0.00	0.57	1.2	0.307
6.583	0.000	1.99	0.00	0.58	1.2	0.312
6.667	0.000	2.00	0.00	0.58	1.2	0.317
6.750	0.000	2.01	0.00	0.59	1.2	0.323
6.833	0.000	2.02	0.00	0.59	1.2	0.328
6.917	0.000	2.03	0.00	0.59	1.2	0.334
7.000	0.000	2.04	0.00	0.60	1.2	0.339
7.083	0.000	2.05	0.00	0.60	1.2	0.345
7.167	0.000	2.06	0.00	0.60	1.2	0.350
7.250	0.000	2.07	0.00	0.61	1.2	0.356
7.333	0.000	2.08	0.00	0.61	1.2	0.361
7.417	0.000	2.09	0.00	0.61	1.3	0.367
7.500	0.000	2.10	0.00	0.62	1.3	0.373
7.583	0.000	2.11	0.00	0.62	1.3	0.379
7.667	0.000	2.12	0.00	0.63	1.3	0.385
7.750	0.000	2.13	0.00	0.63	1.3	0.391
7.833	0.000	2.14	0.00	0.63	1.3	0.397
7.917	0.000	2.15	0.00	0.64	1.3	0.403
8.000	0.000	2.16	0.00	0.64	1.3	0.409
8.083	0.000	2.17	0.00	0.65	1.3	0.415
8.167	0.000	2.18	0.00	0.65	1.3	0.422
8.250	0.000	2.19	0.00	0.66	1.3	0.428
8.333	0.000	2.20	0.00	0.66	1.3	0.434
8.417	0.000	2.22	0.00	0.66	1.3	0.441
8.500	0.000	2.23	0.00	0.67	1.3	0.447
8.583	0.000	2.24	0.00	0.67	1.3	0.454
8.667	0.000	2.25	0.00	0.68	1.3	0.461
8.750	0.000	2.26	0.00	0.68	1.3	0.467
8.833	0.000	2.28	0.00	0.69	1.3	0.474
8.917	0.000	2.29	0.00	0.69	1.3	0.481
9.000	0.000	2.30	0.00	0.70	1.3	0.488
9.083	0.000	2.32	0.00	0.70	1.3	0.495

9.167	0.000	2.33	0.00	0.70	1.3	0.502
9.250	0.000	2.34	0.00	0.71	1.3	0.509
9.333	0.000	2.36	0.00	0.71	1.3	0.517
9.417	0.000	2.37	0.00	0.72	1.3	0.524
9.500	0.000	2.39	0.00	0.72	1.3	0.532
9.583	0.000	2.40	0.00	0.72	1.3	0.539
9.667	0.000	2.42	0.00	0.73	1.3	0.547
9.750	0.000	2.43	0.00	0.73	1.3	0.554
9.833	0.000	2.45	0.00	0.74	1.3	0.562
9.917	0.000	2.47	0.00	0.74	1.3	0.570
10.000	0.000	2.48	0.00	0.75	1.3	0.578
10.083	0.000	2.50	0.00	0.75	1.3	0.586
10.167	0.000	2.52	0.00	0.75	1.3	0.595
10.250	0.000	2.53	0.00	0.76	1.3	0.603
10.333	0.000	2.55	0.00	0.76	1.3	0.611
10.417	0.000	2.57	0.00	0.77	1.3	0.620
10.500	0.000	2.59	0.00	0.77	1.3	0.629
10.583	0.000	2.61	0.00	0.78	1.3	0.638
10.667	0.000	2.63	0.00	0.78	1.3	0.646
10.750	0.000	2.65	0.00	0.78	1.3	0.655
10.833	0.000	2.67	0.00	0.79	1.3	0.665
10.917	0.000	2.69	0.00	0.79	1.3	0.674
11.000	0.000	2.71	0.00	0.80	1.3	0.683
11.083	0.000	2.73	0.00	0.80	1.3	0.693
11.167	0.000	2.76	0.00	0.81	1.3	0.703
11.250	0.000	2.78	0.00	0.81	1.4	0.713
11.333	0.000	2.81	0.00	0.82	1.4	0.723
11.417	0.000	2.83	0.00	0.82	1.4	0.733
11.500	0.000	2.85	0.00	0.83	1.4	0.743
11.583	0.000	2.88	0.00	0.83	1.4	0.753
11.667	0.000	2.91	0.00	0.84	1.4	0.764
11.750	0.000	2.93	0.00	0.85	1.4	0.775
11.833	0.000	2.96	0.00	0.85	1.4	0.786
11.917	0.000	2.99	0.00	0.86	1.4	0.797
12.000	0.000	3.02	0.00	0.86	1.4	0.808
12.083	0.000	3.16	0.00	0.87	1.4	0.821
12.167	0.000	3.72	0.00	0.88	1.4	0.837
12.250	0.000	4.04	0.00	0.89	1.4	0.855
12.333	0.000	4.11	0.00	0.90	1.4	0.874
12.417	0.000	4.15	0.00	0.91	1.4	0.893
12.500	0.000	4.18	0.00	0.92	1.4	0.912
12.583	0.000	4.22	0.00	0.92	1.4	0.931
12.667	0.000	4.25	0.00	0.93	1.4	0.951
12.750	0.000	4.29	0.00	0.94	1.4	0.971
12.833	0.000	4.32	0.00	0.95	1.4	0.991
12.917	0.000	4.36	0.00	0.96	1.4	1.011
13.000	0.000	4.40	0.00	0.97	1.4	1.032
13.083	0.000	4.44	0.00	0.98	1.4	1.053
13.167	0.000	4.48	0.00	0.99	1.4	1.074
13.250	0.000	4.52	0.00	0.99	1.4	1.095
13.333	0.000	4.57	0.00	1.00	1.4	1.117
13.417	0.000	4.61	0.00	1.01	1.4	1.139
13.500	0.000	4.67	0.00	1.02	1.4	1.162
13.583	0.000	4.71	0.00	1.03	1.4	1.184
13.667	0.000	4.77	0.00	1.04	1.4	1.207
13.750	0.000	4.82	0.00	1.05	1.4	1.231
13.833	0.000	4.88	0.00	1.06	1.4	1.255
13.917	0.000	4.94	0.00	1.07	1.4	1.279
14.000	0.000	5.01	0.00	1.09	1.4	1.304
14.083	0.000	5.00	0.00	1.10	1.4	1.328
14.167	0.000	4.77	0.00	1.11	1.4	1.352
14.250	0.000	4.67	0.00	1.12	1.4	1.374
14.333	0.000	4.74	0.00	1.12	1.4	1.397
14.417	0.000	4.82	0.00	1.13	1.4	1.420
14.500	0.000	4.92	0.00	1.14	1.4	1.444
14.583	0.000	5.02	0.00	1.15	1.4	1.469
14.667	0.000	5.14	0.00	1.16	1.4	1.494
14.750	0.000	5.26	0.00	1.17	1.4	1.521
14.833	0.000	5.40	0.00	1.18	1.4	1.548
14.917	0.000	5.54	0.00	1.19	1.5	1.576
15.000	0.000	5.70	0.00	1.21	1.5	1.605
15.083	0.000	5.87	0.00	1.22	1.5	1.636
15.167	0.000	6.08	0.00	1.23	1.5	1.667
15.250	0.000	6.29	0.00	1.24	1.5	1.701
15.333	0.000	6.57	0.00	1.26	1.5	1.736
15.417	0.000	6.61	0.00	1.27	1.5	1.771
15.500	0.000	5.85	0.00	1.28	1.5	1.801
15.583	0.000	5.61	0.00	1.29	1.5	1.829
15.667	0.000	6.07	0.00	1.31	1.5	1.861
15.750	0.000	6.64	0.00	1.32	1.5	1.896
15.833	0.000	7.33	0.00	1.33	1.5	1.936
15.917	0.000	8.62	0.00	1.35	1.5	1.985
16.000	0.000	11.75	0.00	1.38	1.5	2.056



16.083	0.000	20.74	0.00	1.43	1.5	2.188
16.167	0.000	39.32	0.00	1.52	1.6	2.448
16.250	0.000	25.09	0.00	1.57	1.6	2.609
16.333	0.000	10.47	0.00	1.59	1.6	2.670
16.417	0.000	7.03	0.00	1.61	1.6	2.708
16.500	0.000	6.88	0.00	1.62	1.6	2.744
16.583	0.000	6.70	0.00	1.63	1.6	2.779
16.667	0.000	6.20	0.00	1.64	1.6	2.811
16.750	0.000	5.79	0.00	1.65	1.6	2.839
16.833	0.000	5.47	0.00	1.66	1.6	2.866
16.917	0.000	5.20	0.00	1.67	1.6	2.891
17.000	0.000	4.97	0.00	1.67	1.6	2.914
17.083	0.000	4.84	0.00	1.68	1.6	2.936
17.167	0.000	4.98	0.00	1.69	1.6	2.959
17.250	0.000	5.01	0.00	1.70	1.6	2.982
17.333	0.000	4.90	0.00	1.71	1.6	3.005
17.417	0.000	4.79	0.00	1.71	1.6	3.027
17.500	0.000	4.69	0.00	1.72	1.6	3.048
17.583	0.000	4.59	0.00	1.73	1.6	3.068
17.667	0.000	4.50	0.00	1.73	1.6	3.088
17.750	0.000	4.42	0.00	1.74	1.6	3.107
17.833	0.000	4.34	0.00	1.74	1.6	3.126
17.917	0.000	4.27	0.00	1.75	1.6	3.144
18.000	0.000	4.20	0.00	1.76	1.6	3.162
18.083	0.000	4.02	0.00	1.76	1.6	3.178
18.167	0.000	3.44	0.00	1.76	1.6	3.191
18.250	0.000	3.09	0.00	1.77	1.6	3.201
18.333	0.000	2.98	0.00	1.77	1.6	3.210
18.417	0.000	2.92	0.00	1.77	1.6	3.219
18.500	0.000	2.87	0.00	1.78	1.6	3.227
18.583	0.000	2.82	0.00	1.78	1.6	3.235
18.667	0.000	2.77	0.00	1.78	1.6	3.243
18.750	0.000	2.72	0.00	1.78	1.6	3.250
18.833	0.000	2.68	0.00	1.79	1.6	3.257
18.917	0.000	2.64	0.00	1.79	1.7	3.264
19.000	0.000	2.60	0.00	1.79	1.7	3.271
19.083	0.000	2.56	0.00	1.79	1.7	3.277
19.167	0.000	2.53	0.00	1.79	1.7	3.283
19.250	0.000	2.49	0.00	1.80	1.7	3.289
19.333	0.000	2.46	0.00	1.80	1.7	3.294
19.417	0.000	2.43	0.00	1.80	1.7	3.300
19.500	0.000	2.40	0.00	1.80	1.7	3.305
19.583	0.000	2.37	0.00	1.80	1.7	3.310
19.667	0.000	2.34	0.00	1.80	1.7	3.314
19.750	0.000	2.31	0.00	1.80	1.7	3.319
19.833	0.000	2.28	0.00	1.81	1.7	3.323
19.917	0.000	2.26	0.00	1.81	1.7	3.327
20.000	0.000	2.23	0.00	1.81	1.7	3.331
20.083	0.000	2.21	0.00	1.81	1.7	3.335
20.167	0.000	2.19	0.00	1.81	1.7	3.339
20.250	0.000	2.16	0.00	1.81	1.7	3.342
20.333	0.000	2.14	0.00	1.81	1.7	3.345
20.417	0.000	2.12	0.00	1.81	1.7	3.348
20.500	0.000	2.10	0.00	1.82	1.7	3.351
20.583	0.000	2.08	0.00	1.82	1.7	3.354
20.667	0.000	2.06	0.00	1.82	1.7	3.357
20.750	0.000	2.04	0.00	1.82	1.7	3.360
20.833	0.000	2.02	0.00	1.82	1.7	3.362
20.917	0.000	2.01	0.00	1.82	1.7	3.365
21.000	0.000	1.99	0.00	1.82	1.7	3.367
21.083	0.000	1.97	0.00	1.82	1.7	3.369
21.167	0.000	1.95	0.00	1.82	1.7	3.371
21.250	0.000	1.94	0.00	1.82	1.7	3.373
21.333	0.000	1.92	0.00	1.82	1.7	3.374
21.417	0.000	1.91	0.00	1.82	1.7	3.376
21.500	0.000	1.89	0.00	1.82	1.7	3.378
21.583	0.000	1.88	0.00	1.82	1.7	3.379
21.667	0.000	1.86	0.00	1.82	1.7	3.381
21.750	0.000	1.85	0.00	1.82	1.7	3.382
21.833	0.000	1.84	0.00	1.83	1.7	3.383
21.917	0.000	1.82	0.00	1.83	1.7	3.384
22.000	0.000	1.81	0.00	1.83	1.7	3.385
22.083	0.000	1.80	0.00	1.83	1.7	3.386
22.167	0.000	1.78	0.00	1.83	1.7	3.387
22.250	0.000	1.77	0.00	1.83	1.7	3.387
22.333	0.000	1.76	0.00	1.83	1.7	3.388
22.417	0.000	1.75	0.00	1.83	1.7	3.389
22.500	0.000	1.74	0.00	1.83	1.7	3.389
22.583	0.000	1.72	0.00	1.83	1.7	3.390
22.667	0.000	1.71	0.00	1.83	1.7	3.390
22.750	0.000	1.70	0.00	1.83	1.7	3.390
22.833	0.000	1.69	0.00	1.83	1.7	3.390
22.917	0.000	1.68	0.00	1.83	1.7	3.390

23.000	0.000	1.67	0.00	1.83	1.7	3.390
23.083	0.000	1.66	0.00	1.83	1.7	3.390
23.167	0.000	1.65	0.00	1.83	1.7	3.390
23.250	0.000	1.64	0.00	1.83	1.7	3.390
23.333	0.000	1.63	0.00	1.83	1.7	3.390
23.417	0.000	1.62	0.00	1.83	1.7	3.390
23.500	0.000	1.61	0.00	1.83	1.7	3.389
23.583	0.000	1.60	0.00	1.83	1.7	3.389
23.667	0.000	1.60	0.00	1.83	1.7	3.388
23.750	0.000	1.59	0.00	1.83	1.7	3.388
23.833	0.000	1.58	0.00	1.83	1.7	3.387
23.917	0.000	1.57	0.00	1.83	1.7	3.386

-----  
PROCESS SUMMARY OF STORAGE:

INFLOW VOLUME = 6.165 AF  
BASIN STORAGE = 0.000 AF (WITH 0.000 AF INITIALLY FILLED)  
OUTFLOW VOLUME = 6.165 AF  
LOSS VOLUME = 0.000 AF

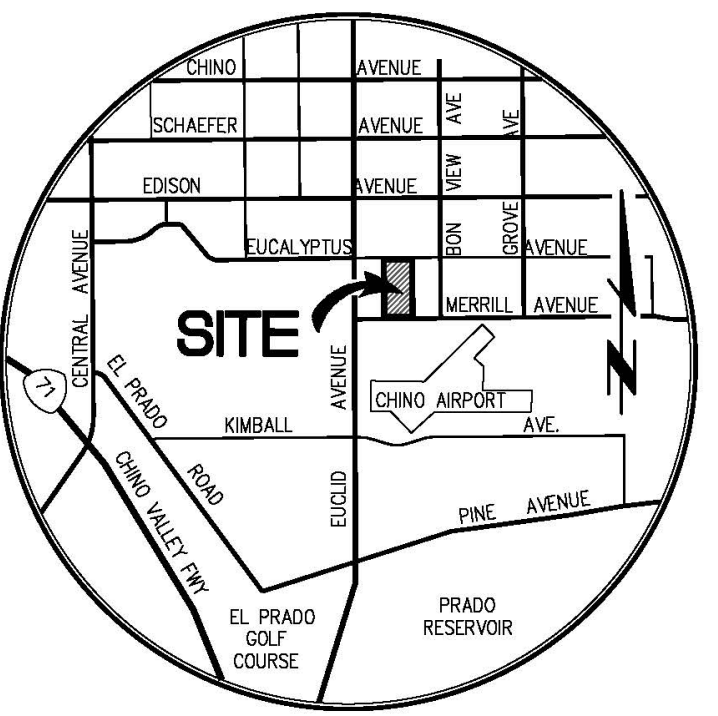
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END OF FLOODSCx ROUTING ANALYSIS

↑

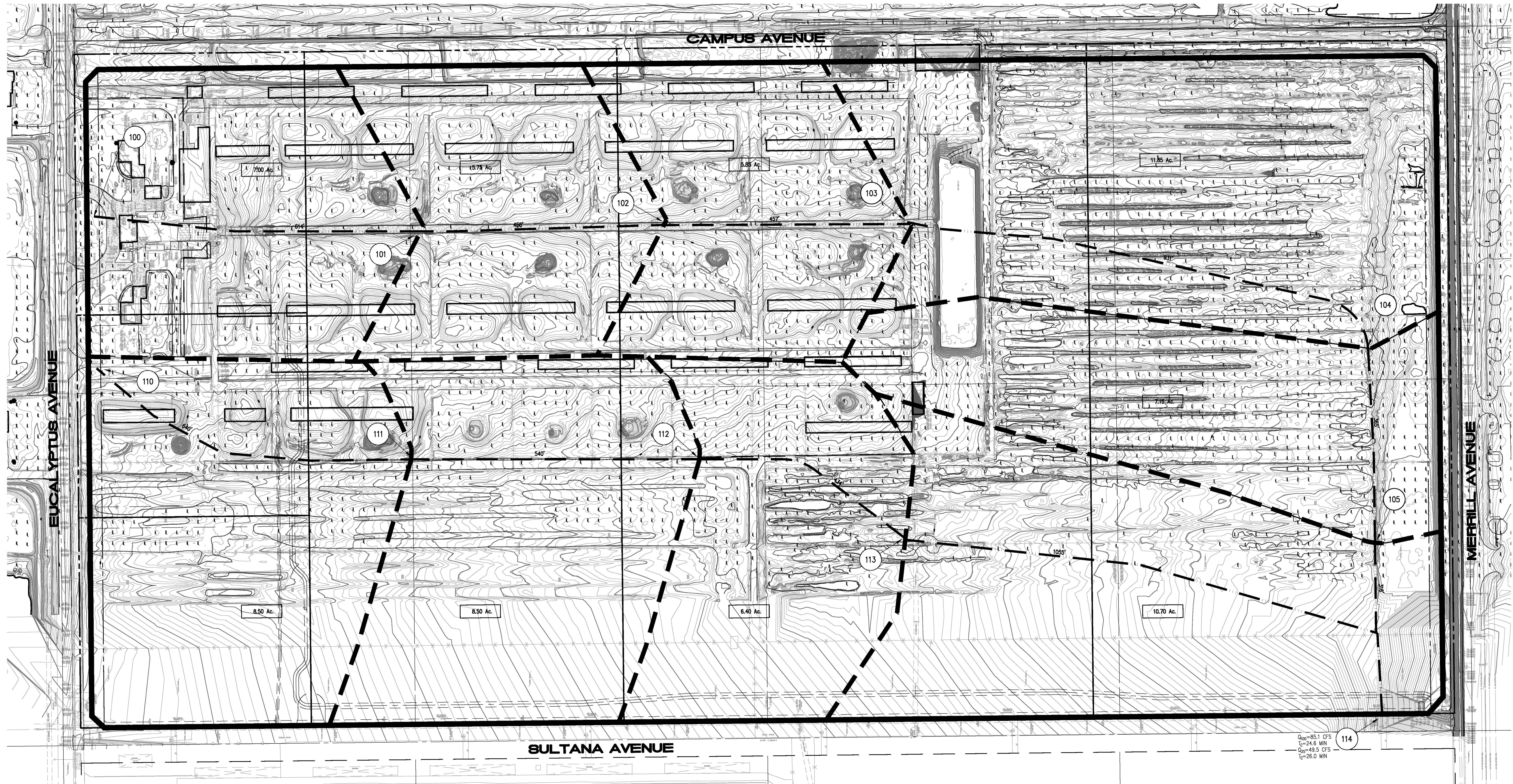
# **APPENDIX D**

## **HYDROLOGY MAP**

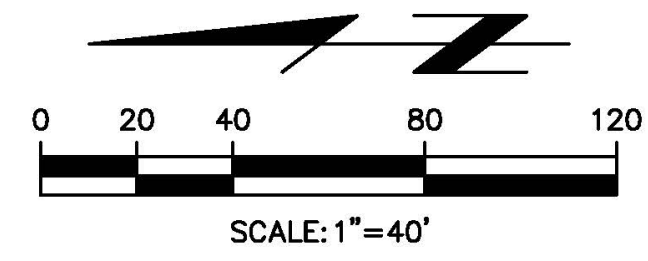




VICINITY MAP  
N.T.S.



$Q_{100} = 85.1$  CFS  
 $T_c = 24.5$  MIN  
 $Q_{10} = 49.5$  CFS  
 $T_c = 26.0$  MIN



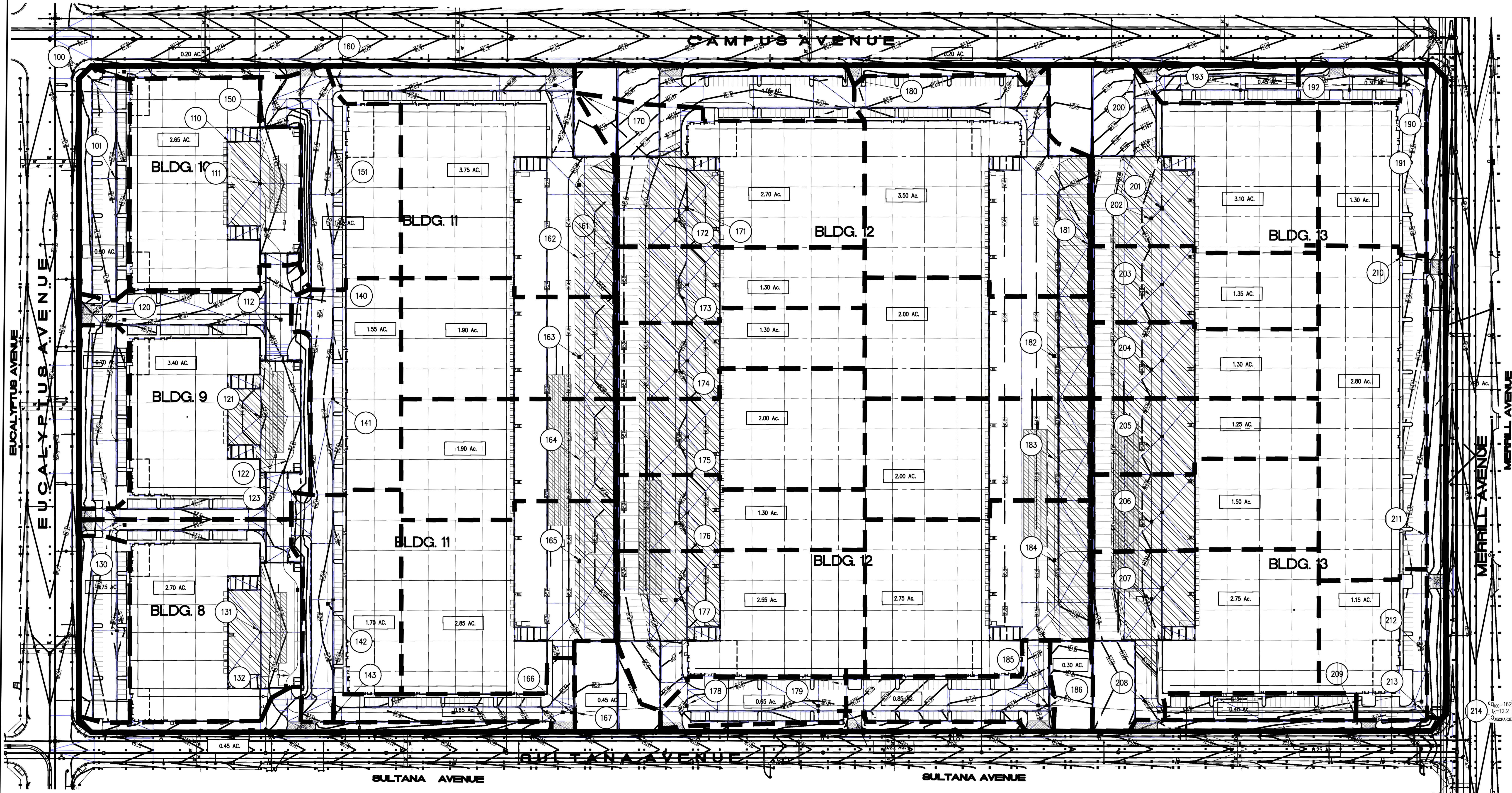
LEGEND	
	PROJECT BOUNDARY
	SUBAREA BOUNDARY
	FLOW PATH
	SUBAREA AREA
	NODE NUMBER

PREPARED FOR:  
 REDA  
 4450 MACARTHUR BLVD., SUITE 100  
 NEWPORT BEACH, CA 92660  
 PHONE: (949) 216-7200  
 FAX: (949) 724-1433

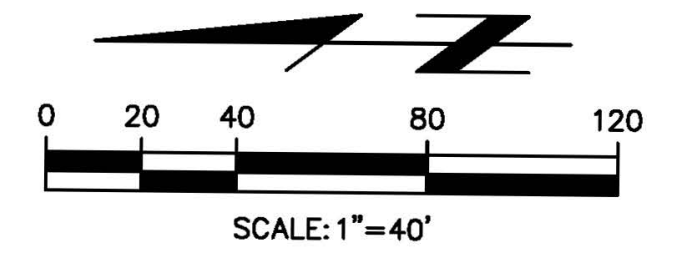
**Thienes Engineering, Inc.**  
 CIVIL ENGINEERING - LAND SURVEYING  
 14349 FRISTONE BOULEVARD  
 LA MIRADA, CALIFORNIA 90638  
 PLYMOUTH 4811 FAIRWAY 551-4173  
 Last Update: 2/11/20  
 C:\3850-3899\3857\3857m10-EX.dwg

<b>CITY OF ONTARIO</b>	
PUBLIC WORKS DEPARTMENT	
<b>EXISTING HYDROLOGY MAP</b>	
<b>JAMES BORBA SITE SEC EUCALYPTUS AVENUE AND SULTANA AVENUE</b>	
Designed by _____	Approved by _____ Date _____
Checked by _____	Date _____
Designed by _____	Public Works Director _____ R.C.E. XXXXX
Checked by _____	Date _____
Sheet <b>1</b> of <b>1</b> Sheets	3857 / 1 OF 1 SHEET





100' = 1" (RATIONAL)  
 100' = 1" (RATIONAL)  
 100' = 1" (RATIONAL)



LEGEND	
	PROJECT BOUNDARY
	SUBAREA BOUNDARY
	FLOW PATH
	SUBAREA AREA
	NODE NUMBER
	PONDING LIMITS

PREPARED FOR:  
 REDA  
 4450 MACARTHUR BLVD., SUITE 100  
 NEWPORT BEACH, CA 92660  
 PHONE: (949) 216-7300  
 FAX: (949) 724-1433

**Thienes Engineering, Inc.**  
 CIVIL ENGINEERING • LAND SURVEYING  
 14340 FIRESTONE BOULEVARD  
 LA HABRA, CALIFORNIA 91748  
 PH: (714) 527-4811 FAX: (714) 527-4173  
License: 12/28/01  
 01/3800-3889/3857/3857HYD.dwg

**CITY OF ONTARIO**  
 PUBLIC WORKS DEPARTMENT  
**PROPOSED HYDROLOGY MAP**  
**JAMES BORBA SITE**  
**SEC EUCALYPTUS AVENUE AND SULTANA AVENUE**

Designed by _____	Approved by _____	Date _____
Checked by _____	Public Works Director _____	R.C.E. XXXXX
Date _____		
Designed by _____		
Date _____		
Checked by _____		
Date _____		

Sheet **1** of **1** Sheets

3857/1 OF 1 SHEET



**APPENDIX G2**  
**PRELIMINARY WATER QUALITY MANAGEMENT PLAN**



**Thienes Engineering, Inc.**  
CIVIL ENGINEERING • LAND SURVEYING

**PRELIMINARY  
WATER QUALITY MANAGEMENT PLAN  
(WQMP)**

FOR:  
ONTARIO RANCH BUSINESS PARK PHASE 2  
MERRILL AND SULTANA  
ONTARIO, CA  
1054-041-01, 02 and 1054-031-01, 02 and 1054-261-01, 02 and 1054-291-01, 02

ONTARIO LAND DEVELOPMENT FILE NO. **PDEV21-XXX**

PREPARED FOR:  
EUCLID LAND VENTURE, LLC  
4450 MACARTHUR BOULEVARD, SUITE 100  
NEWPORT BEACH, 92660  
PHONE: (949) 945-6809  
CONTACT: JEFFREY G. JOHNSTON

JANUARY 11, 2022

JOB NO. 3857

PREPARED BY:  
THIENES ENGINEERING  
14349 FIRESTONE BLVD.  
LA MIRADA, CALIFORNIA 90638  
PHONE: (714) 521-4811  
FAX: (714) 521-4173  
CONTACT: FELIPE VAZQUEZ (felipe@thieneseng.com)

**PRELIMINARY  
WATER QUALITY MANAGEMENT PLAN  
(WQMP)**

**FOR**

**“ONTARIO RANCH BUSINESS PARK  
PHASE #2”**

PREPARED BY FELIPE VAZQUEZ  
UNDER THE SUPERVISION OF:



---

REINHARD STENZEL  
R.C.E. 56155  
EXP. 12/31/2022

1/11/2022  
DATE





## Preliminary Water Quality Management Plan (PWQMP)

For compliance with Santa Ana Regional Water Quality Control Board  
Order Number R8-2010-0036 (NPDES Permit No. CAS618036)

**Project Name:** Ontario Ranch Business Park Phase #2

**Ontario Project #:** PDEV21-XXX

**Applicant Name:** Euclid Land Ventures, LLC

**Applicant Address:** 4450 MacArthur Boulevard, Suite 100  
Newport Beach, CA 92660

**Project Address:** Merrill and Sultana, Ontario, CA

**Project Size (acres):** 71.70 Acres

**Project Description:** Light Industrial

---

**1st Submittal Date:** 01/11/2022

# Preliminary Water Quality Management Plan (PWQMP)

## 1. Introduction

The Preliminary Water Quality Management Plan (PWQMP) is a planning tool to improve integration of required water quality elements, stormwater management, water conservation, rainwater harvesting and re-use, and flood management in land use planning and the City’s development process. The Preliminary WQMP will assist project applicants and planners in properly designing and laying out project sites so that water quality may be incorporated in the most effective manner and at the lowest cost for the developer.

The San Bernardino County Municipal Separate Storm Sewer System Permit (MS4 Permit) requires project-specific Water Quality Management plans (WQMP) to be prepared for all priority new development and significant redevelopment projects listed in Section 2 of this document. The MS4 Permit stipulates that the City of Ontario require priority project applicants to submit a Preliminary project-specific WQMP, as early as possible, during the environmental review or planning phase of a development project and that the Preliminary WQMP be approved prior to the issuance of land use entitlement.

## 2. Priority Projects (requiring a Preliminary WQMP)

Land Use entitlement shall not be issued for any of the listed projects, below, until a Preliminary WQMP has been approved by the City’s Engineering Department. For construction projects not going through entitlement, a Preliminary and Final project specific WQMP shall be approved, prior to the issuance of construction permits:

Check the appropriate project category below, for this project:

**Check  
below**

### Project Categories

	<p>1. All significant re-development projects. Significant re-development is defined as the addition or replacement of 5,000 or more square feet of impervious surface on an already developed site subject to discretionary approval of the Permittee. Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of the facility, or emergency redevelopment activity required to protect public health and safety. Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing developed site, and the existing development was not subject to WQMP requirements, the numeric sizing criteria discussed below applies only to the addition or replacement, and not to the entire developed site. Where redevelopment results in an increase of fifty percent or more of the impervious surfaces of a previously existing developed site, the numeric sizing criteria applies to the entire development (new and existing).</p>
<p><b>X</b></p>	<p>2. New development projects that create 10,000 square feet or more of impervious surface (collectively over the entire project site) including commercial, industrial, residential housing subdivisions (i.e., detached single family home subdivisions, multi-family attached subdivisions or townhomes, condominiums, apartments, etc.), mixed-use, and public projects. This category includes development projects on public and private land, which fall under the planning and building authority of the permitting agency.</p>

**Check below**

**Project Categories**

	3. Automotive repair shops (with SIC codes 5013, 5014, 5541, 7532- 7534, 7536-7539).
	4. Restaurants and Food Service Establishments where the land area of development is 5,000 square feet or more.
	5. Developments of 2,500 square feet of impervious surface or more adjacent to (within 200 feet) or discharging directly into environmentally sensitive areas (ESA's) such as areas designated in the Ocean Plan as areas of special biological significance or waterbodies listed on the CWA Section 303(d) list of impaired waters.
X	6. Parking lots of 5,000 square feet or more exposed to storm water. Parking lot is defined as land area or facility for the temporary storage of motor vehicles.
	7. Retail Gasoline Outlets (RGOs) that are either 5,000 sq ft or more or have a projected average daily traffic of 100 or more vehicles per day.
	8. *This project is not covered under any of the categories listed above.

\* If the development is not covered under any of the project categories listed in Section 2, the project is not required to design and install Site Design/LID BMPs or Treatment Control BMPs to treat the design storm event (Design Capture Volume) described in Section 4.

**3. Preliminary WQMP Objectives**

Through a combination of Site Design/LID BMPs (where feasible), Source Control, and/or Treatment Control BMPs, project-specific WQMPs shall address all identified pollutants and hydrologic conditions of concern from new development and significant re-development projects for the categories of projects (priority projects) listed in Section 2. Under each type of BMP, listed below, please indicate which BMPs are planned to be implemented and included in the Final WQMP for the project:

**A. Site Design/LID (Low Impact Design) for Reducing Stormwater Runoff:**

The MS4 Permit requires each priority development project to infiltrate, harvest and use, evapotranspire, or bio-treat the runoff from a 2-yr, 24-hour storm event, DCV, (Design Capture Volume). If site conditions do not permit infiltration, harvest and use, evapotranspiration, and/or bio-treatment of the entire Design Capture Volume, at the project site, Site Design/LID techniques are required to be implemented to the Maximum Extent Practicable, at the project site, and the remainder of the DCV shall be infiltrated, harvested, bio-treated or treated by alternative measures. Project applicants shall submit a Preliminary WQMP that documents the LID/Site Design BMPs, proposed for the project. Please indicate, in the table below, which Site Design/LID BMPs will be utilized on this project to accomplish this requirement:

Site Design/LID Practice	Planned	Not Planned
Provide at least the minimum effective area required for LID BMPs, to comply with the WQMP (see Table 3-1 below).		<b>X<sup>1</sup></b>
Grade parking lot areas/drive aisles/roof drains to sheet flow runoff into landscaped swales, via curb cuts or zero-face curbs or otherwise disconnect direct drainage from MS4.		<b>X<sup>1</sup></b>
Design landscaped areas as swales and grade to accept runoff from building roofs, parking lots and project roadways.		<b>X<sup>1</sup></b>
Install surface retention basins or infiltration trenches to receive impervious area runoff.		<b>X<sup>2</sup></b>
Install pervious pavement in parking stalls, alleys, driveways, gutters, walkways, trails or patios.		<b>X<sup>2</sup></b>
Install underground stormwater retention chambers where downstream landscaped areas are limited.	<b>X</b>	
Install approved Stormwater Drywells in detention areas.		<b>X<sup>2</sup></b>
Construct streets, sidewalks, and parking lot stalls to the minimum widths necessary.	<b>X</b>	
Install on-site Biotreatment basins/trenches with underdrains, where soil type is poorly draining.		<b>X<sup>2</sup></b>
Install "Engineered Soil" to increase uptake/soil storage capacity and/or evapotranspiration.		<b>X<sup>2</sup></b>
Install Rainwater Harvesting/Use Equipment.		<b>X<sup>3</sup></b>
Regional LID BMP facilities are installed, off-site, with the capacity and conveyances to accept post-development storm water runoff from this project and reserved capacity allocation credits have been assigned to the project, in a Certificate or other legally binding document, attached herein		<b>X<sup>2</sup></b>

<sup>1</sup> Project capable of treating the full DCV onsite and not required to demonstrate this site design.

<sup>2</sup> The site will be captured and treated by the proposed underground infiltration facilities.

<sup>3</sup> Concept not utilized because the impervious area is much greater than landscape.

Table 3-1 Minimum Effective Area<sup>1</sup> Required for LID BMPs (surface + subsurface facilities) for Project WQMP to Demonstrate Infeasibility<sup>2</sup> (% of site)

Project Type	New Development	Re-Development
SF/MF Residential < 7 du/ac	10%	5%
SF/MF Residential < 7 - 18 du/ac	7%	3.5%
SF/MF Residential > 18 du/ac	5%	2.5%
Mixed Use, Commercial/Industrial w/FAR< 1.0	10%	5%
Mixed Use, Commercial/Industrial w/FAR 1.0-2.0	7%	3.5%
Mixed Use, Commercial/Industrial w/FAR> 2.0	5%	2.5%
Podium (parking under > 75% of project)	3%	1.5%
Zoning allowing development to property lines	2%	1%
Transit Oriented Development <sup>3</sup>	5%	2.5%
Parking	5%	2.5%

<sup>1</sup> “Effective area” is defined as land area which 1) is suitable for a retention/infiltration BMP (based on infeasibility criteria) and 2) is located down-gradient from building roof or paved areas, so that it may receive gravity flow runoff.

<sup>2</sup> Criteria only required if the project WQMP seeks to demonstrate that the full DCV cannot be feasibly managed on-site.

<sup>3</sup> Transit oriented development is defined as a project with development center within one half mile of a mass transit center.

Key: du/ac = dwelling units/acre, FAR = Floor Area Ratio = ratio of gross floor area of building to gross lot area, MF = Multi Family, SF = Single Family

**B. Source Control BMPs** – The following BMPs are designed to control stormwater pollutants and runoff water at the location where it is generated. Please indicate which of the listed BMPs are planned to be implemented for the project:

Source Control BMPs	Planned	Not Planned
Minimize non-stormwater site runoff through efficient irrigation system design and controllers.	X	
Minimize trash and debris in storm runoff through a regular parking lot, storage yard and roadway sweeping program.	X	
Provide proper covers/roofs and secondary containment for outside material storage & work areas.		X <sup>1</sup>
Provide solid roofs over all trash enclosures.	X	
Site Owner(s)/Property Manager/HOA or POA will be familiar with the project WQMP and stormwater BMPs.	X	
Owner or HOA or POA to provide Education/Training of site occupants and employees on stormwater BMPs.	X	
Install stormwater placards/stenciled messages with a “No Dumping” message on all on-site/off-site storm drain inlets.	X	
Provide contained equipment/vehicle wash rack areas that discharge to sanitary sewer.		X <sup>2</sup>

<sup>1</sup> Not applicable. No outside material storage or work areas. Secondary containment not needed.

<sup>2</sup> Not applicable, no vehicle wash areas.

**C. Treatment Control BMPs** – The following BMPs are designed to control stormwater pollutants where it is not feasible to install on-site or off-site Site Design/LID BMPs, with the requisite capacity to treat the Design Capture Volume for identified Pollutants of Concern or where pretreatment of stormwater runoff is required, ahead of infiltration BMPs. Please indicate which of the listed BMPs are planned to be implemented for the project:

Treatment Control BMP	Planned	Not Planned
Gravity Separator devices for pretreatment of sediment, trash/litter or Oil & Grease	<b>X</b>	
Proprietary Biofiltration vaults/devices		<b>X</b>
Media Cartridge Filtration Vaults		<b>X</b>
Proprietary Filter Inserts for on-site storm drain inlets or retention basin/trench overflow drains		<b>X</b>

**4. Volume-based calculation (approximate) for sizing on-site or off-site Stormwater Retention/Infiltration, Harvest & Re-Use or Biotreatment facilities**

- 1) After calculating the “Watershed Imperviousness Ratio”, *i*, which is equal to the percent of impervious area in each Drainage Management Area, divided by 100, calculate the composite runoff coefficient  $C_{BMP}$  for the Drainage Area above using the following equation:

$$C_{BMP} = 0.858i^3 - 0.78i^2 + 0.774i + 0.04$$

where:  $C_{BMP}$  = composite runoff coefficient; and,  
*i* = watershed imperviousness ratio.

- 3) Determine the area-averaged “6-hour Mean Storm Rainfall”,  $P_6$ , for the Drainage Area. This is calculated by multiplying the area averaged 2-year 1-hour value (0.5”-0.6”) by the appropriate regression coefficient (1.4807). The 2-yr, 1-hr value for southern Ontario is approximately to 0.5” ( $P_6 = 0.5 \cdot 1.4807 = 0.74$  and northern Ontario is approximately 0.6” in/hr ( $P_6 = 0.6 \cdot 1.4807 = 0.89$ ).
- 4) Determine the appropriate drawdown time. Use the regression constant  $a = 1.582$  for 24 hours and  $a = 1.963$  for 48 hours. *Note: Regression constants are provided for both 24 hour and 48-hour drawdown times; however, 48-hour drawdown times should be used in most areas of California. Drawdown times in excess of 48 hours should be used with caution as vector breeding can be a problem after water has stood in excess of 72 hours. (Use of the 24-hour drawdown time should be limited to drainage areas with coarse soils (Class ‘A’ soils that readily drain.)*
- 5) Calculate the “Maximized Detention Volume”,  $P_0$ , using the following equation:

$$P_0 = a \cdot C_{BMP} \cdot P_6$$

where:  $P_0$  = Maximized Detention Volume, in inches

$a = 1.582$  for 24 hour and  $a = 1.963$  for 48-hour drawdown,  
**C<sub>BMP</sub>** = composite runoff coefficient; and,  
**P<sub>6</sub>** = 6-hour Mean Storm Rainfall, in inches

6) Calculate the “Target Capture Volume”,  $V_0$ , using the following equation:

$$V_0 = (P_0 \cdot A) / 12$$

where: **V<sub>0</sub>** = Target Capture Volume, in acre-feet  
**P<sub>0</sub>** = Maximized Detention Volume, in inches; and,  
**A** = BMP Drainage Area, in acres

**Project Volume-based calculation (approximate) for planned on-site or off-site Stormwater Retention/Infiltration, Harvest & Re-Use or Biotreatment facilities:**

Variable	Factor/Formula	DA 1	DA 2	DA 3	DA 4
Impervious surface/total surface, ratio	(i)	0.95	0.95	0.95	0.95
C <sub>BMP</sub> = runoff coefficient	$0.858i^3 - 0.78i^2 + 0.774i + 0.04$	0.807	0.807	0.807	0.807
P <sub>6</sub>	**P <sub>6</sub> = 2-yr, 1-hr depth*1.4807 =	0.848	0.848	0.848	0.848
Detention Volume (acre inches)	$P_0 = a * C_{BMP} * P_6 =$	1.34	1.34	1.34	1.34
Drawdown rate of basin/trench (a)	1.963 for 48-hr drawdown =	1.963	1.963	1.963	1.963
Project Total Area (acre)	(A)	3.75	4.10	3.45	16.15
Design Capture Volume in cu. ft.	$V_0 = [(P_0 * A)/12]$ *43560 =	18,295	20,003	16,832	78,792
Runoff Volume infiltrated in first 3 hours of storm (not applicable for underground systems)	Vol= in/hr/12 x ft <sup>2</sup> of infiltration area x 3 hrs	n/a	n/a	n/a	n/a
Retention Volume provided in cubic feet.	*Retention capacity of basins, trenches, underground storage or biotreatment basin	19,745	21,445	18,047	84,038

Variable	Factor/Formula	DA 5	DA 6	DA 7
Impervious surface/total surface, ratio	(i)	0.95	0.95	0.95
C <sub>BMP</sub> = runoff coefficient	$0.858i^3 - 0.78i^2 + 0.774i + 0.04$	0.807	0.807	0.807
P <sub>6</sub>	**P <sub>6</sub> = 2-yr, 1-hr depth*1.4807 =	0.848	0.848	0.848
Detention Volume (acre inches)	P <sub>0</sub> = a * C <sub>BMP</sub> * P <sub>6</sub> =	1.34	1.34	1.34
Drawdown rate of basin/trench (a)	1.963 for 48-hr drawdown =	1.963	1.963	1.963
Project Total Area (acre)	(A)	12.20	12.05	17.65
Design Capture Volume in cu. ft.	V <sub>0</sub> = [(P <sub>0</sub> * A)/12] *43560 =	59,521	58,789	86,110
Runoff Volume infiltrated in first 3 hours of storm (not applicable for underground systems)	Vol= in/hr/12 x ft <sup>2</sup> of infiltration area x 3 hrs	n/a	n/a	n/a
Retention Volume provided in cubic feet.	*Retention capacity of basins, trenches, underground storage or biotreatment basin	63,381	62,830	91,751

\*Volume retained utilizing an underground infiltration facility. Refer to the DCV Calculations section for calculations.

\*\*For P<sub>6</sub> value, use site coordinates and NOAA website to determine project's average 2-yr, 1-hr rainfall depth, at: [http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca\\_pfds.html](http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html) .

## 5. Flow-Based calculation (approximate) for sizing on-site or off-site Biotreatment facilities and proprietary treatment technology BMPs:

- 1) After calculating the "Watershed Imperviousness Ratio", i, which is equal to the percent of impervious area in each Drainage Management Area divided by 100, calculate the composite runoff coefficient C<sub>BMP</sub> for the Drainage Area above using the following equation:

$$C_{BMP} = 0.858i^3 - 0.78i^2 + 0.774i + 0.04$$

where: C<sub>BMP</sub> = composite runoff coefficient; and,  
i = watershed imperviousness ratio.

- 2) Determine BMP design rainfall intensity, I<sub>BMP</sub>, using the project site geo-coordinates and the NOAA website to determine project's average 2-yr, 1-hr rainfall intensity, at:



[http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca\\_pfds.html](http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html) .Multiply this value by 0.2787 (regression coefficient for Ontario) and a minimum safety factor of 2.

- 4) Calculate the target BMP flowrate, Q, using the following formula (for each DMA <50 acres\*):

$$Q = C_{BMP} \cdot I_{BMP} \cdot A$$

Where: Q = flow in cfs (Cubic feet per second)  
 $I_{BMP}$  = BMP design rainfall intensity, in/hr  
 A = Drainage Area in acres

\*For DMAs >50 acres, with  $C_{BMP} < 0.5$ , the project applicant shall use the unit hydrograph method specified in the San Bernardino County Hydrology Manual, using the design storm pattern with rainfall return frequency such that the peak 1-hr rainfall intensity equals the 85<sup>th</sup> percentile 1-hr rainfall, multiplied by 2.

**Project Flow-based calculation (approximate) for planned on-site or off-site flow-based Biotreatment facilities or Stormwater Treatment BMPs:**

Variable	Factor/Formula	DA 1	DA 2	DA 3	DA 4
Impervious surface/ total surface, ratio	(i)	0.95	0.95	0.95	0.95
$C_{BMP}$ = composite runoff coefficient	$0.858i^3 + 0.78i^2 + 0.774i + 0.04$	0.81	0.81	0.81	0.81
$I_{BMP}$	$I_{BMP} = 2\text{-yr, 1-hr storm intensity} * 0.2787 * \text{safety factor}$	0.319	0.319	0.319	0.319
Drainage area (ac)	$A = \text{DMA sq ft} / 43,560$	3.75	4.10	3.45	16.15
Target BMP flowrate	$Q = C_{BMP} * I_{BMP} * A$	0.97	1.06	0.89	4.16

Variable	Factor/Formula	DA 5	DA 6	DA 7
Impervious surface/ total surface, ratio	(i)	0.95	0.95	0.95
$C_{BMP}$ = composite runoff coefficient	$0.858i^3 + 0.78i^2 + 0.774i + 0.04$	0.81	0.81	0.81
$I_{BMP}$	$I_{BMP} = 2\text{-yr, 1-hr storm intensity} * 0.2787 * \text{safety factor}$	0.319	0.319	0.319
Drainage area (ac)	$A = \text{DMA sq ft} / 43,560$	12.20	12.05	17.65
Target BMP flowrate	$Q = C_{BMP} * I_{BMP} * A$	3.14	3.11	4.55

**6. Hydrologic Conditions of Concern (HCOC) and use of the on-line San Bernardino County HCOC Map for determining necessary mitigation steps necessary if there are HCOCs downstream of a project:**

Project applicants may access the on-line HCOC Map at: <http://permitrack.sbcounty.gov/WAP/>. The map will indicate any hydrology concerns with downstream waterways that are hydraulically connected to the project and will indicate if there are any approved regional projects downstream that could be utilized for off-site mitigation of HCOCs. Please indicate here if the project will or will not be able to retain/infiltrate, harvest and use or biotreat and detain the DCV, on-site, as calculated in Section 4 and if there are HCOCs identified downstream of the project:

Retain or Harvest/Use the DCV on site?	Yes	<b>X</b>	No	
Biotreat the DCV but not infiltrate the runoff?	Yes		No	<b>X</b>
HCOCs identified downstream of site?	Yes		No	<b>X</b>

If the entire DCV will not be retained on site, the DCV is biotreated but not infiltrated or additional detention capacity is needed to address identified HCOCs, downstream of the site, please list here, what additional mitigation measures will be utilized (on-site or off-site) to address HCOCs (see Section 4.2.1-4.2.3 of the SB County WQMP Technical Guidance):

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HCOCs not applicable on site. However, based on the conclusion that hydromodifications for the street improvements associated for this project are not feasible, the volume reduction needed to meet HCOC requirements from the street improvements will be addressed on site.

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**7. Site Plan and Conceptual Grading/Drainage Plan requirements for submission with the Preliminary WQMP:**

Provide a Site Plan and Conceptual Grading/Drainage Plan along with this Preliminary WQMP, which conceptually shows the proposed locations of buildings, homes, parking lots, parks, new paved roadways, landscaped areas, drainage patterns and drainage sub-areas, methods of conveyance, proposed retention/infiltration, harvest & use or biotreatment facilities that are planned for installation. Where it is determined to be infeasible to capture and detain design storm runoff volumes, on-site, please include other design features, as described in Section 3, above. Include numbered or lettered notes on the Site Plan with a legend detailing other BMPs, as described in Section 3.

**8. BMP Maintenance and Funding Mechanism & Description:**

---

Ownership of the project will be held with Euclid Land Venture, LLC. Long term maintenance will be the responsibility of the owner. This includes BMP maintenance, catch basin inspection, storm drain maintenance (on-site), efficient irrigation and landscape maintenance, and etcetera until the property is sold or transferred.

---

**9. Acknowledgment:**

As the property owner or developer, I understand that this project is required to install and implement permanent LID Storm Water Best Management Practices pursuant to the requirements of the San Bernardino County MS4 Permit and to document those BMPs in the submittal of a Water Quality Management Plan, which is binding on any current or successive owners of this property.

Yes	<b>X</b>	No	
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**10. Exemption Signature:**

As the property owner or developer, I understand that this project is not required by the San Bernardino County MS4 Permit to install and implement permanent LID Storm Water Best Management Practices and will not be required to submit a Water Quality Management Plan.

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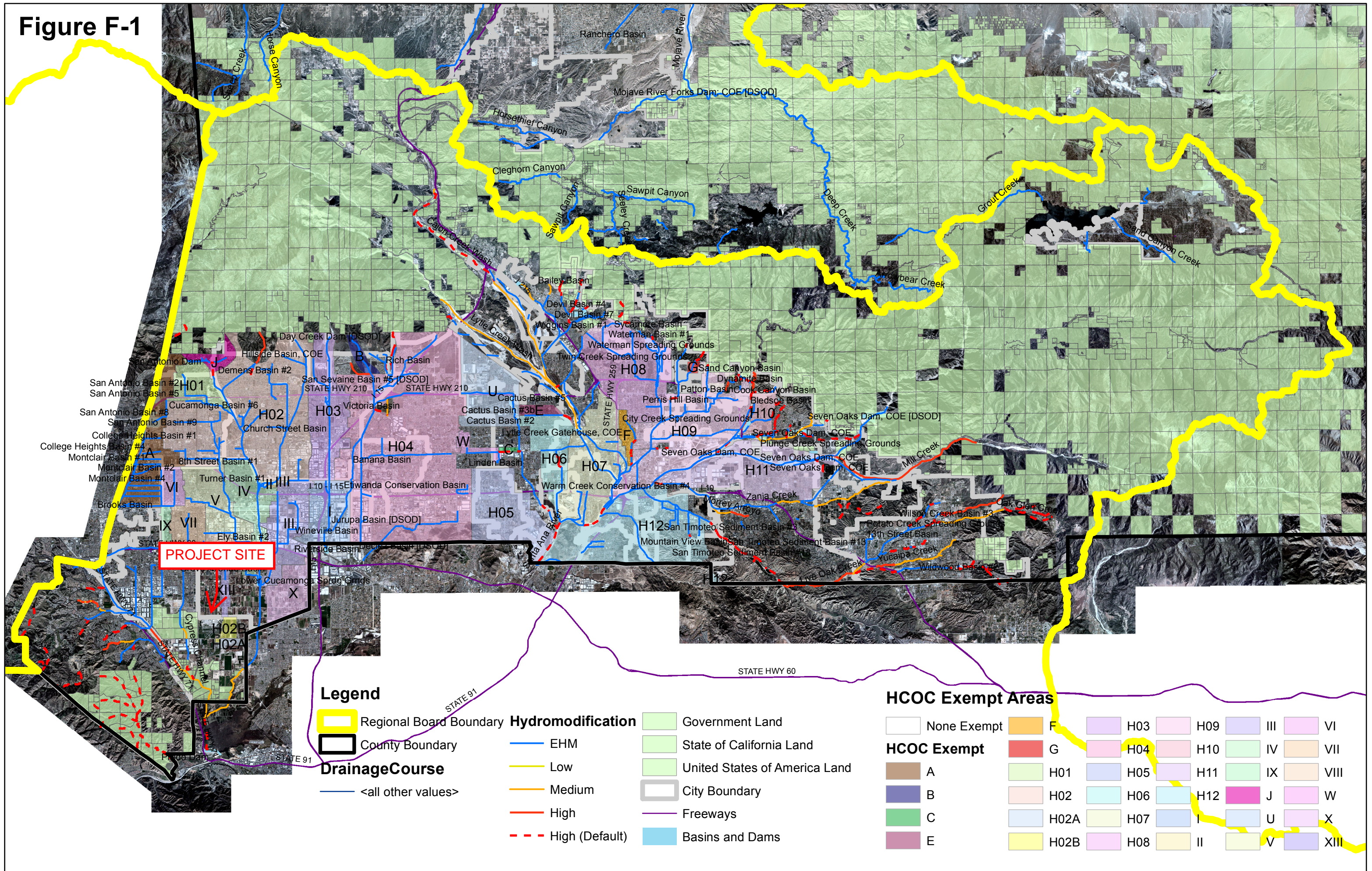
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Signature of Owner or Developer

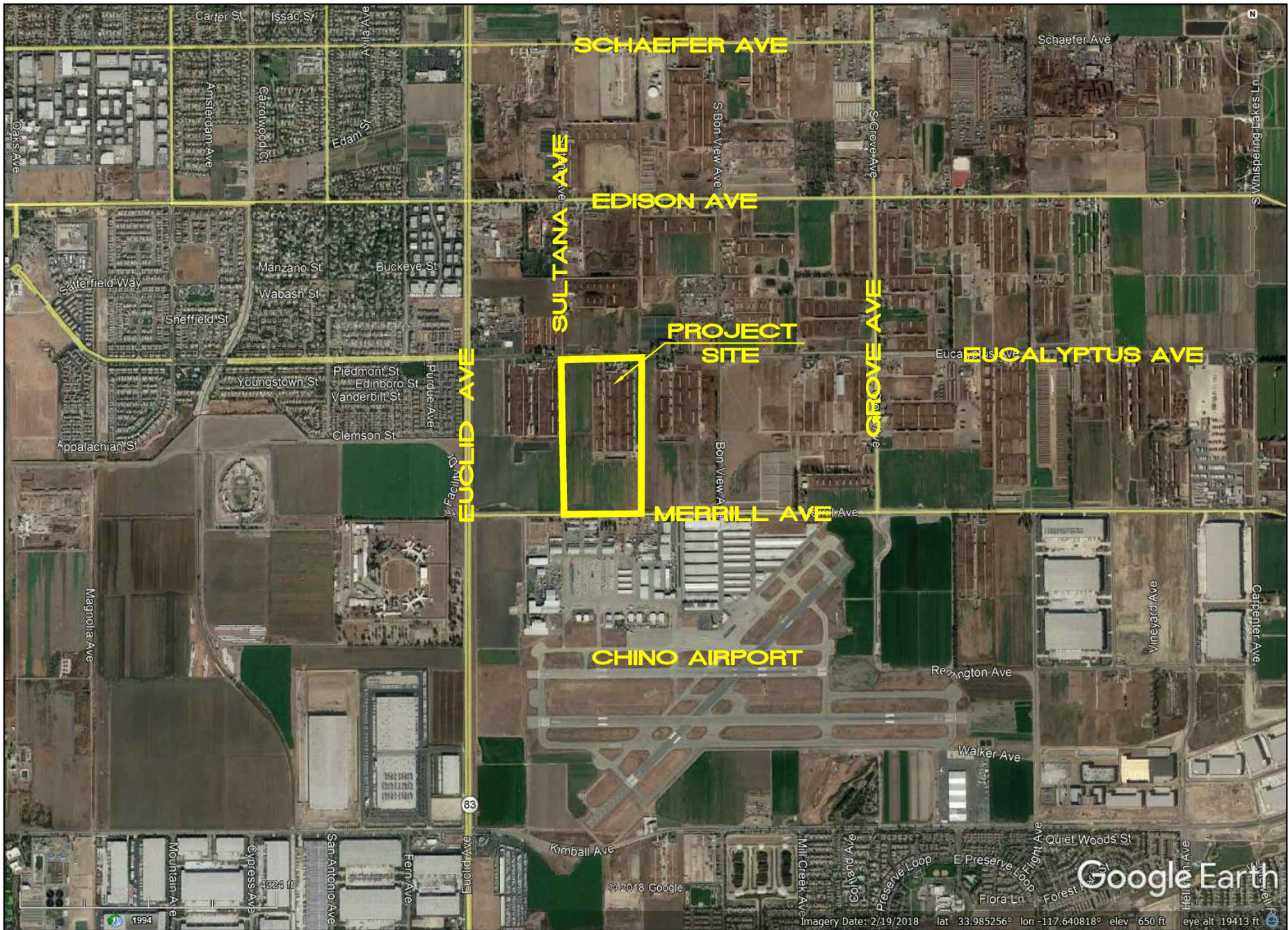
Date



**Figure F-1**





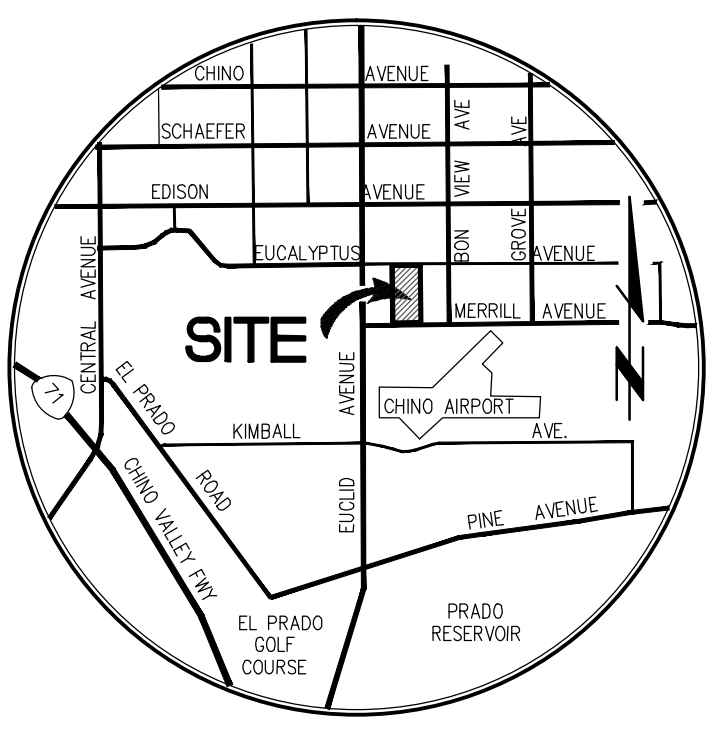


**TEI** Thienes Engineering, Inc.  
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VICINITY MAP  
 FOR  
**ONTARIO RANCH BUSINESS PARK PHASE #2, ONTARIO, CA**



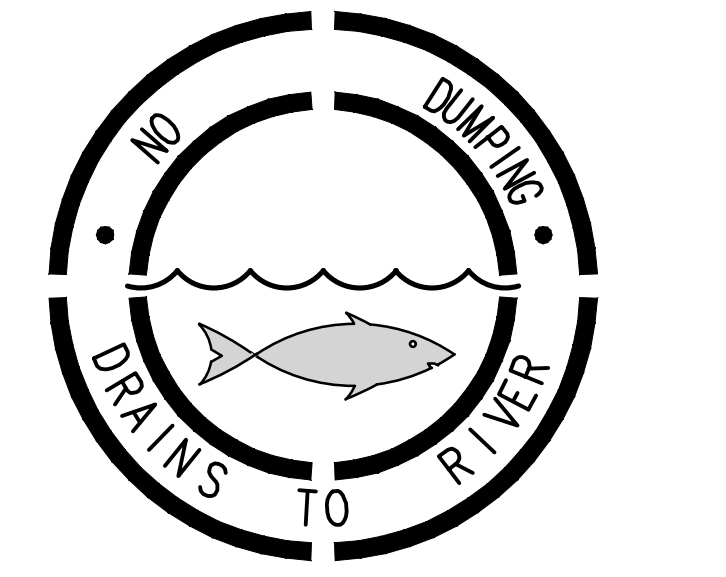




VICINITY MAP  
N.T.S.

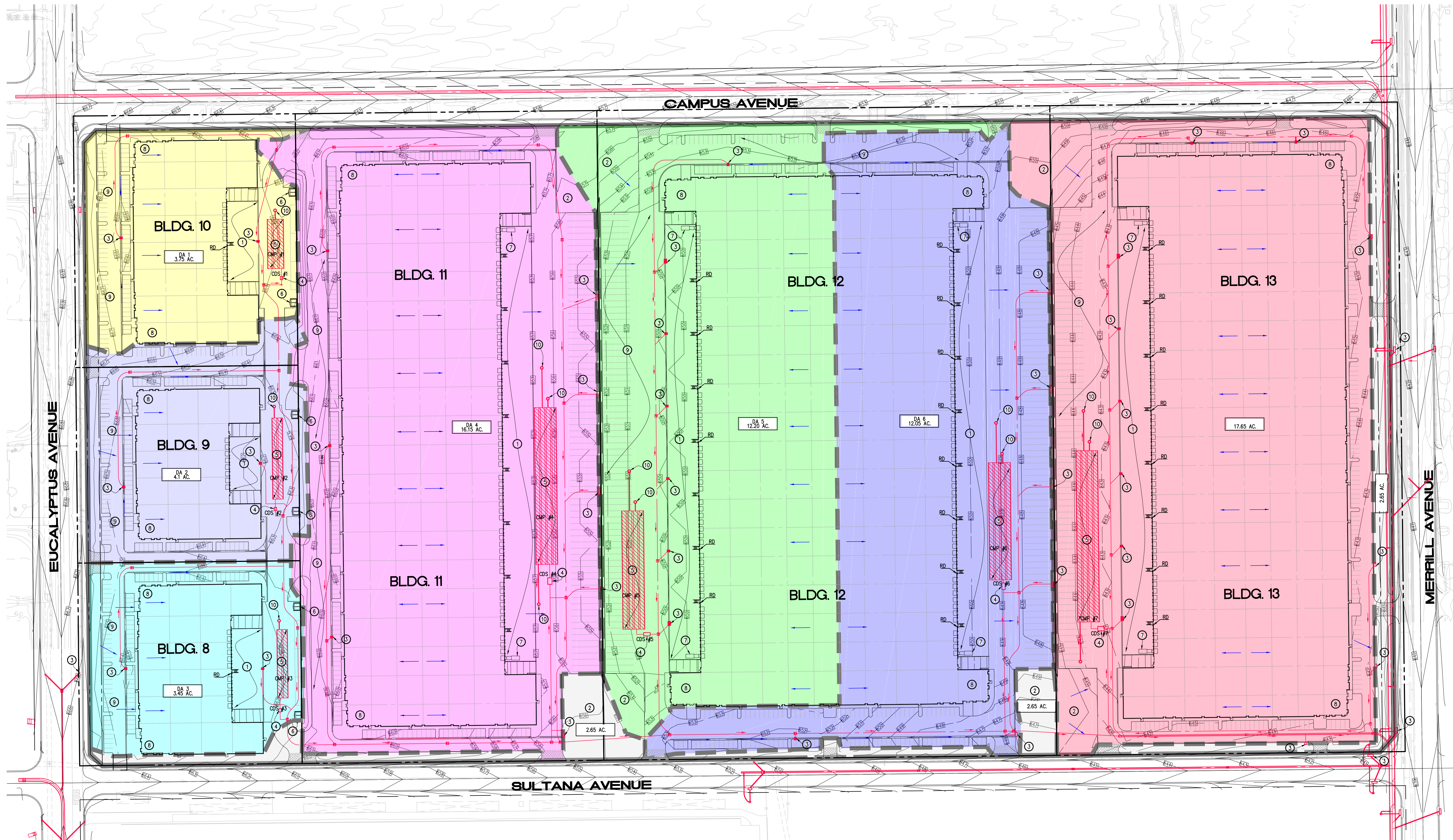
LEGEND

- 1 ABOVEGROUND LOADING DOCK
  - 2 LANDSCAPE/IRRIGATION
  - 3 STORM DRAIN SYSTEM SCHEMATIC "NO DUMPING - DRAINS TO RIVER"
  - 4 HYDRODYNAMIC SEPARATOR (MODEL PER TABLE) SEE SHEETS 3 AND 4 FOR DETAILS
  - 5 96-INCH PERFORATED CMP SEE SHEETS 2 AND 3 FOR DETAILS
  - 6 TRASH ENCLOSURE
  - 7 TRASH COMPACTOR
  - 8 EDUCATIONAL MATERIAL/EMPLOYEE TRAINING
  - 9 VACUUM SWEEPING/LITTER DEBRIS CONTROL
  - 10 MAXWELL IV DRYWELL
- NOTES:
- RD ROOF DRAIN
  - CMP UNDERGROUND CMP SYSTEM
  - PROJECT BOUNDARY
  - DRAINAGE AREAS
  - SURFACE FLOW DIRECTION
  - SD DIRECTION

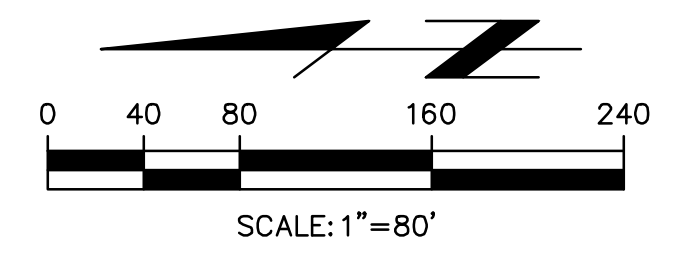


SAMPLE STENCIL TO BE USED AT GRATE AND CURB OPENING INLETS  
SAMPLE CATCH BASIN STENCIL

\* CONTRACTOR TO CONFIRM/VERIFY INFILTRATION RATES WITH SOILS ENGINEER AFTER THE GRADING OPERATION AND PRIOR TO INSTALLATION OF THE UNDERGROUND CHAMBERS. THE CITY SHALL BE NOTIFIED IF THE INFILTRATION RATES DEVIATE FROM THE ORIGINAL INFILTRATION REPORT.



DA	DESIGN CAPTURE VOLUME (DCV)					FLOWRATE REQUIRED (CFS)	DCV (CF)	DRAWDOWN TIME (HR)	STREET HCOC		BMP TYPE	PRETREATMENT		CMP PERFORATED INFILTRATION		
	TOTAL AREA (AC)	PERVIOUS AREA (AC)	IMPERVIOUS AREA (AC)	% PERVIOUS	% IMPERVIOUS				ADDITIONAL VOLUME (CF)	TOTAL REQUIRED VOLUME (CF)		HYDRODYNAMIC SEPARATOR MODEL (75 microns)	FLOWRATE PROVIDED (CFS)	CMP DIAMETER (IN)	LINEAR FOOTAGE (LF)	RETENTION/DE TENTION VOLUME PROVIDED (CF)
1	3.75	0.18	3.57	5%	95%	0.97	18,295	48	1,116	19,411	96 INCH CMP (CMP#1)	DSBB-4-6-72	1.18	96	288	19,745
2	4.10	0.20	3.90	5%	95%	1.06	20,003	48	1,221	21,224	96 INCH CMP (CMP#2)	DSBB-4-6-72	1.18	96	315	21,445
3	3.45	0.17	3.28	5%	95%	0.89	16,832	48	1,027	17,859	96 INCH CMP (CMP#3)	DSBB-4-6-72	1.18	96	265	18,047
4	16.15	0.80	15.35	5%	95%	4.16	78,792	48	4,808	83,600	96 INCH CMP (CMP#4)	DSBB-8-12-96	4.70	96	1221	84,038
5	12.20	0.61	11.59	5%	95%	3.14	59,521	48	3,632	63,153	96 INCH CMP (CMP#5)	DSBB-6-12-84	3.5	96	921	63,381
6	12.05	0.60	11.45	5%	95%	3.11	58,789	48	3,587	62,376	96 INCH CMP (CMP#6)	DSBB-6-12-84	3.5	96	913	62,830
7	17.65	0.88	16.77	5%	95%	4.55	86,110	48	5,255	91,365	96 INCH CMP (CMP#7)	DSBB-8-12-96	4.70	96	1,333	91,751
TOTAL	69.35	3.44	65.91	---	---	17.88	338,342	---	---	358,988	---	---	20.0	---	5,256	361,237



PREPARED FOR:  
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 PHONE: (949) 945-6809

PREPARED BY:  
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CITY OF ONTARIO  
 PUBLIC WORKS DEPARTMENT  
**WOMP SITE MAP**  
 FOR  
**ONTARIO RANCH BUSINESS PARK PHASE #2**  
**MERRILL AND SULTANA**  
 ONTARIO, CA

Level Update: 01/11/22  
 C:\3850-3859\3857\3857BMPSTEMAP.dwg

Designed by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Checked by: \_\_\_\_\_  
 Designed by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Checked by: \_\_\_\_\_

Approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
 Public Works Director R.C.E.

Sheet **1** of **4** Sheets

3857 / 1 OF 4 SHEETS



**DYODS™**  
Design Your Own Detention System

**CONTECH**  
CMP DETENTION SYSTEMS

For design assistance, drawings, and pricing send completed worksheet to: [dyods@contech-cpi.com](mailto:dyods@contech-cpi.com)

**CONTECH**  
CONSTRUCTION PRODUCTS INC.

**Project Summary**

Date: 1/11/2022  
 Project Name: ORBP Phase #2  
 City / County: Ontario, San Bernardino  
 State: California  
 Designed By: Luis Prado  
 Company: Thienes Engineering, Inc.  
 Telephone: (714) 521-4811

**Corrugated Metal Pipe Calculator**

Storage Volume Required (cf): 19,411  
 Limiting Width (ft): 40.00  
 Invert Depth Below Asphalt (ft): 10.00  
 Solid or Perforated Pipe: Perforated  
 Shape Or Diameter (in): 96  
 Number Of Headers: 1  
 Spacing between Barrels (ft): 3.00  
 Stone Width Around Perimeter of System (ft): 1  
 Depth A: Porous Stone Above Pipe (in): 6  
 Depth C: Porous Stone Below Pipe (in): 6  
 Stone Porosity (0 to 40%): 40

**System Sizing**

Pipe Storage: 14,476 cf  
 Porous Stone Storage: 5,269 cf  
 Total Storage Provided: 19,745 cf 101.7% Of Required Storage  
 Number of Barrels: 3 barrels  
 Length per Barrel: 86.0 ft  
 Length Per Header: 30.0 ft  
 Rectangular Footprint (W x L): 32. ft x 96. ft

**CONTECH Materials**

Total CMP Footage: 288 ft  
 Approximate Total Pieces: 14 pcs  
 Approximate Coupling Bands: 13 bands  
 Approximate Truckloads: 7 trucks

**Construction Quantities\*\***

Total Excavation: 1138 cy  
 Porous Stone Backfill For Storage: 488 cy stone  
 Backfill to Grade Excluding Stone: 114 cy fill  
 \*\*Construction quantities are approximate and should be verified upon final design

**System Layout**

Barrel 12: 0  
 Barrel 11: 0  
 Barrel 10: 0  
 Barrel 9: 0  
 Barrel 8: 0  
 Barrel 7: 0  
 Barrel 6: 0  
 Barrel 5: 0  
 Barrel 4: 0  
 Barrel 3: 0  
 Barrel 2: 86  
 Barrel 1: 86

Barrel Footage (w/o headers)

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**Project Summary**

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 Project Name: ORBP Phase #2  
 City / County: Ontario, San Bernardino  
 State: California  
 Designed By: Luis Prado  
 Company: Thienes Engineering, Inc.  
 Telephone: (714) 521-4811

**Corrugated Metal Pipe Calculator**

Storage Volume Required (cf): 21,224  
 Limiting Width (ft): 25.00  
 Invert Depth Below Asphalt (ft): 10.00  
 Solid or Perforated Pipe: Perforated  
 Shape Or Diameter (in): 96  
 Number Of Headers: 1  
 Spacing between Barrels (ft): 3.00  
 Stone Width Around Perimeter of System (ft): 1  
 Depth A: Porous Stone Above Pipe (in): 6  
 Depth C: Porous Stone Below Pipe (in): 6  
 Stone Porosity (0 to 40%): 40

**System Sizing**

Pipe Storage: 15,834 cf  
 Porous Stone Storage: 5,611 cf  
 Total Storage Provided: 21,445 cf 101.0% Of Required Storage  
 Number of Barrels: 2 barrels  
 Length per Barrel: 148.0 ft  
 Length Per Header: 19.0 ft  
 Rectangular Footprint (W x L): 21. ft x 168. ft

**CONTECH Materials**

Total CMP Footage: 315 ft  
 Approximate Total Pieces: 15 pcs  
 Approximate Coupling Bands: 14 bands  
 Approximate Truckloads: 8 trucks

**Construction Quantities\*\***

Total Excavation: 1229 cy  
 Porous Stone Backfill For Storage: 520 cy stone  
 Backfill to Grade Excluding Stone: 123 cy fill  
 \*\*Construction quantities are approximate and should be verified upon final design

**System Layout**

Barrel 12: 0  
 Barrel 11: 0  
 Barrel 10: 0  
 Barrel 9: 0  
 Barrel 8: 0  
 Barrel 7: 0  
 Barrel 6: 0  
 Barrel 5: 0  
 Barrel 4: 0  
 Barrel 3: 0  
 Barrel 2: 148  
 Barrel 1: 148

Barrel Footage (w/o headers)

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**CONTECH**  
CONSTRUCTION PRODUCTS INC.

**Project Summary**

Date: 1/11/2022  
 Project Name: ORBP Phase #2  
 City / County: Ontario, San Bernardino  
 State: California  
 Designed By: Luis Prado  
 Company: Thienes Engineering, Inc.  
 Telephone: (714) 521-4811

**Corrugated Metal Pipe Calculator**

Storage Volume Required (cf): 17,859  
 Limiting Width (ft): 25.00  
 Invert Depth Below Asphalt (ft): 10.00  
 Solid or Perforated Pipe: Perforated  
 Shape Or Diameter (in): 96  
 Number Of Headers: 1  
 Spacing between Barrels (ft): 3.00  
 Stone Width Around Perimeter of System (ft): 1  
 Depth A: Porous Stone Above Pipe (in): 6  
 Depth C: Porous Stone Below Pipe (in): 6  
 Stone Porosity (0 to 40%): 40

**System Sizing**

Pipe Storage: 13,320 cf  
 Porous Stone Storage: 4,727 cf  
 Total Storage Provided: 18,047 cf 101.1% Of Required Storage  
 Number of Barrels: 2 barrels  
 Length per Barrel: 123.0 ft  
 Length Per Header: 19.0 ft  
 Rectangular Footprint (W x L): 21. ft x 133. ft

**CONTECH Materials**

Total CMP Footage: 265 ft  
 Approximate Total Pieces: 13 pcs  
 Approximate Coupling Bands: 12 bands  
 Approximate Truckloads: 7 trucks

**Construction Quantities\*\***

Total Excavation: 1035 cy  
 Porous Stone Backfill For Storage: 438 cy stone  
 Backfill to Grade Excluding Stone: 104 cy fill  
 \*\*Construction quantities are approximate and should be verified upon final design

**System Layout**

Barrel 12: 0  
 Barrel 11: 0  
 Barrel 10: 0  
 Barrel 9: 0  
 Barrel 8: 0  
 Barrel 7: 0  
 Barrel 6: 0  
 Barrel 5: 0  
 Barrel 4: 0  
 Barrel 3: 0  
 Barrel 2: 123  
 Barrel 1: 123

Barrel Footage (w/o headers)

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CONSTRUCTION PRODUCTS INC.

**Project Summary**

Date: 1/11/2022  
 Project Name: ORBP Phase #2  
 City / County: Ontario, San Bernardino  
 State: California  
 Designed By: Luis Prado  
 Company: Thienes Engineering, Inc.  
 Telephone: (714) 521-4811

**Corrugated Metal Pipe Calculator**

Storage Volume Required (cf): 83,600  
 Limiting Width (ft): 50.00  
 Invert Depth Below Asphalt (ft): 10.00  
 Solid or Perforated Pipe: Perforated  
 Shape Or Diameter (in): 96  
 Number Of Headers: 1  
 Spacing between Barrels (ft): 3.00  
 Stone Width Around Perimeter of System (ft): 1  
 Depth A: Porous Stone Above Pipe (in): 6  
 Depth C: Porous Stone Below Pipe (in): 6  
 Stone Porosity (0 to 40%): 40

**System Sizing**

Pipe Storage: 61,374 cf  
 Porous Stone Storage: 22,664 cf  
 Total Storage Provided: 84,038 cf 100.5% Of Required Storage  
 Number of Barrels: 4 barrels  
 Length per Barrel: 295.0 ft  
 Length Per Header: 41.0 ft  
 Rectangular Footprint (W x L): 43. ft x 305. ft

**CONTECH Materials**

Total CMP Footage: 1,221 ft  
 Approximate Total Pieces: 54 pcs  
 Approximate Coupling Bands: 53 bands  
 Approximate Truckloads: 27 trucks

**Construction Quantities\*\***

Total Excavation: 4858 cy  
 Porous Stone Backfill For Storage: 2099 cy stone  
 Backfill to Grade Excluding Stone: 486 cy fill  
 \*\*Construction quantities are approximate and should be verified upon final design

**System Layout**

Barrel 12: 0  
 Barrel 11: 0  
 Barrel 10: 0  
 Barrel 9: 0  
 Barrel 8: 0  
 Barrel 7: 0  
 Barrel 6: 0  
 Barrel 5: 0  
 Barrel 4: 295  
 Barrel 3: 295  
 Barrel 2: 295  
 Barrel 1: 295

Barrel Footage (w/o headers)



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CMP DETENTION SYSTEMS

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dyods@contech-cpi.com

**Project Summary**

Date:	1/11/2022
Project Name:	ORBP Phase #2
City / County:	Ontario, San Bernardino
State:	California
Designed By:	Luis Prado
Company:	Thienes Engineering, Inc.
Telephone:	(714) 521-4811

Enter Information in Blue Cells

**Corrugated Metal Pipe Calculator**

Storage Volume Required (cf):	63,153	50.27 ft <sup>2</sup> Pipe Area
Limiting Width (ft):	50.00	
Invert Depth Below Asphalt (ft):	10.00	
Solid or Perforated Pipe:	Perforated	
Shape Or Diameter (in):	96	
Number Of Headers:	1	
Spacing between Barrels (ft):	3.00	
Stone Width Around Perimeter of System (ft):	1	
Depth A: Porous Stone Above Pipe (in):	6	
Depth C: Porous Stone Below Pipe (in):	6	
Stone Porosity (0 to 40%):	40	

**System Sizing**

Pipe Storage:	46,295 cf
Porous Stone Storage:	17,086 cf
Total Storage Provided:	63,381 cf
Number of Barrels:	4 barrels
Length per Barrel:	220.0 ft
Length Per Header:	41.0 ft
Rectangular Footprint (W x L):	43. ft x 230. ft

100.4% Of Required Storage

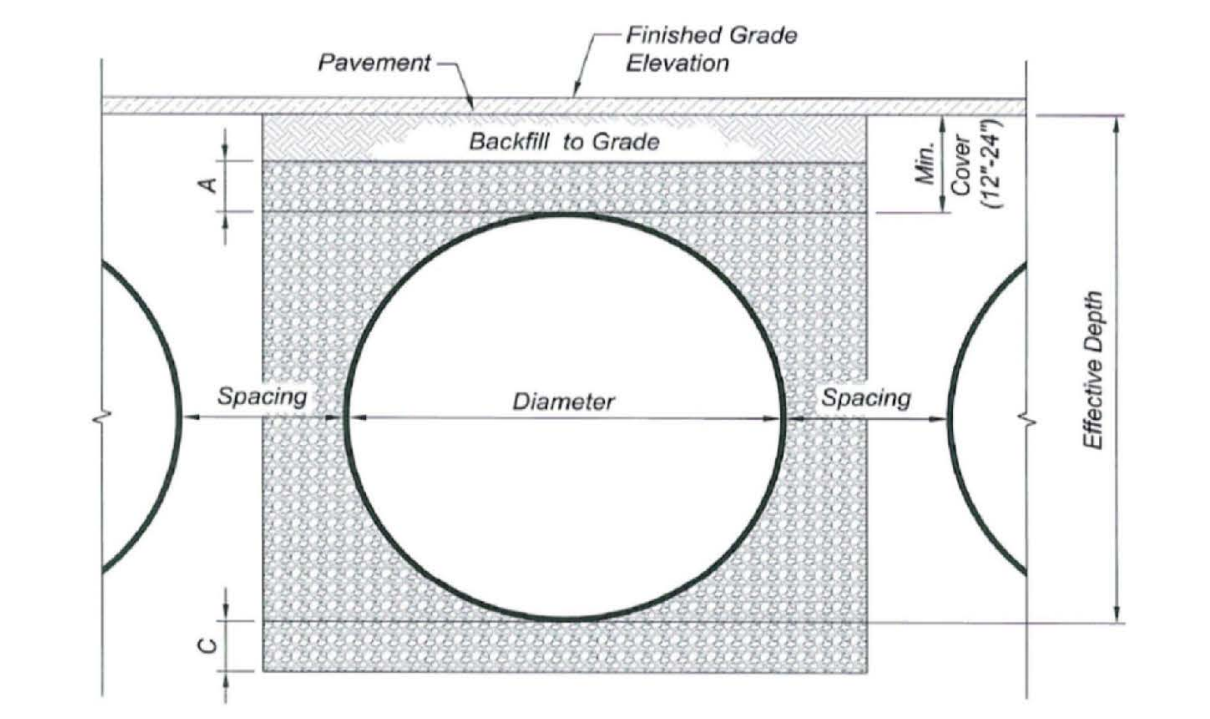
**CONTECH Materials**

Total CMP Footage:	921 ft
Approximate Total Pieces:	42 pcs
Approximate Coupling Bands:	41 bands
Approximate Truckloads:	21 trucks

**Construction Quantities\*\***

Total Excavation:	3663 cy
Porous Stone Backfill For Storage:	1582 cy stone
Backfill to Grade Excluding Stone:	366 cy fill

\*\*Construction quantities are approximate and should be verified upon final design



**System Layout**

Barrel 12	0
Barrel 11	0
Barrel 10	0
Barrel 9	0
Barrel 8	0
Barrel 7	0
Barrel 6	0
Barrel 5	0
Barrel 4	220
Barrel 3	220
Barrel 2	220
Barrel 1	220

Barrel Footage (w/o headers)

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**Project Summary**

Date:	1/11/2022
Project Name:	ORBP Phase #2
City / County:	Ontario, San Bernardino
State:	California
Designed By:	Luis Prado
Company:	Thienes Engineering, Inc.
Telephone:	(714) 521-4811

Enter Information in Blue Cells

**Corrugated Metal Pipe Calculator**

Storage Volume Required (cf):	62,376	50.27 ft <sup>2</sup> Pipe Area
Limiting Width (ft):	50.00	
Invert Depth Below Asphalt (ft):	10.00	
Solid or Perforated Pipe:	Perforated	
Shape Or Diameter (in):	96	
Number Of Headers:	1	
Spacing between Barrels (ft):	3.00	
Stone Width Around Perimeter of System (ft):	1	
Depth A: Porous Stone Above Pipe (in):	6	
Depth C: Porous Stone Below Pipe (in):	6	
Stone Porosity (0 to 40%):	40	

**System Sizing**

Pipe Storage:	45,892 cf
Porous Stone Storage:	16,937 cf
Total Storage Provided:	62,830 cf
Number of Barrels:	4 barrels
Length per Barrel:	218.0 ft
Length Per Header:	41.0 ft
Rectangular Footprint (W x L):	43. ft x 228. ft

100.7% Of Required Storage

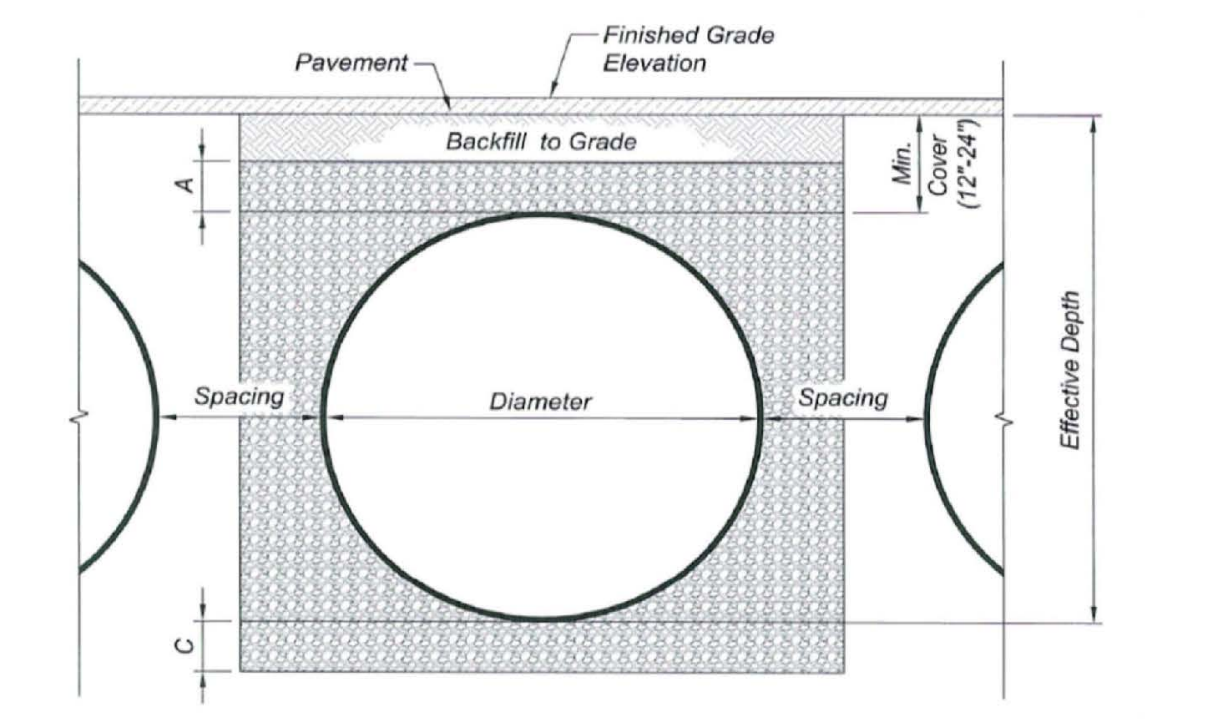
**CONTECH Materials**

Total CMP Footage:	913 ft
Approximate Total Pieces:	42 pcs
Approximate Coupling Bands:	41 bands
Approximate Truckloads:	21 trucks

**Construction Quantities\*\***

Total Excavation:	3632 cy
Porous Stone Backfill For Storage:	1568 cy stone
Backfill to Grade Excluding Stone:	364 cy fill

\*\*Construction quantities are approximate and should be verified upon final design



**System Layout**

Barrel 12	0
Barrel 11	0
Barrel 10	0
Barrel 9	0
Barrel 8	0
Barrel 7	0
Barrel 6	0
Barrel 5	0
Barrel 4	218
Barrel 3	218
Barrel 2	218
Barrel 1	218

Barrel Footage (w/o headers)

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City / County:	Ontario, San Bernardino
State:	California
Designed By:	Luis Prado
Company:	Thienes Engineering, Inc.
Telephone:	(714) 521-4811

Enter Information in Blue Cells

**Corrugated Metal Pipe Calculator**

Storage Volume Required (cf):	91,365	50.27 ft <sup>2</sup> Pipe Area
Limiting Width (ft):	50.00	
Invert Depth Below Asphalt (ft):	10.00	
Solid or Perforated Pipe:	Perforated	
Shape Or Diameter (in):	96	
Number Of Headers:	1	
Spacing between Barrels (ft):	3.00	
Stone Width Around Perimeter of System (ft):	1	
Depth A: Porous Stone Above Pipe (in):	6	
Depth C: Porous Stone Below Pipe (in):	6	
Stone Porosity (0 to 40%):	40	

**System Sizing**

Pipe Storage:	67,004 cf
Porous Stone Storage:	24,747 cf
Total Storage Provided:	91,751 cf
Number of Barrels:	4 barrels
Length per Barrel:	323.0 ft
Length Per Header:	41.0 ft
Rectangular Footprint (W x L):	43. ft x 333. ft

100.4% Of Required Storage

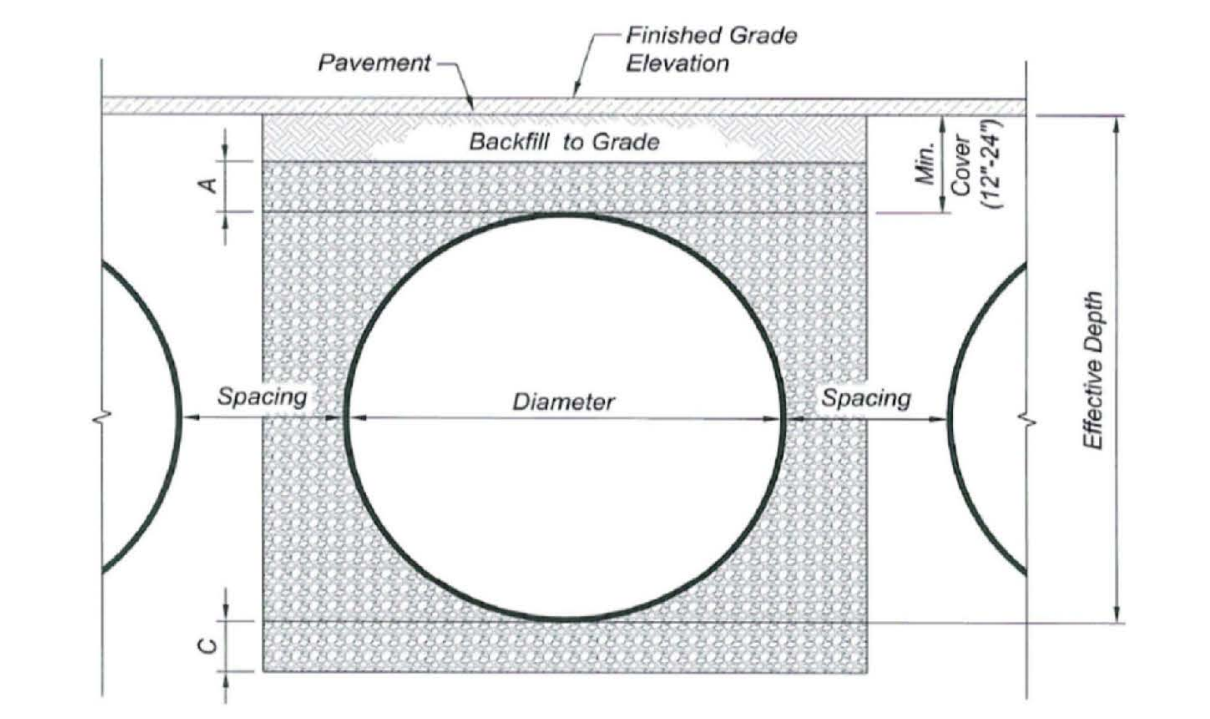
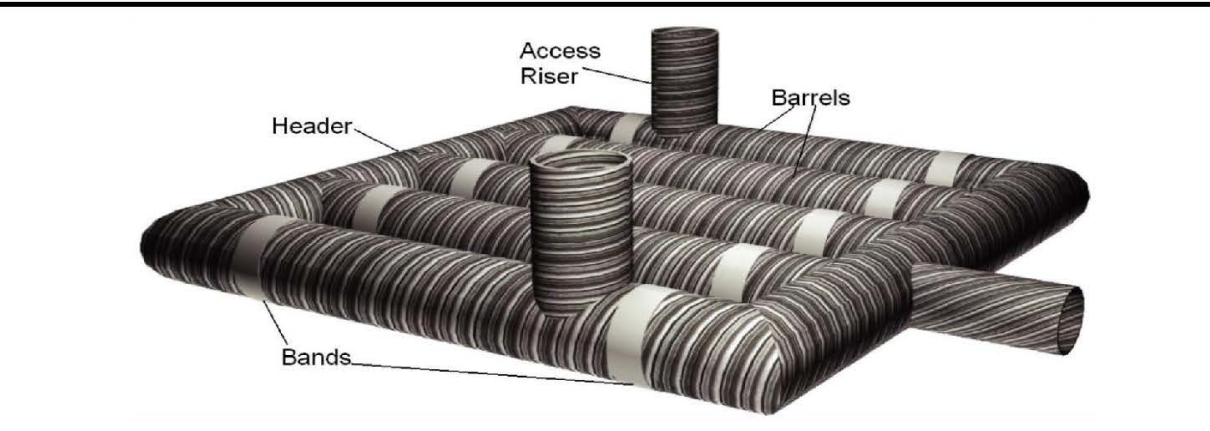
**CONTECH Materials**

Total CMP Footage:	1,333 ft
Approximate Total Pieces:	58 pcs
Approximate Coupling Bands:	57 bands
Approximate Truckloads:	29 trucks

**Construction Quantities\*\***

Total Excavation:	5304 cy
Porous Stone Backfill For Storage:	2291 cy stone
Backfill to Grade Excluding Stone:	531 cy fill

\*\*Construction quantities are approximate and should be verified upon final design



**System Layout**

Barrel 12	0
Barrel 11	0
Barrel 10	0
Barrel 9	0
Barrel 8	0
Barrel 7	0
Barrel 6	0
Barrel 5	0
Barrel 4	323
Barrel 3	323
Barrel 2	323
Barrel 1	323

Barrel Footage (w/o headers)

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**CDS2020-5-C DESIGN NOTES**

CDS2020-5-C RATED TREATMENT CAPACITY IS 1.1 CFS (31.2 L/S), OR PER LOCAL REGULATIONS. MAXIMUM HYDRAULIC INTERNAL BYPASS CAPACITY IS 14.0 CFS (398 L/S). IF THE SITE CONDITIONS EXCEED 14.0 CFS (398 L/S), AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

THE STANDARD CDS2020-5-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION	
GRATED INLET ONLY (NO INLET PIPE)	
GRATED INLET WITH INLET PIPE OR PIPES	
CURB INLET ONLY (NO INLET PIPE)	
CURB INLET WITH INLET PIPE OR PIPES	
SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)	
SEDIMENT WEIR FOR NUDE / NUCAT CONFORMING UNITS	

**PLAN VIEW B-B**  
N.T.S.

**FRAME AND COVER**  
(DIAMETER VARIES)  
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID			
WATER QUALITY FLOW RATE (CFS OR L/S)	*		
PEAK FLOW RATE (CFS OR L/S)	*		
RETURN PERIOD OF PEAK FLOW (YRS)	*		
SCREEN APERTURE (2400 OR 4700)	*		
PIPE DATA			
INLET PIPE 1	IE	MATERIAL	DIAMETER
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			
ANTI-FLOTATION BALLAST	WIDTH	HEIGHT	
NOTES/SPECIAL REQUIREMENTS:			
*PER ENGINEER OF RECORD			

**GENERAL NOTES**

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
- FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. [www.contech-cpi.com](http://www.contech-cpi.com)
- CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- STRUCTURE SHALL MEET ASBTO H202 AND CASTINGS SHALL MEET H202 (ASBTO M 300) LOAD RATING, ASSURING GROUNDWATER ELEVATION AT OR BELOW THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
- PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

**INSTALLATION NOTES**

- ANY SUB-BASE BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLIPPERS PROVIDED).
- CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
- CONTRACTOR TO PROVIDE RIGID, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

**CONTECH™**  
ENGINEERED SOLUTIONS LLC  
[www.contech-cpi.com](http://www.contech-cpi.com)  
3025 Centre Pointe Dr., Suite 410, West Chester, OH 45380  
800-338-1122 513-645-7200 513-645-7200 FAX

CDS2020-5-C  
INLINE CDS  
STANDARD DETAIL

Last Update: 01/11/2022  
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**CITY OF ONTARIO**  
PUBLIC WORKS DEPARTMENT  
WQMP SITE MAP  
FOR  
**ONTARIO RANCH BUSINESS**  
PARK PHASE #2  
MERRILL AND SULTANA  
ONTARIO, CA

**PREPARED FOR:**  
REDA  
4450 MACARTHUR BLVD., SUITE 100  
NEWPORT BEACH, CA 92660  
PHONE: (949) 945-6809

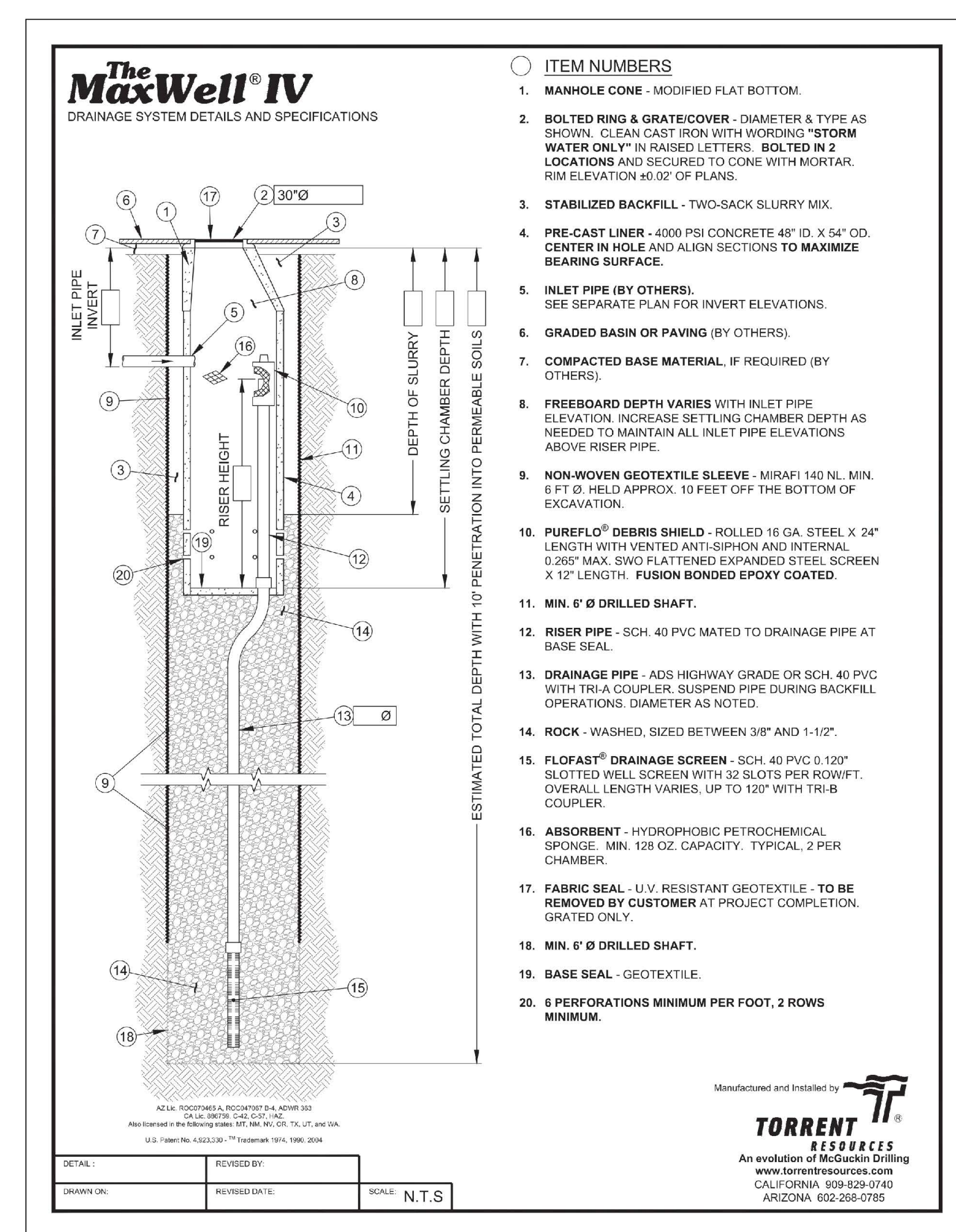
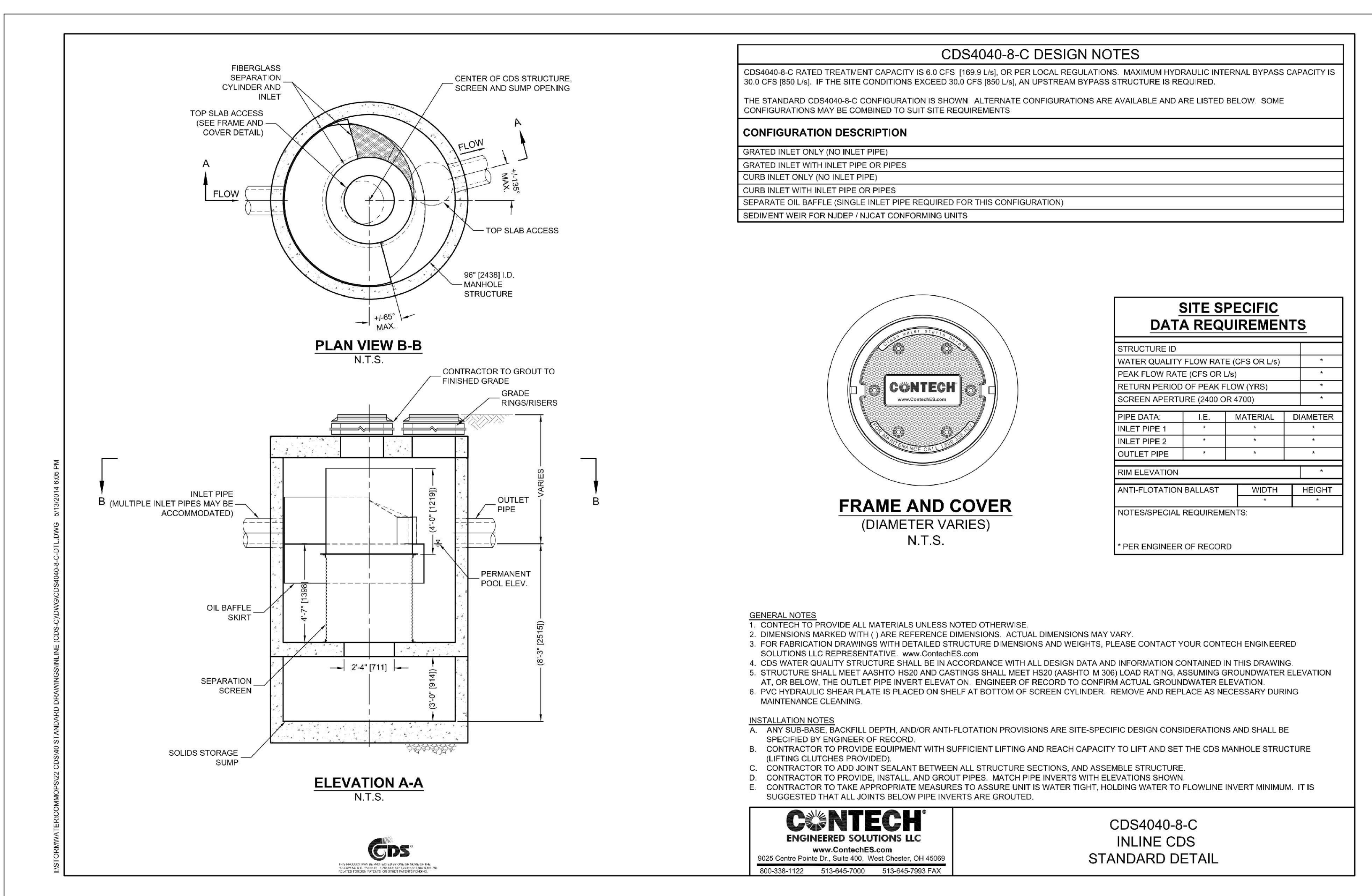
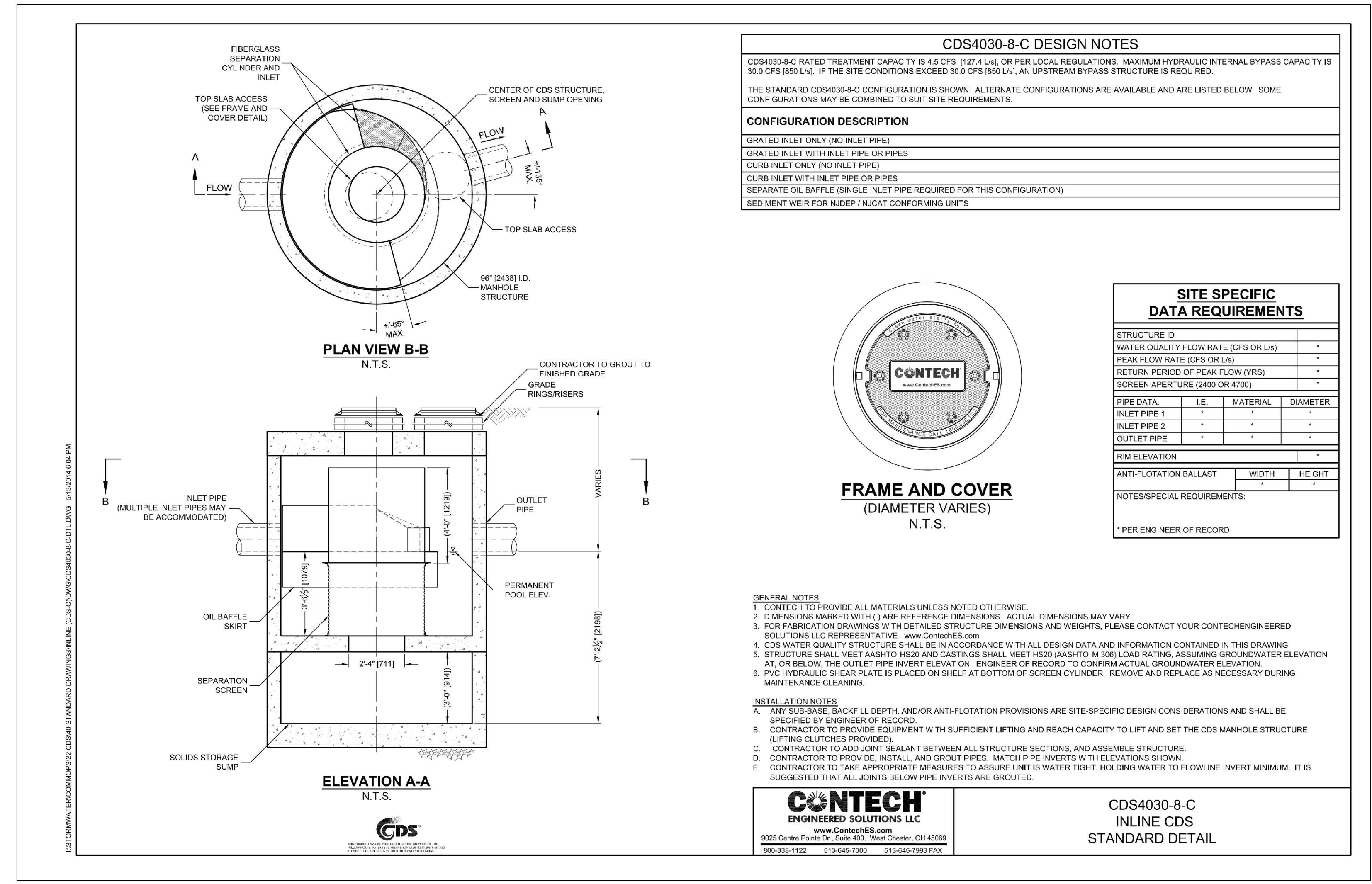
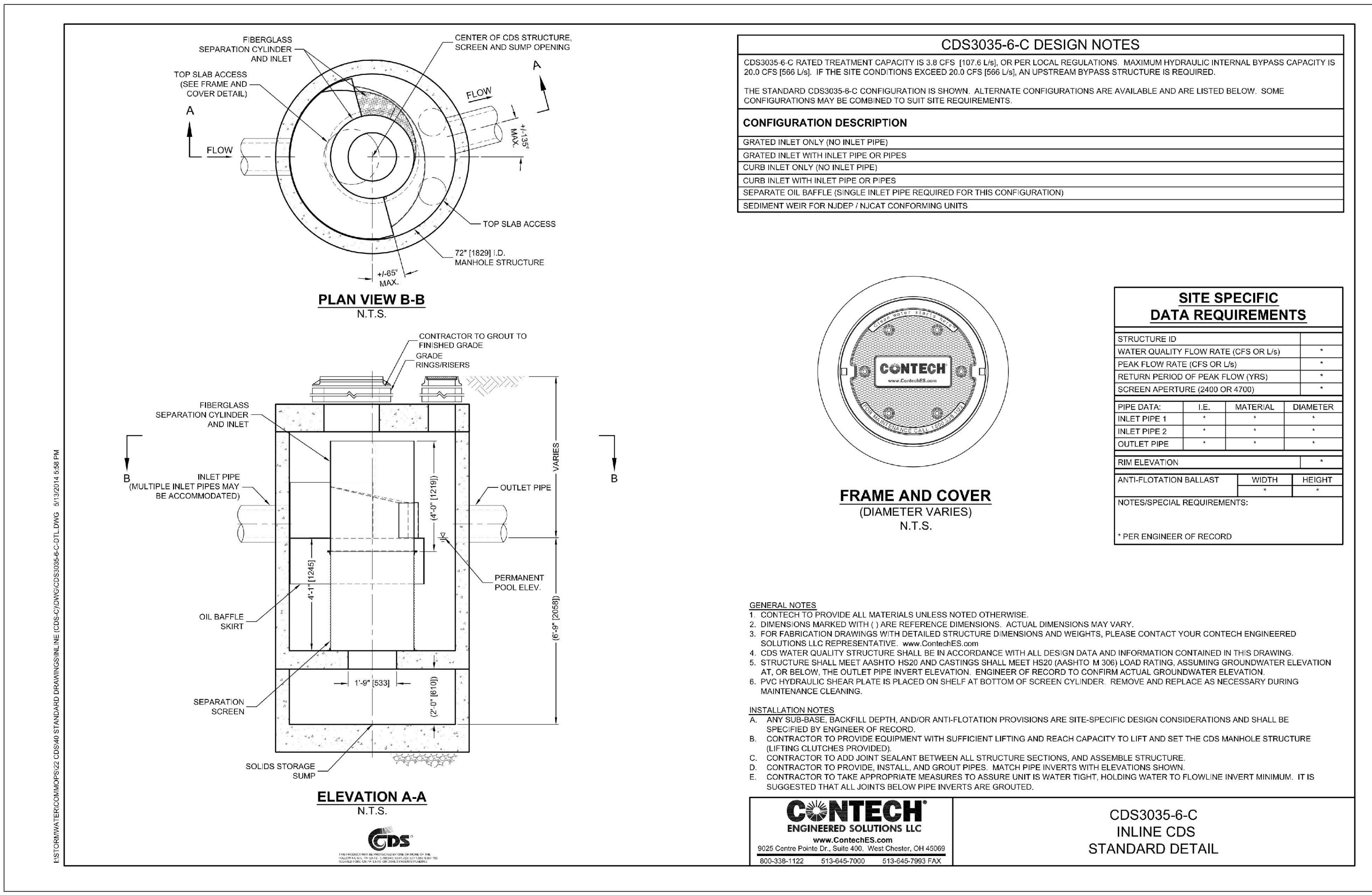
**PREPARED BY:**  
**TEI** Thienes Engineering, Inc.  
CIVIL ENGINEERING - LAND SURVEYING  
14149 FINESTONE BOULEVARD  
LA MIRADA, CALIFORNIA 90638  
PH: (714) 521-4811 FAX: (714) 521-4753

Designed by	_____	Approved by	_____	Date	_____
Checked by	_____				
Date	_____				
Designed by	_____	Public Works Director	_____	R.C.E.	_____
Date	_____				
Checked by	_____				
Date	_____				

Sheet **3** of **4** Sheets

3857 / 3 OF 4 SHEETS





Last Update: 01/11/22  
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**CITY OF ONTARIO**  
PUBLIC WORKS DEPARTMENT  
WQMP SITE MAP  
FOR  
**ONTARIO RANCH BUSINESS**  
PARK PHASE #2  
MERRILL AND SULTANA  
ONTARIO, CA

Designed by \_\_\_\_\_  
Checked by \_\_\_\_\_  
Date \_\_\_\_\_  
Public Works Director R.C.E. 28129  
Date \_\_\_\_\_

Approved by \_\_\_\_\_  
Date \_\_\_\_\_

Sheet **4** of **4** Sheets

3857/4 OF 4 SHEETS

PREPARED FOR:  
**REDA**  
4450 MACARTHUR BLVD., SUITE 100  
NEWPORT BEACH, CA 92660  
PHONE: (949) 945-6809

PREPARED BY:  
**Tai Thienes Engineering, Inc.**  
CIVIL ENGINEERING - LAND SURVEYING  
14349 ORISTONE BOULEVARD  
LA MIRADA, CALIFORNIA 90638  
PH: (714) 861-4811 FAX: (714) 861-4713



# **DCV CALCULATIONS**

NOAA's National Weather Service  
**Hydrometeorological Design Studies Center**  
 Precipitation Frequency Data Server (PFDS)

Home Site Map News Organization

www.nws.noaa.gov



Search   NWS  All NOAA

- General Information
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  - Progress Reports
  - FAQ
  - Glossary

## NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: CA

### Data description

Data type:  Units:  Time series type:

### Select location

#### 1) Manually:

a) By location (decimal degrees, use "-" for S and W): Latitude:  Longitude:

b) By station (list of CA stations):

c) By address

2) Use map (if ESRI interactive map is not loading, try adding the host: <https://js.arcgis.com/> to the firewall, or contact us at [hdsc.questions@noaa.gov](mailto:hdsc.questions@noaa.gov)):

- Precipitation Frequency
  - Data Server
  - GIS Grids
  - Maps
  - Time Series
  - Temporals
  - Documents

- Probable Maximum Precipitation
  - Documents

- Miscellaneous
  - Publications
  - Storm Analysis
  - Record Precipitation

- Contact Us
  - Inquiries



a) Select location  
Move crosshair or double click

b) Click on station icon  
 Show stations on map

**Location information:**  
 Name: Ontario, California, USA\*  
 Latitude: 33.9871°  
 Longitude: -117.6432°  
 Elevation: 655.75 ft \*\*

\* Source: ESRI Maps  
\*\* Source: USGS

### POINT PRECIPITATION FREQUENCY (PF) ESTIMATES WITH 90% CONFIDENCE INTERVALS AND SUPPLEMENTARY INFORMATION NOAA Atlas 14, Volume 6, Version 2

PF tabular

PF graphical

Supplementary information

Print page

PDS-based precipitation frequency estimates with 90% confidence intervals (in inches) <sup>1</sup>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.115 (0.096-0.139)	0.151 (0.126-0.183)	0.198 (0.165-0.241)	0.237 (0.195-0.290)	0.289 (0.230-0.367)	0.330 (0.257-0.428)	0.371 (0.282-0.493)	0.414 (0.305-0.566)	0.472 (0.333-0.675)	0.517 (0.352-0.766)
10-min	0.165 (0.138-0.199)	0.217 (0.181-0.262)	0.285 (0.237-0.345)	0.340 (0.280-0.416)	0.415 (0.330-0.526)	0.473 (0.368-0.613)	0.532 (0.404-0.707)	0.593 (0.437-0.812)	0.676 (0.477-0.967)	0.741 (0.504-1.10)
15-min	0.199 (0.166-0.241)	0.262 (0.219-0.317)	0.344 (0.286-0.418)	0.411 (0.339-0.503)	0.502 (0.399-0.636)	0.572 (0.445-0.741)	0.643 (0.488-0.855)	0.717 (0.529-0.982)	0.817 (0.577-1.17)	0.896 (0.610-1.33)
30-min	0.295 (0.246-0.357)	0.388 (0.324-0.470)	0.509 (0.424-0.619)	0.608 (0.502-0.745)	0.743 (0.591-0.942)	0.846 (0.659-1.10)	0.952 (0.723-1.27)	1.06 (0.783-1.45)	1.21 (0.854-1.73)	1.33 (0.903-1.97)
60-min	0.436 (0.364-0.527)	0.573 (0.478-0.694)	0.753 (0.626-0.914)	0.899 (0.741-1.10)	1.10 (0.874-1.39)	1.25 (0.974-1.62)	1.41 (1.07-1.87)	1.57 (1.16-2.15)	1.79 (1.26-2.56)	1.96 (1.34-2.91)
2-hr	0.651 (0.544-0.787)	0.855 (0.713-1.03)	1.12 (0.928-1.36)	1.32 (1.09-1.62)	1.60 (1.27-2.03)	1.81 (1.41-2.34)	2.01 (1.53-2.68)	2.22 (1.64-3.05)	2.50 (1.77-3.58)	2.71 (1.85-4.03)
3-hr	0.817 (0.683-0.988)	1.07 (0.895-1.30)	1.40 (1.16-1.70)	1.65 (1.36-2.02)	1.99 (1.59-2.53)	2.24 (1.75-2.91)	2.49 (1.89-3.32)	2.75 (2.03-3.76)	3.08 (2.17-4.41)	3.33 (2.27-4.94)
6-hr	1.14 (0.954-1.38)	1.50 (1.25-1.81)	1.95 (1.62-2.37)	2.30 (1.90-2.82)	2.77 (2.20-3.51)	3.11 (2.43-4.04)	3.46 (2.62-4.60)	3.80 (2.80-5.21)	4.25 (3.00-6.08)	4.59 (3.13-6.81)
12-hr	1.49	1.97	2.57	3.04	3.67	4.14	4.62	5.09	5.72	6.20

	(1.25-1.81)	(1.64-2.38)	(2.13-3.12)	(2.51-3.73)	(2.93-4.66)	(3.23-5.38)	(3.51-6.14)	(3.75-6.97)	(4.04-8.18)	(4.22-9.19)
24-hr	<b>1.96</b> (1.73-2.26)	<b>2.60</b> (2.29-3.00)	<b>3.42</b> (3.01-3.96)	<b>4.08</b> (3.57-4.76)	<b>4.97</b> (4.21-6.00)	<b>5.65</b> (4.69-6.96)	<b>6.34</b> (5.13-7.98)	<b>7.03</b> (5.54-9.11)	<b>7.97</b> (6.03-10.8)	<b>8.69</b> (6.36-12.1)
2-day	<b>2.37</b> (2.10-2.73)	<b>3.19</b> (2.82-3.69)	<b>4.28</b> (3.77-4.96)	<b>5.17</b> (4.52-6.04)	<b>6.39</b> (5.41-7.70)	<b>7.34</b> (6.08-9.03)	<b>8.30</b> (6.73-10.5)	<b>9.31</b> (7.34-12.1)	<b>10.7</b> (8.08-14.4)	<b>11.8</b> (8.61-16.4)
3-day	<b>2.55</b> (2.26-2.94)	<b>3.48</b> (3.08-4.02)	<b>4.72</b> (4.16-5.46)	<b>5.74</b> (5.02-6.70)	<b>7.15</b> (6.06-8.62)	<b>8.26</b> (6.85-10.2)	<b>9.40</b> (7.61-11.8)	<b>10.6</b> (8.35-13.7)	<b>12.2</b> (9.27-16.5)	<b>13.6</b> (9.92-18.9)
4-day	<b>2.76</b> (2.44-3.18)	<b>3.79</b> (3.35-4.38)	<b>5.17</b> (4.56-5.99)	<b>6.31</b> (5.52-7.36)	<b>7.89</b> (6.68-9.51)	<b>9.12</b> (7.56-11.2)	<b>10.4</b> (8.42-13.1)	<b>11.7</b> (9.24-15.2)	<b>13.6</b> (10.3-18.3)	<b>15.0</b> (11.0-21.0)
7-day	<b>3.17</b> (2.81-3.66)	<b>4.38</b> (3.87-5.06)	<b>5.98</b> (5.27-6.93)	<b>7.30</b> (6.39-8.52)	<b>9.12</b> (7.72-11.0)	<b>10.5</b> (8.74-13.0)	<b>12.0</b> (9.72-15.1)	<b>13.5</b> (10.6-17.5)	<b>15.6</b> (11.8-21.0)	<b>17.2</b> (12.6-24.0)
10-day	<b>3.46</b> (3.06-3.99)	<b>4.78</b> (4.23-5.52)	<b>6.54</b> (5.77-7.58)	<b>7.99</b> (6.99-9.33)	<b>9.99</b> (8.45-12.0)	<b>11.5</b> (9.57-14.2)	<b>13.1</b> (10.6-16.5)	<b>14.8</b> (11.7-19.1)	<b>17.1</b> (12.9-23.0)	<b>18.8</b> (13.8-26.3)
20-day	<b>4.15</b> (3.67-4.78)	<b>5.80</b> (5.12-6.69)	<b>8.01</b> (7.06-9.27)	<b>9.84</b> (8.60-11.5)	<b>12.4</b> (10.5-14.9)	<b>14.4</b> (11.9-17.7)	<b>16.5</b> (13.3-20.7)	<b>18.6</b> (14.7-24.1)	<b>21.6</b> (16.4-29.2)	<b>24.0</b> (17.6-33.5)
30-day	<b>4.92</b> (4.35-5.67)	<b>6.89</b> (6.09-7.95)	<b>9.56</b> (8.43-11.1)	<b>11.8</b> (10.3-13.8)	<b>15.0</b> (12.7-18.1)	<b>17.5</b> (14.5-21.5)	<b>20.1</b> (16.3-25.3)	<b>22.9</b> (18.0-29.7)	<b>26.8</b> (20.3-36.1)	<b>29.9</b> (21.9-41.7)
45-day	<b>5.84</b> (5.16-6.73)	<b>8.15</b> (7.21-9.41)	<b>11.4</b> (10.0-13.1)	<b>14.1</b> (12.3-16.4)	<b>18.0</b> (15.2-21.7)	<b>21.2</b> (17.6-26.0)	<b>24.5</b> (19.9-30.9)	<b>28.1</b> (22.2-36.4)	<b>33.3</b> (25.2-44.9)	<b>37.5</b> (27.4-52.2)
60-day	<b>6.74</b> (5.97-7.78)	<b>9.35</b> (8.27-10.8)	<b>13.0</b> (11.5-15.1)	<b>16.2</b> (14.1-18.9)	<b>20.8</b> (17.6-25.0)	<b>24.6</b> (20.4-30.2)	<b>28.6</b> (23.2-36.1)	<b>33.0</b> (26.0-42.8)	<b>39.4</b> (29.8-53.2)	<b>44.7</b> (32.7-62.3)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

Estimates from the table in CSV format:

Main Link Categories:  
[Home](#) | [OWP](#)

US Department of Commerce  
 National Oceanic and Atmospheric Administration  
 National Weather Service  
 Office of Water Prediction (OWP)  
 1325 East West Highway  
 Silver Spring, MD 20910  
 Page Author: [HDSC webmaster](#)  
 Page last modified: April 21, 2017

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### FLOW-BASED BMP DESIGN (ONSITE)

$$C_{BMP} = 0.858(\text{imp})^3 - 0.78(\text{imp})^2 + 0.774(\text{imp}) + 0.04$$

$$I_{BMP} = (0.573)(0.2787)(2) = 0.319 \text{ in/hr}$$

$$Q = C_{BMP} * 0.319 * \text{Area}$$

#### DA 1 – BIOCLEAN DEBRIS SEPARATING BAFFLE BOX

Region		Valley	
Drainage Area (acres)		3.75	acres
Drainage Area (sq-ft)		163,350	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	C =	0.81	
<a href="#">1-hr 2-yr from NOAA</a>		0.573	
Intensity Coeff		0.2787	
Intensity BMP (in/hr)		0.319	
Flow (cfs)	Q =	0.97	

Use DSBB-4-6-72

80% @ 75 Micron treats 1.18 cfs

#### DA 2 – BIOCLEAN DEBRIS SEPARATING BAFFLE BOX

Region		Valley	
Drainage Area (acres)		4.10	acres
Drainage Area (sq-ft)		178,596	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	C =	0.81	
<a href="#">1-hr 2-yr from NOAA</a>		0.573	
Intensity Coeff		0.2787	
Intensity BMP (in/hr)		0.319	
Flow (cfs)	Q =	1.06	

Use DSBB-4-6-72

80% @ 75 Micron treats 1.18 cfs

### DA 3 – BIOCLEAR DEBRIS SEPARATING BAFFLE BOX

Region		Valley	
Drainage Area (acres)		3.45	acres
Drainage Area (sq-ft)		150,282	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	C =	0.81	
<a href="#">1-hr 2-yr from NOAA</a>		0.573	
Intensity Coeff		0.2787	
Intensity BMP (in/hr)		0.319	
Flow (cfs)	Q =	0.89	

Use DSBB-4-6-72

80% @ 75 Micron treats 1.18 cfs

### DA 4 – BIOCLEAR DEBRIS SEPARATING BAFFLE BOX

Region		Valley	
Drainage Area (acres)		16.15	acres
Drainage Area (sq-ft)		703,494	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	C =	0.81	
<a href="#">1-hr 2-yr from NOAA</a>		0.573	
Intensity Coeff		0.2787	
Intensity BMP (in/hr)		0.319	
Flow (cfs)	Q =	4.16	

Use DSBB-8-12-96

80% @ 75 Micron treats 4.70 cfs

### DA 5 – BIOCLEAN DEBRIS SEPARATING BAFFLE BOX

Region		Valley	
Drainage Area (acres)		12.20	acres
Drainage Area (sq-ft)		531,432	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	C =	0.81	
<a href="#">1-hr 2-yr from NOAA</a>		0.573	
Intensity Coeff		0.2787	
Intensity BMP (in/hr)		0.319	
Flow (cfs)	Q =	3.14	

Use DSBB-6-12-84

80% @ 75 Micron treats 3.53 cfs

### DA 6 – BIOCLEAN DEBRIS SEPARATING BAFFLE BOX

Region		Valley	
Drainage Area (acres)		12.05	acres
Drainage Area (sq-ft)		524,898	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	C =	0.81	
<a href="#">1-hr 2-yr from NOAA</a>		0.573	
Intensity Coeff		0.2787	
Intensity BMP (in/hr)		0.319	
Flow (cfs)	Q =	3.11	

Use DSBB-6-12-84

80% @ 75 Micron treats 3.53 cfs

## DA 7 – BIOCLEAN DEBRIS SEPARATING BAFFLE BOX

Region		Valley	
Drainage Area (acres)		17.65	acres
Drainage Area (sq-ft)		768,834	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	C =	0.81	
<a href="#">1-hr 2-yr from NOAA</a>		0.573	
Intensity Coeff		0.2787	
Intensity BMP (in/hr)		0.319	
Flow (cfs)	Q =	4.55	

Use DSBB-8-12-96

80% @ 75 Micron treats 4.70 cfs



### VOLUME-BASED BMP DESIGN (ONSITE)

$$C_{BMP} = 0.858(\text{imp})^3 - 0.78(\text{imp})^2 + 0.774(\text{imp}) + 0.04$$

$$P6 = (0.573)(1.4807) = 0.848 \text{ inches}$$

$$P0 = (1.963)(C_{BMP})(0.848)$$

$$DCV = (P0 * \text{Area}) / 12$$

### DA 1 – CMP “A” AND DRY WELL “A”

Region		Valley	
Drainage Area (acres)		3.75	acres
Drainage Area (sq-ft)		163,350	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	C =	0.807	
<a href="#">1-hr 2-yr from NOAA</a>		0.573	
P6 Coeff		1.4807	
Mean 6-hr (P6)		0.848	
Drawdown Rate (a)		1.963	
DCV		18,295	cu-ft
DCV		0.420	acre-ft

## MAXWELL IV DRAINAGE SYSTEM CALCULATIONS (DA 1)

### Given:

Measured Percolation Rate =	0.3670	cfs
Safety Factor =	2	
Design Percolation Rate =	0.1835	cfs
Design Capture Volume (DCV) =	18,295	ft <sup>3</sup>
Required Drawdown Time =	48	hours
Minimum Depth to Infiltration =	10	ft
Groundwater Depth for Design =	100+	ft
Rock Porosity =	40%	
Duration of Storm When Infiltrating is Occuring as Basin is Filling =	3	hours
Drywell Chamber Diameter =	4	ft
Drywell Chamber Area =	12.57	ft <sup>2</sup>
Drywell Chamber Depth =	25	ft
Drywell Rock Shaft Diameter =	4	ft
Drywell Rock Shaft Area =	12.57	ft <sup>2</sup>
Drywell Rock Shaft Depth =	35	ft

### Volume of disposal for each drywell based on various time frames are included below.

48 hours =	31,709	ft <sup>3</sup>	<i>Design Percolation Rate x Drawdown Time x (3600 sec/1 hour)</i>
3 hours =	1,982	ft <sup>3</sup>	<i>Design Percolation Rate x Drawdown Time x (3600 sec/1 hour)</i>

### Volume provided in each drywell

Volume Provided =	490	ft <sup>3</sup>	<i>(Drywell Chamber Depth x Drywell Chamber Area) + (Drywell Rock Shaft Depth x Drywell Rock Shaft Area x Rock Porosity)</i>
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### Maxwell System Design

# of Drywells Provided =	1	
Total Volume Provided in Drywells =	490	ft <sup>3</sup>
Total Volume Infiltrated in 48 hours =	31,709	ft <sup>3</sup>
Total Volume Infiltrated in 3 hours =	1,982	ft <sup>3</sup>
Total Infiltration Flowrate =	0.1835	cfs

The DCV will be stored in an underground system while the DCV infiltrates via drywells.

## DA 2 – CMP “B” AND DRY WELL “B”

Region		Valley	
Drainage Area (acres)		4.10	acres
Drainage Area (sq-ft)		178,596	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	<b>C =</b>	0.807	
<a href="#">1-hr 2-yr from NOAA</a>		0.573	
P6 Coeff		1.4807	
Mean 6-hr (P6)		0.848	
Drawdown Rate (a)		1.963	
DCV		20,003	cu-ft
DCV		0.459	acre-ft

## MAXWELL IV DRAINAGE SYSTEM CALCULATIONS (DA 2)

### Given:

Measured Percolation Rate =	0.3670	cfs
Safety Factor =	2	
Design Percolation Rate =	0.1835	cfs
Design Capture Volume (DCV) =	20,003	ft <sup>3</sup>
Required Drawdown Time =	48	hours
Minimum Depth to Infiltration =	10	ft
Groundwater Depth for Design =	100+	ft
Rock Porosity =	40%	
Duration of Storm When Infiltrating is Occuring as Basin is Filling =	3	hours
Drywell Chamber Diameter =	4	ft
Drywell Chamber Area =	12.57	ft <sup>2</sup>
Drywell Chamber Depth =	25	ft
Drywell Rock Shaft Diameter =	4	ft
Drywell Rock Shaft Area =	12.57	ft <sup>2</sup>
Drywell Rock Shaft Depth =	35	ft

### Volume of disposal for each drywell based on various time frames are included below.

48 hours =	31,709	ft <sup>3</sup>	<i>Design Percolation Rate x Drawdown Time x (3600 sec/1 hour)</i>
3 hours =	1,982	ft <sup>3</sup>	<i>Design Percolation Rate x Drawdown Time x (3600 sec/1 hour)</i>

### Volume provided in each drywell

Volume Provided =	490	ft <sup>3</sup>	<i>(Drywell Chamber Depth x Drywell Chamber Area) + (Drywell Rock Shaft Depth x Drywell Rock Shaft Area x Rock Porosity)</i>
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### Maxwell System Design

# of Drywells Provided =	1	
Total Volume Provided in Drywells =	490	ft <sup>3</sup>
Total Volume Infiltrated in 48 hours =	31,709	ft <sup>3</sup>
Total Volume Infiltrated in 3 hours =	1,982	ft <sup>3</sup>
Total Infiltration Flowrate =	0.1835	cfs

The DCV will be stored in an underground system while the DCV infiltrates via drywells.

**DA 3 – CMP “C” AND DRY WELL “C”**

Region		Valley	
Drainage Area (acres)		3.45	acres
Drainage Area (sq-ft)		150,282	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	<b>C =</b>	0.807	
<a href="#">1-hr 2-yr from NOAA</a>		0.573	
P6 Coeff		1.4807	
Mean 6-hr (P6)		0.848	
Drawdown Rate (a)		1.963	
DCV		16,832	cu-ft
DCV		0.386	acre-ft

## MAXWELL IV DRAINAGE SYSTEM CALCULATIONS (DA 3)

### Given:

Measured Percolation Rate =	0.3670	cfs
Safety Factor =	2	
Design Percolation Rate =	0.1835	cfs
Design Capture Volume (DCV) =	16,832	ft <sup>3</sup>
Required Drawdown Time =	48	hours
Minimum Depth to Infiltration =	10	ft
Groundwater Depth for Design =	100+	ft
Rock Porosity =	40%	
Duration of Storm When Infiltrating is Occuring as Basin is Filling =	3	hours
Drywell Chamber Diameter =	4	ft
Drywell Chamber Area =	12.57	ft <sup>2</sup>
Drywell Chamber Depth =	25	ft
Drywell Rock Shaft Diameter =	4	ft
Drywell Rock Shaft Area =	12.57	ft <sup>2</sup>
Drywell Rock Shaft Depth =	35	ft

### Volume of disposal for each drywell based on various time frames are included below.

48 hours =	31,709	ft <sup>3</sup>	<i>Design Percolation Rate x Drawdown Time x (3600 sec/1 hour)</i>
3 hours =	1,982	ft <sup>3</sup>	<i>Design Percolation Rate x Drawdown Time x (3600 sec/1 hour)</i>

### Volume provided in each drywell

Volume Provided =	490	ft <sup>3</sup>	<i>(Drywell Chamber Depth x Drywell Chamber Area) + (Drywell Rock Shaft Depth x Drywell Rock Shaft Area x Rock Porosity)</i>
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### Maxwell System Design

# of Drywells Provided =	1	
Total Volume Provided in Drywells =	490	ft <sup>3</sup>
Total Volume Infiltrated in 48 hours =	31,709	ft <sup>3</sup>
Total Volume Infiltrated in 3 hours =	1,982	ft <sup>3</sup>
Total Infiltration Flowrate =	0.1835	cfs

The DCV will be stored in an underground system while the DCV infiltrates via drywells.

**DA 4 – CMP “D” AND DRY WELL “D”**

Region		Valley	
Drainage Area (acres)		16.15	acres
Drainage Area (sq-ft)		703,494	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	<b>C =</b>	<b>0.807</b>	
<a href="#">1-hr 2-yr from NOAA</a>		0.573	
P6 Coeff		<b>1.4807</b>	
Mean 6-hr (P6)		<b>0.848</b>	
Drawdown Rate (a)		1.963	
DCV		<b>78,792</b>	cu-ft
DCV		<b>1.809</b>	acre-ft

## MAXWELL IV DRAINAGE SYSTEM CALCULATIONS (DA 4)

### Given:

Measured Percolation Rate =	0.3670	cfs
Safety Factor =	2	
Design Percolation Rate =	0.1835	cfs
Design Capture Volume (DCV) =	78,792	ft <sup>3</sup>
Required Drawdown Time =	48	hours
Minimum Depth to Infiltration =	10	ft
Groundwater Depth for Design =	100+	ft
Rock Porosity =	40%	
Duration of Storm When Infiltrating is Occuring as Basin is Filling =	3	hours
Drywell Chamber Diameter =	4	ft
Drywell Chamber Area =	12.57	ft <sup>2</sup>
Drywell Chamber Depth =	25	ft
Drywell Rock Shaft Diameter =	4	ft
Drywell Rock Shaft Area =	12.57	ft <sup>2</sup>
Drywell Rock Shaft Depth =	35	ft

### Volume of disposal for each drywell based on various time frames are included below.

48 hours =	31,709	ft <sup>3</sup>	<i>Design Percolation Rate x Drawdown Time x (3600 sec/1 hour)</i>
3 hours =	1,982	ft <sup>3</sup>	<i>Design Percolation Rate x Drawdown Time x (3600 sec/1 hour)</i>

### Volume provided in each drywell

Volume Provided =	490	ft <sup>3</sup>	<i>(Drywell Chamber Depth x Drywell Chamber Area) + (Drywell Rock Shaft Depth x Drywell Rock Shaft Area x Rock Porosity)</i>
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### Maxwell System Design

# of Drywells Provided =	3	
Total Volume Provided in Drywells =	1,470	ft <sup>3</sup>
Total Volume Infiltrated in 48 hours =	95,126	ft <sup>3</sup>
Total Volume Infiltrated in 3 hours =	5,945	ft <sup>3</sup>
Total Infiltration Flowrate =	0.5505	cfs

The DCV will be stored in an underground system while the DCV infiltrates via drywells.



**DA 5 – CMP “E” AND DRY WELL “E”**

Region		Valley	
Drainage Area (acres)		12.20	acres
Drainage Area (sq-ft)		531,432	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	<b>C =</b>	0.807	
<a href="#">1-hr 2-yr from NOAA</a>		0.573	
P6 Coeff		1.4807	
Mean 6-hr (P6)		0.848	
Drawdown Rate (a)		1.963	
DCV		59,521	cu-ft
DCV		1.366	acre-ft

## MAXWELL IV DRAINAGE SYSTEM CALCULATIONS (DA 5)

### Given:

Measured Percolation Rate =	0.3670	cfs
Safety Factor =	2	
Design Percolation Rate =	0.1835	cfs
Design Capture Volume (DCV) =	59,521	ft <sup>3</sup>
Required Drawdown Time =	48	hours
Minimum Depth to Infiltration =	10	ft
Groundwater Depth for Design =	100+	ft
Rock Porosity =	40%	
Duration of Storm When Infiltrating is Occuring as Basin is Filling =	3	hours
Drywell Chamber Diameter =	4	ft
Drywell Chamber Area =	12.57	ft <sup>2</sup>
Drywell Chamber Depth =	25	ft
Drywell Rock Shaft Diameter =	4	ft
Drywell Rock Shaft Area =	12.57	ft <sup>2</sup>
Drywell Rock Shaft Depth =	35	ft

### Volume of disposal for each drywell based on various time frames are included below.

48 hours =	31,709	ft <sup>3</sup>	<i>Design Percolation Rate x Drawdown Time x (3600 sec/1 hour)</i>
3 hours =	1,982	ft <sup>3</sup>	<i>Design Percolation Rate x Drawdown Time x (3600 sec/1 hour)</i>

### Volume provided in each drywell

Volume Provided =	490	ft <sup>3</sup>	<i>(Drywell Chamber Depth x Drywell Chamber Area) + (Drywell Rock Shaft Depth x Drywell Rock Shaft Area x Rock Porosity)</i>
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### Maxwell System Design

# of Drywells Provided =	2	
Total Volume Provided in Drywells =	980	ft <sup>3</sup>
Total Volume Infiltrated in 48 hours =	63,418	ft <sup>3</sup>
Total Volume Infiltrated in 3 hours =	3,964	ft <sup>3</sup>
Total Infiltration Flowrate =	0.3670	cfs

The DCV will be stored in an underground system while the DCV infiltrates via drywells.

## DA 6 – CMP “F” AND DRY WELL “F”

Region		Valley	
Drainage Area (acres)		12.05	acres
Drainage Area (sq-ft)		524,898	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	C =	0.807	
<a href="#">1-hr 2-yr from NOAA</a>		0.573	
P6 Coeff		1.4807	
Mean 6-hr (P6)		0.848	
Drawdown Rate (a)		1.963	
DCV		58,789	cu-ft
DCV		1.350	acre-ft

## MAXWELL IV DRAINAGE SYSTEM CALCULATIONS (DA 6)

### Given:

Measured Percolation Rate =	0.3670	cfs
Safety Factor =	2	
Design Percolation Rate =	0.1835	cfs
Design Capture Volume (DCV) =	58,789	ft <sup>3</sup>
Required Drawdown Time =	48	hours
Minimum Depth to Infiltration =	10	ft
Groundwater Depth for Design =	100+	ft
Rock Porosity =	40%	
Duration of Storm When Infiltrating is Occuring as Basin is Filling =	3	hours
Drywell Chamber Diameter =	4	ft
Drywell Chamber Area =	12.57	ft <sup>2</sup>
Drywell Chamber Depth =	25	ft
Drywell Rock Shaft Diameter =	4	ft
Drywell Rock Shaft Area =	12.57	ft <sup>2</sup>
Drywell Rock Shaft Depth =	35	ft

### Volume of disposal for each drywell based on various time frames are included below.

48 hours =	31,709	ft <sup>3</sup>	<i>Design Percolation Rate x Drawdown Time x (3600 sec/1 hour)</i>
3 hours =	1,982	ft <sup>3</sup>	<i>Design Percolation Rate x Drawdown Time x (3600 sec/1 hour)</i>

### Volume provided in each drywell

Volume Provided =	490	ft <sup>3</sup>	<i>(Drywell Chamber Depth x Drywell Chamber Area) + (Drywell Rock Shaft Depth x Drywell Rock Shaft Area x Rock Porosity)</i>
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### Maxwell System Design

# of Drywells Provided =	2	
Total Volume Provided in Drywells =	980	ft <sup>3</sup>
Total Volume Infiltrated in 48 hours =	63,418	ft <sup>3</sup>
Total Volume Infiltrated in 3 hours =	3,964	ft <sup>3</sup>
Total Infiltration Flowrate =	0.3670	cfs

The DCV will be stored in an underground system while the DCV infiltrates via drywells.

### DA 7 – CMP “G” AND DRY WELL “G”

Region		Valley	
Drainage Area (acres)		17.65	acres
Drainage Area (sq-ft)		768,834	sq-ft
Impervious Coeff	i =	0.95	< 1.0
Runoff Coeff	C =	0.807	
<a href="#">1-hr 2-yr from NOAA</a>		0.573	
P6 Coeff		1.4807	
Mean 6-hr (P6)		0.848	
Drawdown Rate (a)		1.963	
DCV		86,110	cu-ft
DCV		1.977	acre-ft

## MAXWELL IV DRAINAGE SYSTEM CALCULATIONS (DA 7)

### Given:

Measured Percolation Rate =	0.3670	cfs
Safety Factor =	2	
Design Percolation Rate =	0.1835	cfs
Design Capture Volume (DCV) =	86,110	ft <sup>3</sup>
Required Drawdown Time =	48	hours
Minimum Depth to Infiltration =	10	ft
Groundwater Depth for Design =	100+	ft
Rock Porosity =	40%	
Duration of Storm When Infiltrating is Occuring as Basin is Filling =	3	hours
Drywell Chamber Diameter =	4	ft
Drywell Chamber Area =	12.57	ft <sup>2</sup>
Drywell Chamber Depth =	25	ft
Drywell Rock Shaft Diameter =	4	ft
Drywell Rock Shaft Area =	12.57	ft <sup>2</sup>
Drywell Rock Shaft Depth =	35	ft

### Volume of disposal for each drywell based on various time frames are included below.

48 hours =	31,709	ft <sup>3</sup>	<i>Design Percolation Rate x Drawdown Time x (3600 sec/1 hour)</i>
3 hours =	1,982	ft <sup>3</sup>	<i>Design Percolation Rate x Drawdown Time x (3600 sec/1 hour)</i>

### Volume provided in each drywell

Volume Provided =	490	ft <sup>3</sup>	<i>(Drywell Chamber Depth x Drywell Chamber Area) + (Drywell Rock Shaft Depth x Drywell Rock Shaft Area x Rock Porosity)</i>
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### Maxwell System Design

# of Drywells Provided =	3	
Total Volume Provided in Drywells =	1,470	ft <sup>3</sup>
Total Volume Infiltrated in 48 hours =	95,126	ft <sup>3</sup>
Total Volume Infiltrated in 3 hours =	5,945	ft <sup>3</sup>
Total Infiltration Flowrate =	0.5505	cfs

The DCV will be stored in an underground system while the DCV infiltrates via drywells.

# **HCOOC CALCULATIONS**

## Form 4.2-2 of HCOC Assessment

Does project have the potential to cause or contribute to an HCOC in a downstream channel:  Yes  No

Go to: <http://sbcounty.permitrack.com/WAP/>

If "Yes", then complete HCOC assessment of site hydrology for 2yr storm event using Forms 4.2-3 through 4.2-5 and insert results below (Forms 4.2-3 through 4.2-5 may be replaced by computer software analysis based on the San Bernardino County Hydrology Manual)

If "No," then proceed to Section 4.3 Project Conformance Analysis

Condition	Runoff Volume (ft <sup>3</sup> )	Time of Concentration (min)	Peak Runoff (cfs)
<b>Pre-developed</b>	<sup>1</sup> 263,994 <i>Form 4.2-3 Item 12</i>	<sup>2</sup> N/A <i>Form 4.2-4 Item 13</i>	<sup>3</sup> N/A <i>Form 4.2-5 Item 10</i>
<b>Post-developed</b>	<sup>4</sup> 561,973 <i>Form 4.2-3 Item 13</i>	<sup>5</sup> N/A <i>Form 4.2-4 Item 14</i>	<sup>6</sup> N/A <i>Form 4.2-5 Item 14</i>
<b>Difference</b>	<sup>7</sup> 297,979 <i>Item 4 – Item 1</i>	<sup>8</sup> N/A <i>Item 5 – Item 2</i>	<sup>9</sup> N/A <i>Item 6 – Item 3</i>
<b>Difference</b> (as % of pre-developed)	<sup>10</sup> 113% <i>Item 7 / Item 1</i>	<sup>11</sup> N/A <i>Item 8 / Item 2</i>	<sup>12</sup> N/A <i>Item 9 / Item 3</i>

To meet HCOC requirements, a mitigation volume must be achieved by using LID and/or hydromodification mitigation BMPs. The mitigation volume is approximately 269,880 cu-ft ((0.95 \* 561,973) – 263,994). The total volume being detained by underground CMP, proprietary biofiltration devices and biofiltration areas is 370,947 cu-ft, which is greater than the mitigation volume needed. As a result, the mitigation volume has been contained by the proposed BMPs. Since the mitigation volume has been met, it is physically impossible for the project to avoid increasing the time of concentration and reducing peak runoff by more than five percent of pre-development conditions (see Section 5.6.1 of the Technical Guidance Document for more information).



### Form 4.2-3 HCOC Assessment for Runoff Volume

Compute weighted curve number for pre and post developed conditions	Pre-developed DA <i>Add more columns if more than 4 DMA</i>				Post-developed DA <i>Add more columns if more than 4 DMA</i>			
	DMA A	DMA B	DMA C	DMA D	DMA A	DMA B	DMA C	DMA D
<sup>1</sup> Land Cover type	Row Crops (Poor)				Roof, Asphalt & Concrete	Urban Cover Commercial Landscape		
<sup>2</sup> Hydrologic Soil Group (HSG)	B				B	B		
<sup>3</sup> DMA Area, ft <sup>2</sup> <i>sum of areas of DMA should equal area of DA</i>	3,123,252				2,967,089	156,163		
<sup>4</sup> Curve Number (CN) <i>Use Items 1 and 2 to select the appropriate CN from Appendix C-2 of the TGD for WQMP</i>	81				98	56		
	<sup>5</sup> Pre-Developed area-weighted CN: <b>81</b>				<sup>6</sup> Post-Developed area-weighted CN: <b>96</b>			
	<sup>7</sup> Pre-developed soil storage capacity, S (in): <b>2.35</b> <i>S = (1000 / Item 5) - 10</i>				<sup>8</sup> Post-developed soil storage capacity, S (in): <b>0.42</b> <i>S = (1000 / Item 6) - 10</i>			
	<sup>9</sup> Initial abstraction, I <sub>a</sub> (in): <b>0.47</b> <i>I<sub>a</sub> = 0.2 * Item 7</i>				<sup>10</sup> Initial abstraction, I <sub>a</sub> (in): <b>0.08</b> <i>I<sub>a</sub> = 0.2 * Item 8</i>			
<sup>11</sup> Precipitation for 2 yr, 24 hr storm (in): <b>2.60</b> <i>Go to: <a href="http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html">http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html</a></i>								
<sup>12</sup> Pre-developed Volume (ft <sup>3</sup> ): <b>263,994</b> <i>V<sub>pre</sub> = (1 / 12) * (Item sum of Item 3) * [(Item 11 - Item 9)<sup>2</sup> / ((Item 11 - Item 9 + Item 7))</i>								
<sup>13</sup> Post-developed Volume (ft <sup>3</sup> ): <b>561,973</b> <i>V<sub>pre</sub> = (1 / 12) * (Item sum of Item 3) * [(Item 11 - Item 10)<sup>2</sup> / ((Item 11 - Item 10 + Item 8))</i>								
<sup>14</sup> Volume Reduction needed to meet HCOC Requirement, (ft <sup>3</sup> ): <b>269,880</b> <i>V<sub>HCOC</sub> = (Item 13 * 0.95) - Item 12</i>								

# **INFILTRATION FEASIBILITY**

July 19, 2021

Real Estate Development Associates  
4450 MacArthur Boulevard, Suite 100  
Newport Beach, California 92660



**SOUTHERN  
CALIFORNIA  
GEOTECHNICAL**  
*A California Corporation*

Attention: Mr. Jeff Johnston  
Senior Vice President

Project No.: **19G248-3**

Subject: **Results of Infiltration Testing**  
Ontario Ranch Business Park: Phase II  
SEC Eucalyptus Avenue and Sultana Avenue  
Ontario, California

Reference: Geotechnical Investigation, Proposed Commercial/Industrial Building, SEC Eucalyptus Avenue and Sultana Avenue, Ontario, California, prepared by Southern California Geotechnical, Inc. (SCG) for Real Estate Development Associates, SCG Project No. 19G248-2.

Mr. Johnston:

In accordance with your request, we have conducted infiltration testing at the subject site. We are pleased to present this report summarizing the results of the infiltration testing and our design recommendations.

### **Scope of Services**

The scope of services performed for this project was in general accordance with our Proposal No. 21P242R, dated May 19, 2021. The scope of services included site reconnaissance, subsurface exploration, field testing, and engineering analysis to determine the infiltration rates of the on-site soils. The infiltration testing was performed in general accordance with the guidelines published in the Riverside County – Low Impact Development BMP Design Handbook – Section 2.3 of Appendix A, prepared for the Riverside County Department of Environmental Health (RCDEH), dated December, 2013. The San Bernardino County standards defer to the guidelines published by the RCDEH.

### **Site and Project Description**

The subject site is located at the southeast corner of Eucalyptus Avenue and Sultana Avenue in Ontario, California. The site is bounded to the north by Eucalyptus Avenue, to the west by a Sultana Avenue easement, to the south by Merrill Avenue, and to the east by a Campus Avenue easement. The general location of the site is illustrated on the Site Location Map, enclosed as Plate 1 in Appendix A of this report.

The subject site consists of a rectangular shaped parcel, 75± acres in size. The site is currently developed as a dairy farm. The northeastern portion of the site is developed with cattle pens with multiple canopy structures, farm houses, and structures associated with milking activities. The

buildings appear to be single-story structures of wood frame construction and the canopies appear to be of metal frame construction. We expect that all of these structures are supported on conventional shallow foundations. Ground surface cover in the northeastern portion of the site structures generally consists of turf grass, asphaltic concrete, and concrete pavements surrounding the farm houses and the other structures, manure in the cattle pen areas, and exposed soils with sparse native grass and weed growth in the remaining areas. The northwestern portion and southern one-third of the site are planted with row crops.

Detailed topographic information was not available at the time of this report. Based on visual observations made at the time of the subsurface investigation and from elevation information obtained from Google Earth, the overall site topography generally slopes downward to the southwest at a gradient of  $1\pm$  percent.

### **Proposed Development**

A conceptual site plan (Scheme 10A) was provided by the client. Based on this plan, the existing structures will be demolished in order to facilitate the construction of the new development. As a part of the new development, six (6) new commercial/industrial buildings will be constructed at the subject site. The buildings will be identified as follows:

- Building 8 –  $67,380\pm\text{ft}^2$  in size located in the northwest corner of the site;
- Building 9 –  $61,300\pm\text{ft}^2$  in size located in the north area of the site;
- Building 10 –  $83,110\pm\text{ft}^2$  in size located in the northeast area of the site;
- Building 11 –  $352,830\pm\text{ft}^2$  in size located in the north-central area of the site;
- Building 12 –  $530,460\pm\text{ft}^2$  in size located in the central area of the site;
- Building 13 –  $427,160\pm\text{ft}^2$  in size located in south areas of the site.

All of the buildings will include dock-high doors along a portion of at least one of the building walls. The buildings will be surrounded by asphaltic concrete pavements in the parking and drive lane areas, Portland cement concrete pavements in the loading dock areas, and new concrete flatwork and landscaped planters throughout the site.

We understand that the proposed development will include on-site stormwater infiltration. The infiltration system is expected to consist of a series of below-grade chamber located in the proposed parking areas throughout the site. The bottom of the chamber systems are proposed to be  $10$  to  $13\pm$  feet below existing site grades. The approximate locations of the infiltration systems are included within Plate 2 of this report.

### **Concurrent Study**

SCG concurrently conducted a geotechnical investigation at the subject site, referenced above. As a part of this study, ten (10) were advanced to depths of  $25$  to  $60\pm$  feet below the existing site grades. Additionally, six (6) trenches were excavated using a rubber-tire backhoe to depths of  $5$  to  $10\pm$  feet below existing site grades. Asphaltic Concrete (AC) pavements were encountered at the ground surface of Boring Nos. B-7, B-10, and B-12, measuring  $2$  to  $4\pm$  inches of AC with  $0$  to  $4\pm$  inches of Aggregate Base (AB). Additionally,  $1\pm$  foot of open graded gravel pavement was encountered at the ground surface of Boring No. B-6. Artificial fill soils were encountered at the ground surface or beneath the pavements at Boring Nos. B-6, B-7, B-9, B-10, B-11, and B-

12, extending to depths of 2½ to 4½± feet below existing site grades. In addition, fill soils were encountered at the ground surface of Trench Nos. T-7, T-9, and T-10, extending to depths of 1½ to 2± feet below existing site grades. The artificial fill soils consist of loose to medium dense silty fine sands and medium dense clayey fine sands. Additionally, stiff to very stiff silty clays with occasional porosity were encountered within the fill soils. Disturbed alluvial soils were encountered at the ground surface or beneath the fill soils at Trench Nos. T-5, T-6, and T-8, extending to depths of 1 to 5± feet below existing site grades. The disturbed alluvium consists of loose to very loose silty fine sands, loose fine sandy silts, and dense fine sandy silts. Native alluvial soils were encountered at the ground surface or beneath the fill at all of the boring and trench locations. The near surface alluvium at depths less than 20 feet generally consists of loose to dense fine sandy silts and silty fine sands, medium dense fine and fine to medium sands, medium stiff to stiff clayey silts, medium stiff to very stiff fine sandy clays, and medium stiff to hard silty clays. At depths greater than 20 feet, the alluvium consists of medium dense fine to coarse sands, clayey fine sands, and fine sands. In addition, dense fine sandy silts, medium dense to dense silty fine sands, very dense silty fine to medium sands, medium stiff to hard silty clays, stiff silts, and very stiff to hard fine sandy clays. Variable iron oxide staining and calcareous veining were observed within the alluvial strata. Additionally, trace quantities of medium to coarse sand, silts, clays were occasionally observed throughout the various alluvial strata.

Free water was not encountered during the drilling of any of the borings or excavation of any of the trenches. Based on the lack of any water within the borings, and the moisture contents of the recovered soil samples, the static groundwater is considered to have been present at a depth in excess of 60± feet at the time of the subsurface exploration.

As part of our research, we reviewed available groundwater data in order to determine regional groundwater depths. Recent water level data was obtained from the California State Water Resources Control Board, GeoTracker website, <http://geotracker.waterboards.ca.gov/>. Available data for monitoring wells, located approximately 4,200± feet west from the site, indicate a high groundwater level of 83± feet below ground surface.

## **Subsurface Exploration**

### Scope of Exploration

The subsurface exploration performed for the infiltration testing consisted of twelve (12) infiltration test borings, advanced to depths of 12 to 15± feet below the existing site grades. These borings were advanced using a truck-mounted drilling rig, equipped with 8-inch-diameter hollow-stem augers. The borings were logged during drilling by a member of our staff. The approximate locations of the infiltration test borings (identified as I-1 and I-12) are indicated on the Infiltration Test Location Plan, enclosed as Plate 2 of this report.

Upon the completion of the infiltration test borings, the bottom of each test boring was covered with 2± inches of clean ¾-inch gravel. A sufficient length of 3-inch-diameter perforated PVC casing was then placed into each test hole so that the PVC casing extended from the bottom of the test hole to the ground surface. Clean ¾-inch gravel was then installed in the annulus surrounding the PVC casing.

## Geotechnical Conditions

### Artificial Fill

Artificial fill soils were encountered at the ground surface at most of the infiltration boring locations except Infiltration Boring Nos. I-6 and I-10, extending to depths of 3 to 5½± below the existing site grades. The fill soils generally consist of loose to medium dense fine sandy silts and silty fine sands with varying amounts of fine to coarse sand and clay content. The fill soils possess a disturbed mottled appearance and some organic matter content resulting in their classification as artificial fill. Infiltration Boring Nos. I-11 and I-12 possessed very stiff and dense soils in the upper 3 feet of fill.

### Alluvium

Native alluvial soils were encountered beneath the fill soils at most infiltration boring locations. At Infiltration Boring Nos. I-6 and I-10 artificial soils were encountered at the ground surface extending to at least the maximum depth explored of 12 to 15± feet below the existing site grades. The upper alluvial soils generally consist of loose to medium dense silty fine sands and fine sandy silts. The lower alluvial soils generally consist of medium stiff to stiff clayey silts to silty clays and medium dense fine sandy silts. The Boring Logs, which illustrate the conditions encountered at the boring locations, are included with this report.

### **Infiltration Testing**

As previously mentioned, the infiltration testing was performed in general accordance with the guidelines published in Riverside County – Low Impact Development BMP Design Handbook – Section 2.3 of Appendix A, which has been adopted by San Bernardino County.

### Pre-soaking

In accordance with the county infiltration standards for sandy soils, all infiltration test borings were pre-soaked 2 hours prior to the infiltration testing or until all of the water had percolated through the test holes. The pre-soaking process consisted of filling test borings by inverting a full 5-gallon bottle of clear water supported over each hole so that the water flow into the hole holds constant at a level at least 5 times the hole's radius above the gravel at the bottom of each hole. Pre-soaking was completed after all of the water had percolated through the test holes.

### Infiltration Testing

Following the pre-soaking process of the infiltration test borings, SCG performed the infiltration testing. Each test hole was filled with water to a depth of at least 5 times the hole's radius above the gravel at the bottom of the test holes. In accordance with the San Bernardino County guidelines, since "non-sandy soils" were encountered at the bottom of all of the infiltration test borings (where less than 6 inches of water infiltrated into the surrounding soils for two consecutive 25-minute readings), readings were taken at 30-minute intervals for a total of 6 hours at each test location. After each reading, water was added to the borings so that the depth of the water was at least 5 times the radius of the hole. The water level readings are presented on

the spreadsheets enclosed with this report. The infiltration rates for each of the timed intervals are also tabulated on the spreadsheets.

The infiltration rates from the test are tabulated in inches per hour. In accordance with the typically accepted practice, it is recommended that the most conservative reading from the latter part of the infiltration tests be used as the design infiltration rate. The rates are summarized below:

<u>Infiltration Test No.</u>	<u>Depth (feet)</u>	<u>Soil Description</u>	<u>Infiltration Rate (inches/hour)</u>
I-1	15	Yellow Brown Clayey Silt, little fine Sand	0.49
I-2	15	Light Green fine Sandy Silt	0.41
I-3	15	Green Gray fine Sandy Silt	0.31
I-4	15	Brown Silty Clay, little fine Sand, trace medium Sand	0.00
I-5	12	Light Brown Silty Clay, little fine Sand	0.00
I-6	12	Light Brown Clayey Silt, trace fine Sand	0.31
I-7	15	Light Brown fine Sandy Silt, little fine Sand, trace Clay	0.08
I-8	12	Gray Brown fine Sandy Silt	0.00
I-9	15	Light Brown fine Sandy Clay	0.00
I-10	15	Brown Silty fine Sand, little medium Sand	0.16
I-11	15	Brown fine Sandy Silt, trace medium Sand, trace Clay	0.00
I-12	15	Brown fine Sandy Silt, trace Clay	0.49

## **Laboratory Testing**

### **Moisture Content**

The moisture contents for the recovered soil samples within the borings were determined in accordance with ASTM D-2216 and are expressed as a percentage of the dry weight. These test results are presented on the Boring Logs.

### **Grain Size Analysis**

The grain size distribution of selected soils collected from the base of each infiltration test boring have been determined using a range of wire mesh screens. These tests were performed in general accordance with ASTM D-422 and/or ASTM D-1140. The weight of the portion of the sample retained on each screen is recorded and the percentage finer or coarser of the total weight is calculated. The results of these tests are presented on Plates C-1 and C-12 of this report.

## **Design Recommendations**

Twelve (12) infiltration tests were performed at the subject site. As noted above, the infiltration rates at these locations vary from 0.00 to 0.49 inches per hour. The relatively high silt and clay content of the on-site soils resulted in either no infiltration or low infiltration rates at the infiltration test locations. **Based on the existing site conditions and on the infiltration rates measured for the tested locations and depths, the on-site soils are generally not considered feasible for infiltration. Therefore, infiltration is not recommended for this site.**

## **Construction Considerations**

The infiltration rate presented in this report is specific to the tested location and tested depth. Infiltration rates can be significantly reduced if the soils are exposed to excessive disturbance or compaction during construction. Therefore, the subgrade soils within the proposed infiltration system area should not be overexcavated, undercut or compacted in any significant manner. **It is recommended that a note to this effect be added to the project plans and/or specifications.**

## **General Comments**

This report has been prepared as an instrument of service for use by the client in order to aid in the evaluation of this property and to assist the architects and engineers in the design and preparation of the project plans and specifications. This report may be provided to the contractor(s) and other design consultants to disclose information relative to the project. However, this report is not intended to be utilized as a specification in and of itself, without appropriate interpretation by the project architect, structural engineer, and/or civil engineer. The design of the proposed storm water infiltration system is the responsibility of the civil engineer. The role of the geotechnical engineer is limited to determination of infiltration rate only. By using the design infiltration rate contained herein, the civil engineer agrees to indemnify, defend, and hold harmless the geotechnical engineer for all aspects of the design and performance of the proposed storm water infiltration system. The reproduction and distribution of this report must be authorized by the client and Southern California Geotechnical, Inc. Furthermore, any reliance on this report by an unauthorized third party is at such party's sole risk, and we accept no responsibility for damage or loss which may occur.

The analysis of this site was based on a subsurface profile interpolated from limited discrete soil samples. While the materials encountered in the project area are considered to be representative of the total area, some variations should be expected between boring locations and testing depths. If the conditions encountered during construction vary significantly from those detailed herein, we should be contacted immediately to determine if the conditions alter the recommendations contained herein.

This report has been based on assumed or provided characteristics of the proposed development. It is recommended that the owner, client, architect, structural engineer, and civil engineer carefully review these assumptions to ensure that they are consistent with the characteristics of the proposed development. If discrepancies exist, they should be brought to our attention to verify that they do not affect the conclusions and recommendations contained herein. We also



recommend that the project plans and specifications be submitted to our office for review to verify that our recommendations have been correctly interpreted. The analysis, conclusions, and recommendations contained within this report have been promulgated in accordance with generally accepted professional geotechnical engineering practice. No other warranty is implied or expressed.

**Closure**

We sincerely appreciate the opportunity to be of service on this project. We look forward to providing additional consulting services during the course of the project. If we may be of further assistance in any manner, please contact our office.

Respectfully Submitted,

SOUTHERN CALIFORNIA GEOTECHNICAL, INC.



Jose Angel Zuniga  
Staff Engineer

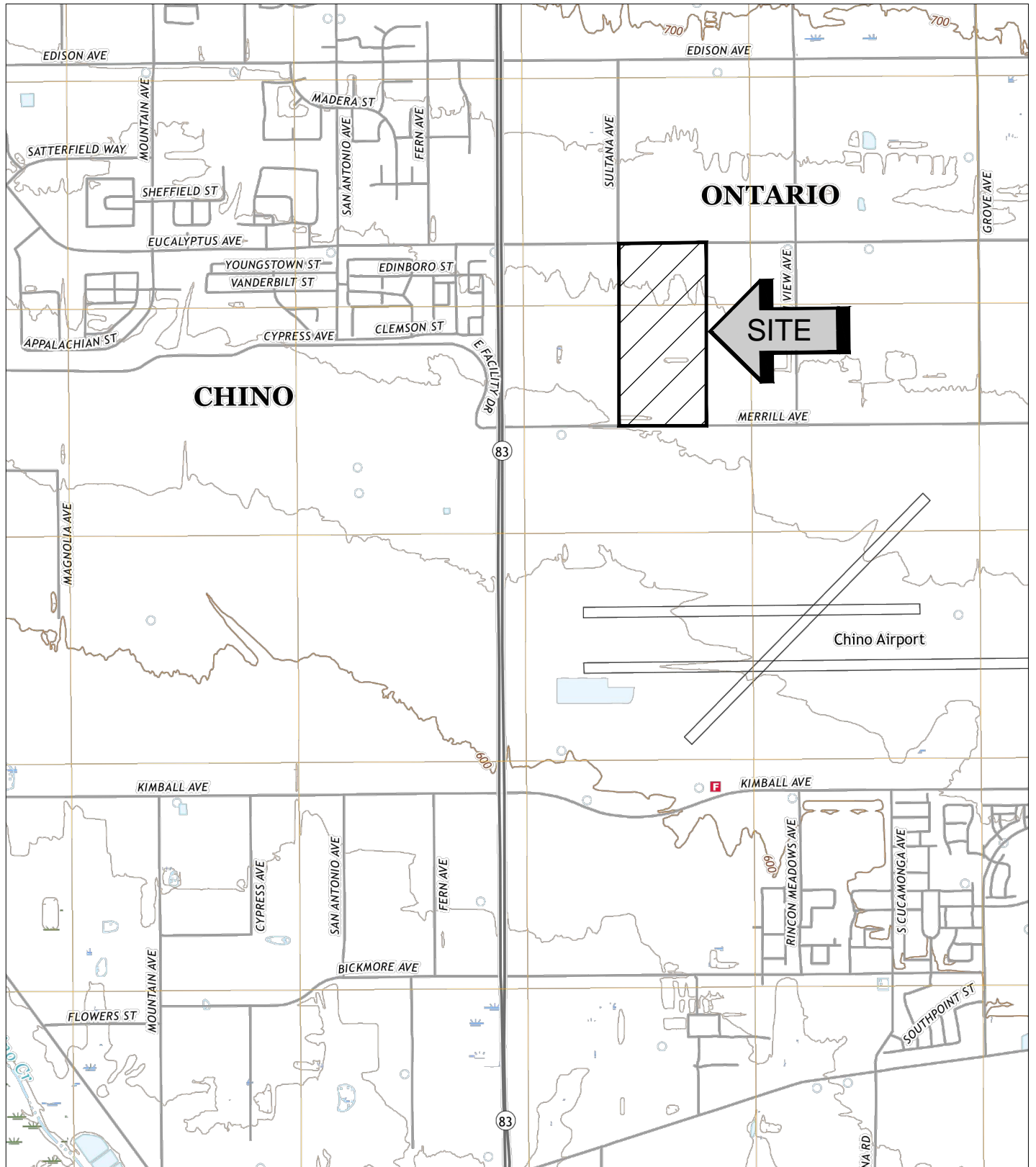


Daniel W. Nielsen, GE 3166  
Senior Engineer



Distribution: (1) Addressee

Enclosures: Plate 1 - Site Location Map  
Plate 2 - Infiltration Test Location Plan  
Boring Log Legend and Logs (14 pages)  
Infiltration Test Results Spreadsheets (12 pages)  
Grain Size Distribution Graphs (12 pages)

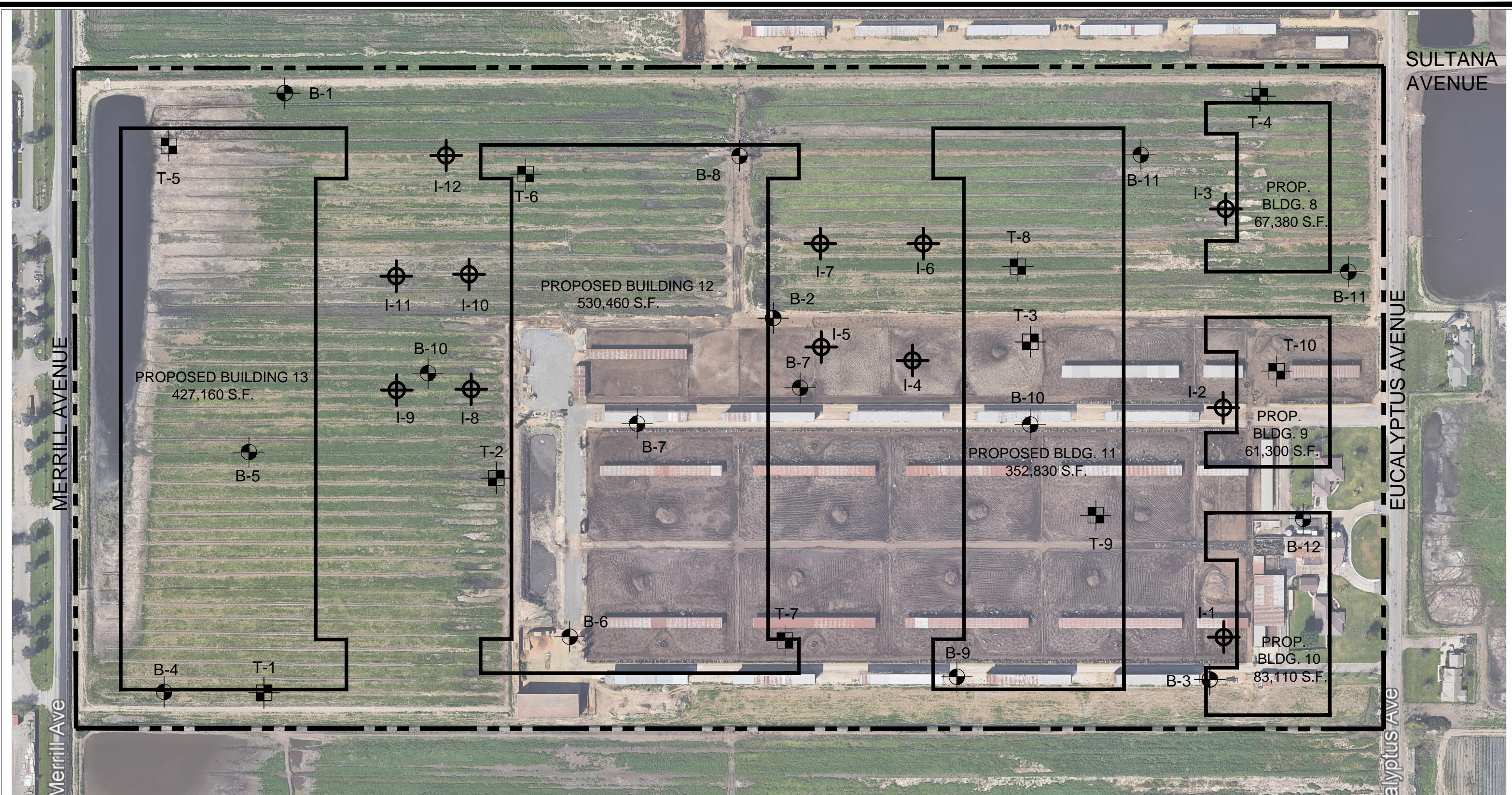


SOURCE: USGS TOPOGRAPHIC MAP OF THE PRADO DAM QUADRANGLE, SAN BERNARDINO COUNTY, CALIFORNIA, 2018.



<b>SITE LOCATION MAP</b>	
ONTARIO RANCH BUSINESS PARK: PHASE II	
ONTARIO, CALIFORNIA	
SCALE: 1" = 2000'	 <b>SOUTHERN CALIFORNIA GEOTECHNICAL</b>
DRAWN: JAZ	
CHKD: DWN	
SCG PROJECT 19G248-3	
<b>PLATE 1</b>	





SULTANA AVENUE

MERRILL AVENUE

EUCALYPTUS AVENUE

Merrill Ave

eucalyptus Ave

**GEOTECHNICAL LEGEND**

- APPROXIMATE INFILTRATION TEST LOCATION
- APPROXIMATE TRENCH LOCATION (SCG PROJECT NO. 19G248-2)
- APPROXIMATE BORING LOCATION (SCG PROJECT NO. 19G248-2)
- APPROXIMATE BORING LOCATION (SCG PROJECT NO. 19G248-1)
- APPROXIMATE TRENCH LOCATION (SCG PROJECT NO. 19G248-1)


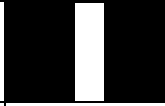

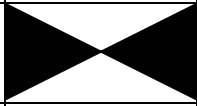

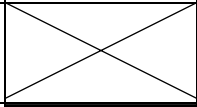




NOTE: AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH.

<b>INFILTRATION TEST LOCATION PLAN</b>	
ONTARIO RANCH BUSINESS PARK: PHASE II	
ONTARIO, CALIFORNIA	
SCALE: 1" = 180'	 <b>SOUTHERN CALIFORNIA GEOTECHNICAL</b>
DRAWN: JAZ	
CHKD: DWN	
SCG PROJECT 19G248-3	
<b>PLATE 2</b>	



# BORING LOG LEGEND

SAMPLE TYPE	GRAPHICAL SYMBOL	SAMPLE DESCRIPTION
AUGER		SAMPLE COLLECTED FROM AUGER CUTTINGS, NO FIELD MEASUREMENT OF SOIL STRENGTH. (DISTURBED)
CORE		ROCK CORE SAMPLE: TYPICALLY TAKEN WITH A DIAMOND-TIPPED CORE BARREL. TYPICALLY USED ONLY IN HIGHLY CONSOLIDATED BEDROCK.
GRAB		SOIL SAMPLE TAKEN WITH NO SPECIALIZED EQUIPMENT, SUCH AS FROM A STOCKPILE OR THE GROUND SURFACE. (DISTURBED)
CS		CALIFORNIA SAMPLER: 2-1/2 INCH I.D. SPLIT BARREL SAMPLER, LINED WITH 1-INCH HIGH BRASS RINGS. DRIVEN WITH SPT HAMMER. (RELATIVELY UNDISTURBED)
NSR		NO RECOVERY: THE SAMPLING ATTEMPT DID NOT RESULT IN RECOVERY OF ANY SIGNIFICANT SOIL OR ROCK MATERIAL.
SPT		STANDARD PENETRATION TEST: SAMPLER IS A 1.4 INCH INSIDE DIAMETER SPLIT BARREL, DRIVEN 18 INCHES WITH THE SPT HAMMER. (DISTURBED)
SH		SHELBY TUBE: TAKEN WITH A THIN WALL SAMPLE TUBE, PUSHED INTO THE SOIL AND THEN EXTRACTED. (UNDISTURBED)
VANE		VANE SHEAR TEST: SOIL STRENGTH OBTAINED USING A 4 BLADED SHEAR DEVICE. TYPICALLY USED IN SOFT CLAYS-NO SAMPLE RECOVERED.

## COLUMN DESCRIPTIONS

- DEPTH:** Distance in feet below the ground surface.
- SAMPLE:** Sample Type as depicted above.
- BLOW COUNT:** Number of blows required to advance the sampler 12 inches using a 140 lb hammer with a 30-inch drop. 50/3" indicates penetration refusal (>50 blows) at 3 inches. WH indicates that the weight of the hammer was sufficient to push the sampler 6 inches or more.
- POCKET PEN.:** Approximate shear strength of a cohesive soil sample as measured by pocket penetrometer.
- GRAPHIC LOG:** Graphic Soil Symbol as depicted on the following page.
- DRY DENSITY:** Dry density of an undisturbed or relatively undisturbed sample in lbs/ft<sup>3</sup>.
- MOISTURE CONTENT:** Moisture content of a soil sample, expressed as a percentage of the dry weight.
- LIQUID LIMIT:** The moisture content above which a soil behaves as a liquid.
- PLASTIC LIMIT:** The moisture content above which a soil behaves as a plastic.
- PASSING #200 SIEVE:** The percentage of the sample finer than the #200 standard sieve.
- UNCONFINED SHEAR:** The shear strength of a cohesive soil sample, as measured in the unconfined state.

# SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS	
			GRAPH	LETTER		
<p><b>COARSE GRAINED SOILS</b></p> <p>MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE</p>	<p><b>GRAVEL AND GRAVELLY SOILS</b></p>	<p>CLEAN GRAVELS</p> <p>(LITTLE OR NO FINES)</p>		<b>GW</b>	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES	
		<p>MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE</p>	<p>GRAVELS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>GP</b>	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
			<p>GRAVELS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>GM</b>	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		<p>MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE</p>	<p><b>SAND AND SANDY SOILS</b></p>	<p>CLEAN SANDS</p> <p>(LITTLE OR NO FINES)</p>		<b>SW</b>
	<p>SANDS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>				<b>SP</b>	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
	<p><b>FINE GRAINED SOILS</b></p> <p>MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE</p>	<p><b>SILTS AND CLAYS</b></p> <p>LIQUID LIMIT LESS THAN 50</p>	<p>CLEAN SANDS</p> <p>(LITTLE OR NO FINES)</p>		<b>SM</b>	SILTY SANDS, SAND - SILT MIXTURES
			<p>SANDS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>SC</b>	CLAYEY SANDS, SAND - CLAY MIXTURES
			<p>SANDS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>ML</b>	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
		<p><b>SILTS AND CLAYS</b></p> <p>LIQUID LIMIT GREATER THAN 50</p>	<p>SANDS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>CL</b>	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			<p>SANDS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>OL</b>	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
<p>SANDS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>				<b>MH</b>	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS	
<p><b>HIGHLY ORGANIC SOILS</b></p>	<p><b>SILTS AND CLAYS</b></p> <p>LIQUID LIMIT GREATER THAN 50</p>	<p>SANDS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>CH</b>	INORGANIC CLAYS OF HIGH PLASTICITY	
		<p>SANDS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>OH</b>	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS	
<p><b>HIGHLY ORGANIC SOILS</b></p>				<b>PT</b>	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS	

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS



JOB NO.: 19G248-3	DRILLING DATE: 5/24/21	WATER DEPTH: Dry
PROJECT: ORBP: Phase II	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: --
LOCATION: Ontario, California	LOGGED BY: Ryan Bremer	READING TAKEN: --

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	
SURFACE ELEVATION: MSL											
18	X	18			<u>FILL:</u> Dark Brown fine Sandy Silt, some Organic content, trace medium to coarse Sand, trace calcareous veining, medium dense-moist		20				
9	X	9			Gray fine Sandy Silt, trace Clay, little Organic content, trace calcareous veining, loose-very moist		21				
5	X	5			<u>ALLUVIUM:</u> Gray Brown Silty fine Sand, trace fine root fibers, medium dense-very moist		15				
11	X	11									
14	X	14			Brown Silty fine Sand, trace Clay, medium dense-very moist		20				
10	X	10									
12	X	12	3.0		Yellow Brown Clayey Silt, little fine Sand, stiff-very moist		26		73		
15	X										
Boring Terminated at 15'											

TBL\_19G248-3.GPJ\_SOCALGEO.GDT 7/28/21



JOB NO.: 19G248-3	DRILLING DATE: 5/24/21	WATER DEPTH: Dry
PROJECT: ORBP: Phase II	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: --
LOCATION: Ontario, California	LOGGED BY: Ryan Bremer	READING TAKEN: --

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	
SURFACE ELEVATION: MSL											
					<u>FILL:</u> Light Gray Brown fine Sandy Silt, little Organic matter, trace calcareous veining, medium dense-very moist		21				
					<u>ALLUVIUM:</u> Brown Silty fine Sand, trace calcareous veining, micaceous, medium dense-moist		10				
5							11				
					@ 8½ feet, very moist		22				
10											
					Light Gray Brown fine Sandy Silt, trace Iron oxide staining, medium dense-very moist		23		85		
15											
Boring Terminated at 15'											

TBL\_19G248-3.GPJ\_SOCALGEO.GDT 7/28/21



JOB NO.: 19G248-3	DRILLING DATE: 5/24/21	WATER DEPTH: Dry
PROJECT: ORBP: Phase II	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: --
LOCATION: Ontario, California	LOGGED BY: Ryan Bremer	READING TAKEN: --

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS					COMMENTS	
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT		PASSING #200 SIEVE (%)
SURFACE ELEVATION: MSL											
					<u>FILL:</u> Gray Brown fine Sandy Silt, trace Organic content, trace coarse Sand, trace calcareous veining, medium dense-very moist		20				
					<u>ALLUVIUM:</u> Brown Silty fine Sand, trace calcareous veining, medium dense-very moist		16				
5							24				
6							24				
10			2.5		Brown Clayey Silt, trace fine Sand, trace calcareous veining, medium stiff, very moist		26				
15			1.0		Green Gray fine Sandy Silt, medium dense-very moist		27		85		
Boring Terminated at 15'											

TBL\_19G248-3.GPJ\_SOCALGEO.GDT 7/28/21





JOB NO.: 19G248-3	DRILLING DATE: 5/24/21	WATER DEPTH: Dry
PROJECT: ORBP: Phase II	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: --
LOCATION: Ontario, California	LOGGED BY: Ryan Bremer	READING TAKEN: --

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	
SURFACE ELEVATION: MSL											
		15		[Symbol]	<u>FILL:</u> Gray Brown fine Sandy Silt, trace Silty Clay nodules, trace calcareous veining, slightly mottled, medium dense-very moist		32				
		13		[Symbol]	<u>ALLUVIUM:</u> Brown Silty fine Sand, trace calcareous veining, micaceous, medium dense-moist to very moist		12				
5		11		[Symbol]	@ 6 feet, trace Clay nodules		16				
		9		[Symbol]	Gray Brown fine Sandy Silt, trace Clay, loose-very moist		19				
10				[Symbol]							
		14	4.0	[Symbol]	Brown Silty Clay, little fine Sand, trace medium Sand, trace Iron oxide staining, stiff-very moist		19		70		
15				[Symbol]							
Boring Terminated at 15'											

TBL\_19G248-3.GPJ\_SOCALGEO.GDT 7/28/21



JOB NO.: 19G248-3	DRILLING DATE: 5/24/21	WATER DEPTH: Dry
PROJECT: ORBP: Phase II	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: --
LOCATION: Ontario, California	LOGGED BY: Ryan Bremer	READING TAKEN: --

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	
SURFACE ELEVATION: MSL											
					FILL: Brown fine Sandy Silt, trace Organic content, trace Clay, medium dense-moist		14				
					ALLUVIUM: Gray Brown fine Sandy Silt, medium dense-moist to very moist		16				
5					Brown Silty fine Sand, trace calcareous veining, medium dense-moist		9				
10					Light Brown Silty Clay, little fine Sand, stiff-moist @ 8½ to 10 feet, extensive calcareous veining		14				
							19		84		
					Boring Terminated at 12'						

TBL\_19G248-3.GPJ\_SOCALGEO.GDT 7/28/21



JOB NO.: 19G248-3	DRILLING DATE: 5/24/21	WATER DEPTH: Dry
PROJECT: ORBP: Phase II	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: --
LOCATION: Ontario, California	LOGGED BY: Ryan Bremer	READING TAKEN: --

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	
SURFACE ELEVATION: MSL											
		9			ALLUVIUM: Brown Silty fine Sand, trace Clay, little fine root fibers, loose-very moist		22				
		10			@ 3½ feet, trace fine Gravel, medium dense		18				
5											
		5			Gray Brown fine Sandy Silt, trace medium Sand, trace calcareous veining, loose-very moist		29				
		6			@ 8½ to 9 feet, trace to little Clay nodules		29				
10					Light Brown Clayey Silt, trace fine Sand, extensive Iron oxide staining, stiff-very moist						
		11	2.0				43		96		
Boring Terminated at 12'											

TBL\_19G248-3.GPJ\_SOCALGEO.GDT 7/28/21



JOB NO.: 19G248-3	DRILLING DATE: 5/25/21	WATER DEPTH: Dry
PROJECT: ORBP: Phase II	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: --
LOCATION: Ontario, California	LOGGED BY: Ryan Bremer	READING TAKEN: --

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	
SURFACE ELEVATION: MSL											
					FILL: Light Brown Silty fine Sand, trace calcareous veining, medium dense-moist to very moist		13				
					ALLUVIUM: Brown Silty fine Sand, trace fine Gravel, trace calcareous veining, medium dense-moist to very moist		12				
5					Dark Brown fine Sandy Silt, trace Clay, loose-very moist		18				
					Brown Silty Clay, trace fine Sand, stiff-very moist		24				
10			3.0		Brown Silty Clay, trace fine Sand, stiff-very moist		24				
					Light Brown fine Sandy Silt, little fine Sand, trace Clay, medium dense-very moist		23		84		
15					Boring Terminated at 15'						

TBL\_19G248-3.GPJ\_SOCALGEO.GDT 7/28/21



JOB NO.: 19G248-3	DRILLING DATE: 5/25/21	WATER DEPTH: Dry
PROJECT: ORBP: Phase II	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: --
LOCATION: Ontario, California	LOGGED BY: Ryan Bremer	READING TAKEN: --

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	
SURFACE ELEVATION: MSL											
5	X	7		[Symbol]	<u>FILL:</u> Gray Brown Silty fine Sand, trace medium to coarse Sand, loose to medium dense-very moist		22				
11	X			[Symbol]			17				
5	X	5	2.0	[Symbol]	<u>ALLUVIUM:</u> Light Brown Clayey Silt, little fine Sand, little calcareous veining, medium stiff-very moist		23				
10	X	7	2.5	[Symbol]	Light Brown Silty Clay, medium stiff-very moist		22				
	X	4		[Symbol]	Gray Brown fine Sandy Silt, loose-very moist		30		74		
Boring Terminated at 12'											

TBL\_19G248-3.GPJ\_SOCALGEO.GDT 7/28/21



JOB NO.: 19G248-3	DRILLING DATE: 5/25/21	WATER DEPTH: Dry
PROJECT: ORBP: Phase II	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: --
LOCATION: Ontario, California	LOGGED BY: Ryan Bremer	READING TAKEN: --

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS					COMMENTS	
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT		PASSING #200 SIEVE (%)
SURFACE ELEVATION: MSL											
					<u>FILL:</u> Dark Brown fine Sandy Silt, trace to little Organic content, little fine root fibers, medium dense-very moist		24				
					Light Brown Silty fine Sand, medium dense-very moist		22				
5					<u>ALLUVIUM:</u> Brown Silty fine Sand, loose-very moist		23				
					Brown Silty Clay, little fine Sand, medium stiff-very moist		21				
10			3.5		Light Brown fine Sandy Clay, trace Iron oxide staining, medium stiff-very moist		22		70		
15			2.0								
Boring Terminated at 15'											

TBL\_19G248-3.GPJ\_SOCALGEO.GDT 7/28/21



JOB NO.: 19G248-3	DRILLING DATE: 5/25/21	WATER DEPTH: Dry
PROJECT: ORBP: Phase II	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: --
LOCATION: Ontario, California	LOGGED BY: Ryan Bremer	READING TAKEN: --

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	
SURFACE ELEVATION: MSL											
					ALLUVIUM: Light Gray Silty Clay, trace fine to medium Sand, trace fine root fibers, hard-moist to very moist		15				
					Brown fine Sandy Silt, medium dense-very moist		18				
5					Brown Silty Clay, little Calcareous veining, medium stiff-very moist		22				
			3.0								
							30				
			1.0								
10					Brown Silty fine Sand, little medium Sand, little Iron oxide staining, medium dense-very moist		18		44		
			16								
15											
Boring Terminated at 15'											

TBL 19G248-3.GPJ\_SOCALGEO.GDT 7/28/21



JOB NO.: 19G248-3	DRILLING DATE: 5/25/21	WATER DEPTH: Dry
PROJECT: ORBP: Phase II	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: --
LOCATION: Ontario, California	LOGGED BY: Ryan Bremer	READING TAKEN: --

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	
SURFACE ELEVATION: MSL											
					<u>FILL:</u> Light Brown Clayey Silt, trace fine to medium Sand, trace fine root fibers, very stiff-very moist		17				
					<u>ALLUVIUM:</u> Brown Silty fine Sand, trace calcareous veining, loose to medium dense-very moist		19				
5					@ 6 feet, trace Clay		21				
					Light Brown Silty Clay, little calcareous veining, stiff-very moist		29				
10					Brown fine Sandy Silt, trace medium Sand, trace Clay, medium dense-very moist		18		53		
15					Boring Terminated at 15'						

TBL\_19G248-3.GPJ\_SOCALGEO.GDT 7/28/21





JOB NO.: 19G248-3	DRILLING DATE: 5/25/21	WATER DEPTH: Dry
PROJECT: ORBP: Phase II	DRILLING METHOD: Hollow Stem Auger	CAVE DEPTH: --
LOCATION: Ontario, California	LOGGED BY: Ryan Bremer	READING TAKEN: --

FIELD RESULTS				DESCRIPTION	LABORATORY RESULTS						COMMENTS
DEPTH (FEET)	SAMPLE	BLOW COUNT	POCKET PEN. (TSF)		GRAPHIC LOG	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PASSING #200 SIEVE (%)	
SURFACE ELEVATION: MSL											
					FILL: Brown fine Sandy Silt, trace calcareous veining, dense-very moist		17				
					ALLUVIUM: Brown Silty fine Sand, trace medium Sand, loose-very moist		21				
5		6			Light Brown Silty Clay, trace fine Sand, medium stiff-very moist		17				
		6	2.0		@ 8½ feet, trace calcareous veining		29				
10		6	1.5								
		6			Brown fine Sandy Silt, trace Clay, medium dense-very moist		18		52		
15		14									
Boring Terminated at 15'											

TBL\_19G248-3.GPJ\_SOCALGEO.GDT 7/28/21

# INFILTRATION CALCULATIONS

Project Name	Ontario Ranch Business Park: Phase II
Project Location	Ontario, California
Project Number	19G248-3
Engineer	Caleb Brackett

Test Hole Radius	4 (in)
Test Depth	15.00 (ft)

Infiltration Test Hole	I-1
------------------------	-----

Soil Criteria Test							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (in)	Did 6 inches of water seep away in less than 25 minutes?	Sandy Soils or Non-Sandy Soils?
1	Initial	6:48 AM	25.00	13.10	5.76	NO	NON-SANDY SOILS
	Final	7:13 AM		13.58			
2	Initial	7:13 AM	25.00	13.10	3.60	NO	NON-SANDY SOILS
	Final	7:38 AM		13.40			

Test Data							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)
1	Initial	7:39 AM	30.00	13.10	0.37	1.72	0.79
	Final	8:09 AM		13.47			
2	Initial	8:09 AM	30.00	13.10	0.37	1.72	0.79
	Final	8:39 AM		13.47			
3	Initial	8:39 AM	30.00	13.10	0.30	1.75	0.63
	Final	9:09 AM		13.40			
4	Initial	9:09 AM	30.00	13.10	0.31	1.75	0.65
	Final	9:39 AM		13.41			
5	Initial	9:39 AM	30.00	13.10	0.30	1.75	0.63
	Final	10:09 AM		13.40			
6	Initial	10:09 AM	30.00	13.10	0.29	1.76	0.60
	Final	10:39 AM		13.39			
7	Initial	10:40 AM	30.00	13.10	0.28	1.76	0.58
	Final	11:10 AM		13.38			
8	Initial	11:10 AM	30.00	13.10	0.29	1.76	0.60
	Final	11:40 AM		13.39			
9	Initial	11:40 AM	30.00	13.10	0.27	1.77	0.56
	Final	12:10 PM		13.37			
10	Initial	12:10 PM	30.00	13.10	0.25	1.78	0.52
	Final	12:40 PM		13.35			
11	Initial	12:40 PM	30.00	13.10	0.25	1.78	0.52
	Final	1:10 PM		13.35			
12	Initial	1:10 PM	30.00	13.10	0.24	1.78	0.49
	Final	1:40 PM		13.34			

Per County Standards, Infiltration Rate calculated as follows:

Where:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

- Q = Infiltration Rate (in inches per hour)
- ΔH = Change in Height (Water Level) over the time interval
- r = Test Hole (Borehole) Radius
- Δt = Time Interval
- H<sub>avg</sub> = Average Head Height over the time interval

# INFILTRATION CALCULATIONS

Project Name	Ontario Ranch Business Park: Phase II
Project Location	Ontario, California
Project Number	19G248-3
Engineer	Caleb Brackett

Test Hole Radius	4 (in)
Test Depth	15.00 (ft)

Infiltration Test Hole	I-2
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Soil Criteria Test							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (in)	Did 6 inches of water seep away in less than 25 minutes?	Sandy Soils or Non-Sandy Soils?
1	Initial	7:41 AM	25.00	12.70	5.76	NO	NON-SANDY SOILS
	Final	8:06 AM		13.18			
2	Initial	8:06 AM	25.00	12.70	4.80	NO	NON-SANDY SOILS
	Final	8:31 AM		13.10			

Test Data							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)
1	Initial	8:32 AM	30.00	12.70	0.34	2.13	0.59
	Final	9:02 AM		13.04			
2	Initial	9:02 AM	30.00	12.70	0.30	2.15	0.52
	Final	9:32 AM		13.00			
3	Initial	9:32 AM	30.00	12.72	0.30	2.13	0.52
	Final	10:02 AM		13.02			
4	Initial	10:02 AM	30.00	12.75	0.29	2.11	0.51
	Final	10:32 AM		13.04			
5	Initial	10:32 AM	30.00	12.70	0.27	2.17	0.46
	Final	11:02 AM		12.97			
6	Initial	11:02 AM	30.00	12.70	0.27	2.17	0.46
	Final	11:32 AM		12.97			
7	Initial	11:32 AM	30.00	12.70	0.26	2.17	0.45
	Final	12:02 PM		12.96			
8	Initial	12:02 PM	30.00	12.74	0.25	2.14	0.43
	Final	12:32 PM		12.99			
9	Initial	12:32 PM	30.00	12.70	0.29	2.16	0.50
	Final	1:02 PM		12.99			
10	Initial	1:02 PM	30.00	12.70	0.25	2.18	0.43
	Final	1:32 PM		12.95			
11	Initial	1:32 PM	30.00	12.72	0.25	2.16	0.43
	Final	2:02 PM		12.97			
12	Initial	2:02 PM	30.00	12.70	0.24	2.18	0.41
	Final	2:32 PM		12.94			

Per County Standards, Infiltration Rate calculated as follows:

Where:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

- Q = Infiltration Rate (in inches per hour)
- ΔH = Change in Height (Water Level) over the time interval
- r = Test Hole (Borehole) Radius
- Δt = Time Interval
- H<sub>avg</sub> = Average Head Height over the time interval

# INFILTRATION CALCULATIONS

Project Name	Ontario Ranch Business Park: Phase II
Project Location	Ontario, California
Project Number	19G248-3
Engineer	Caleb Brackett

Test Hole Radius	4 (in)
Test Depth	15.00 (ft)

Infiltration Test Hole	I-3
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Soil Criteria Test							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (in)	Did 6 inches of water seep away in less than 25 minutes?	Sandy Soils or Non-Sandy Soils?
1	Initial	7:45 AM	25.00	13.00	3.84	NO	NON-SANDY SOILS
	Final	8:10 AM		13.32			
2	Initial	8:10 AM	25.00	13.00	3.36	NO	NON-SANDY SOILS
	Final	8:35 AM		13.28			

Test Data							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)
1	Initial	8:36 AM	30.00	13.00	0.22	1.89	0.43
	Final	9:06 AM		13.22			
2	Initial	9:06 AM	30.00	13.02	0.23	1.87	0.45
	Final	9:36 AM		13.25			
3	Initial	9:36 AM	30.00	13.02	0.22	1.87	0.43
	Final	10:06 AM		13.24			
4	Initial	10:06 AM	30.00	13.01	0.19	1.90	0.37
	Final	10:36 AM		13.20			
5	Initial	10:36 AM	30.00	13.00	0.19	1.91	0.37
	Final	11:06 AM		13.19			
6	Initial	11:06 AM	30.00	13.00	0.18	1.91	0.35
	Final	11:36 AM		13.18			
7	Initial	11:36 AM	30.00	13.01	0.17	1.91	0.33
	Final	12:06 PM		13.18			
8	Initial	12:06 PM	30.00	13.00	0.18	1.91	0.35
	Final	12:36 PM		13.18			
9	Initial	12:36 PM	30.00	13.00	0.17	1.92	0.33
	Final	1:06 PM		13.17			
10	Initial	1:06 PM	30.00	13.00	0.16	1.92	0.31
	Final	1:36 PM		13.16			
11	Initial	1:36 PM	30.00	13.02	0.16	1.90	0.31
	Final	2:06 PM		13.18			
12	Initial	2:06 PM	30.00	13.00	0.16	1.92	0.31
	Final	2:36 PM		13.16			

Per County Standards, Infiltration Rate calculated as follows:

Where:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

- Q = Infiltration Rate (in inches per hour)
- ΔH = Change in Height (Water Level) over the time interval
- r = Test Hole (Borehole) Radius
- Δt = Time Interval
- H<sub>avg</sub> = Average Head Height over the time interval

# INFILTRATION CALCULATIONS

Project Name	Ontario Ranch Business Park: Phase II
Project Location	Ontario, California
Project Number	19G248-3
Engineer	Caleb Brackett

Test Hole Radius	4 (in)
Test Depth	15.00 (ft)

Infiltration Test Hole	I-4
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Soil Criteria Test							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (in)	Did 6 inches of water seep away in less than 25 minutes?	Sandy Soils or Non-Sandy Soils?
1	Initial	7:50 AM	25.00	13.10	1.32	NO	NON-SANDY SOILS
	Final	8:15 AM		13.21			
2	Initial	8:15 AM	25.00	13.21	0.24	NO	NON-SANDY SOILS
	Final	8:40 AM		13.23			

Test Data							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)
1	Initial	8:41 AM	30.00	13.23	0.00	1.77	0.00
	Final	9:11 AM		13.23			
2	Initial	9:11 AM	30.00	13.23	0.00	1.77	0.00
	Final	9:41 AM		13.23			
3	Initial	9:41 AM	30.00	13.23	0.00	1.77	0.00
	Final	10:11 AM		13.23			
4	Initial	10:11 AM	30.00	13.23	0.00	1.77	0.00
	Final	10:41 AM		13.23			
5	Initial	10:41 AM	30.00	13.23	0.00	1.77	0.00
	Final	11:11 AM		13.23			
6	Initial	11:11 AM	30.00	13.23	0.00	1.77	0.00
	Final	11:41 AM		13.23			
7	Initial	11:41 AM	30.00	13.23	0.00	1.77	0.00
	Final	12:11 PM		13.23			
8	Initial	12:11 PM	30.00	13.23	0.00	1.77	0.00
	Final	12:41 PM		13.23			
9	Initial	12:41 PM	30.00	13.23	0.01	1.77	0.02
	Final	1:11 PM		13.24			
10	Initial	1:11 PM	30.00	13.24	0.00	1.76	0.00
	Final	1:41 PM		13.24			
11	Initial	1:41 PM	30.00	13.24	0.00	1.76	0.00
	Final	2:11 PM		13.24			
12	Initial	2:11 PM	30.00	13.24	0.00	1.76	0.00
	Final	2:41 PM		13.24			

Per County Standards, Infiltration Rate calculated as follows:

Where:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

- Q = Infiltration Rate (in inches per hour)
- ΔH = Change in Height (Water Level) over the time interval
- r = Test Hole (Borehole) Radius
- Δt = Time Interval
- H<sub>avg</sub> = Average Head Height over the time interval

# INFILTRATION CALCULATIONS

Project Name	Ontario Ranch Business Park: Phase II
Project Location	Ontario, California
Project Number	19G248-3
Engineer	Caleb Brackett

Test Hole Radius	4 (in)
Test Depth	12.00 (ft)

Infiltration Test Hole	I-5
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Soil Criteria Test							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (in)	Did 6 inches of water seep away in less than 25 minutes?	Sandy Soils or Non-Sandy Soils?
1	Initial	7:55 AM	25.00	10.00	0.60	NO	NON-SANDY SOILS
	Final	8:20 AM		10.05			
2	Initial	8:20 AM	25.00	10.05	0.00	NO	NON-SANDY SOILS
	Final	8:45 AM		10.05			

Test Data							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)
1	Initial	8:46 AM	30.00	10.05	0.00	1.95	0.00
	Final	9:16 AM		10.05			
2	Initial	9:16 AM	30.00	10.05	0.00	1.95	0.00
	Final	9:46 AM		10.05			
3	Initial	9:46 AM	30.00	10.05	0.00	1.95	0.00
	Final	10:16 AM		10.05			
4	Initial	10:16 AM	30.00	10.05	0.00	1.95	0.00
	Final	10:46 AM		10.05			
5	Initial	10:46 AM	30.00	10.05	0.00	1.95	0.00
	Final	11:16 AM		10.05			
6	Initial	11:16 AM	30.00	10.05	0.00	1.95	0.00
	Final	11:46 AM		10.05			
7	Initial	11:46 AM	30.00	10.05	0.00	1.95	0.00
	Final	12:16 PM		10.05			
8	Initial	12:16 PM	30.00	10.05	0.00	1.95	0.00
	Final	12:46 PM		10.05			
9	Initial	12:46 PM	30.00	10.05	0.00	1.95	0.00
	Final	1:16 PM		10.05			
10	Initial	1:16 PM	30.00	10.05	0.00	1.95	0.00
	Final	1:46 PM		10.05			
11	Initial	1:46 PM	30.00	10.05	0.00	1.95	0.00
	Final	2:16 PM		10.05			
12	Initial	2:16 PM	30.00	10.05	0.00	1.95	0.00
	Final	2:46 PM		10.05			

Per County Standards, Infiltration Rate calculated as follows:

Where:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

- Q = Infiltration Rate (in inches per hour)
- ΔH = Change in Height (Water Level) over the time interval
- r = Test Hole (Borehole) Radius
- Δt = Time Interval
- H<sub>avg</sub> = Average Head Height over the time interval

# INFILTRATION CALCULATIONS

Project Name	Ontario Ranch Business Park: Phase II
Project Location	Ontario, California
Project Number	19G248-3
Engineer	Caleb Brackett

Test Hole Radius	4 (in)
Test Depth	11.00 (ft)

Infiltration Test Hole	I-6
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Soil Criteria Test							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (in)	Did 6 inches of water seep away in less than 25 minutes?	Sandy Soils or Non-Sandy Soils?
1	Initial	6:57 AM	25.00	9.00	4.08	NO	NON-SANDY SOILS
	Final	7:22 AM		9.34			
2	Initial	7:22 AM	25.00	9.00	3.24	NO	NON-SANDY SOILS
	Final	7:47 AM		9.27			

Test Data							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)
1	Initial	7:48 AM	30.00	9.00	0.19	1.91	0.37
	Final	8:18 AM		9.19			
2	Initial	8:18 AM	30.00	9.00	0.18	1.91	0.35
	Final	8:48 AM		9.18			
3	Initial	8:48 AM	30.00	9.02	0.17	1.90	0.33
	Final	9:18 AM		9.19			
4	Initial	9:18 AM	30.00	9.01	0.19	1.90	0.37
	Final	9:48 AM		9.20			
5	Initial	9:48 AM	30.00	9.00	0.17	1.92	0.33
	Final	10:18 AM		9.17			
6	Initial	10:18 AM	30.00	9.00	0.17	1.92	0.33
	Final	10:48 AM		9.17			
7	Initial	10:48 AM	30.00	9.03	0.16	1.89	0.31
	Final	11:18 AM		9.19			
8	Initial	11:18 AM	30.00	9.05	0.16	1.87	0.31
	Final	11:48 AM		9.21			
9	Initial	11:48 AM	30.00	9.00	0.17	1.92	0.33
	Final	12:18 PM		9.17			
10	Initial	12:18 PM	30.00	9.06	0.16	1.86	0.32
	Final	12:48 PM		9.22			
11	Initial	12:48 PM	30.00	9.00	0.16	1.92	0.31
	Final	1:18 PM		9.16			
12	Initial	1:18 PM	30.00	9.02	0.16	1.90	0.31
	Final	1:48 PM		9.18			

Per County Standards, Infiltration Rate calculated as follows:

Where:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

- Q = Infiltration Rate (in inches per hour)
- ΔH = Change in Height (Water Level) over the time interval
- r = Test Hole (Borehole) Radius
- Δt = Time Interval
- H<sub>avg</sub> = Average Head Height over the time interval

# INFILTRATION CALCULATIONS

Project Name	Ontario Ranch Business Park: Phase II
Project Location	Ontario, California
Project Number	19G248-3
Engineer	Caleb Brackett

Test Hole Radius	4 (in)
Test Depth	15.30 (ft)

Infiltration Test Hole	I-7
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Soil Criteria Test							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (in)	Did 6 inches of water seep away in less than 25 minutes?	Sandy Soils or Non-Sandy Soils?
1	Initial	7:00 AM	25.00	13.30	1.68	NO	NON-SANDY SOILS
	Final	7:25 AM		13.44			
2	Initial	7:25 AM	25.00	13.44	0.72	NO	NON-SANDY SOILS
	Final	7:50 AM		13.50			

Test Data							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)
1	Initial	7:50 AM	30.00	13.50	0.05	1.78	0.10
	Final	8:20 AM		13.55			
2	Initial	8:20 AM	30.00	13.55	0.05	1.73	0.11
	Final	8:50 AM		13.60			
3	Initial	8:50 AM	30.00	13.30	0.05	1.98	0.09
	Final	9:20 AM		13.35			
4	Initial	9:20 AM	30.00	13.35	0.05	1.93	0.10
	Final	9:50 AM		13.40			
5	Initial	9:50 AM	30.00	13.30	0.05	1.98	0.09
	Final	10:20 AM		13.35			
6	Initial	10:20 AM	30.00	13.35	0.06	1.92	0.12
	Final	10:50 AM		13.41			
7	Initial	10:50 AM	30.00	13.33	0.05	1.95	0.09
	Final	11:20 AM		13.38			
8	Initial	11:20 AM	30.00	13.38	0.04	1.90	0.08
	Final	11:50 AM		13.42			
9	Initial	11:50 AM	30.00	13.31	0.05	1.97	0.09
	Final	12:20 PM		13.36			
10	Initial	12:20 PM	30.00	13.36	0.04	1.92	0.08
	Final	12:50 PM		13.40			
11	Initial	12:50 PM	30.00	13.30	0.05	1.98	0.09
	Final	1:20 PM		13.35			
12	Initial	1:20 PM	30.00	13.35	0.04	1.93	0.08
	Final	1:50 PM		13.39			

Per County Standards, Infiltration Rate calculated as follows:

Where:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

- Q = Infiltration Rate (in inches per hour)
- ΔH = Change in Height (Water Level) over the time interval
- r = Test Hole (Borehole) Radius
- Δt = Time Interval
- H<sub>avg</sub> = Average Head Height over the time interval



# INFILTRATION CALCULATIONS

Project Name	Ontario Ranch Business Park: Phase II
Project Location	Ontario, California
Project Number	19G248-3
Engineer	Caleb Brackett

Test Hole Radius	4 (in)
Test Depth	12.00 (ft)

Infiltration Test Hole	I-8
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Soil Criteria Test							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (in)	Did 6 inches of water seep away in less than 25 minutes?	Sandy Soils or Non-Sandy Soils?
1	Initial	7:00 AM	25.00	10.00	0.00	NO	NON-SANDY SOILS
	Final	7:25 AM		10.00			
2	Initial	7:25 AM	25.00	10.00	0.00	NO	NON-SANDY SOILS
	Final	7:50 AM		10.00			

Test Data							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)
1	Initial	7:50 AM	30.00	10.00	0.00	2.00	0.00
	Final	8:20 AM		10.00			
2	Initial	8:20 AM	30.00	10.00	0.00	2.00	0.00
	Final	8:50 AM		10.00			
3	Initial	8:50 AM	30.00	10.00	0.00	2.00	0.00
	Final	9:20 AM		10.00			
4	Initial	9:20 AM	30.00	10.00	0.00	2.00	0.00
	Final	9:50 AM		10.00			
5	Initial	9:50 AM	30.00	10.00	0.00	2.00	0.00
	Final	10:20 AM		10.00			
6	Initial	10:20 AM	30.00	10.00	0.00	2.00	0.00
	Final	10:50 AM		10.00			
7	Initial	10:50 AM	30.00	10.00	0.00	2.00	0.00
	Final	11:20 AM		10.00			
8	Initial	11:20 AM	30.00	10.00	0.00	2.00	0.00
	Final	11:50 AM		10.00			
9	Initial	11:50 AM	30.00	10.00	0.00	2.00	0.00
	Final	12:20 PM		10.00			
10	Initial	12:20 PM	30.00	10.00	0.00	2.00	0.00
	Final	12:50 PM		10.00			
11	Initial	12:50 PM	30.00	10.00	0.00	2.00	0.00
	Final	1:20 PM		10.00			
12	Initial	1:20 PM	30.00	10.00	0.00	2.00	0.00
	Final	1:50 PM		10.00			

Per County Standards, Infiltration Rate calculated as follows:

Where:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

- Q = Infiltration Rate (in inches per hour)
- ΔH = Change in Height (Water Level) over the time interval
- r = Test Hole (Borehole) Radius
- Δt = Time Interval
- H<sub>avg</sub> = Average Head Height over the time interval

# INFILTRATION CALCULATIONS

Project Name	Ontario Ranch Business Park: Phase II
Project Location	Ontario, California
Project Number	19G248-3
Engineer	Caleb Brackett

Test Hole Radius	4 (in)
Test Depth	15.00 (ft)

Infiltration Test Hole	I-9
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Soil Criteria Test							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (in)	Did 6 inches of water seep away in less than 25 minutes?	Sandy Soils or Non-Sandy Soils?
1	Initial	12:39 PM	25.00	13.00	0.00	NO	NON-SANDY SOILS
	Final	1:04 PM		13.00			
2	Initial	1:04 PM	25.00	13.00	0.00	NO	NON-SANDY SOILS
	Final	1:29 PM		13.00			

Test Data							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)
1	Initial	1:30 PM	30.00	13.00	0.00	2.00	0.00
	Final	2:00 PM		13.00			
2	Initial	2:00 PM	30.00	13.00	0.00	2.00	0.00
	Final	2:30 PM		13.00			
3	Initial	2:30 PM	30.00	13.00	0.00	2.00	0.00
	Final	3:00 PM		13.00			
4	Initial	3:00 PM	30.00	13.00	0.00	2.00	0.00
	Final	3:30 PM		13.00			
5	Initial	3:30 PM	30.00	13.00	0.00	2.00	0.00
	Final	4:00 PM		13.00			
6	Initial	4:00 PM	30.00	13.00	0.00	2.00	0.00
	Final	4:30 PM		13.00			
7	Initial	4:30 PM	30.00	13.00	0.00	2.00	0.00
	Final	5:00 PM		13.00			
8	Initial	5:00 PM	30.00	13.00	0.00	2.00	0.00
	Final	5:30 PM		13.00			
9	Initial	5:30 PM	30.00	13.00	0.00	2.00	0.00
	Final	6:00 PM		13.00			
10	Initial	6:00 PM	30.00	13.00	0.00	2.00	0.00
	Final	6:30 PM		13.00			
11	Initial	6:30 PM	30.00	13.00	0.00	2.00	0.00
	Final	7:00 PM		13.00			
12	Initial	7:00 PM	30.00	13.00	0.00	2.00	0.00
	Final	7:30 PM		13.00			

Per County Standards, Infiltration Rate calculated as follows:

Where:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

- Q = Infiltration Rate (in inches per hour)
- ΔH = Change in Height (Water Level) over the time interval
- r = Test Hole (Borehole) Radius
- Δt = Time Interval
- H<sub>avg</sub> = Average Head Height over the time interval

## INFILTRATION CALCULATIONS

Project Name	Ontario Ranch Business Park: Phase II
Project Location	Ontario, California
Project Number	19G248-3
Engineer	Caleb Brackett

Test Hole Radius	4 (in)
Test Depth	15.00 (ft)

Infiltration Test Hole	I-10
------------------------	------

Soil Criteria Test							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (in)	Did 6 inches of water seep away in less than 25 minutes?	Sandy Soils or Non-Sandy Soils?
1	Initial	7:54 AM	25.00	13.20	-4.20	NO	NON-SANDY SOILS
	Final	8:19 AM		12.85			
2	Initial	8:19 AM	25.00	12.85	0.24	NO	NON-SANDY SOILS
	Final	8:44 AM		12.87			

Test Data							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)
1	Initial	8:45 AM	30.00	12.87	0.06	2.10	0.11
	Final	9:15 AM		12.93			
2	Initial	9:15 AM	30.00	12.93	0.10	2.02	0.18
	Final	9:45 AM		13.03			
3	Initial	9:45 AM	30.00	13.03	0.09	1.93	0.17
	Final	10:15 AM		13.12			
4	Initial	10:15 AM	30.00	13.12	0.09	1.84	0.18
	Final	10:45 AM		13.21			
5	Initial	10:45 AM	30.00	13.21	0.09	1.75	0.19
	Final	11:15 AM		13.30			
6	Initial	11:15 AM	30.00	13.30	0.08	1.66	0.18
	Final	11:45 AM		13.38			
7	Initial	11:45 AM	30.00	13.00	0.10	1.95	0.19
	Final	12:15 PM		13.10			
8	Initial	12:15 PM	30.00	13.10	0.09	1.86	0.18
	Final	12:45 PM		13.19			
9	Initial	12:45 PM	30.00	13.19	0.08	1.77	0.17
	Final	1:15 PM		13.27			
10	Initial	1:15 PM	30.00	13.00	0.09	1.96	0.17
	Final	1:45 PM		13.09			
11	Initial	1:45 PM	30.00	13.09	0.09	1.87	0.18
	Final	2:15 PM		13.18			
12	Initial	2:15 PM	30.00	13.18	0.08	1.78	0.16
	Final	2:45 PM		13.26			

Per County Standards, Infiltration Rate calculated as follows:

Where:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

Q = Infiltration Rate (in inches per hour)  
 ΔH = Change in Height (Water Level) over the time interval  
 r = Test Hole (Borehole) Radius  
 Δt = Time Interval  
 H<sub>avg</sub> = Average Head Height over the time interval

# INFILTRATION CALCULATIONS

Project Name	Ontario Ranch Business Park: Phase II
Project Location	Ontario, California
Project Number	19G248-3
Engineer	Caleb Brackett

Test Hole Radius	4 (in)
Test Depth	15.00 (ft)

Infiltration Test Hole	I-11
------------------------	------

Soil Criteria Test							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (in)	Did 6 inches of water seep away in less than 25 minutes?	Sandy Soils or Non-Sandy Soils?
1	Initial	8:01 AM	25.00	12.16	0.00	NO	NON-SANDY SOILS
	Final	8:26 AM		12.16			
2	Initial	8:26 AM	25.00	12.16	0.00	NO	NON-SANDY SOILS
	Final	8:51 AM		12.16			

Test Data							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)
1	Initial	8:51 AM	30.00	12.16	0.00	2.84	0.00
	Final	9:21 AM		12.16			
2	Initial	9:21 AM	30.00	12.16	0.00	2.84	0.00
	Final	9:51 AM		12.16			
3	Initial	9:51 AM	30.00	12.16	0.00	2.84	0.00
	Final	10:21 AM		12.16			
4	Initial	10:21 AM	30.00	12.16	0.00	2.84	0.00
	Final	10:51 AM		12.16			
5	Initial	10:51 AM	30.00	12.16	0.00	2.84	0.00
	Final	11:21 AM		12.16			
6	Initial	11:21 AM	30.00	12.16	0.00	2.84	0.00
	Final	11:51 AM		12.16			
7	Initial	11:51 AM	30.00	12.16	0.00	2.84	0.00
	Final	12:21 PM		12.16			
8	Initial	12:21 PM	30.00	12.16	0.01	2.84	0.01
	Final	12:51 PM		12.17			
9	Initial	12:51 PM	30.00	12.17	0.00	2.83	0.00
	Final	1:21 PM		12.17			
10	Initial	1:21 PM	30.00	12.17	0.00	2.83	0.00
	Final	1:51 PM		12.17			
11	Initial	1:51 PM	30.00	12.17	0.00	2.83	0.00
	Final	2:21 PM		12.17			
12	Initial	2:21 PM	30.00	12.17	0.00	2.83	0.00
	Final	2:51 PM		12.17			

Per County Standards, Infiltration Rate calculated as follows:

Where:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

- Q = Infiltration Rate (in inches per hour)
- ΔH = Change in Height (Water Level) over the time interval
- r = Test Hole (Borehole) Radius
- Δt = Time Interval
- H<sub>avg</sub> = Average Head Height over the time interval

# INFILTRATION CALCULATIONS

Project Name	Ontario Ranch Business Park: Phase II
Project Location	Ontario, California
Project Number	19G248-3
Engineer	Caleb Brackett

Test Hole Radius	4 (in)
Test Depth	15.20 (ft)

Infiltration Test Hole	I-12
------------------------	------

Soil Criteria Test							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (in)	Did 6 inches of water seep away in less than 25 minutes?	Sandy Soils or Non-Sandy Soils?
1	Initial	8:34 AM	25.00	13.10	0.60	NO	NON-SANDY SOILS
	Final	8:59 AM		13.15			
2	Initial	8:59 AM	25.00	13.15	2.04	NO	NON-SANDY SOILS
	Final	9:24 AM		13.32			

Test Data							
Interval Number		Time	Time Interval (min)	Water Depth (ft)	Change in Water Level (ft)	Average Head Height (ft)	Infiltration Rate Q (in/hr)
1	Initial	9:24 AM	30.00	13.30	0.25	1.78	0.52
	Final	9:54 AM		13.55			
2	Initial	9:54 AM	30.00	13.10	0.27	1.97	0.51
	Final	10:24 AM		13.37			
3	Initial	10:24 AM	30.00	13.10	0.26	1.97	0.49
	Final	10:54 AM		13.36			
4	Initial	10:54 AM	30.00	13.10	0.25	1.98	0.47
	Final	11:24 AM		13.35			
5	Initial	11:24 AM	30.00	13.10	0.27	1.97	0.51
	Final	11:54 AM		13.37			
6	Initial	11:54 AM	30.00	13.10	0.26	1.97	0.49
	Final	12:24 PM		13.36			
7	Initial	12:24 PM	30.00	13.10	0.26	1.97	0.49
	Final	12:54 PM		13.36			
8	Initial	12:54 PM	30.00	13.10	0.28	1.96	0.53
	Final	1:24 PM		13.38			
9	Initial	1:24 PM	30.00	13.10	0.26	1.97	0.49
	Final	1:54 PM		13.36			
10	Initial	1:54 PM	30.00	13.10	0.27	1.97	0.51
	Final	2:24 PM		13.37			
11	Initial	2:24 PM	30.00	13.10	0.26	1.97	0.49
	Final	2:54 PM		13.36			
12	Initial	2:54 PM	30.00	13.10	0.26	1.97	0.49
	Final	3:24 PM		13.36			

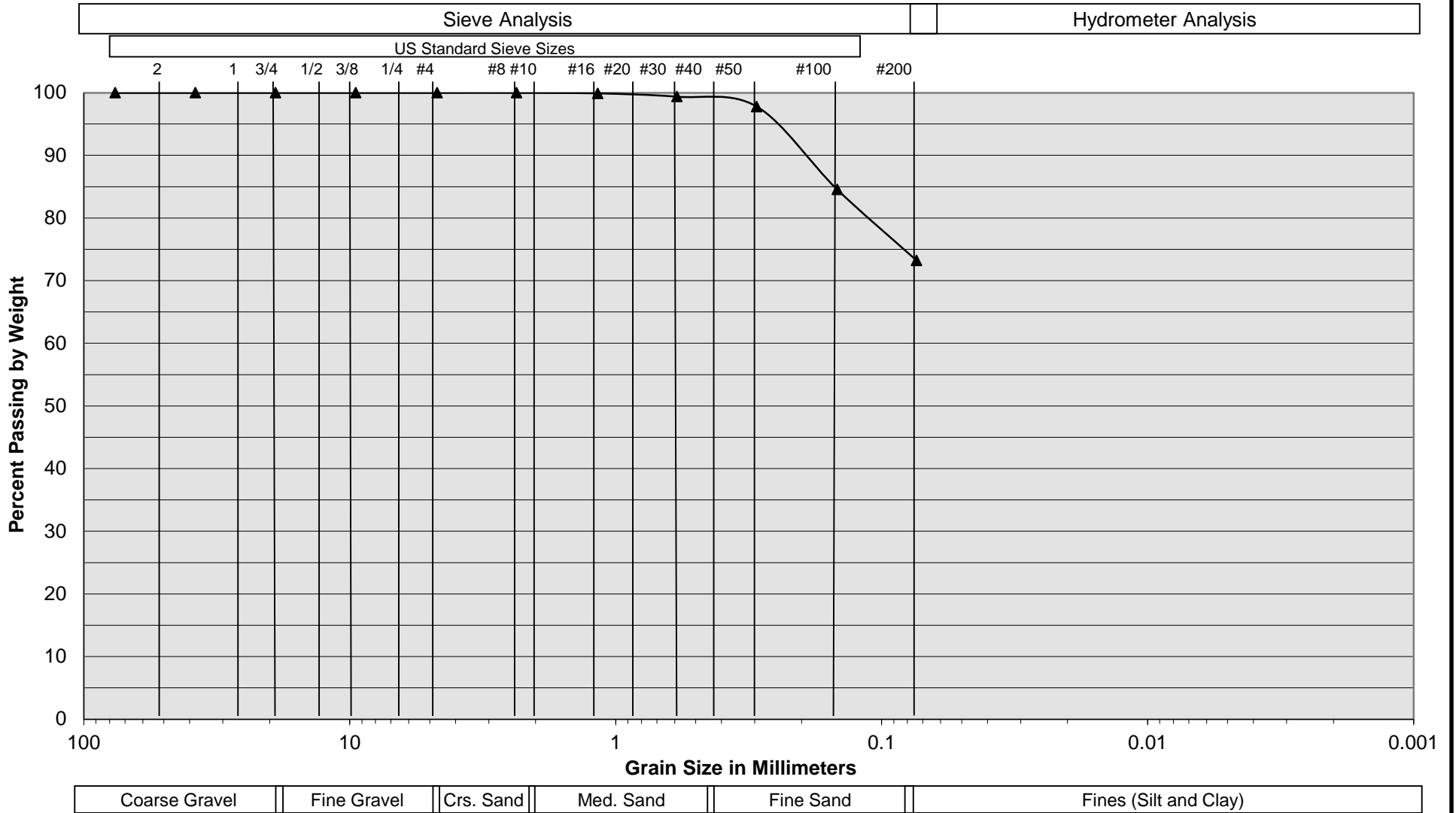
Per County Standards, Infiltration Rate calculated as follows:

Where:

$$Q = \frac{\Delta H(60r)}{\Delta t(r + 2H_{avg})}$$

- Q = Infiltration Rate (in inches per hour)
- ΔH = Change in Height (Water Level) over the time interval
- r = Test Hole (Borehole) Radius
- Δt = Time Interval
- H<sub>avg</sub> = Average Head Height over the time interval

# Grain Size Distribution



Sample Description	I-1 @ 13.5'
Soil Classification	Yellow Brown Clayey Silt, little fine Sand

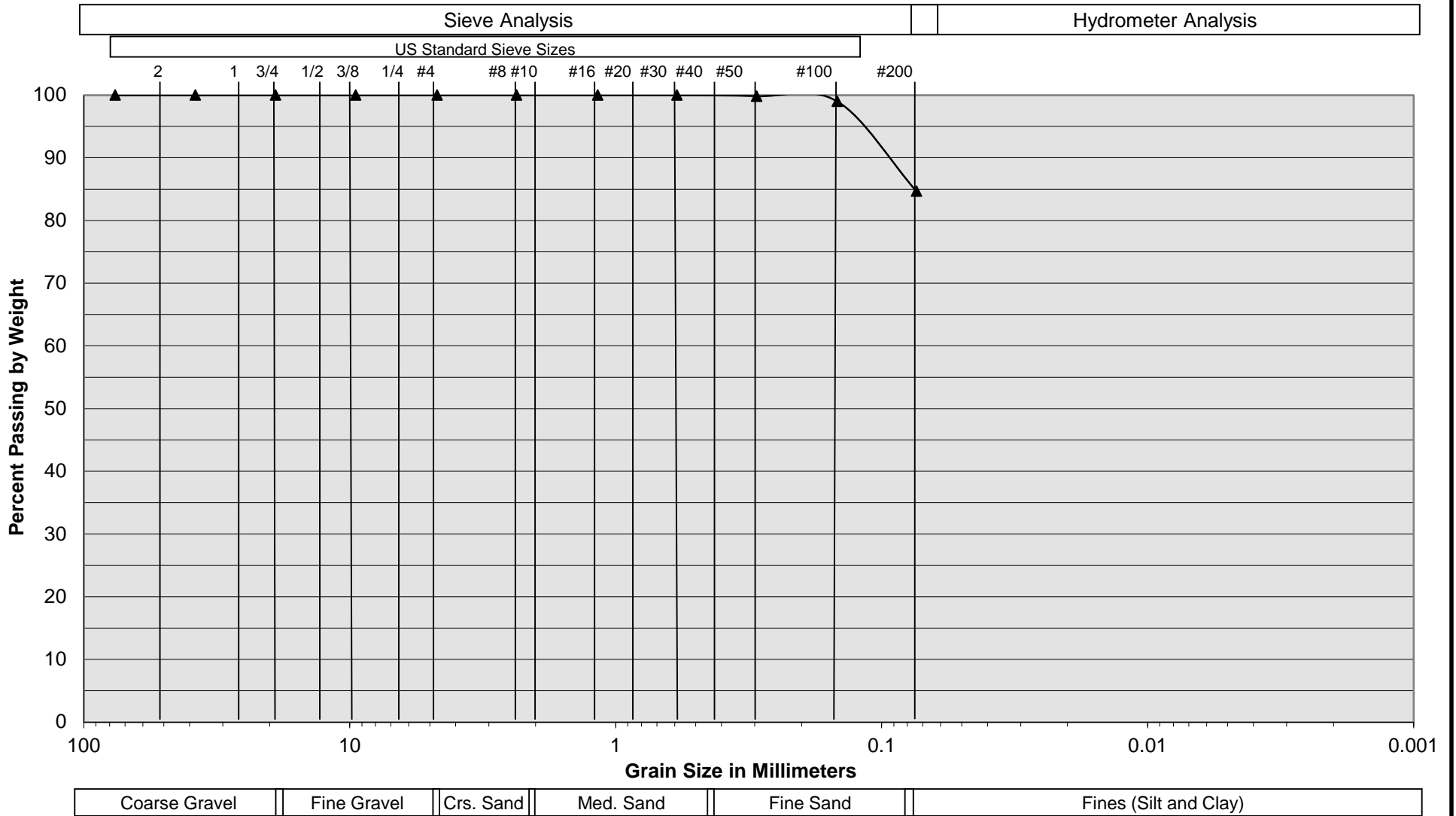
Ontario Ranch Business Park: Phase II  
 Ontario, California  
 Project No. 19G248-3  
**PLATE C-1**





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# Grain Size Distribution



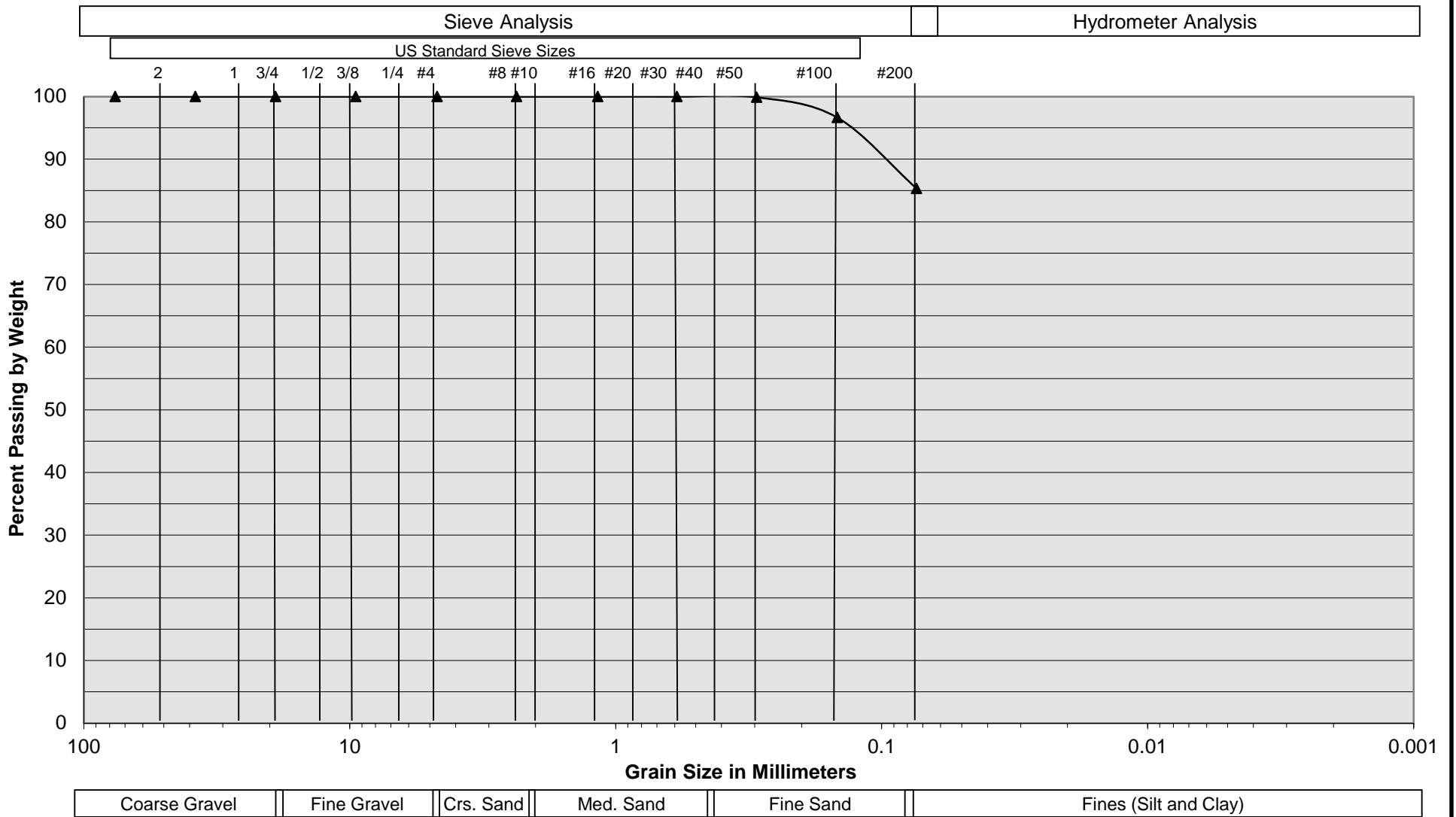
Sample Description	I-2 @ 13.5'
Soil Classification	Light Gray Brown fine Sandy Silt

Ontario Ranch Business Park: Phase II  
 Ontario, California  
 Project No. 19G248-3  
**PLATE C-2**



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# Grain Size Distribution



Sample Description	I-3 @ 13.5'
Soil Classification	Green Gray fine Sandy Silt

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 Ontario, California  
 Project No. 19G248-3  
**PLATE C-3**

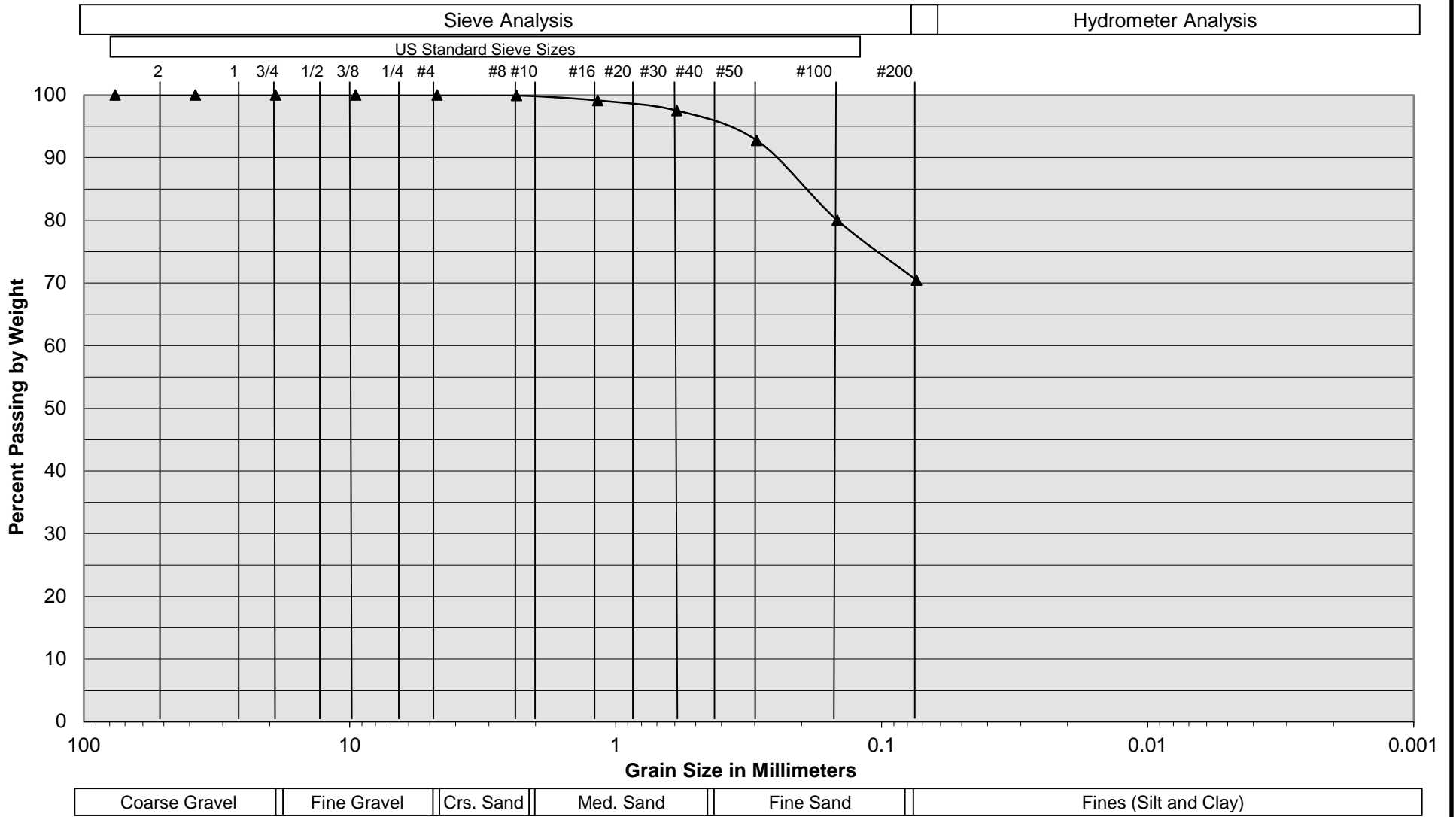




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# Grain Size Distribution



Sample Description	I-4 @ 13.5'
Soil Classification	Brown Silty Clay, little fine Sand, trace medium Sand

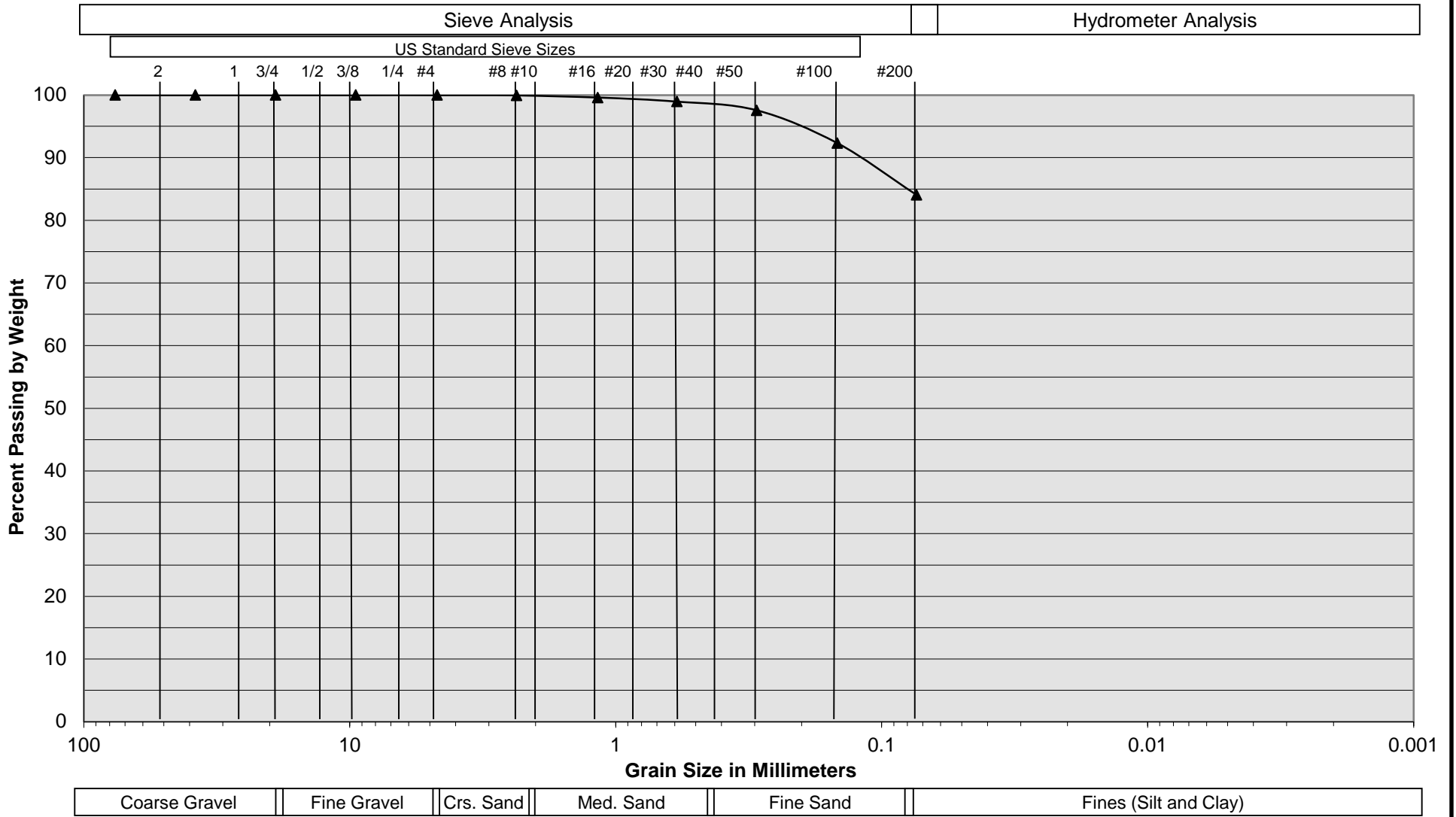
Ontario Ranch Business Park: Phase II  
 Ontario, California  
 Project No. 19G248-3  
**PLATE C-4**





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# Grain Size Distribution



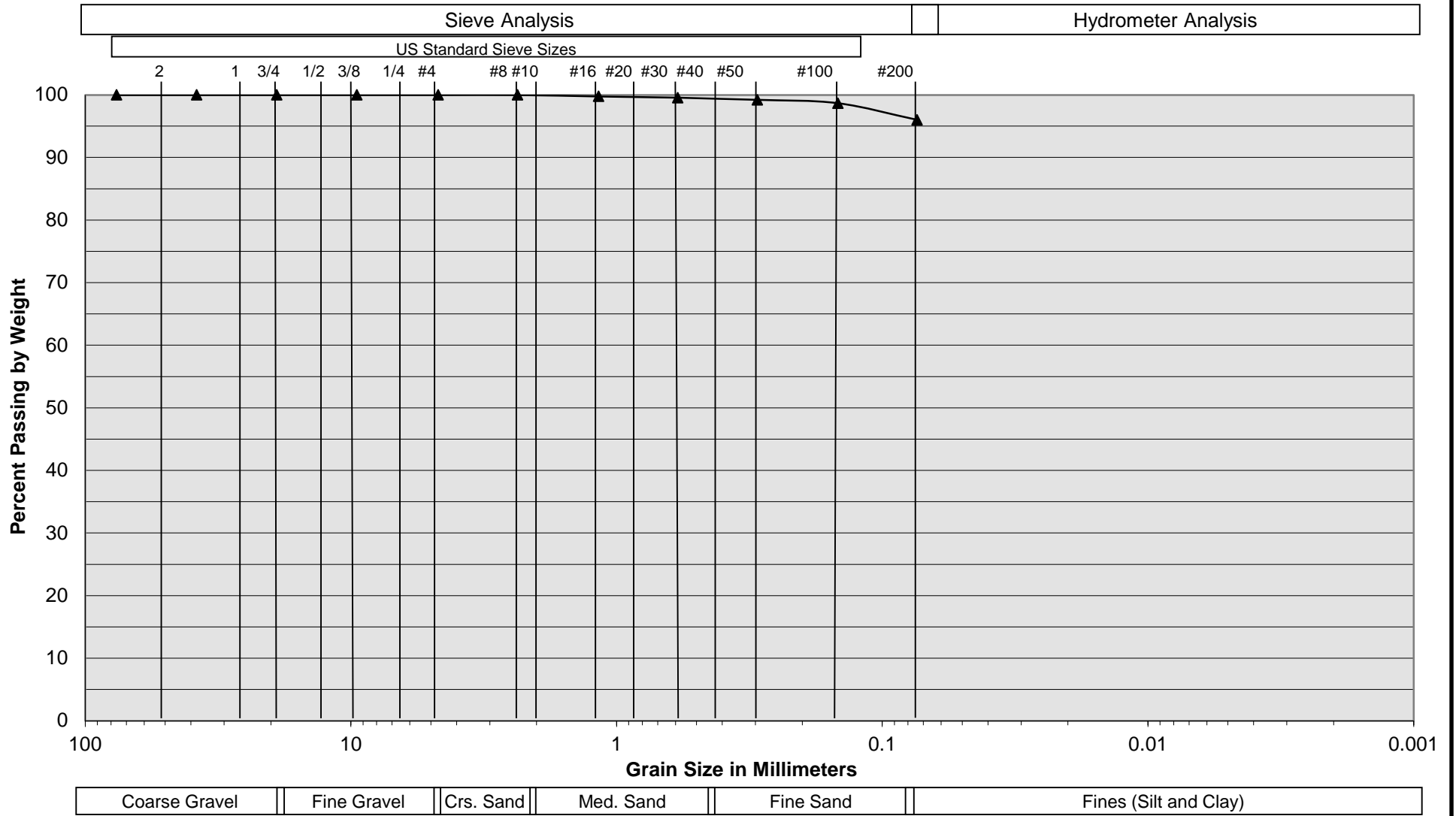
Sample Description	I-5 @ 10.5'
Soil Classification	Light Brown Silty Clay, little fine Sand

Ontario Ranch Business Park: Phase II  
 Ontario, California  
 Project No. 19G248-3  
**PLATE C-5**



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# Grain Size Distribution

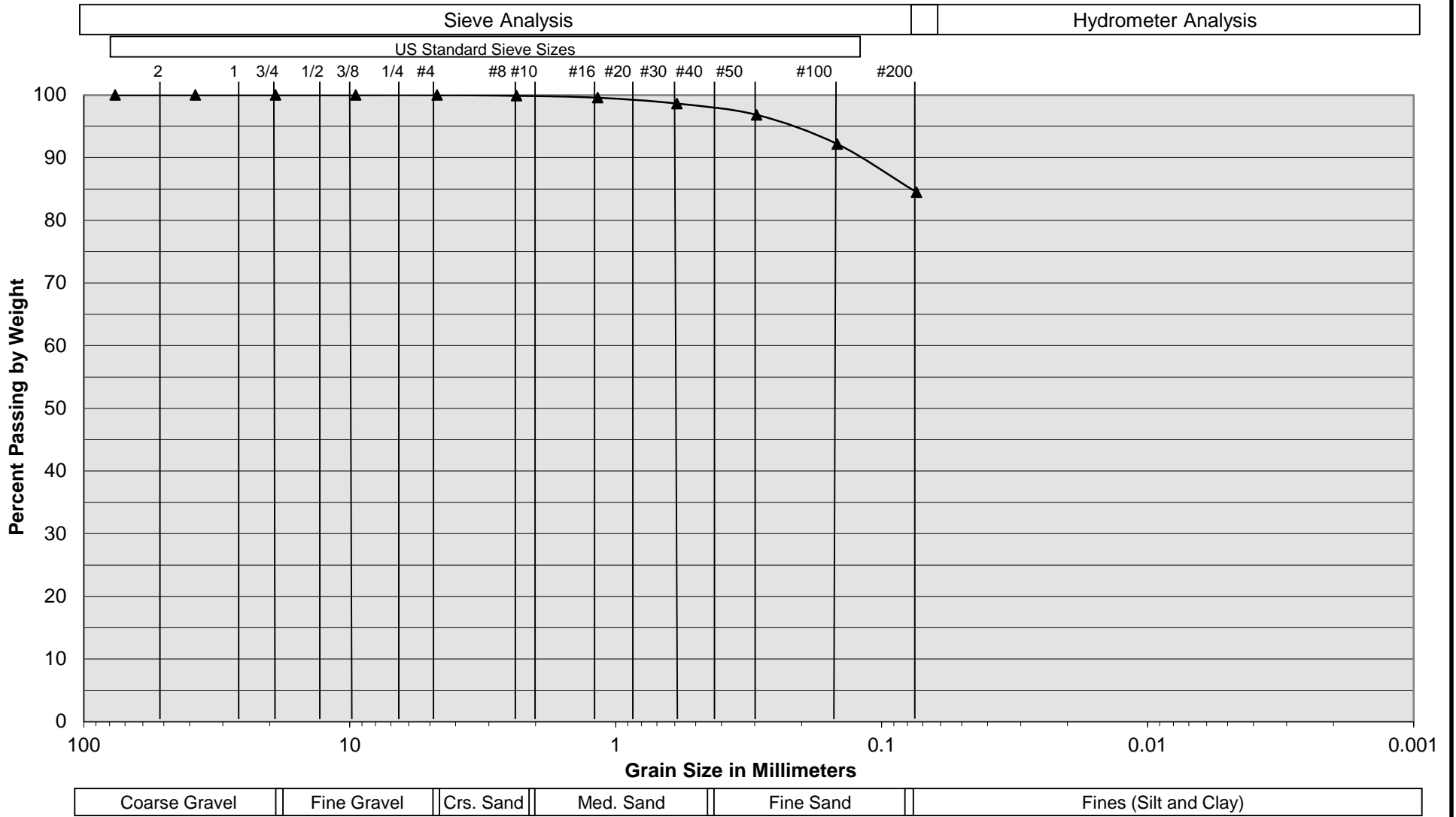


Sample Description	I-6 @ 10.5'
Soil Classification	Light Brown Clayey Silt, trace fine Sand

Ontario Ranch Business Park: Phase II  
 Ontario, California  
 Project No. 19G248-3  
**PLATE C-6**



# Grain Size Distribution



Sample Description	-7 @ 13.5'
Soil Classification	Light Brown fine Sandy Silt, little fine Sand, trace Clay

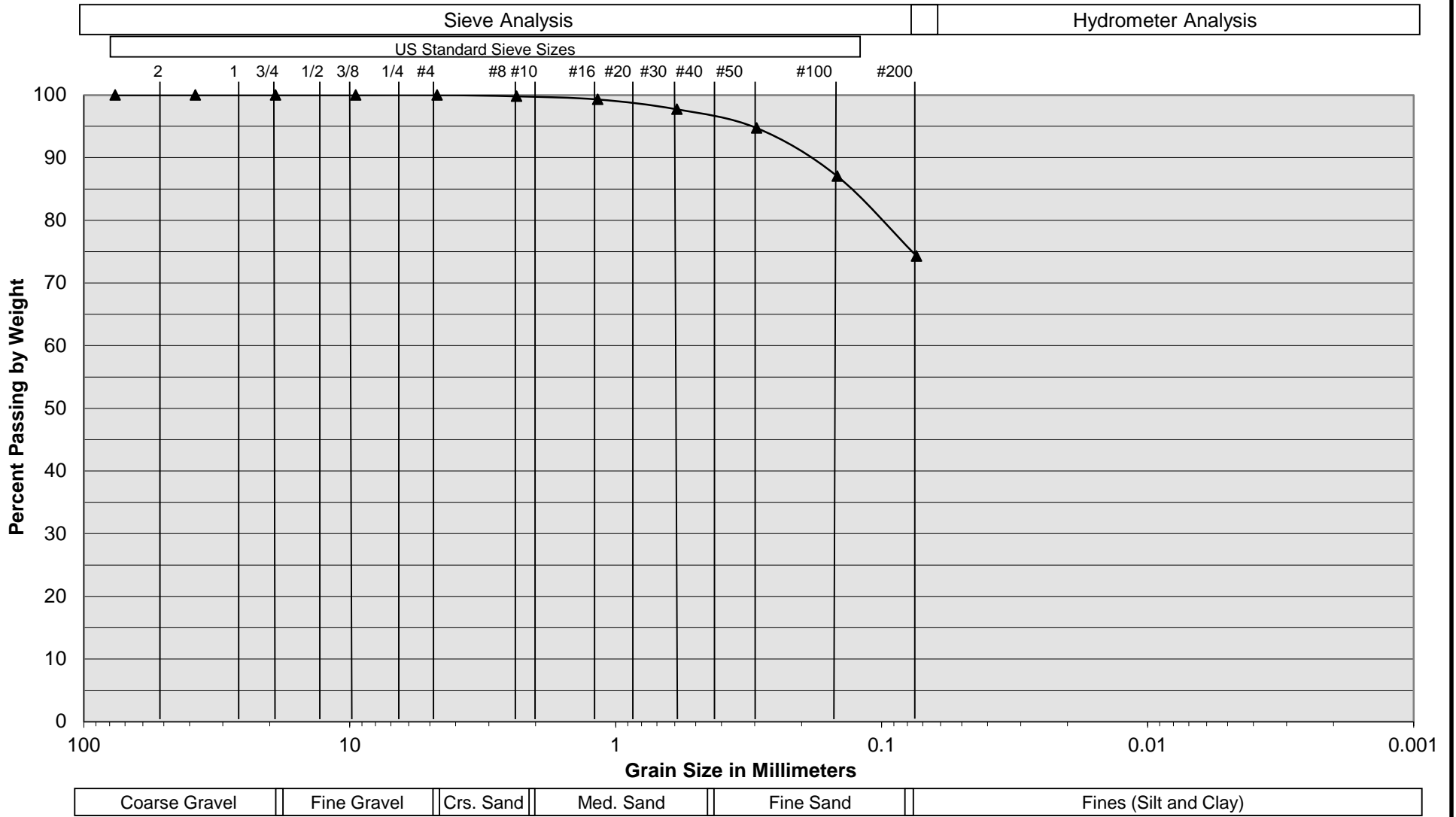
Ontario Ranch Business Park: Phase II  
 Ontario, California  
 Project No. 19G248-3  
**PLATE C-7**





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# Grain Size Distribution



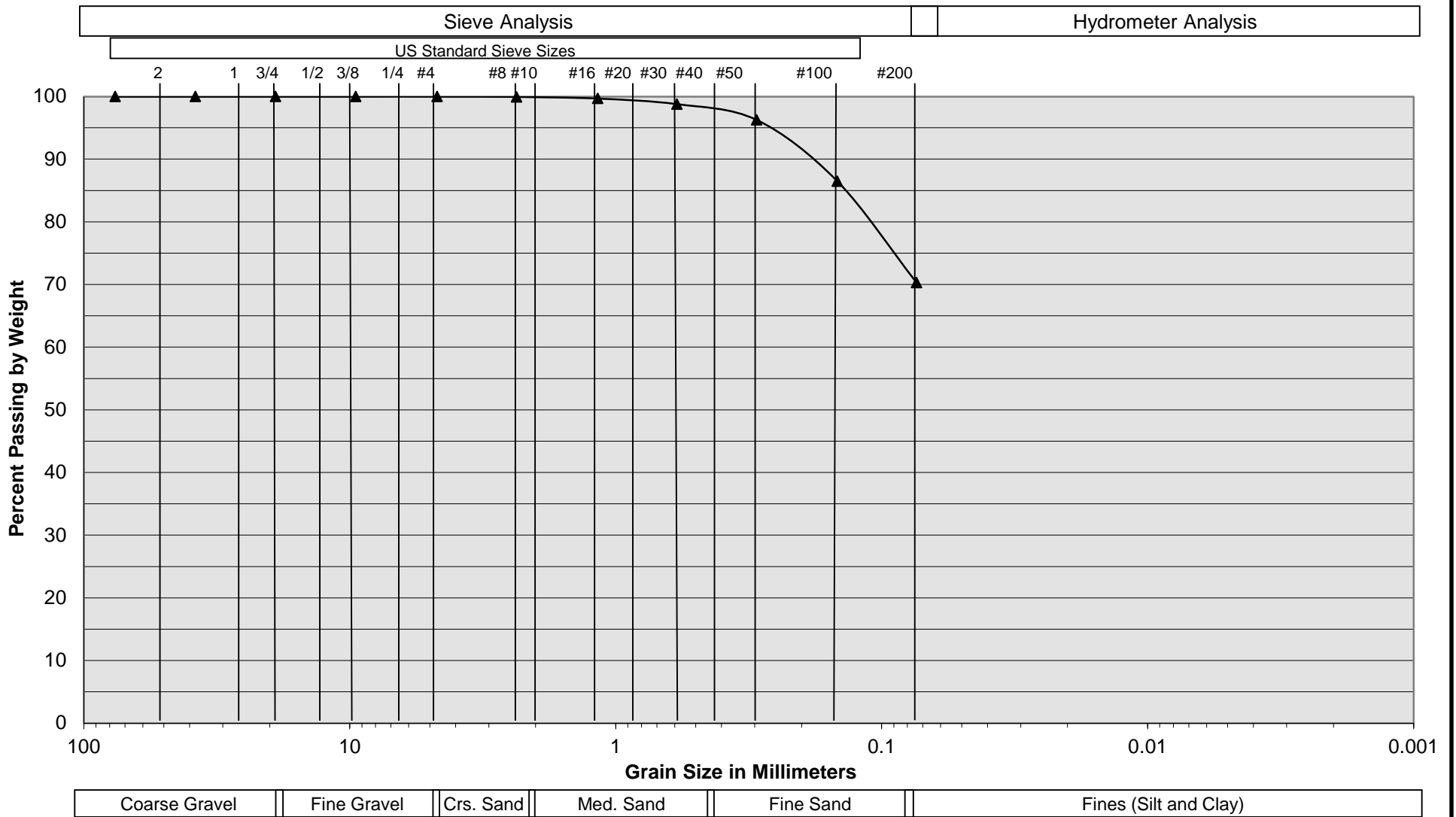
Sample Description	I-8 @ 10.5'
Soil Classification	Gray Brown fine Sandy Silt

Ontario Ranch Business Park: Phase II  
 Ontario, California  
 Project No. 19G248-3  
**PLATE C-8**



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# Grain Size Distribution



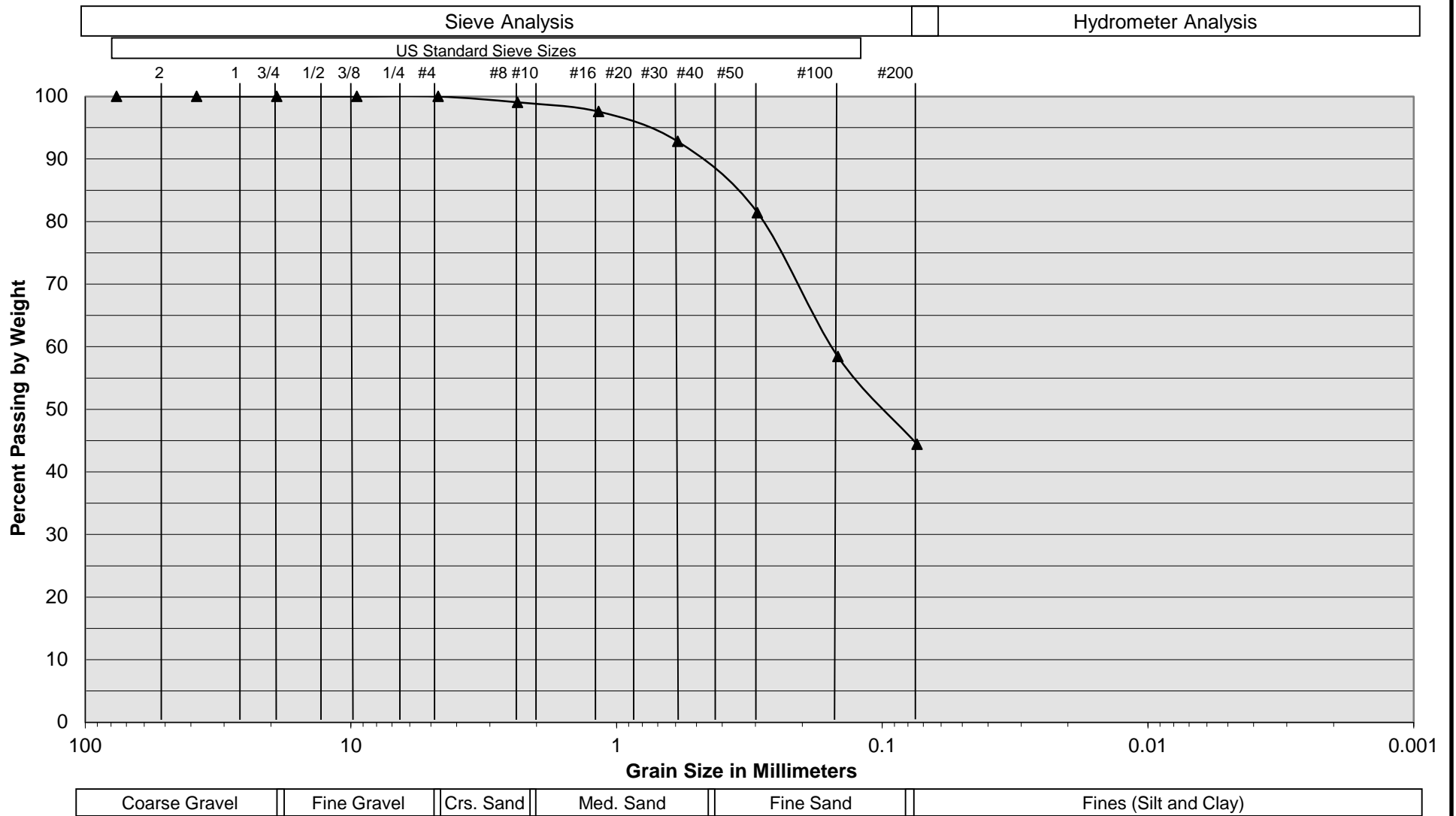
Sample Description	I-9 @ 13.5'
Soil Classification	Light Brown fine Sandy Clay

Ontario Ranch Business Park: Phase II  
 Ontario, California  
 Project No. 19G248-3  
**PLATE C-9**



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# Grain Size Distribution



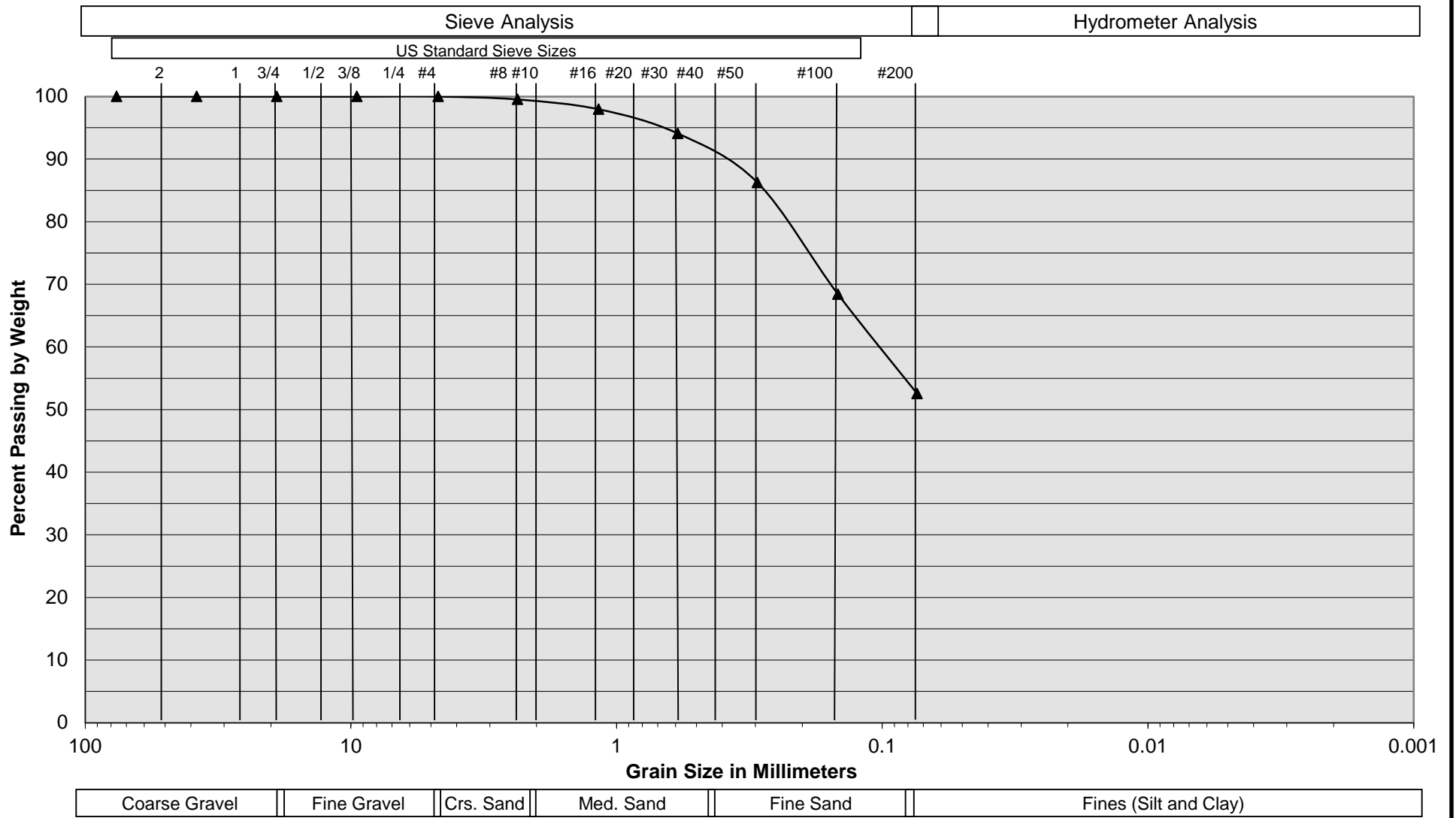
Sample Description	I-10 @ 13.5'
Soil Classification	Brown Silty fine Sand, little medium Sand

Ontario Ranch Business Park: Phase II  
 Ontario, California  
 Project No. 19G248-3  
**PLATE C-10**



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# Grain Size Distribution



Sample Description	I-11 @ 13.5'
Soil Classification	Brown fine Sandy Silt, trace Clay

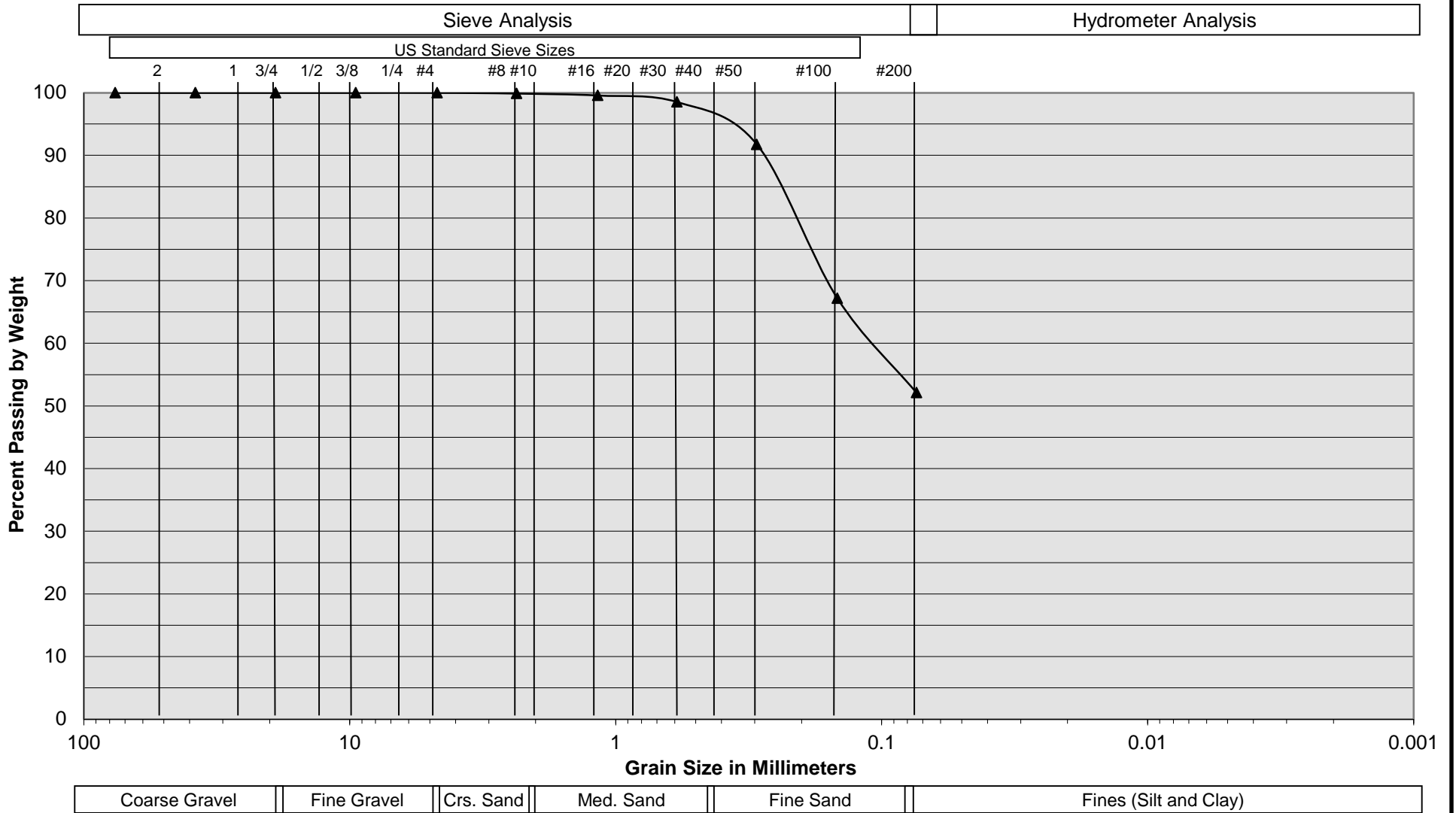
Ontario Ranch Business Park: Phase II  
 Ontario, California  
 Project No. 19G248-3  
**PLATE C-11**



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# Grain Size Distribution



Sample Description	I-12 @ 13.5'
Soil Classification	Brown fine Sandy Silt, trace Clay

Ontario Ranch Business Park: Phase II  
 Ontario, California  
 Project No. 19G248-3  
**PLATE C-12**





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**APPENDIX H**  
**NOISE DATA**

**Noise Measurement Field Data**

<b>Project:</b>	ORBP	<b>Job Number:</b>		
<b>Site No.:</b>	ST-1	<b>Date:</b>	9/14/2021	
<b>Analyst:</b>	Kiana and Melissa	<b>Time:</b>	8:45-8:55 am	
<b>Location:</b>	Eucalyptus Avenue and Bon View Avenue			
<b>Noise Sources:</b>	Cars passing on Bon View Avenue			
<b>Comments:</b>				
<b>Results (dBA):</b>				
	<b>Leq:</b>	<b>Lmin:</b>	<b>Lmax:</b>	<b>Peak:</b>
Measurement 1:	64.2	45.7	79.9	93.9

<b>Equipment</b>	
<b>Sound Level Meter:</b>	LD SoundExpert LxT
<b>Calibrator:</b>	CAL200
<b>Response Time:</b>	Slow
<b>Weighting:</b>	A
<b>Microphone Height:</b>	5 feet

<b>Weather</b>	
<b>Temp. (degrees F):</b>	68
<b>Wind (mph):</b>	1 mph
<b>Sky:</b>	Clear
<b>Bar. Pressure:</b>	29.91
<b>Humidity:</b>	62%

## Summary

File Name on Meter	ORBP.001.s
File Name on PC	LxTse_0005586-20210914 084418-ORBP.001.ld
Serial Number	0005586
Model	SoundExpert® LxT
Firmware Version	2.404
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2021-09-14 08:44:18
Stop	2021-09-14 08:55:08
Duration	00:10:13.9
Run Time	00:10:11.7
Pause	00:00:02.2

Pre-Calibration	2021-09-14 07:42:03
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Slow	
Preamplifier	PRMLxT1L	
Microphone Correction	Off	
Integration Method	Linear	
OBA Range	Normal	
OBA Bandwidth	1/1 and 1/3	
OBA Frequency Weighting	A Weighting	
OBA Max Spectrum	At LMax	
Overload	122.5 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	<b>79.0</b>	76.0
Under Range Limit	<b>25.3</b>	25.9
Noise Floor	16.1	16.8

## Results

LAeq	64.2	
LAE	92.1	
EA	179.860 $\mu\text{Pa}^2\text{h}$	
LApeak (max)	2021-09-14 08:44:25	93.9
LASmax	2021-09-14 08:45:35	79.9
LASmin	2021-09-14 08:48:55	45.7

# Measurement Report

## Report Summary

Meter's File Name	ORBP.001.s	Computer's File Name	LxTwe_0005586-20210914 084418-ORBP.001.ldbin
Meter	LxT SE	0005586	
Firmware	2.404		
User		Location	
Job Description			
Note			
Start Time	2021-09-14 08:44:18	Duration	0:10:13.9
End Time	2021-09-14 08:55:08	Run Time	0:10:11.7
		Pause Time	0:00:02.2

## Results

### Overall Metrics

L <sub>Aeq</sub>	64.2 dB		
L <sub>AE</sub>	92.1 dB	SEA	-- dB
EA	179.9 μPa <sup>2</sup> /h		
L <sub>Apeak</sub>	93.9 dB	2021-09-14 08:44:25	
L <sub>ASmax</sub>	79.9 dB	2021-09-14 08:45:35	
L <sub>ASmin</sub>	45.7 dB	2021-09-14 08:48:55	
L <sub>Aeq</sub>	64.2 dB		
L <sub>Ceq</sub>	76.6 dB	L <sub>Ceq</sub> - L <sub>Aeq</sub>	12.3 dB
L <sub>A1eq</sub>	66.2 dB	L <sub>A1eq</sub> - L <sub>Aeq</sub>	2.0 dB

### Exceedances

	Count	Duration
L <sub>AS</sub> > 85.0 dB	0	0:00:00.0
L <sub>AS</sub> > 115.0 dB	0	0:00:00.0
L <sub>Apeak</sub> > 135.0 dB	0	0:00:00.0
L <sub>Apeak</sub> > 137.0 dB	0	0:00:00.0
L <sub>Apeak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight	
64.2 dB	64.2 dB	0.0 dB	
LDEN	LDay	LEve	LNight
64.2 dB	64.2 dB	-- dB	-- dB

### Any Data

A		C		Z	
Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L <sub>eq</sub>	64.2 dB	76.6 dB		-- dB	
L <sub>AS(max)</sub>	79.9 dB	2021-09-14 08:45:35	-- dB	-- dB	
L <sub>AS(min)</sub>	45.7 dB	2021-09-14 08:48:55	-- dB	-- dB	
L <sub>peak(max)</sub>	93.9 dB	2021-09-14 08:44:25	-- dB	-- dB	

### Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

### Statistics

L <sub>AS</sub> 5.0	70.6 dB
L <sub>AS</sub> 10.0	68.1 dB
L <sub>AS</sub> 33.3	61.9 dB
L <sub>AS</sub> 50.0	58.8 dB
L <sub>AS</sub> 66.6	55.9 dB
L <sub>AS</sub> 90.0	49.7 dB

### Time History



**Noise Measurement Field Data**

<b>Project:</b>	ORBP	<b>Job Number:</b>		
<b>Site No.:</b>	ST-1	<b>Date:</b>	9/14/2021	
<b>Analyst:</b>	Kiana and Melissa	<b>Time:</b>	9:05-9:15am	
<b>Location:</b>	Chino Airport and Merrill Avenue			
<b>Noise Sources:</b>	Cars passing on Merill			
<b>Comments:</b>				
<b>Results (dBA):</b>				
	<b>Leq:</b>	<b>Lmin:</b>	<b>Lmax:</b>	<b>Peak:</b>
Measurement 2:	66.3	42.3	80.0	94.7

<b>Equipment</b>	
<b>Sound Level Meter:</b>	LD SoundExpert LxT
<b>Calibrator:</b>	CAL200
<b>Response Time:</b>	Slow
<b>Weighting:</b>	A
<b>Microphone Height:</b>	5 feet

<b>Weather</b>	
<b>Temp. (degrees F):</b>	68
<b>Wind (mph):</b>	1 mph
<b>Sky:</b>	Clear
<b>Bar. Pressure:</b>	29.91
<b>Humidity:</b>	62%

## Summary

File Name on Meter	ORBP.002.s
File Name on PC	LxTse_0005586-20210914 090348-ORBP.002.ld
Serial Number	0005586
Model	SoundExpert® LxT
Firmware Version	2.404
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2021-09-14 09:03:48
Stop	2021-09-14 09:13:21
Duration	00:09:32.5
Run Time	00:09:32.5
Pause	00:00:00.0

Pre-Calibration	2021-09-14 07:41:58
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Slow	
Preamplifier	PRMLxT1L	
Microphone Correction	Off	
Integration Method	Linear	
OBA Range	Normal	
OBA Bandwidth	1/1 and 1/3	
OBA Frequency Weighting	A Weighting	
OBA Max Spectrum	At LMax	
Overload	122.5 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	<b>79.0</b>	76.0
Under Range Limit	<b>25.3</b>	25.9
Noise Floor	16.1	16.8

## Results

LAeq	66.3	
LAE	93.9	
EA	273.837 $\mu\text{Pa}^2\text{h}$	
LApeak (max)	2021-09-14 09:11:40	94.7
LASmax	2021-09-14 09:07:41	80.0
LASmin	2021-09-14 09:05:52	42.3



# Measurement Report

## Report Summary

Meter's File Name	ORBP.002.s	Computer's File Name	LxTss_0005586-20210914 090348-ORBP.002.ldbin
Meter	LxT SE	0005586	
Firmware	2.404		
User		Location	
Job Description			
Note			
Start Time	2021-09-14 09:03:48	Duration	0:09:32.5
End Time	2021-09-14 09:13:21	Run Time	0:09:32.5
		Pause Time	0:00:00.0

## Results

### Overall Metrics

L <sub>Aeq</sub>	66.3 dB		
L <sub>AE</sub>	93.9 dB	SEA	-- dB
E <sub>A</sub>	273.8 μPa <sup>2</sup> h		
L <sub>Apeak</sub>	94.7 dB	2021-09-14 09:11:40	
L <sub>ASmax</sub>	80.0 dB	2021-09-14 09:07:41	
L <sub>ASmin</sub>	42.3 dB	2021-09-14 09:05:52	
L <sub>Aeq</sub>	66.3 dB		
L <sub>Ceq</sub>	75.2 dB	L <sub>Ceq</sub> - L <sub>Aeq</sub>	8.9 dB
L <sub>A1eq</sub>	68.7 dB	L <sub>A1eq</sub> - L <sub>Aeq</sub>	2.4 dB

### Exceedances

	Count	Duration
L <sub>AS</sub> > 85.0 dB	0	0:00:00.0
L <sub>AS</sub> > 115.0 dB	0	0:00:00.0
L <sub>Apeak</sub> > 135.0 dB	0	0:00:00.0
L <sub>Apeak</sub> > 137.0 dB	0	0:00:00.0
L <sub>Apeak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

<b>LDN</b>	<b>LDay</b>	<b>LNight</b>
66.3 dB	66.3 dB	0.0 dB
<b>LDEN</b>	<b>LDay</b>	<b>LEve</b>
66.3 dB	66.3 dB	-- dB
		<b>LNight</b>
		-- dB

### Any Data

	A		C		Z	
	Level	Time Stamp	Level	Time Stamp	Level	Time Stamp
L <sub>eq</sub>	66.3 dB		75.2 dB		-- dB	
L <sub>s(max)</sub>	80.0 dB	2021-09-14 09:07:41	-- dB		-- dB	
L <sub>S(min)</sub>	42.3 dB	2021-09-14 09:05:52	-- dB		-- dB	
L <sub>peak(max)</sub>	94.7 dB	2021-09-14 09:11:40	-- dB		-- dB	

### Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

### Statistics

L <sub>AS</sub> 5.0	72.6 dB
L <sub>AS</sub> 10.0	70.1 dB
L <sub>AS</sub> 33.3	65.1 dB
L <sub>AS</sub> 50.0	62.2 dB
L <sub>AS</sub> 66.6	57.0 dB
L <sub>AS</sub> 90.0	50.0 dB

### Time History



**Noise Measurement Field Data**

<b>Project:</b>	ORBP	<b>Job Number:</b>		
<b>Site No.:</b>	ST-3	<b>Date:</b>	9/14/2021	
<b>Analyst:</b>	Kiana and Melissa	<b>Time:</b>	9:20-9:30am	
<b>Location:</b>	Stearman Drive and Merrill Ave			
<b>Noise Sources:</b>	Cars passing on Merrill			
<b>Comments:</b>				
<b>Results (dBA):</b>				
	<b>Leq:</b>	<b>Lmin:</b>	<b>Lmax:</b>	<b>Peak:</b>
Measurement 3:	69.1	49.6	90.3	102.8

**Equipment**

<b>Sound Level Meter:</b>	LD SoundExpert LxT
<b>Calibrator:</b>	CAL200
<b>Response Time:</b>	Slow
<b>Weighting:</b>	A
<b>Microphone Height:</b>	5 feet

**Weather**

<b>Temp. (degrees F):</b>	68
<b>Wind (mph):</b>	1 mph
<b>Sky:</b>	Clear
<b>Bar. Pressure:</b>	29.91
<b>Humidity:</b>	62%

## Summary

File Name on Meter	ORBP.003.s
File Name on PC	LxTse_0005586-20210914 091934-ORBP.003.ld
Serial Number	0005586
Model	SoundExpert® LxT
Firmware Version	2.404
User	
Location	
Job Description	
Note	

## Measurement

### Description

Start	2021-09-14 09:19:34
Stop	2021-09-14 09:29:34
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0

Pre-Calibration	2021-09-14 07:41:58
Post-Calibration	None
Calibration Deviation	---

## Overall Settings

RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Slow	
Preamplifier	PRMLxT1L	
Microphone Correction	Off	
Integration Method	Linear	
OBA Range	Normal	
OBA Bandwidth	1/1 and 1/3	
OBA Frequency Weighting	A Weighting	
OBA Max Spectrum	At LMax	
Overload	122.5 dB	
	<b>A</b>	<b>C</b>
Under Range Peak	<b>79.0</b>	76.0
Under Range Limit	<b>25.3</b>	25.9
Noise Floor	16.1	16.8

## Results

LAeq	69.1	
LAE	96.9	
EA	540.768 $\mu\text{Pa}^2\text{h}$	
LApeak (max)	2021-09-14 09:25:03	102.8
LASmax	2021-09-14 09:25:03	90.3
LASmin	2021-09-14 09:28:18	49.6

# Measurement Report

## Report Summary

Meter's File Name	ORBP.003.a	Computer's File Name	LxTss_0005586-20210914 091934-ORBP.003.ldbin
Meter	LxT SE	0005586	
Firmware	2.404		
User		Location	
Job Description			
Note			
Start Time	2021-09-14 09:19:34	Duration	0:10:00.0
End Time	2021-09-14 09:29:34	Run Time	0:10:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

L <sub>Aeq</sub>	69.1 dB		
L <sub>AE</sub>	96.9 dB	SEA	-- dB
EA	540.8 μPa·h		
L <sub>Apeak</sub>	102.8 dB	2021-09-14 09:25:03	
L <sub>ASmax</sub>	90.3 dB	2021-09-14 09:25:03	
L <sub>ASmin</sub>	49.6 dB	2021-09-14 09:28:18	
L <sub>Aeq</sub>	69.1 dB		
L <sub>Ceq</sub>	80.2 dB	L <sub>Ceq</sub> - L <sub>Aeq</sub>	11.1 dB
L <sub>A1eq</sub>	71.6 dB	L <sub>A1eq</sub> - L <sub>Aeq</sub>	2.5 dB

### Exceedances

	Count	Duration
L <sub>AS</sub> > 85.0 dB	1	0:00:03.5
L <sub>AS</sub> > 115.0 dB	0	0:00:00.0
L <sub>Apeak</sub> > 135.0 dB	0	0:00:00.0
L <sub>Apeak</sub> > 137.0 dB	0	0:00:00.0
L <sub>Apeak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

<b>LDN</b>	<b>LDay</b>	<b>LNight</b>
69.1 dB	69.1 dB	0.0 dB
<b>LDEN</b>	<b>LDay</b>	<b>LEve</b>
69.1 dB	69.1 dB	-- dB
		<b>LNight</b>
		-- dB

### Any Data

	A		C		Z
	Level	Time Stamp	Level	Time Stamp	Level
L <sub>eq</sub>	69.1 dB		80.2 dB		-- dB
L <sub>s(max)</sub>	90.3 dB	2021-09-14 09:25:03	-- dB		-- dB
L <sub>S(min)</sub>	49.6 dB	2021-09-14 09:28:18	-- dB		-- dB
L <sub>peak(max)</sub>	102.8 dB	2021-09-14 09:25:03	-- dB		-- dB

### Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

### Statistics

L <sub>AS</sub> 5.0	72.3 dB
L <sub>AS</sub> 10.0	69.7 dB
L <sub>AS</sub> 33.3	65.1 dB
L <sub>AS</sub> 50.0	61.8 dB
L <sub>AS</sub> 66.6	58.9 dB
L <sub>AS</sub> 90.0	53.9 dB

## Time History



**Noise Measurement Field Data**

<b>Project:</b>	ORBP	<b>Job Number:</b>		
<b>Site No.:</b>	ST-4	<b>Date:</b>	9/14/2021	
<b>Analyst:</b>	Kiana and Melissa	<b>Time:</b>	9:20-9:30am	
<b>Location:</b>	Clemson Street and Longwood Avenue			
<b>Noise Sources:</b>	Cars and traffic from the 83			
<b>Comments:</b>				
<b>Results (dBA):</b>				
	<b>Leq:</b>	<b>Lmin:</b>	<b>Lmax:</b>	<b>Peak:</b>
Measurement 3:	52.7	46.6	68.3	83.4

<b>Equipment</b>	
<b>Sound Level Meter:</b>	LD SoundExpert LxT
<b>Calibrator:</b>	CAL200
<b>Response Time:</b>	Slow
<b>Weighting:</b>	A
<b>Microphone Height:</b>	5 feet

<b>Weather</b>	
<b>Temp. (degrees F):</b>	68
<b>Wind (mph):</b>	1 mph
<b>Sky:</b>	Clear
<b>Bar. Pressure:</b>	29.91
<b>Humidity:</b>	62%

## Summary

**File Name** ORBP.004.s  
**File Name** LxTse\_0005586-20210914 093539-ORBP.004.ldbin  
**Serial Num** 0005586  
**Model** SoundExpert® LxT  
**Firmware** 2.404  
**User**  
**Location**  
**Job Description**  
**Note**

## Measurement

### Descriptio

**Start** 2021-09-14 09:35:39  
**Stop** 2021-09-14 09:45:39  
**Duration** 00:10:00.0  
**Run Time** 00:10:00.0  
**Pause** 00:00:00.0

**Pre-Calibr** 2021-09-14 07:41:58  
**Post-Calib** None  
**Calibration** ---

## Overall Settings

**RMS Weig** A Weighting  
**Peak Weig** A Weighting  
**Detector** Slow  
**Preamplifi** PRMLxT1L  
**Microphor** Off  
**Integratio** Linear  
**OBA Rang** Normal  
**OBA Band** 1/1 and 1/3  
**OBA Frequ** A Weighting  
**OBA Max :** At LMax  
**Overload** 122.5 dB

	<b>A</b>	<b>C</b>	<b>Z</b>
<b>Under Ran</b>	<b>79.0</b>	76.0	81.0 dB
<b>Under Ran</b>	<b>25.3</b>	25.9	31.6 dB
<b>Noise Floo</b>	16.1	16.8	22.5 dB

## Results

**LAeq** 52.7  
**LAE** 80.4  
**EA** 12.304  $\mu\text{Pa}^2\text{h}$   
**LApeak (ma** 2021-09-14 09:37:24 83.4 dB  
**LASmax** 2021-09-14 09:41:24 68.3 dB  
**LASmin** 2021-09-14 09:44:29 46.4 dB



# Measurement Report

## Report Summary

Meter's File Name	ORBP.004.s	Computer's File Name	LxTss_0005586-20210914 093539-ORBP.004.lbin
Meter	LxT SE	0005586	
Firmware	2.404		
User		Location	
Job Description			
Note			
Start Time	2021-09-14 09:35:39	Duration	0:10:00.0
End Time	2021-09-14 09:45:39	Run Time	0:10:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

L <sub>Aeq</sub>	52.7 dB		
L <sub>AE</sub>	80.4 dB	SEA	-- dB
EA	12.3 μPa <sup>2</sup> /s		
L <sub>Apeak</sub>	83.4 dB	2021-09-14 09:37:24	
L <sub>ASmax</sub>	68.3 dB	2021-09-14 09:41:24	
L <sub>ASmin</sub>	46.4 dB	2021-09-14 09:44:29	
L <sub>Aeq</sub>	52.7 dB		
L <sub>Ceq</sub>	69.9 dB	L <sub>Ceq</sub> - L <sub>Aeq</sub>	17.2 dB
L <sub>A1eq</sub>	54.2 dB	L <sub>A1eq</sub> - L <sub>Aeq</sub>	1.5 dB

### Exceedances

	Count	Duration
L <sub>AS</sub> > 85.0 dB	0	0:00:00.0
L <sub>AS</sub> > 115.0 dB	0	0:00:00.0
L <sub>Apeak</sub> > 135.0 dB	0	0:00:00.0
L <sub>Apeak</sub> > 137.0 dB	0	0:00:00.0
L <sub>Apeak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

<b>LDN</b>	<b>LDay</b>	<b>LNight</b>
52.7 dB	52.7 dB	0.0 dB
<b>LDEN</b>	<b>LDay</b>	<b>LEve</b>
52.7 dB	52.7 dB	-- dB
		<b>LNight</b>
		-- dB

### Any Data

	A		C		Z
	Level	Time Stamp	Level	Time Stamp	Level
L <sub>eq</sub>	52.7 dB		69.9 dB		-- dB
L <sub>r(max)</sub>	68.3 dB	2021-09-14 09:41:24	-- dB		-- dB
L <sub>S(min)</sub>	46.4 dB	2021-09-14 09:44:29	-- dB		-- dB
L <sub>rpeak(max)</sub>	83.4 dB	2021-09-14 09:37:24	-- dB		-- dB

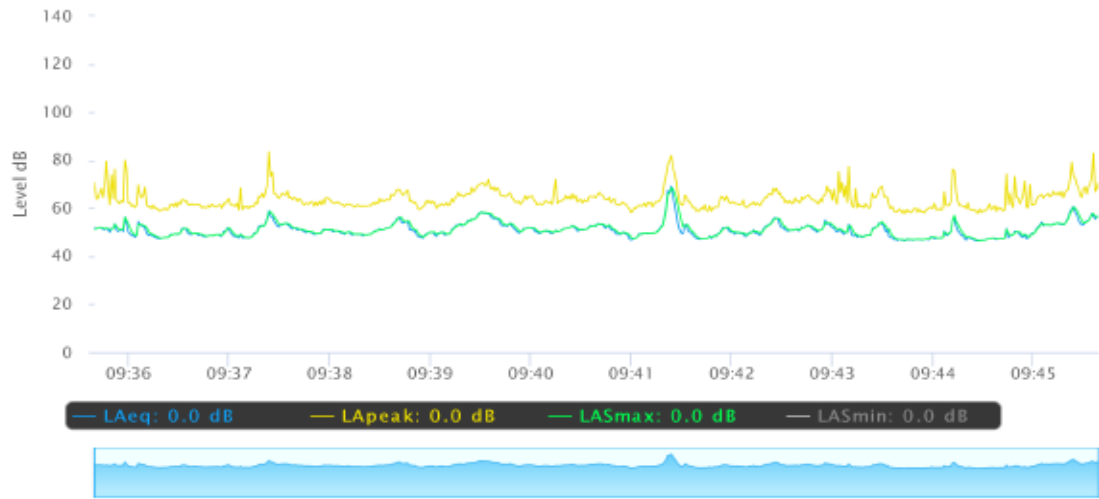
### Overloads

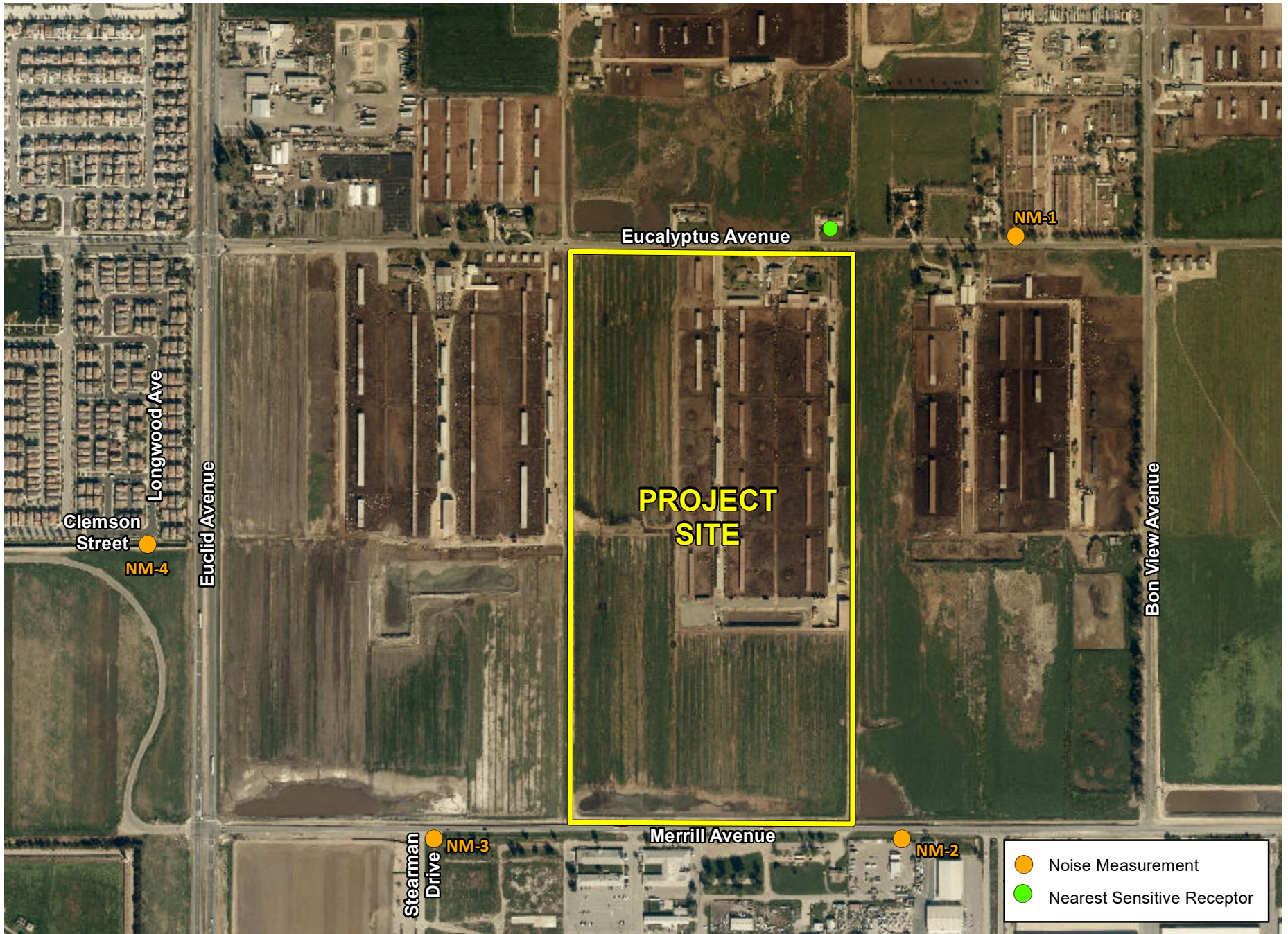
Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

### Statistics

L <sub>AS</sub> 5.0	56.2 dB
L <sub>AS</sub> 10.0	54.4 dB
L <sub>AS</sub> 33.3	51.6 dB
L <sub>AS</sub> 50.0	50.4 dB
L <sub>AS</sub> 66.6	49.4 dB
L <sub>AS</sub> 90.0	47.6 dB

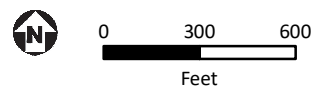
### Time History





Source: ESRI World Imagery

**FIGURE 4.11-1: Noise Measurement and Sensitive Receptor Locations**  
 Ontario Ranch Business Park Specific Plan Amendment



Z:\RIV\_GIS\195242002 - Ontario Ranch Business Park\Noise.mxd



Roadway Construction Noise Model (RCNM),Version 1.1

Report date 9/10/2021

Case Description:

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	1	1	1

Description	Device	Impact	Equipment				
			Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No		20		89.6	1286	0
Excavator	No		40		80.7	1286	0
Dozer	No		40		81.7	1286	0
All Other Equipment > 5 HP	No		50	85		1286	0
Excavator	No		40		80.7	1286	0
Excavator	No		40		80.7	1286	0
Dozer	No		40		81.7	1286	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq	Night Lmax
Concrete Saw	61.4	54.4	N/A	N/A	N/A	N/A	N/A
Excavator	52.5	48.5	N/A	N/A	N/A	N/A	N/A
Dozer	53.5	49.5	N/A	N/A	N/A	N/A	N/A
All Other Equipment > 5 HP	56.8	53.8	N/A	N/A	N/A	N/A	N/A
Excavator	52.5	48.5	N/A	N/A	N/A	N/A	N/A
Excavator	52.5	48.5	N/A	N/A	N/A	N/A	N/A
Dozer	53.5	49.5	N/A	N/A	N/A	N/A	N/A
<b>Total</b>	<b>61.4</b>	<b>59.6</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

\*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat 9/10/2021  
Case Descr ORBP - Site Prep

---- Receptor #1 ----

Description Land Use  
Residential Residential

Baselines (dBA)		
Daytime	Evening	Night
1	1	1

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Dozer	No	40		81.7	1286	0
Dozer	No	40		81.7	1286	0
Dozer	No	40		81.7	1286	0
Tractor	No	40	84		1286	0
Tractor	No	40	84		1286	0
Tractor	No	40	84		1286	0
Tractor	No	40	84		1286	0

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)				
	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax
Dozer	53.5	49.5	N/A	N/A	N/A	N/A	N/A
Dozer	53.5	49.5	N/A	N/A	N/A	N/A	N/A
Dozer	53.5	49.5	N/A	N/A	N/A	N/A	N/A
Tractor	55.8	51.8	N/A	N/A	N/A	N/A	N/A
Tractor	55.8	51.8	N/A	N/A	N/A	N/A	N/A
Tractor	55.8	51.8	N/A	N/A	N/A	N/A	N/A
Tractor	55.8	51.8	N/A	N/A	N/A	N/A	N/A
Total	55.8	59.4	N/A	N/A	N/A	N/A	N/A

\*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 9/10/2021  
Case Descr ORBP - Grading

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Excavator	No	40		80.7	1286	0
Grader	No	40	85		1286	0
Dozer	No	40		81.7	1286	0
Scraper	No	40		83.6	1286	0
Tractor	No	40	84		1286	0
Excavator	No	40		80.7	1286	0
Scraper	No	40		83.6	1286	0
Tractor	No	40	84		1286	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)				
	*Lmax	Leq	Day Lmax	Evening		Night		Leq
				Leq	Lmax	Leq	Lmax	
Excavator	52.5	48.5	N/A	N/A	N/A	N/A	N/A	N/A
Grader	56.8	52.8	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	53.5	49.5	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	55.4	51.4	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	55.8	51.8	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	52.5	48.5	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	55.4	51.4	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	55.8	51.8	N/A	N/A	N/A	N/A	N/A	N/A
Total	56.8	60	N/A	N/A	N/A	N/A	N/A	N/A

\*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 9/10/2021

Case Descr ORBP - Pavng/Construction/Paint

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	1286	0
Generator	No	50		80.6	1286	0
Tractor	No	40	84		1286	0
Tractor	No	40	84		1286	0
Tractor	No	40	84		1286	0
Welder / Torch	No	40		74	1286	0
Paver	No	50		77.2	1286	0
Paver	No	50		77.2	1286	0
Roller	No	20		80	1286	0
Roller	No	20		80	1286	0
Compressor (air)	No	40		77.7	1286	0

Results

Equipment	Calculated (dBA)			Noise Limits (dBA)					
	*Lmax	Leq	Day Lmax	Day		Evening		Night	
				Leq	Leq	Lmax	Leq	Lmax	Leq
Crane	52.3	44.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	52.4	49.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	55.8	51.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	55.8	51.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	55.8	51.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	45.8	41.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	49	46	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	49	46	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	51.8	44.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	51.8	44.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	49.5	45.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	55.8	58.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A

\*Calculated Lmax is the Loudest value.

**FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels**

**Project Name:** ORBP  
**Project Number:**  
**Scenario:** Existing  
**Ldn/CNEL:** CNEL

Assumed 24-Hour Traffic Distribution:

	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

#	Roadway	Segment	Lanes	Median Width	ADT Volume	Speed (mph)	Alpha Factor	Vehicle Mix		Distance from Centerline of Roadway				
								Medium Trucks	Heavy Trucks	CNEL at 100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL
1	Euclid Ave	Walnut Ave and SR-60	6	70	29,290	45	0	11.3%	7.3%	73.9	244	773	2,445	7,731
2	Euclid Ave	Riverside Dr and Walnut Ave	6	70	31,777	45	0	11.3%	7.3%	74.2	265	839	2,652	8,387
3	Euclid Ave	Chino Ave and Riverside Dr	4	70	28,828	45	0	11.3%	7.3%	73.3	216	682	2,156	6,818
4	Euclid Ave	Schaefer Ave and Chino Ave	4	34	29,467	55	0	11.3%	7.3%	74.5	284	899	2,843	8,991
5	Euclid Ave	Edison Ave and Schaefer Av	4	34	31,494	55	0	11.3%	7.3%	74.8	304	961	3,039	9,609
6	Euclid Ave	Eucalyptus Ave and Edison Ave	4	34	32,338	55	0	11.3%	7.3%	74.9	312	987	3,120	9,867
7	Euclid Ave	Merrill Ave and Eucalyptus Ave	4	34	32,600	55	0	11.3%	7.3%	74.9	314	993	3,141	9,933
8	Bon View Ave	Merrill Ave and Eucalyptus Ave	2	0	2,508	45	0	2.0%	1.0%	57.0	-	-	51	162
9	Grove Ave	Merrill Ave and Eucalyptus Ave	2	0	7,967	50	0	2.0%	1.0%	63.2	-	66	209	661
10	Walker Ave	Eucalyptus Ave and Edison Ave	2	2	1,685	45	0	2.0%	1.0%	55.4	-	-	34	109
11	Archibald Ave	Limonite Ave and Merrill Ave	6	25	25,110	55	0	11.3%	7.3%	74.0	251	793	2,507	7,929
12	Archibald Ave	Merrill Ave and Eucalyptus Ave	6	25	26,427	55	0	11.3%	7.3%	74.2	264	834	2,639	8,345
13	Archibald Ave	Eucalyptus Ave and Edison Ave	4	25	24,863	55	0	11.3%	7.3%	73.7	236	746	2,360	7,462
14	Eucalyptus Ave	Euclid Ave and Bon View Ave	2	0	7,545	45	0	2.0%	1.0%	61.9	-	49	154	488
15	Eucalyptus Ave	Bon View Ave and Grove Ave	2	0	3,592	45	0	2.0%	1.0%	58.7	-	-	73	232
16	Eucalyptus Ave	Grove Ave and Walker Ave	2	0	3,592	45	0	2.0%	1.0%	58.7	-	-	73	232
17	Merrill Ave	Euclid Ave and Bon View Ave	2	0	11,663	45	0	11.3%	7.3%	68.7	74	234	741	2,343
18	Merrill Ave	Bon View Ave and Grove Ave	2	0	12,133	45	0	11.3%	7.3%	68.9	77	244	771	2,437
19	Merrill Ave	Grove Ave and Flight Ave	2	0	11,807	45	0	11.3%	7.3%	68.8	75	237	750	2,372
20	Merrill Ave	Flight Ave and Van Vliet Ave	4	0	12,003	45	0	11.3%	7.3%	68.9	77	245	774	2,447
21	Merrill Ave	Van Vliet Ave and Hellman Ave	4	0	12,081	45	0	11.3%	7.3%	68.9	78	246	779	2,463
22	Merrill Ave	Hellman Ave and Carpenter Ave	4	0	13,217	45	0	11.3%	7.3%	69.3	85	269	852	2,694
23	Merrill Ave	Carpenter Ave and Archibald Ave	2	0	11,885	45	0	11.3%	7.3%	68.8	76	239	755	2,388
24	Edison Ave	Euclid Ave and Walker Ave	2	0	17,782	50	0	11.3%	7.3%	71.3	136	429	1,356	4,287
25	Edison Ave	Walker Ave and Archibald Ave	2	0	18,110	50	0	11.3%	7.3%	71.4	138	437	1,381	4,366
26	Edison Ave	Archibald Ave and Turner Ave	4	25	19,604	50	0	11.3%	7.3%	71.9	157	495	1,566	4,954
27	Ontario Ranch Rd	Turner Ave and Haven Ave	6	25	19,931	50	0	11.3%	7.3%	72.2	168	530	1,676	5,299
28	Ontario Ranch Rd	Haven Ave and Hamner Ave	4	25	29,922	50	0	11.3%	7.3%	73.8	239	756	2,391	7,561
29	Ontario Ranch Rd	Hamner Ave and I-15	6	0	21,002	50	0	11.3%	7.3%	72.2	168	530	1,675	5,298

<sup>1</sup> Distance is from the centerline of the roadway segment to the receptor location.  
 "-" = contour is located within the roadway right-of-way.



**FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels**

**Project Name:** O  
**Project Number:**  
**Scenario:** Opening Year  
**Ldn/CNEL:** CNEL

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

#	Roadway	Segment	Lanes	Median Width	ADT Volume	Speed (mph)	Alpha Factor	Vehicle Mix		Distance from Centerline of Roadway				
								Medium Trucks	Heavy Trucks	CNEL at 100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL
1	Euclid Ave	Walnut Ave and SR-60	6	70	33,964	45	0	11.3%	7.3%	74.5	283	896	2,835	8,964
2	Euclid Ave	Riverside Dr and Walnut Ave	6	70	36,486	45	0	11.3%	7.3%	74.8	305	963	3,045	9,630
3	Euclid Ave	Chino Ave and Riverside Dr	4	70	33,980	45	0	11.3%	7.3%	74.1	254	804	2,541	8,036
4	Euclid Ave	Schaefer Ave and Chino Ave	4	34	34,724	55	0	11.3%	7.3%	75.3	335	1,059	3,350	10,595
5	Euclid Ave	Edison Ave and Schaefer Av	4	34	36,809	55	0	11.3%	7.3%	75.5	355	1,123	3,552	11,231
6	Euclid Ave	Eucalyptus Ave and Edison Ave	4	34	37,177	55	0	11.3%	7.3%	75.5	359	1,134	3,587	11,343
7	Euclid Ave	Merrill Ave and Eucalyptus Ave	4	34	37,570	55	0	11.3%	7.3%	75.5	362	1,145	3,620	11,447
8	Bon View Ave	Merrill Ave and Eucalyptus Ave	2	0	3,124	45	0	2.0%	1.0%	58.0	-	-	64	202
9	Grove Ave	Merrill Ave and Eucalyptus Ave	2	0	11,705	50	0	2.0%	1.0%	64.9	-	97	307	971
10	Walker Ave	Eucalyptus Ave and Edison Ave	2	2	1,753	45	0	2.0%	1.0%	55.5	-	-	36	113
11	Archibald Ave	Limonite Ave and Merrill Ave	6	25	27,790	55	0	11.3%	7.3%	74.4	277	878	2,775	8,775
12	Archibald Ave	Merrill Ave and Eucalyptus Ave	6	25	30,741	55	0	11.3%	7.3%	74.9	307	971	3,070	9,707
13	Archibald Ave	Eucalyptus Ave and Edison Ave	4	25	29,200	55	0	11.3%	7.3%	74.4	277	876	2,771	8,763
14	Eucalyptus Ave	Euclid Ave and Bon View Ave	2	0	8,067	45	0	2.0%	1.0%	62.1	-	52	165	521
15	Eucalyptus Ave	Bon View Ave and Grove Ave	2	0	5,042	45	0	2.0%	1.0%	60.0	-	33	103	326
16	Eucalyptus Ave	Grove Ave and Walker Ave	2	0	5,205	45	0	2.0%	1.0%	60.3	-	34	106	336
17	Merrill Ave	Euclid Ave and Bon View Ave	2	0	15,476	45	0	11.3%	7.3%	69.9	98	311	983	3,109
18	Merrill Ave	Bon View Ave and Grove Ave	2	0	16,702	45	0	11.3%	7.3%	70.3	106	336	1,061	3,355
19	Merrill Ave	Grove Ave and Flight Ave	2	0	16,193	45	0	11.3%	7.3%	70.1	103	325	1,029	3,253
20	Merrill Ave	Flight Ave and Van Vliet Ave	4	0	16,154	45	0	11.3%	7.3%	70.2	104	329	1,041	3,293
21	Merrill Ave	Van Vliet Ave and Hellman Ave	4	0	16,959	45	0	11.3%	7.3%	70.3	109	346	1,093	3,456
22	Merrill Ave	Hellman Ave and Carpenter Ave	4	0	18,694	45	0	11.3%	7.3%	70.7	120	381	1,204	3,808
23	Merrill Ave	Carpenter Ave and Archibald Ave	2	0	16,756	45	0	11.3%	7.3%	70.3	106	337	1,064	3,366
24	Edison Ave	Euclid Ave and Walker Ave	2	0	20,254	50	0	11.3%	7.3%	71.9	154	488	1,544	4,883
25	Edison Ave	Walker Ave and Archibald Ave	2	0	22,249	50	0	11.3%	7.3%	72.3	170	536	1,696	5,363
26	Edison Ave	Archibald Ave and Turner Ave	4	25	23,715	50	0	11.3%	7.3%	72.8	189	599	1,895	5,992
27	Ontario Ranch Rd	Turner Ave and Haven Ave	6	25	23,642	50	0	11.3%	7.3%	73.0	199	629	1,988	6,286
28	Ontario Ranch Rd	Haven Ave and Hamner Ave	4	25	34,213	50	0	11.3%	7.3%	74.3	273	864	2,731	8,636
29	Ontario Ranch Rd	Hamner Ave and I-15	6	0	25,055	50	0	11.3%	7.3%	72.9	199	631	1,995	6,308

<sup>1</sup> Distance is from the centerline of the roadway segment to the receptor location.  
 "-" = contour is located within the roadway right-of-way.

**FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels**

**Project Name:**  
**Project Number:**  
**Scenario:** Opening Year Plus Project  
**Ldn/CNEL:** CNEL

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

#	Roadway	Segment	Lanes	Median Width	ADT Volume	Speed (mph)	Alpha Factor	Vehicle Mix		Distance from Centerline of Roadway				
								Medium Trucks	Heavy Trucks	CNEL at 100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL
1	Euclid Ave	Walnut Ave and SR-60	6	70	34,804	45	0	11.7%	7.9%	74.8	304	962	3,043	9,621
2	Euclid Ave	Riverside Dr and Walnut Ave	6	70	37,268	45	0	11.7%	7.8%	75.1	325	1,027	3,249	10,273
3	Euclid Ave	Chino Ave and Riverside Dr	4	70	34,908	45	0	11.7%	7.9%	74.4	273	865	2,734	8,647
4	Euclid Ave	Schaefer Ave and Chino Ave	4	34	35,680	55	0	11.7%	7.9%	75.5	359	1,134	3,586	11,339
5	Euclid Ave	Edison Ave and Schaefer Av	4	34	38,113	55	0	11.7%	7.8%	75.8	382	1,209	3,822	12,087
6	Euclid Ave	Eucalyptus Ave and Edison Ave	4	34	37,551	55	0	11.7%	7.8%	75.8	376	1,190	3,765	11,905
7	Euclid Ave	Merrill Ave and Eucalyptus Ave	4	34	37,982	55	0	11.7%	7.8%	75.8	380	1,202	3,801	12,020
8	Bon View Ave	Merrill Ave and Eucalyptus Ave	2	0	3,154	45	0	2.0%	1.0%	58.0	-	-	64	204
9	Grove Ave	Merrill Ave and Eucalyptus Ave	2	0	11,995	50	0	2.0%	1.0%	65.0	-	99	315	995
10	Walker Ave	Eucalyptus Ave and Edison Ave	2	2	1,753	45	0	2.0%	1.0%	55.5	-	-	36	113
11	Archibald Ave	Limonite Ave and Merrill Ave	6	25	27,906	55	0	11.4%	7.4%	74.5	281	890	2,815	8,901
12	Archibald Ave	Merrill Ave and Eucalyptus Ave	6	25	31,281	55	0	11.5%	7.6%	75.0	318	1,006	3,181	10,061
13	Archibald Ave	Eucalyptus Ave and Edison Ave	4	25	29,408	55	0	11.5%	7.6%	74.5	285	900	2,845	8,997
14	Eucalyptus Ave	Euclid Ave and Bon View Ave	2	0	8,097	45	0	2.0%	1.0%	62.1	-	52	165	523
15	Eucalyptus Ave	Bon View Ave and Grove Ave	2	0	6,088	45	0	2.0%	1.0%	60.9	-	39	124	393
16	Eucalyptus Ave	Grove Ave and Walker Ave	2	0	6,193	45	0	2.0%	1.0%	61.0	-	40	127	400
17	Merrill Ave	Euclid Ave and Bon View Ave	2	0	16,370	45	0	12.5%	8.9%	70.7	118	372	1,176	3,718
18	Merrill Ave	Bon View Ave and Grove Ave	2	0	17,596	45	0	11.8%	7.9%	70.7	118	372	1,177	3,721
19	Merrill Ave	Grove Ave and Flight Ave	2	0	17,029	45	0	11.8%	8.0%	70.6	114	361	1,140	3,605
20	Merrill Ave	Flight Ave and Van Vliet Ave	4	0	16,930	45	0	11.8%	8.0%	70.6	115	364	1,150	3,638
21	Merrill Ave	Van Vliet Ave and Hellman Ave	4	0	17,735	45	0	11.8%	7.9%	70.8	120	380	1,202	3,802
22	Merrill Ave	Hellman Ave and Carpenter Ave	4	0	19,470	45	0	11.7%	7.9%	71.1	131	416	1,314	4,156
23	Merrill Ave	Carpenter Ave and Archibald Ave	2	0	17,532	45	0	11.8%	7.9%	70.7	117	371	1,172	3,707
24	Edison Ave	Euclid Ave and Walker Ave	2	0	20,602	50	0	11.6%	7.7%	72.1	161	511	1,615	5,106
25	Edison Ave	Walker Ave and Archibald Ave	2	0	23,009	50	0	11.6%	7.6%	72.6	180	569	1,800	5,691
26	Edison Ave	Archibald Ave and Turner Ave	4	25	24,447	50	0	11.6%	7.6%	73.0	200	633	2,002	6,329
27	Ontario Ranch Rd	Turner Ave and Haven Ave	6	25	24,344	50	0	11.6%	7.6%	73.2	210	663	2,097	6,632
28	Ontario Ranch Rd	Haven Ave and Hamner Ave	4	25	34,887	50	0	11.5%	7.5%	74.5	283	896	2,834	8,963
29	Ontario Ranch Rd	Hamner Ave and I-15	6	0	25,759	50	0	11.5%	7.6%	73.1	210	664	2,099	6,638

<sup>1</sup> Distance is from the centerline of the roadway segment to the receptor location.  
 "-" = contour is located within the roadway right-of-way.

**FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels**

**Project Name:**

**Project Number:**

**Scenario:** Horizon Year

**Ldn/CNEL:** CNEL

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

#	Roadway	Segment	Lanes	Median Width	ADT Volume	Speed (mph)	Alpha Factor	Vehicle Mix		Distance from Centerline of Roadway				
								Medium Trucks	Heavy Trucks	CNEL at 100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL
1	Euclid Ave	Walnut Ave and SR-60	6	70	52,051	45	0	11.3%	7.3%	76.4	434	1,374	4,344	13,738
2	Euclid Ave	Riverside Dr and Walnut Ave	6	70	54,721	45	0	11.3%	7.3%	76.6	457	1,444	4,567	14,443
3	Euclid Ave	Chino Ave and Riverside Dr	4	70	51,278	45	0	11.3%	7.3%	75.8	383	1,213	3,835	12,127
4	Euclid Ave	Schaefer Ave and Chino Ave	4	34	51,248	55	0	11.3%	7.3%	76.9	494	1,564	4,945	15,636
5	Euclid Ave	Edison Ave and Schaefer Av	4	34	54,079	55	0	11.3%	7.3%	77.2	522	1,650	5,218	16,500
6	Euclid Ave	Eucalyptus Ave and Edison Ave	4	34	52,736	55	0	11.3%	7.3%	77.1	509	1,609	5,088	16,090
7	Euclid Ave	Merrill Ave and Eucalyptus Ave	4	34	53,659	55	0	11.3%	7.3%	77.1	517	1,635	5,170	16,350
8	Bon View Ave	Merrill Ave and Eucalyptus Ave	2	0	4,706	45	0	2.0%	1.0%	59.7	-	-	96	304
9	Grove Ave	Merrill Ave and Eucalyptus Ave	2	0	19,396	50	0	2.0%	1.0%	67.1	51	161	509	1,609
10	Walker Ave	Eucalyptus Ave and Edison Ave	2	2	10,638	45	0	2.0%	1.0%	63.4	-	69	218	688
11	Archibald Ave	Limonite Ave and Merrill Ave	6	25	36,900	55	0	11.3%	7.3%	75.7	368	1,165	3,685	11,652
12	Archibald Ave	Merrill Ave and Eucalyptus Ave	6	25	42,891	55	0	11.3%	7.3%	76.3	428	1,354	4,283	13,544
13	Archibald Ave	Eucalyptus Ave and Edison Ave	4	25	42,434	55	0	11.3%	7.3%	76.0	403	1,273	4,027	12,735
14	Eucalyptus Ave	Euclid Ave and Bon View Ave	2	0	9,767	45	0	2.0%	1.0%	63.0	-	63	200	631
15	Eucalyptus Ave	Bon View Ave and Grove Ave	2	0	6,732	45	0	2.0%	1.0%	61.3	-	43	138	435
16	Eucalyptus Ave	Grove Ave and Walker Ave	2	0	6,767	45	0	2.0%	1.0%	61.4	-	44	138	437
17	Merrill Ave	Euclid Ave and Bon View Ave	2	0	26,390	45	0	11.3%	7.3%	72.2	168	530	1,676	5,301
18	Merrill Ave	Bon View Ave and Grove Ave	2	0	26,236	45	0	11.3%	7.3%	72.2	167	527	1,667	5,271
19	Merrill Ave	Grove Ave and Flight Ave	2	0	27,473	45	0	11.3%	7.3%	72.4	175	552	1,745	5,519
20	Merrill Ave	Flight Ave and Van Vliet Ave	4	0	26,872	45	0	11.3%	7.3%	72.4	173	548	1,732	5,478
21	Merrill Ave	Van Vliet Ave and Hellman Ave	4	0	29,067	45	0	11.3%	7.3%	72.7	187	592	1,873	5,924
22	Merrill Ave	Hellman Ave and Carpenter Ave	4	0	30,431	45	0	11.3%	7.3%	72.8	196	620	1,960	6,200
23	Merrill Ave	Carpenter Ave and Archibald Ave	2	0	27,720	45	0	11.3%	7.3%	72.5	176	557	1,761	5,569
24	Edison Ave	Euclid Ave and Walker Ave	2	0	42,604	50	0	11.3%	7.3%	75.1	325	1,027	3,248	10,270
25	Edison Ave	Walker Ave and Archibald Ave	2	0	42,928	50	0	11.3%	7.3%	75.1	327	1,035	3,272	10,349
26	Edison Ave	Archibald Ave and Turner Ave	4	25	41,239	50	0	11.3%	7.3%	75.2	330	1,042	3,295	10,420
27	Ontario Ranch Rd	Turner Ave and Haven Ave	6	25	42,828	50	0	11.3%	7.3%	75.6	360	1,139	3,601	11,386
28	Ontario Ranch Rd	Haven Ave and Hamner Ave	4	25	47,804	50	0	11.3%	7.3%	75.8	382	1,207	3,816	12,067
29	Ontario Ranch Rd	Hamner Ave and I-15	6	0	36,703	50	0	11.3%	7.3%	74.6	292	924	2,922	9,241

<sup>1</sup> Distance is from the centerline of the roadway segment to the receptor location.  
 "-" = contour is located within the roadway right-of-way.

**FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels**

**Project Name:**

**Project Number:**

**Scenario:** Horizon Year Plus Project

**Ldn/CNEL:** CNEL

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

#	Roadway	Segment	Lanes	Median Width	ADT Volume	Speed (mph)	Alpha Factor	Vehicle Mix		Distance from Centerline of Roadway				
								Medium Trucks	Heavy Trucks	CNEL at 100 Feet	70 CNEL	65 CNEL	60 CNEL	55 CNEL
1	Euclid Ave	Walnut Ave and SR-60	6	70	52,745	45	0	11.6%	7.7%	76.6	454	1,437	4,543	14,367
2	Euclid Ave	Riverside Dr and Walnut Ave	6	70	55,357	45	0	11.6%	7.7%	76.8	476	1,506	4,761	15,057
3	Euclid Ave	Chino Ave and Riverside Dr	4	70	52,060	45	0	11.6%	7.7%	76.0	402	1,271	4,020	12,711
4	Euclid Ave	Schaefer Ave and Chino Ave	4	34	52,060	55	0	11.6%	7.7%	77.1	517	1,635	5,169	16,345
5	Euclid Ave	Edison Ave and Schaefer Av	4	34	55,237	55	0	11.6%	7.7%	77.4	548	1,732	5,477	17,319
6	Euclid Ave	Eucalyptus Ave and Edison Ave	4	34	53,110	55	0	11.6%	7.7%	77.2	527	1,666	5,269	16,663
7	Euclid Ave	Merrill Ave and Eucalyptus Ave	4	34	54,071	55	0	11.6%	7.7%	77.3	536	1,696	5,362	16,957
8	Bon View Ave	Merrill Ave and Eucalyptus Ave	2	0	4,736	45	0	2.0%	1.0%	59.8	-	-	97	306
9	Grove Ave	Merrill Ave and Eucalyptus Ave	2	0	19,396	50	0	2.0%	1.0%	67.1	51	161	509	1,609
10	Walker Ave	Eucalyptus Ave and Edison Ave	2	2	10,668	45	0	2.0%	1.0%	63.4	-	69	218	690
11	Archibald Ave	Limonite Ave and Merrill Ave	6	25	36,988	55	0	11.4%	7.4%	75.7	372	1,177	3,722	11,771
12	Archibald Ave	Merrill Ave and Eucalyptus Ave	6	25	43,199	55	0	11.5%	7.5%	76.4	437	1,383	4,373	13,828
13	Archibald Ave	Eucalyptus Ave and Edison Ave	4	25	42,642	55	0	11.5%	7.5%	76.1	410	1,297	4,103	12,974
14	Eucalyptus Ave	Euclid Ave and Bon View Ave	2	0	9,797	45	0	2.0%	1.0%	63.0	-	63	200	633
15	Eucalyptus Ave	Bon View Ave and Grove Ave	2	0	7,838	45	0	2.0%	1.0%	62.0	-	51	160	506
16	Eucalyptus Ave	Grove Ave and Walker Ave	2	0	7,873	45	0	2.0%	1.0%	62.1	-	51	161	509
17	Merrill Ave	Euclid Ave and Bon View Ave	2	0	27,284	45	0	12.1%	8.3%	72.7	188	594	1,877	5,936
18	Merrill Ave	Bon View Ave and Grove Ave	2	0	27,130	45	0	11.6%	7.7%	72.5	179	565	1,785	5,645
19	Merrill Ave	Grove Ave and Flight Ave	2	0	28,309	45	0	11.6%	7.7%	72.7	186	588	1,860	5,882
20	Merrill Ave	Flight Ave and Van Vliet Ave	4	0	27,708	45	0	11.6%	7.7%	72.7	185	585	1,849	5,847
21	Merrill Ave	Van Vliet Ave and Hellman Ave	4	0	29,641	45	0	11.6%	7.7%	73.0	197	624	1,973	6,240
22	Merrill Ave	Hellman Ave and Carpenter Ave	4	0	30,977	45	0	11.6%	7.7%	73.1	206	651	2,059	6,511
23	Merrill Ave	Carpenter Ave and Archibald Ave	2	0	28,296	45	0	11.6%	7.7%	72.7	186	588	1,859	5,878
24	Edison Ave	Euclid Ave and Walker Ave	2	0	42,952	50	0	11.5%	7.5%	75.2	332	1,051	3,322	10,505
25	Edison Ave	Walker Ave and Archibald Ave	2	0	43,602	50	0	11.5%	7.5%	75.3	337	1,066	3,372	10,663
26	Edison Ave	Archibald Ave and Turner Ave	4	25	41,883	50	0	11.5%	7.5%	75.3	340	1,074	3,397	10,742
27	Ontario Ranch Rd	Turner Ave and Haven Ave	6	25	43,442	50	0	11.5%	7.5%	75.7	371	1,172	3,705	11,717
28	Ontario Ranch Rd	Haven Ave and Hamner Ave	4	25	48,478	50	0	11.5%	7.5%	75.9	392	1,241	3,924	12,410
29	Ontario Ranch Rd	Hamner Ave and I-15	6	0	37,407	50	0	11.5%	7.5%	74.8	303	958	3,031	9,585

<sup>1</sup> Distance is from the centerline of the roadway segment to the receptor location.

**APPENDIX I**  
**TRANSPORATION REPORTS**

**APPENDIX I1**  
**TRAFFIC ANALYSIS**



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# Ontario Ranch Business Park

## TRAFFIC ANALYSIS

### CITY OF ONTARIO

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JANUARY 27, 2022



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13941-03 TA Report





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## **LIST OF ABBREVIATED TERMS**

(1)	Reference
ADT	Average Daily Traffic
CAMUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
CCI	Construction Cost Index
CMP	Congestion Management Program
DIF	Development Impact Fee
E+P	Existing Plus Project
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
NCHRP	National Cooperative Highway Research Program
PA	Planning Area
PAs	Planning Areas
PCE	Passenger Car Equivalents
PHF	Peak Hour Factor
Project	Ontario Ranch Business Park
RivTAM	Riverside Transportation Analysis Model
RTA	Riverside Transport Authority
RTP	Regional Transportation Plan
SBCTA	San Bernardino County Transportation Authority
SBTAM	San Bernardino Transportation Analysis Model
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SHS	State Highway System
SR	State Route
TA	Traffic Analysis
TUMF	Transportation Uniform Mitigation Fee
v/c	Volume to Capacity
vphgpl	Vehicles per Hour Green per Lane
WRCOG	Western Riverside Council of Governments

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# 1 INTRODUCTION

This report presents the results of the traffic analysis (TA) for the proposed Ontario Ranch Business Park (“Project”), which is located north of Merrill Avenue between Campus Avenue and Grove Avenue in the City of Ontario. The Project’s location relative the surrounding area is shown on Exhibit 1-1.

The purpose of this TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and where necessary recommend improvements to achieve acceptable operations consistent with General Plan level of service goals and policies. This traffic study has been prepared in accordance with the San Bernardino County Congestion Management Program (CMP) Guidelines for CMP Traffic Impact Analysis Reports (Appendix B, 2016 Update) and consultation with City staff during the traffic study scoping process. (1) (2) The City approved Project Traffic Study Scoping agreement is provided in Appendix 1.1 of this TA.

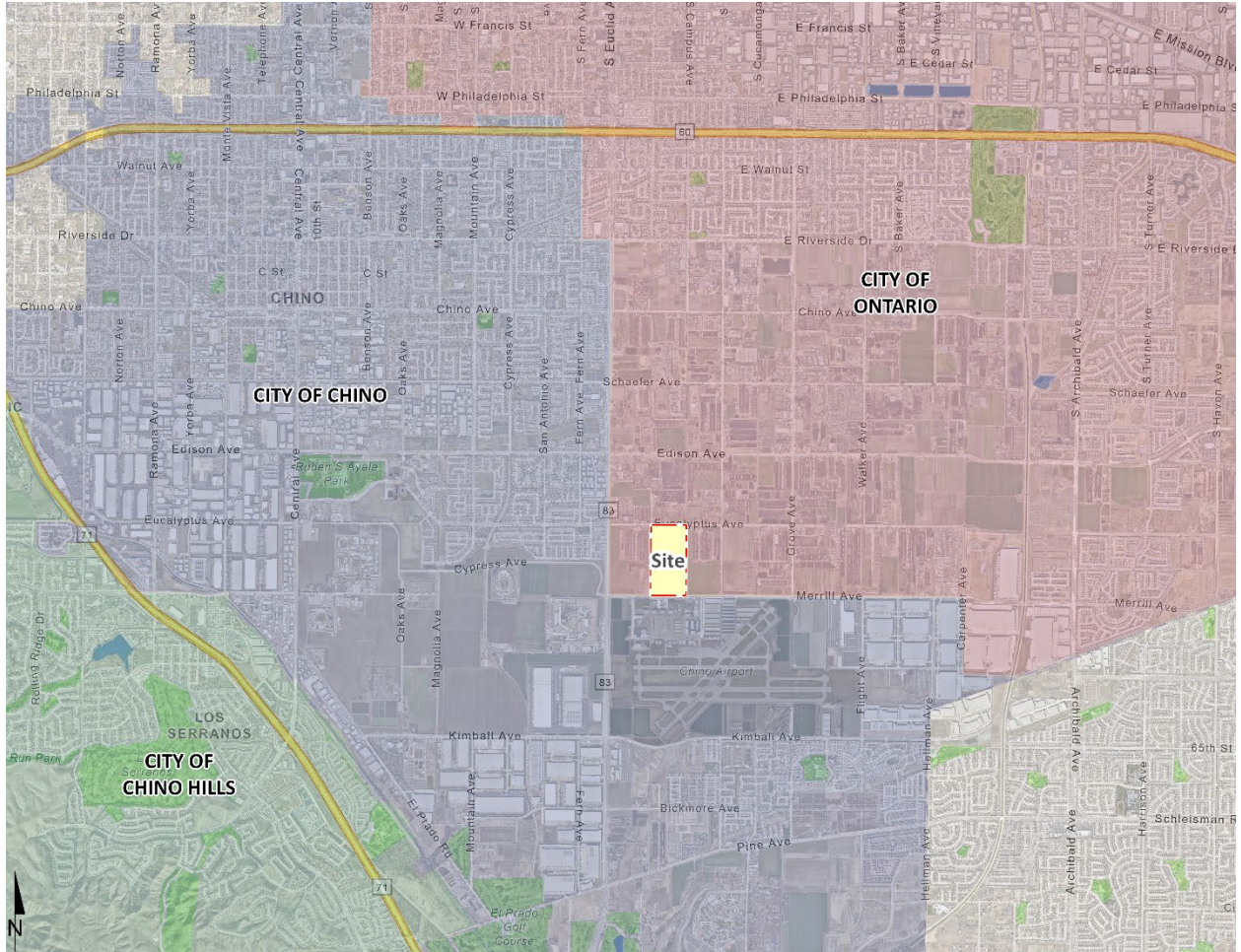
## 1.1 SUMMARY OF FINDINGS

The Project is to construct the following improvements as design features in conjunction with development of the site:

- Project to install stop sign for egress traffic from the proposed Project at all driveways.
- The Project will construct Merrill Avenue from Sultana Avenue to Campus Avenue at its ultimate half-section width as a 4-lane collector (108-foot ultimate right-of-way) in compliance with the circulation recommendations found in City of Ontario General Plan.
- The Project will construct Eucalyptus Avenue from Sultana Avenue to Campus Avenue at its ultimate half-section width as a 4-lane collector (108-foot ultimate right-of-way) in compliance with the circulation recommendations found in City of Ontario General Plan.
- The Project will construct Sultana Avenue from Eucalyptus Avenue to Merrill Avenue at its ultimate half-section width as a 2-lane local street (84-foot ultimate right-of-way) plus one lane (southbound) in compliance with the circulation recommendations found in City of Ontario General Plan.
- The Project will construct Campus Avenue from Eucalyptus Avenue to Merrill Avenue at its ultimate half-section width as a 4-lane minor arterial (108-foot ultimate right-of-way) plus one lane (northbound) in compliance with the circulation recommendations found in City of Ontario General Plan.

Additional details and intersection lane geometrics are provided in Section 1.6 *Recommendations* of this report.

### EXHIBIT 1-1: LOCATION MAP



## 1.2 PROJECT OVERVIEW

Exhibit 1-2 illustrates the preliminary Project site plan. The Project anticipates development over a single phase and is expected to be fully built and operational by 2023. For purposes of this analysis, the following mix of land uses are assumed for Project buildout, which represent a reasonable mix of industrial and business park uses that would be permitted by the Project:

- Industrial: 913,053 square feet of high-cube fulfillment center warehouse use, 179,135 square feet of high-cube cold storage warehouse, and 320,551 square feet of general warehousing use.
- Business Park: 227,951 square feet of a mix of uses including merchant wholesale, professional services, professional office, warehouse/storage, and research and development uses (as would fall under ITE Land Use Code 130).
- **Total of 1,640,690 square feet**

Access to the proposed Project would be provided to Merrill Avenue, Eucalyptus Avenue, Campus Avenue, and Sultana Avenue. Merrill Avenue will serve as the primary travel route for heavy trucks to and from the Project consistent with other projects in the immediate vicinity.

It should be noted, although the square footages above are higher than the square footages of the buildings shown on Exhibit 1-2, the square footages above will be utilized for the purposes of the traffic analysis as it provides a conservative approach and will provide flexibility in the event site plan is adjusted.

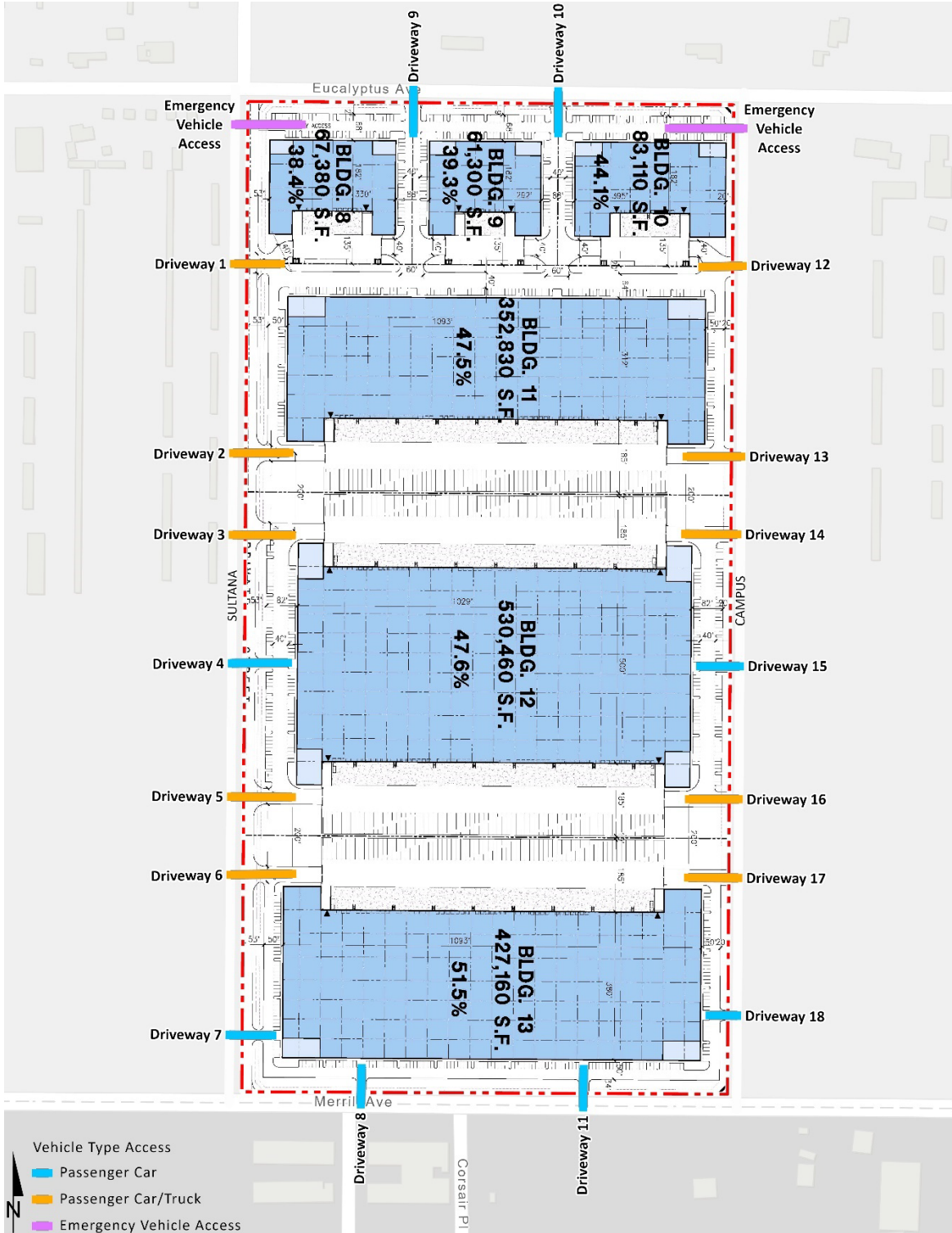
Trips generated by the Project's proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10<sup>th</sup> Edition, 2017 and the High-Cube Warehouse Trip Generation Study (WSP, January 29, 2019). (3) (4) The proposed Project is anticipated to generate a total of 3,656 trip-ends per day, 274 AM peak hour trips, and 323 PM peak hour trips (in actual vehicles). The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

## 1.3 ANALYSIS SCENARIOS

For the purposes of this traffic study, potential deficiencies to traffic and circulation have been assessed for each of the following conditions:

- Existing (2021)
- Existing plus Project (E+P)
- Opening Year Cumulative (2023) Without Project
- Opening Year Cumulative (2023) With Project
- Horizon Year (2040) Without Project
- Horizon Year (2040) With Project

EXHIBIT 1-2: PRELIMINARY SITE PLAN



### 1.3.1 EXISTING (2021) CONDITIONS

Information for Existing (2021) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared. An ambient growth rate of 2% per year has been utilized for the 2019 traffic counts to reflect 2021 traffic conditions. See Section 3.7 *Existing Traffic Counts* for a detailed discussion on the methodology.

### 1.3.2 EXISTING PLUS PROJECT CONDITIONS

The Existing plus Project (E+P) analysis determines traffic deficiencies that would occur on the existing roadway system with the addition of Project traffic. E+P traffic conditions have been evaluated in order to determine any potential off-site improvements.

### 1.3.3 OPENING YEAR CUMULATIVE (2023) CONDITIONS

The Opening Year Cumulative conditions analysis determines the potential near-term cumulative circulation system deficiencies. To account for background traffic growth, traffic associated with other known cumulative development projects in conjunction with an ambient growth factor from Existing conditions of 2% per year (compounded annually) are included for Opening Year Cumulative (2023) traffic conditions. Opening Year Cumulative traffic conditions have been evaluated for the proposed Project. This comprehensive list was compiled from information provided by the City of Ontario and other near-by agencies.

### 1.3.4 HORIZON YEAR (2040) CONDITIONS

Traffic projections for Horizon Year (2040) with Project conditions were derived from the San Bernardino Transportation Analysis Model (SBTAM) modified to represent buildout of the City of Ontario. The Horizon Year (2040) conditions analysis will be utilized to determine if improvements funded through regional transportation mitigation fee programs, such as the City's Development Impact Fee (DIF) program, or other approved funding mechanisms can accommodate the long-range cumulative traffic at the target level of service (LOS) identified by the City of Ontario (lead agency). It should be noted that the City of Ontario has updated their DIF program to also include appropriate contributions towards regionally significant improvements that have been identified via the San Bernardino County CMP regional fee program study. If the planned and funded improvements can provide the target LOS, then the Project's payment into established fee programs will be considered as an improvement to address deficiencies. Other improvements needed beyond the "funded" improvements (such as localized improvements to non-DIF facilities) are identified as such.



## 1.4 STUDY AREA

To ensure that this TA satisfies the City of Ontario’s traffic study requirements, Urban Crossroads, Inc. prepared a project traffic study scoping package for review by City staff prior to the preparation of this report. The Agreement provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology.

### 1.4.1 INTERSECTIONS

The following 52 study area intersections shown on Exhibit 1-3 and listed on Table 1-1 were selected for this TIA based on consultation with City of Ontario staff. The “50 peak hour trip” criterion utilized by the City of Ontario is consistent with the methodology employed by the County of San Bernardino, and generally represents a minimum number of trips at which a typical intersection would have the potential to be affected by a given development proposal. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a widely utilized tool for estimating a potential area of influence (i.e., study area). The “50 peak hour trip” criterion is also utilized by the City of Eastvale. Other analysis intersections, within the adjacent cities were not selected for evaluation as the Project is anticipated to contribute less than 50 peak hour trips.

**TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS**

ID	Intersection Location	Jurisdiction	SBCTA CMP?
1	Euclid Av. (SR-83) & SR-60 WB Ramps	Ontario, Caltrans	Yes
2	Euclid Av. (SR-83) & SR-60 EB Ramps	Ontario, Caltrans	Yes
3	Euclid Av. (SR-83) & Walnut Av.	Ontario, Caltrans	Yes
4	Euclid Av. (SR-83) & Riverside Dr.	Chino, Ontario, Caltrans	Yes
5	Euclid Av. (SR-83) & Chino Av.	Chino, Ontario, Caltrans	No
6	Euclid Av. (SR-83) & Schaefer Av.	Chino, Ontario, Caltrans	No
7	Euclid Av. (SR-83) & Edison Av.	Chino, Ontario, Caltrans	Yes
8	Euclid Av. (SR-83) & Eucalyptus Av.	Chino, Ontario, Caltrans	No
9	Euclid Av. (SR-83) & Merrill Av.	Chino, Ontario, Caltrans	No
10	Sultana Av. & Eucalyptus Av.	Ontario	No
11	Sultana Av. & Driveway 1	Ontario	No
12	Sultana Av. & Driveway 2	Ontario	No
13	Sultana Av. & Driveway 3	Ontario	No
14	Sultana Av. & Driveway 4	Ontario	No
15	Sultana Av. & Driveway 5	Ontario	No
16	Sultana Av. & Driveway 6	Ontario	No
17	Sultana Av. & Driveway 7	Ontario	No
18	Sultana Av. & Merrill Av.	Chino, Ontario	No
19	Driveway 8 & Merrill Av.	Chino, Ontario	No
20	Driveway 9 & Eucalyptus Av.	Ontario	No
21	Driveway 10 & Eucalyptus Av.	Ontario	No



ID	Intersection Location	Jurisdiction	SBCTA CMP?
22	Driveway 11 & Merrill Av.	Chino, Ontario	No
23	Campus Av. & Eucalyptus Av.	Chino, Caltrans	No
24	Campus Av & Driveway 12	Ontario	No
25	Campus Av & Driveway 13	Ontario	No
26	Campus Av & Driveway 14	Ontario	No
27	Campus Av & Driveway 15	Ontario	No
28	Campus Av & Driveway 16	Ontario	No
29	Campus Av & Driveway 17	Ontario	No
30	Campus Av & Driveway 18	Ontario	No
31	Campus Av. & Merrill Av.	Chino, Caltrans	No
32	Bon View Av. & Eucalyptus Av.	Ontario	No
33	Bon View Av. & Merrill Av.	Chino, Ontario	No
34	Grove Av. & Eucalyptus Av.	Ontario	No
35	Grove Av. & Merrill Av.	Chino, Ontario	No
36	Walker Av. & Edison Av.	Ontario	No
37	Walker Av. & Eucalyptus Av.	Ontario	No
38	Walker Av./Flight Av. & Merrill Av.	Chino, Ontario	No
39	Van Vliet Av./Baker Av. & Merrill Av.	Ontario	No
40	Vineyard Av. & Edison Av.	Ontario	No
41	Vineyard Av./Hellman Av. & Merrill Av.	Chino, Ontario	No
42	Carpenter Av. & Merrill Av.	Chino, Ontario	No
43	Hellman Av. & Edison Av.	Ontario	No
44	Archibald Av. & Ontario Ranch Rd.	Ontario	No
45	Archibald Av. & Eucalyptus Av.	Ontario	No
46	Archibald Av. & Merrill Av.	Ontario	No
47	Archibald Av. & Limonite Av.	Eastvale	No
48	Turner Av. & Ontario Ranch Rd.	Ontario	No
49	Haven Av. & Ontario Ranch Rd.	Ontario	No
50	Hamner Av. & Ontario Ranch Rd.	Eastvale, Ontario	No
51	I-15 SB Ramps & Cantu Galleano Ranch Rd.	Eastvale, Caltrans	No
52	I-15 NB Ramps & Cantu Galleano Ranch Rd.	Jurupa Valley, Caltrans	No

The intent of a CMP is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. Counties within California have developed CMPs with varying methods and strategies to meet the intent of the CMP legislation. Study area intersections that are identified as CMP facilities in the County of San Bernardino per the San Bernardino County Transportation Authority (SBCTA) CMP are indicated on Table 1-1. (1)

EXHIBIT 1-3: LOCATION MAP (1 OF 2)

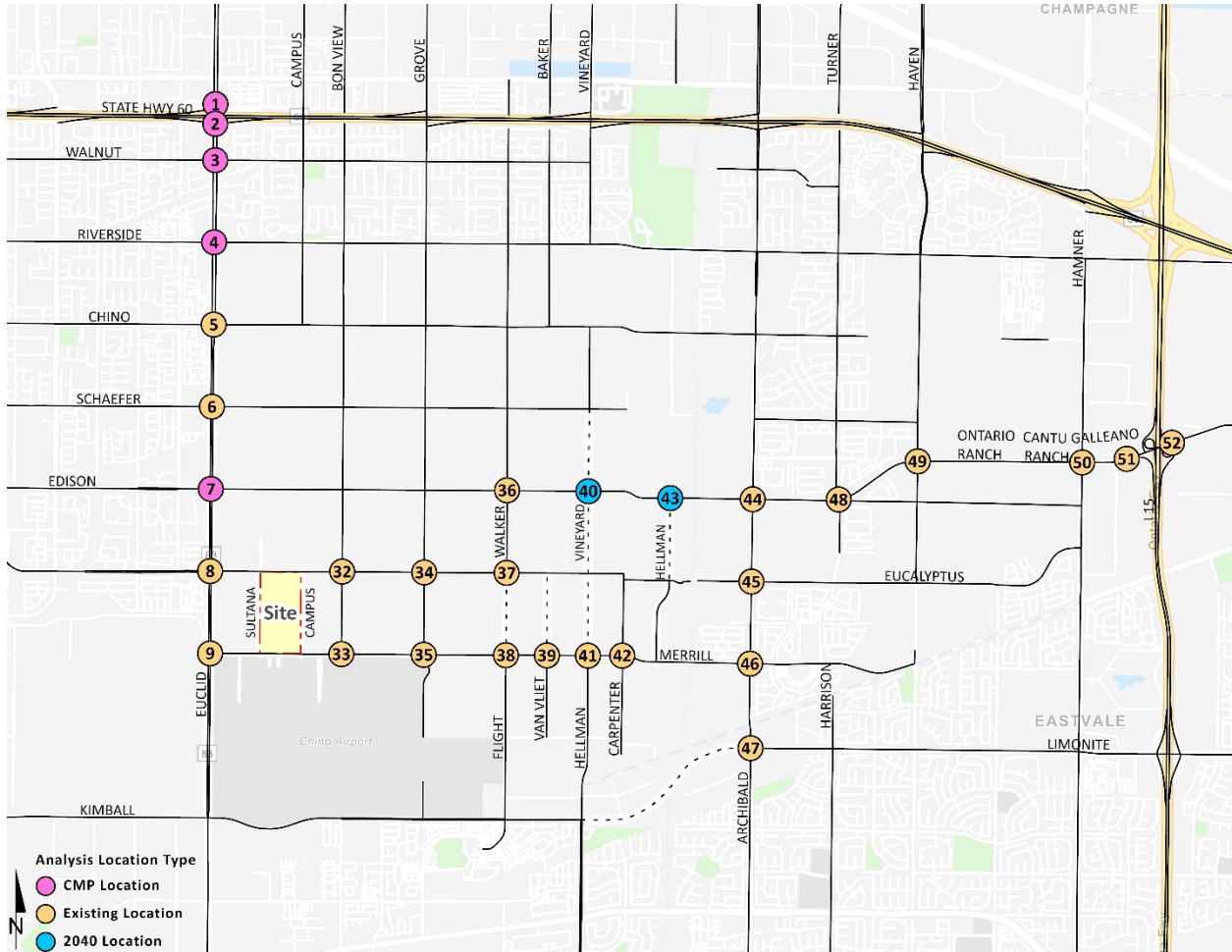
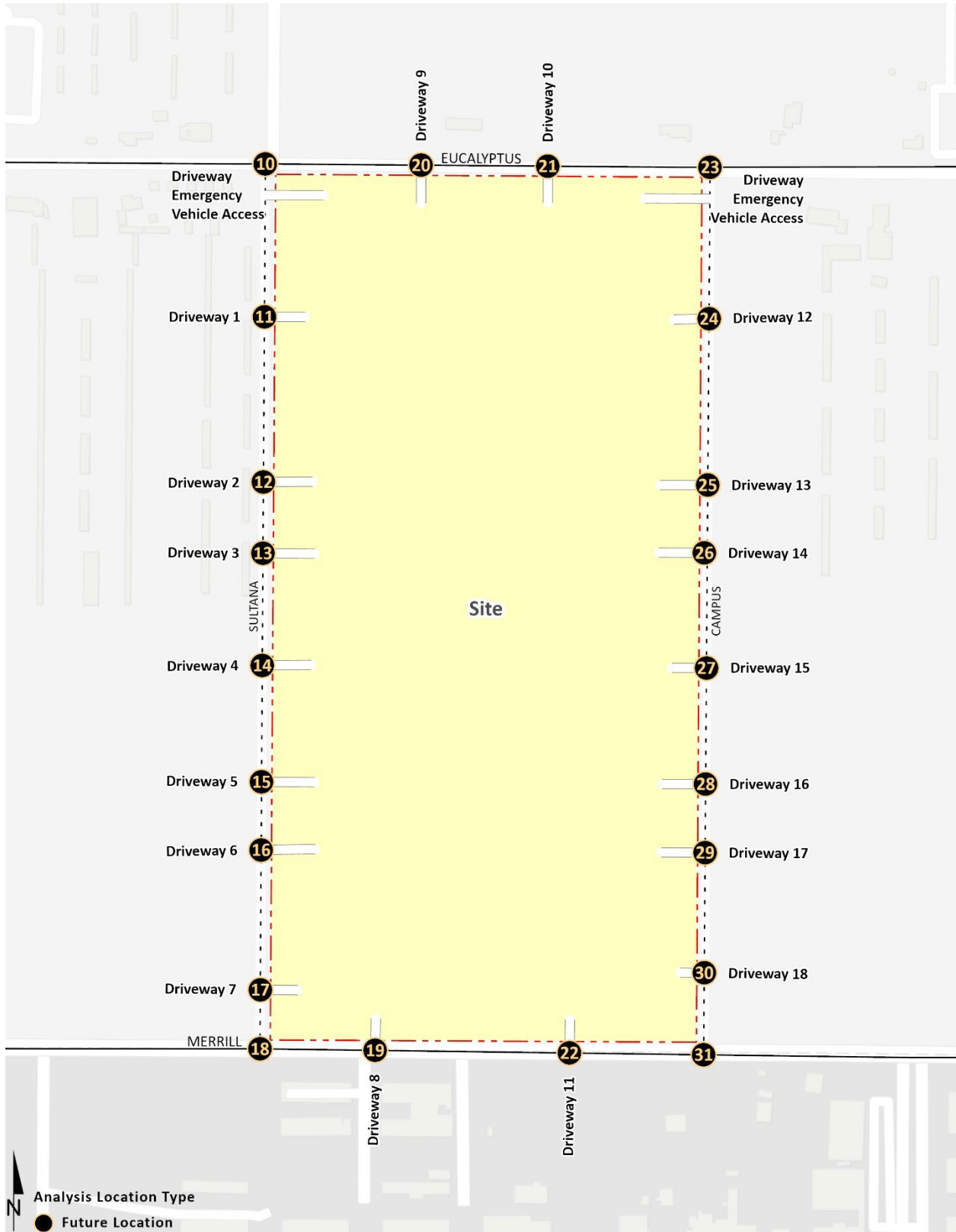


EXHIBIT 1-3: LOCATION MAP (2 OF 2)



## 1.5 PROJECT DEFICIENCIES

This section provides a summary of Project deficiencies. Section 2 *Methodologies* provides information on the methodologies used in the analysis and Section 5 *E+P Traffic Analysis*, Section 6 *Opening Year Cumulative (2023)*, and Section 7 *Horizon Year (2040) Traffic Analysis* includes the detailed analysis. A summary of LOS results for all analysis scenarios is presented on Table 1-2.

### 1.5.1 EXISTING (2021) CONDITIONS

The existing study area intersections are currently operating at acceptable LOS during the peak hours with the exception of the following intersections:

- Euclid Avenue (SR-83) & Riverside Drive (#4) – LOS E PM peak hour only
- Grove Avenue & Eucalyptus Avenue (#34) – LOS F PM peak hour only
- Grove Avenue & Merrill Avenue (#35) – LOS F AM peak hour; LOS E PM peak hour
- Carpenter Avenue & Merrill Avenue (#42) – LOS F AM and PM peak hours
- Archibald Avenue & Limonite Avenue (#47) – LOS E AM peak hour only
- Hamner Avenue & Ontario Ranch Road (#50) – LOS F PM peak hour only

### 1.5.2 E+P CONDITIONS

There are no additional study area intersections are anticipated to operate at an unacceptable LOS, in addition to those identified for Existing traffic conditions.

### 1.5.3 OPENING YEAR CUMULATIVE (2023) CONDITIONS

The following study area intersections are anticipated to operate at a deficient LOS during one or both peak hours for Opening Year Cumulative (2023) Without Project traffic conditions:

- Euclid Avenue (SR-83) & Riverside Drive (#4) – LOS E AM peak hour; LOS F PM peak hour
- Euclid Avenue (SR-83) & Edison Avenue (#7) – LOS E AM peak hour; LOS F PM peak hour
- Euclid Avenue (SR-83) & Merrill Avenue (#9) – LOS E AM peak hour; LOS F PM peak hour
- Sultana Avenue & Merrill Avenue (#18) – LOS E AM peak hour only
- Bon View Avenue & Merrill Avenue (#33) – LOS F PM peak hour only
- Grove Avenue & Eucalyptus Avenue (#34) – LOS F PM peak hour only
- Grove Avenue & Merrill Avenue (#35) – LOS F AM and PM peak hours
- Walker Avenue & Edison Avenue (#36) – LOS F AM and PM peak hours
- Walker Avenue/Flight Avenue & Merrill Avenue (#38) – LOS F AM and PM peak hours
- Carpenter Avenue & Merrill Avenue (#42) – LOS F AM and PM peak hours
- Archibald Avenue & Merrill Avenue (#46) – LOS F PM peak hour only
- Archibald Avenue & Limonite Avenue (#47) – LOS F AM peak hour only
- Hamner Avenue & Ontario Ranch Road (#50) – LOS E AM peak hour; LOS F PM peak hour

TABLE 1-2: SUMMARY OF DEFICIENT INTERSECTIONS BY ANALYSIS SCENARIO

#	Intersection	Existing		E+P		2023 Without Project		2023 With Project		2040 Without Project		2040 With Project	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Euclid Av. (SR-83) & SR-60 WB Ramps	●	●	●	●	●	●	●	●	●	●	●	●
2	Euclid Av. (SR-83) & SR-60 EB Ramps	●	●	●	●	●	●	●	●	●	●	●	●
3	Euclid Av. (SR-83) & Walnut Av.	●	●	●	●	●	●	●	●	●	●	●	●
4	Euclid Av. (SR-83) & Riverside Dr.	●	●	●	●	●	●	●	●	●	●	●	●
5	Euclid Av. (SR-83) & Chino Av.	●	●	●	●	●	●	●	●	●	●	●	●
6	Euclid Av. (SR-83) & Schaefer Av.	●	●	●	●	●	●	●	●	●	●	●	●
7	Euclid Av. (SR-83) & Edison Av.	●	●	●	●	●	●	●	●	●	●	●	●
8	Euclid Av. (SR-83) & Eucalyptus Av.	●	●	●	●	●	●	●	●	●	●	●	●
9	Euclid Av. (SR-83) & Merrill Av.	●	●	●	●	●	●	●	●	●	●	●	●
10	Sultana Av. & Eucalyptus Av.	N/A	N/A	●	●	●	●	●	●	●	●	●	●
11	Sultana Av. & Driveway 1	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
12	Sultana Av. & Driveway 2	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
13	Sultana Av. & Driveway 3	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
14	Sultana Av. & Driveway 4	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
15	Sultana Av. & Driveway 5	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
16	Sultana Av. & Driveway 6	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
17	Sultana Av. & Driveway 7	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
18	Sultana Av. & Merrill Av.	N/A	N/A	●	●	●	●	●	●	●	●	●	●
19	Driveway 8 & Merrill Av.	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
20	Driveway 9 & Eucalyptus Av.	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
21	Driveway 10 & Eucalyptus Av.	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
22	Driveway 11 & Merrill Av.	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
23	Campus Av. & Eucalyptus Av.	N/A	N/A	●	●	●	●	●	●	●	●	●	●
24	Campus Av & Driveway 12	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
25	Campus Av & Driveway 13	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
26	Campus Av & Driveway 14	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
27	Campus Av & Driveway 15	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
28	Campus Av & Driveway 16	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
29	Campus Av & Driveway 17	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
30	Campus Av & Driveway 18	N/A	N/A	●	●	N/A	N/A	●	●	N/A	N/A	●	●
31	Campus Av. & Merrill Av.	N/A	N/A	●	●	●	●	●	●	●	●	●	●
32	Bon View Av. & Eucalyptus Av.	●	●	●	●	●	●	●	●	●	●	●	●
33	Bon View Av. & Merrill Av.	●	●	●	●	●	●	●	●	●	●	●	●
34	Grove Av. & Eucalyptus Av.	●	●	●	●	●	●	●	●	●	●	●	●
35	Grove Av. & Merrill Av.	●	●	●	●	●	●	●	●	●	●	●	●
36	Walker Av. & Edison Av.	●	●	●	●	●	●	●	●	●	●	●	●
37	Walker Av & Eucalyptus Av.	●	●	●	●	●	●	●	●	●	●	●	●
38	Walker Av./Flight Av. & Merrill Av.	●	●	●	●	●	●	●	●	●	●	●	●
39	Van Vliet Av./Baker Av. & Merrill Av.	●	●	●	●	●	●	●	●	●	●	●	●
40	Vineyard Av. & Edison Av.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	●	●	●	●
41	Vineyard Av./Hellman Av. & Merrill Av.	●	●	●	●	●	●	●	●	●	●	●	●
42	Carpenter Av. & Merrill Av.	●	●	●	●	●	●	●	●	●	●	●	●
43	Hellman Av. & Edison Av.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	●	●	●	●
44	Archibald Av. & Ontario Ranch Rd.	●	●	●	●	●	●	●	●	●	●	●	●
45	Archibald Av. & Eucalyptus Av.	●	●	●	●	●	●	●	●	●	●	●	●
46	Archibald Av. & Merrill Av.	●	●	●	●	●	●	●	●	●	●	●	●
47	Archibald Av. & Limonite Av.	●	●	●	●	●	●	●	●	●	●	●	●
48	Turner Av. & Ontario Ranch Rd.	●	●	●	●	●	●	●	●	●	●	●	●
49	Haven Av. & Ontario Ranch Rd.	●	●	●	●	●	●	●	●	●	●	●	●
50	Hamner Av. & Ontario Ranch Rd.	●	●	●	●	●	●	●	●	●	●	●	●
51	I-15 SB Ramps & Cantu Galleano Ranch Rd.	●	●	●	●	●	●	●	●	●	●	●	●
52	I-15 NB Ramps & Cantu Galleano Ranch Rd.	●	●	●	●	●	●	●	●	●	●	●	●

● = A - D   ● = E   ● = F

The following study area intersection is anticipated to operate at a deficient LOS during both peak hours for Opening Year Cumulative (2023) With Project traffic conditions with the addition of Project Buildout traffic, in addition to the locations identified previously for Opening Year Cumulative (2023) Without Project traffic conditions.

- Campus Avenue & Merrill Avenue (#31) – LOS E AM peak hour; LOS F PM peak hour

#### 1.5.4 HORIZON YEAR (2040) CONDITIONS

The following additional study area intersections are anticipated to operate at an unacceptable LOS under Horizon Year (2040) Without Project traffic conditions:

- Euclid Avenue (SR-83) & SR-60 Westbound Ramps (#1) –LOS E AM and PM peak hours
- Euclid Avenue (SR-83) & SR-60 Eastbound Ramps (#2) – LOS F AM and PM peak hours
- Euclid Avenue (SR-83) & Riverside Drive (#4) – LOS F AM and PM peak hours
- Euclid Avenue (SR-83) & Chino Avenue (#5) – LOS E AM peak hour; LOS F PM peak hour
- Euclid Avenue (SR-83) & Schaefer Avenue (#6) – LOS F AM and PM peak hours
- Euclid Avenue (SR-83) & Edison Avenue (#7) – LOS F AM and PM peak hours
- Euclid Avenue (SR-83) & Eucalyptus Avenue (#8) – LOS F AM and PM peak hours
- Euclid Avenue (SR-83) & Merrill Avenue (#9) – LOS F AM and PM peak hours
- Sultana Avenue & Eucalyptus Avenue (#10) – LOS F PM peak hour only
- Sultana Avenue & Merrill Avenue (#18) – LOS F AM and PM peak hours
- Campus Avenue & Eucalyptus Avenue (#23) – LOS E PM peak hour only
- Campus Avenue & Merrill Avenue (#31) – LOS F AM and PM peak hours
- Bon View Avenue & Eucalyptus Avenue (#32) – LOS F PM peak hour only
- Bon View Avenue & Merrill Avenue (#33) – LOS F AM and PM peak hours
- Grove Avenue & Eucalyptus Avenue (#34) – LOS F AM and PM peak hours
- Grove Avenue & Merrill Avenue (#35) – LOS F AM and PM peak hours
- Walker Avenue & Edison Avenue (#36) – LOS F AM and PM peak hours
- Walker Avenue & Eucalyptus Avenue (#37) – LOS F AM and PM peak hours
- Walker Avenue/Flight Avenue & Merrill Avenue (#38) – LOS F AM and PM peak hours
- Van Vliet Avenue/Baker Avenue & Merrill Avenue (#39) – LOS F PM peak hour only
- Vineyard Avenue & Edison Avenue (#40) – LOS F PM peak hour only
- Vineyard Avenue/Hellman Avenue & Merrill Avenue (#41) – LOS F AM and PM peak hours
- Carpenter Avenue & Merrill Avenue (#42) – LOS F AM and PM peak hours
- Hellman Avenue & Edison Avenue (#43) – LOS F AM and PM peak hours
- Archibald Avenue & Ontario Ranch Road (#44) – LOS F AM and PM peak hours
- Archibald Avenue & Eucalyptus Avenue (#45) – LOS F AM and PM peak hours
- Archibald Avenue & Merrill Avenue (#46) – LOS F AM and PM peak hours

- Archibald Avenue & Limonite Avenue (#47) – LOS F AM and PM peak hours
- Turner Avenue & Ontario Ranch Road (#48) – LOS F AM and PM peak hours
- Haven Avenue & Ontario Ranch Road (#49) – LOS F AM peak hour only
- Hamner Avenue & Ontario Ranch Road (#50) – LOS F AM and PM peak hours

There are no additional study area intersections anticipated to operate at a deficient LOS during one or both peak hours for Horizon Year (2040) With Project traffic conditions with the addition of Project traffic, in addition to the locations identified above for Horizon Year (2040) Without Project traffic conditions.

## 1.6 RECOMMENDATIONS

### 1.6.1 SITE ACCESS AND SITE ADJACENT ROADWAY RECOMMENDATIONS

The following recommendations are based on the improvements needed to accommodate site access. Exhibit 1-4 shows the site adjacent recommendations for off-site improvement recommendations.

**Recommendation 1 – Sultana Avenue & Eucalyptus Avenue (#10)** – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the northbound approach and a shared left-right turn lane.
- Project to construct a westbound left turn lane.

**Recommendation 2 – Sultana Avenue & Driveway 1 (#11)** – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the westbound approach and a shared left-right turn lane.

**Recommendation 3 – Sultana Avenue & Driveway 2 (#12)** – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the westbound approach and a shared left-right turn lane.

**Recommendation 4 – Sultana Avenue & Driveway 3 (#13)** – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the westbound approach and a shared left-right turn lane.

**Recommendation 5 – Sultana Avenue & Driveway 4 (#14)** – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the westbound approach and a shared left-right turn lane.

**Recommendation 6 – Sultana Avenue & Driveway 5 (#15)** – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the westbound approach and a shared left-right turn lane.

EXHIBIT 1-4: SITE ADJACENT ROADWAY AND SITE RECOMMENDATIONS (1 OF 2)

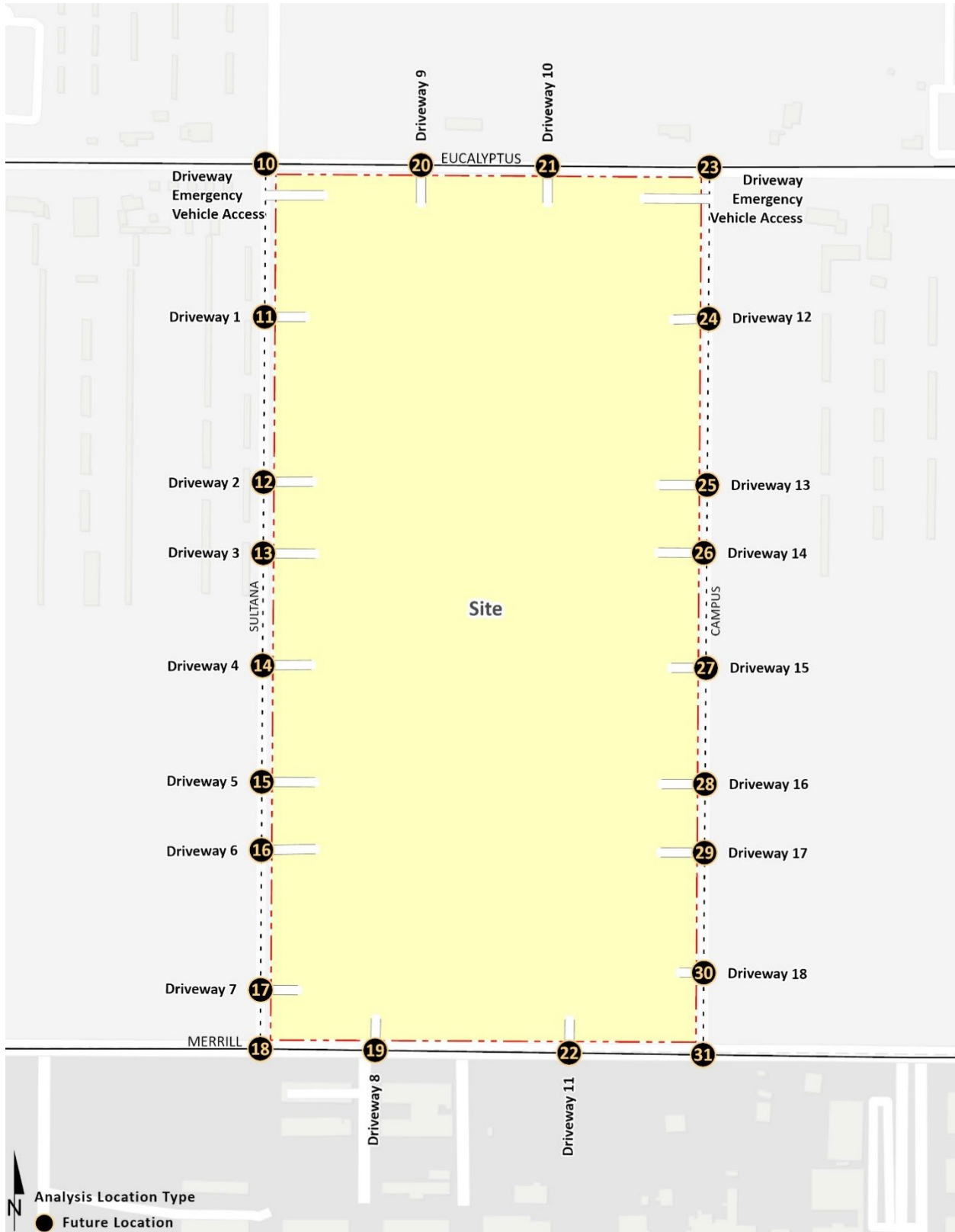
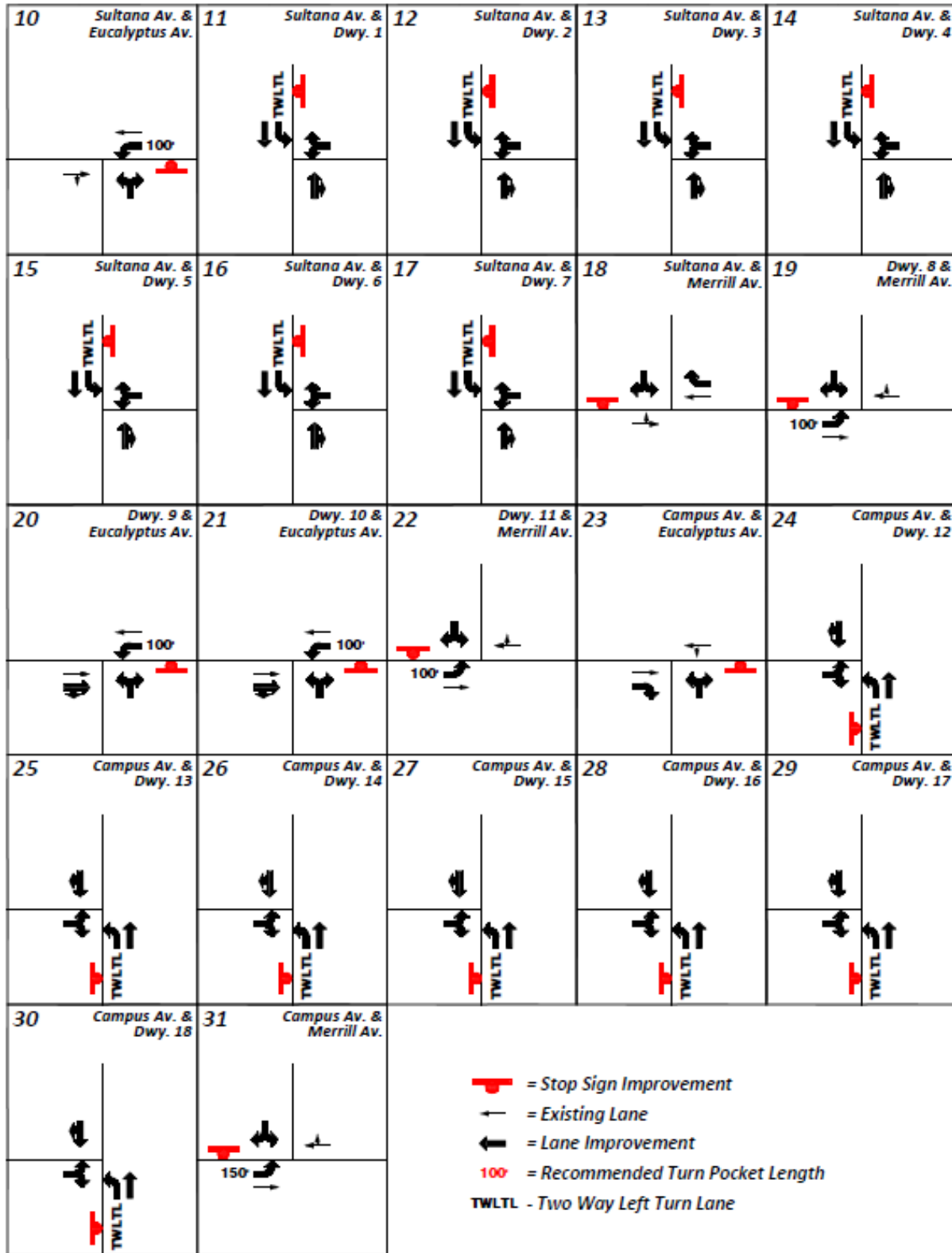




EXHIBIT 1-4: SITE ADJACENT ROADWAY AND SITE RECOMMENDATIONS (2 OF 2)



**Recommendation 7 – Sultana Avenue & Driveway 6 (#16)** – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the westbound approach and a shared left-right turn lane.

**Recommendation 8 – Sultana Avenue & Driveway 7 (#17)** – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the westbound approach and a shared left-right turn lane.

**Recommendation 9 – Sultana Av. & Merrill Avenue (#18)** – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach and a shared left-right turn lane.
- Project to construct a westbound right turn lane.

**Recommendation 10 – Driveway 8 & Merrill Avenue (#19)** – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach and a shared left-right turn lane.
- Project to construct an eastbound left turn lane.

**Recommendation 11 – Driveway 9 & Eucalyptus Avenue (#20)** – The following improvements are recommended:

- Project to install a stop control on the northbound approach and a shared left-right lane.
- Project to construct an eastbound shared through-right turn lane.
- Project to construct a westbound left turn lane.

**Recommendation 12 – Driveway 10 & Eucalyptus Avenue (#21)** – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the northbound approach and a shared left-right lane.
- Project to construct an eastbound shared through-right turn lane.
- Project to construct a westbound left turn lane.

**Recommendation 13 – Driveway 11 & Merrill Avenue (#22)** – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach and a shared left-right turn lane.
- Project to construct an eastbound left turn lane.

**Recommendation 14 – Campus Avenue & Eucalyptus Av. (#23)** – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the northbound approach and a shared left-right turn lane.
- Project to construct an eastbound right turn lane.

**Recommendation 15 – Campus Avenue & Driveway 12 (#24)** – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the eastbound approach and a shared left-right turn lane.

**Recommendation 16 – Campus Avenue & Driveway 13 (#25)** – The following improvements are recommended:

- Project to install a stop control on the eastbound approach and a shared left-right turn lane.

**Recommendation 17 – Campus Avenue & Driveway 14 (#26)** – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the eastbound approach and a shared left-right turn lane.

**Recommendation 18 – Campus Avenue & Driveway 15 (#27)** – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the eastbound approach and a shared left-right turn lane.

**Recommendation 19 – Campus Avenue & Driveway 16 (#28)** – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the eastbound approach and a shared left-right turn lane.

**Recommendation 20 – Campus Avenue & Driveway 17 (#29)** – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the eastbound approach and a shared left-right turn lane.

**Recommendation 21 – Campus Avenue & Driveway 18 (#30)** – The following improvements are recommended to accommodate site access:

- Project to install a stop control on the eastbound approach and a shared left-right turn lane.

**Recommendation 22 – Campus Avenue & Merrill Avenue (#31)** – The following improvements are recommended to accommodate site access:

- Project to install a stop control on the southbound approach and a shared left-right turn lane.
- Project to construct an eastbound left turn lane.

**Recommendation 23 – Merrill Avenue** – Merrill Avenue is an east-west oriented roadway located along the Project’s southern boundary. Project to construct Merrill Avenue from Sultana Avenue to Campus Avenue at its ultimate half-section width as a 4-lane collector (108-foot ultimate right-of-way) in compliance with the circulation recommendations found in City of Ontario General Plan.

**Recommendation 24 – Eucalyptus Avenue** – Eucalyptus Avenue is an east-west oriented roadway located along the Project’s northern boundary. Project to construct Eucalyptus Avenue from Sultana Avenue to Campus Avenue at its ultimate half-section width as a 4-lane collector (108-foot ultimate right-of-way) in compliance with the circulation recommendations found in City of Ontario General Plan.

**Recommendation 25 – Sultana Avenue** – Sultana Avenue is a north-south oriented roadway located on the Project’s western boundary. Project to construct Sultana Avenue from Eucalyptus

Avenue to Merrill Avenue at its ultimate half-section width as a 2-lane local street (84-foot ultimate right-of-way) plus one lane (southbound) in compliance with the circulation recommendations found in City of Ontario General Plan.

**Recommendation 26 – Campus Avenue** – Campus Avenue is a north-south oriented roadway located on the Project’s eastern boundary. Project to construct Campus Avenue from Merrill Avenue to Eucalyptus Avenue at its ultimate half-section width as a 4-lane minor arterial (108-foot ultimate right-of-way) plus one lane (northbound) in compliance with the circulation recommendations found in City of Ontario General Plan.

On-site traffic signing and striping should be implemented agreeable with the provisions of the California Department of Transportation (Caltrans) California Manual on Uniform Traffic Control Devices (CA MUTCD) and in conjunction with detailed construction plans for the Project site.

Sight distance at each project access point should be reviewed with respect to standard Caltrans and City of Ontario sight distance standards at the time of preparation of final grading, landscape, and street improvement plans.

### 1.6.2 OFF-SITE RECOMMENDATIONS

The recommended improvements needed to address the cumulative deficiencies identified under Existing (2021), Opening Year Cumulative (2023), and Horizon Year (2040) traffic conditions are summarized in Table 1-3. For those improvements listed in Table 1-3 and not constructed as part of the Project, the Project Applicant’s responsibility for the Project’s contributions towards deficient intersections is fulfilled through payment of fees (e.g., DIF) or fair share that would be assigned to construction of the identified recommended improvements. Please refer to Section 8 *Local and Regional Funding Mechanisms*.

Table 1-3 also summarizes the applicable cost associated with each of the recommended improvements based on the preliminary construction cost estimates found in Appendix G of the San Bernardino County CMP in conjunction with a cost escalation factor of 1.568 to reflect current (2021) costs. A rough order of magnitude cost has been prepared to determine the appropriate contribution value based upon the Project’s fair share of traffic as part of the project approval process. Based on the Project fair share percentages, the Project’s fair share cost is estimated at \$308,307. These estimates are a rough order of magnitude only as they are intended only for disclosure purposes and do not imply any legal responsibility or formula for contributions or mitigation.

**Recommendation 27** – Prior to the issuance of building permits, the Project Applicant shall pay the Project’s fair share amount of \$308,307 for the improvements identified in Table 1-3 at intersections located within the City of Ontario, or as agreed to by the City and Project Applicant.

TABLE 1-3: SUMMARY OF IMPROVEMENTS RECOMMENDED TO MEET CITY OF ONTARIO OR SURROUNDING AGENCY LOS REQUIREMENTS (1 OF 5)

#	Intersection Location	Jurisdiction	E+P	2024 With Project	2040 With Project	Improvements in City DIF?¹	DIF Project #	Project Responsibility⁵	Total Cost²,³,⁴	Fair Share %⁴	Fair Share Cost⁵
1	Euclid Av. (SR-83) & SR-60 WB Ramps	Ontario, Caltrans	None	None	Add 2nd NB left turn lane	Yes	ST-107	Fees Total	\$0 \$0	--	\$0 \$0
2	Euclid Av. (SR-83) & SR-60 EB Ramps	Ontario, Caltrans	None	None	Add EB right turn lane Add 2nd SB left turn lane	Yes Yes	ST-107 ST-107	Fees Fees Total	\$0 \$0 \$0	--	\$0 \$0 \$0
4	Euclid Av. (SR-83) & Riverside Dr.	Caltrans, Chino, Ontario	EB right turn lane Restripe the northbound approach to provide a left turn lane, two through lanes, and one shared through-right turn lane	Same Same Add 3rd SB through lane Add 2nd EB through lane	Same Same Same Same Add 2nd NB left turn lane Add 2nd SB left turn lane Add NB right turn lane	No Yes No No No No No	 ST-012      	Fair Share Construct Fair Share Fair Share Fair Share Fair Share Fair Share Total	\$78,400 \$0 \$282,240 \$282,240 \$78,400 \$78,400 \$78,400 \$878,080	2.1%	\$1,639 \$0 \$5,900 \$5,900 \$1,639 \$1,639 \$1,639 \$18,355
5	Euclid Av. (SR-83) & Chino Av.	Caltrans, Chino, Ontario	None	None	Add 3rd NB through lane Add 3rd SB through lane Add WB left turn lane	Yes Yes No	ST-012 ST-012  	Fees Fees Fair Share Total	\$0 \$0 \$78,400 \$78,400	2.5%	\$0 \$0 \$1,976 \$1,976
6	Euclid Av. (SR-83) & Schaefer Av.	Caltrans, Chino, Ontario	None	None	Add 3rd NB through lane Add 3rd SB through lane Add 2nd NB left turn lane Add 2nd SB left turn lane Add 2nd EB left turn lane	Yes Yes No No No	ST-012 ST-012    	Fees Fees Fair Share Fair Share Fair Share Total	\$0 \$0 \$78,400 \$78,400 \$78,400 \$235,200	2.1%	\$0 \$0 \$1,628 \$1,628 \$1,628 \$4,885
7	Euclid Av. (SR-83) & Edison Av.	Caltrans, Chino, Ontario	Add WB right turn lane	Same Add 3rd NB through lane Add 3rd SB through lane	Same Same Same Add 2nd NB left turn lane Add 2nd SB left turn lane Add 2nd EB left turn lane Add 2nd EB through lane Add 3rd EB through lane Add 2nd WB left turn lane Add 2nd WB through lane Modify the traffic signal to protect the eastbound and westbound left turns, and implement overlap phasing for the southbound and westbound right turn lanes	No Yes Yes No No No No No No No Yes No	 ST-012 ST-012        ST-007      	Construct Fees Fees Fair Share Fair Share Fair Share Fair Share Fair Share Fair Share Fees Fair Share Total	\$0 \$0 \$0 \$78,400 \$78,400 \$78,400 \$282,240 \$282,240 \$78,400 \$0 \$117,600 \$995,680	2.1%	\$0 \$0 \$0 \$1,655 \$1,655 \$1,655 \$5,958 \$5,958 \$1,655 \$0 \$2,483 \$21,019

TABLE 1-3: SUMMARY OF IMPROVEMENTS RECOMMENDED TO MEET CITY OF ONTARIO OR SURROUNDING AGENCY LOS REQUIREMENTS (2 OF 5)

#	Intersection Location	Jurisdiction	E+P	2024 With Project	2040 With Project	Improvements in City DIF?²	DIF Project #	Project Responsibility⁵	Total Cost²,³,⁴	Fair Share %⁴	Fair Share Cost⁵
8	Euclid Av. (SR-83) & Eucalyptus Av.	Caltrans, Chino, Ontario	None	None	Add 3rd NB through lane Add 3rd SB through lane Add 2nd WB left turn lane Add WB right turn lane	Yes	ST-012	Fees	\$0	3.5%	\$0
						Yes	ST-012	Fees	\$0		\$0
						No		Fair Share	\$78,400		\$2,774
						No		Fair Share	\$78,400		\$2,774
						<b>Total</b>		<b>Total</b>	<b>\$156,800</b>		<b>\$5,548</b>
9	Euclid Av. (SR-83) & Merrill Av.	Caltrans, Chino, Ontario	Add WB left turn lane Add WB right turn lane Modify the traffic signal to implement overlap phasing for the WB right turn lane	Same Same Same  Add 3rd NB through lane Add 3rd SB through lane	Same Same Same  Same Same Add EB left turn lane Add 2nd WB left turn lane Modify the traffic signal to implement overlap phasing for the NB right turn lane	No	ST-012	Construct	\$0	1.8%	\$0
						No		Construct	\$0		\$0
						No		Construct	\$0		\$0
						No		Fair Share	\$282,240		\$5,120
						Yes		Fees	\$0		\$0
						No		Fair Share	\$78,400		\$1,422
						No		Fair Share	\$78,400		\$1,422
						No		Fair Share	\$117,600		\$2,133
<b>Total</b>		<b>Total</b>	<b>\$556,640</b>	<b>\$10,098</b>							
10	Sultana Av. & Eucalyptus Av.	Ontario	Install Stop Control on NB Approach Add NB left turn lane Add NB shared through-right turn lane Add WB left turn lane	Same Same Same Same	Install a Traffic Signal Same Same Same Add 2nd EB through lane Add 2nd WB through lane	No	ST-011 ST-011	Construct	\$0	12.9%	\$0
						No		Construct	\$0		\$0
						No		Construct	\$0		\$0
						No		Construct	\$0		\$0
						Yes		Fees	\$0		\$0
Yes	Fees	\$0	\$0								
<b>Total</b>		<b>Total</b>	<b>\$0</b>	<b>\$0</b>							
18	Sultana Av. & Merrill Av.	Ontario	Install Stop Control on SB Approach Add SB left turn lane Add SB right turn lane Add EB left turn lane	Same Same Same Same Add 2nd WB through lane Add 2nd EB through lane	Install a Traffic Signal Same Same Same Same			Fair Share	\$250,000	4.5%	\$11,132
								Construct	\$0		\$0
								Construct	\$0		\$0
								Construct	\$0		\$0
								Fees	\$0		\$0
								Fees	\$0		\$0
<b>Total</b>		<b>Total</b>	<b>\$250,000</b>	<b>\$11,132</b>							
23	Campus Av. & Eucalyptus Av.	Ontario	Install Stop Control on NB Approach Add NB left turn lane Add NB right turn lane Add WB left turn lane	Same Same Same Same	Install a Traffic Signal Same Same Same Add 2nd EB through lane Add 2nd WB through lane		ST-011 ST-011	Fair Share	\$250,000	15.7%	\$39,316
								Construct	\$0		\$0
								Construct	\$0		\$0
								Construct	\$0		\$0
								Fees	\$0		\$0
								Fees	\$0		\$0
<b>Total</b>		<b>Total</b>	<b>\$250,000</b>	<b>\$39,316</b>							
31	Campus Av. & Merrill Av.	Ontario, Chino	Install Stop Control on SB Add SB left turn lane Add SB right turn lane Add EB left turn lane	Same Same Same Same Add 2nd WB through lane Add 2nd EB through lane	Install a Traffic Signal Same Same Same Same		ST-015	Fair Share	\$250,000	6.7%	\$16,846
								Construct	\$0		\$0
								Construct	\$0		\$0
								Construct	\$0		\$0
								Fees	\$0		\$0
								Fair Share	\$282,240		\$19,019
<b>Total</b>		<b>Total</b>	<b>\$532,240</b>	<b>\$35,865</b>							
32	Bon View Av. & Eucalyptus Av.	Ontario	None	None	Install a Traffic Signal Add EB left turn lane Add WB left turn lane Add 2nd EB through lane			Fair Share	\$250,000	8.3%	\$20,646
								Fair Share	\$78,400		\$6,475
								Fair Share	\$78,400		\$6,475
								Fair Share	\$282,240		\$23,309
								<b>Total</b>			<b>Total</b>



TABLE 1-3: SUMMARY OF IMPROVEMENTS RECOMMENDED TO MEET CITY OF ONTARIO OR SURROUNDING AGENCY LOS REQUIREMENTS (3 OF 5)

#	Intersection Location	Jurisdiction	E+P	2024 With Project	2040 With Project	Improvements in City DIF?¹	DIF Project #	Project Responsibility⁵	Total Cost²,³,⁴	Fair Share %⁴	Fair Share Cost⁵
33	Bon View Av. & Merrill Av.	Ontario, Chino	Install a Traffic Signal Add EB left turn lane WB right turn lane	Same Same Same Add 2nd WB through lane	Same Same Same Add 2nd EB through lane	No No No Yes No	ST-015	Construct	\$0	4.8%	\$0
								Fair Share	\$78,400		\$3,785
								Construct	\$0		\$0
								Construct	\$0		\$0
								Fair Share	\$282,240		\$13,625
<b>Total</b>	<b>\$360,640</b>	<b>\$17,410</b>									
34	Grove Av. & Eucalyptus Av.	Ontario	Install a Traffic Signal Add NB left turn lane Add 2nd NB through lane Add SB left turn lane Add EB left turn lane	Same Same Same Same Same Add 2nd SB through lane Add WB left turn lane Add 2nd WB through lane Add 2nd EB through lane	Same Same Same Same Same Same Same Same Same	No No Yes No No Yes No Yes Yes	ST-013  ST-013  ST-011 ST-011	Fair Share	\$250,000	4.2%	\$10,608
								Fair Share	\$78,400		\$3,327
								Construct	\$0		\$0
								Fair Share	\$78,400		\$3,327
								Fair Share	\$78,400		\$3,327
								Fees	\$0		\$0
								Fair Share	\$78,400		\$3,327
								Fees	\$0		\$0
								Fees	\$0		\$0
								<b>Total</b>	<b>\$563,600</b>		<b>\$23,915</b>
36	Walker Av. & Edison Av.	Ontario	Install a Traffic Signal	Same	Same Add NB left turn lane Add SB left turn lane Add EB left turn lane Add 2nd EB through lane Add WB left turn lane Add 2nd WB through lane Add 3rd EB through lane Add 3rd WB through lane	No No No No Yes No Yes No No	ST-007  ST-008	Fair Share	\$250,000	0.5%	\$1,264
								Fair Share	\$78,400		\$396
								Fair Share	\$78,400		\$396
								Fair Share	\$78,400		\$396
								Fees	\$0		\$0
								Fair Share	\$78,400		\$396
								Fees	\$0		\$0
								Fair Share	\$282,240		\$1,427
								Fair Share	\$282,240		\$1,427
								<b>Total</b>	<b>\$1,128,080</b>		<b>\$5,705</b>
37	Walker Av & Eucalyptus Av.	Ontario	None	None	Install a Traffic Signal Add NB left turn lane Add SB left turn lane Add EB left turn lane Add WB left turn lane Add 2nd WB through lane Add 2nd EB through lane	No		Fair Share	\$250,000	4.6%	\$3,607
								Fair Share	\$78,400		\$3,607
								Fair Share	\$78,400		\$3,607
								Fair Share	\$78,400		\$3,607
								Fair Share	\$78,400		\$3,607
								Fair Share	\$78,400		\$3,607
								Fair Share	\$282,240		\$12,986
								Fair Share	\$282,240		\$12,986
<b>Total</b>	<b>\$845,840</b>	<b>\$31,022</b>									
38	Walker Av./Flight Av. & Merrill Av.	Ontario, Chino	Install a Traffic Signal	Same Add NB left turn lane Add SB left turn lane Add EB left turn lane Add 2nd WB through lane Add 2nd EB through lane	Same Same Same Same Same Same	No No No No Yes No	ST-015	Construct	\$0	3.5%	\$0
								Fair Share	\$78,400		\$2,747
								Fair Share	\$78,400		\$2,747
								Fair Share	\$78,400		\$2,747
								Fees	\$0		\$0
								Fair Share	\$282,240		\$9,889
<b>Total</b>	<b>\$517,440</b>	<b>\$18,131</b>									
39	Van Vliet Av./Baker Av. & Merrill Av.	Ontario, Chino	None	None	Add SB shared left-through-right turn lane Add EB left turn lane Add 2nd WB through lane Install a Traffic Signal	No No Yes No	ST-015	Fair Share	\$78,400	3.8%	\$2,974
								Fair Share	\$78,400		\$2,974
								Fees	\$0		\$0
								Fair Share	\$250,000		\$9,482
								<b>Total</b>	<b>\$406,800</b>		<b>\$15,429</b>
40	Vineyard Av. & Edison Av.	Ontario	None	None	Add 2nd EB through lane Add 3rd EB through lane Add 2nd WB through lane Add 3rd WB through lane Add NB left turn lane Add SB left turn lane Install a Traffic Signal	Yes Yes Yes Yes No No No	ST-008 ST-009 ST-009 ST-009	Fees	\$0	1.1%	\$0
								Fees	\$0		\$0
								Fees	\$0		\$0
								Fees	\$0		\$0
								Fair Share	\$78,400		\$865
								Fair Share	\$78,400		\$865
								Fair Share	\$392,000		\$4,327
								<b>Total</b>	<b>\$548,800</b>		<b>\$6,057</b>



TABLE 1-3: SUMMARY OF IMPROVEMENTS RECOMMENDED TO MEET CITY OF ONTARIO OR SURROUNDING AGENCY LOS REQUIREMENTS (4 OF 5)

#	Intersection Location	Jurisdiction	E+P	2024 With Project	2040 With Project	Improvements in City DIF <sup>1</sup>	DIF Project #	Project Responsibility <sup>6</sup>	Total Cost <sup>2,3,4</sup>	Fair Share % <sup>4</sup>	Fair Share Cost <sup>5</sup>						
41	Vineyard Av./Hellman Av. & Merrill Av.	Ontario, Chino	None	None	Add NB through lane	No	ST-022	Fair Share	\$282,240	6.4%	\$18,022						
					Add SB left turn lane	No		Fair Share	\$78,400		\$5,006						
					Add SB through lane	Yes		Fees	\$0		\$0						
					Add SB right turn lane	No		Fair Share	\$78,400		\$5,006						
					Add EB left turn lane	No		Fair Share	\$78,400		\$5,006						
					Add 2nd WB through lane	Yes		Fees	\$0		\$0						
					Install a Traffic Signal	No		Fair Share	\$250,000		\$15,963						
					Add WB right turn lane	No		Fair Share	\$78,400		\$5,006						
<b>Total</b>									<b>\$845,840</b>		<b>\$54,008</b>						
42	Carpenter Av. & Merrill Av.	Ontario, Chino	Install a Traffic Signal	Same	Same	No	ST-015	Fair Share	\$250,000	2.3%	\$5,632						
					Add 2nd EB through lane	Yes		Fees	\$0		\$0						
					Add 2nd WB through lane	Yes		Fees	\$0		\$0						
					Add NB left turn lane	No		Fair Share	\$78,400		\$1,766						
					Add SB left turn lane	No		Fair Share	\$78,400		\$1,766						
<b>Total</b>									<b>\$406,800</b>		<b>\$9,164</b>						
43	Hellman Av. & Edison Av.	Ontario	None	None	Add 2nd EB through lane	Yes	ST-009	Fees	\$0	1.0%	\$0						
					Add 3rd EB through lane	Yes	ST-009	Fees	\$0		\$0						
					Add 2nd WB through lane	Yes	ST-009	Fees	\$0		\$0						
					Add 3rd WB through lane	Yes	ST-009	Fees	\$0		\$0						
					Add NB left turn lane	No	Fair Share	\$78,400	\$811								
					Add NB shared through-right lane	No	Fair Share	\$282,240	\$2,920								
					Add SB left turn lane	No	Fair Share	\$78,400	\$811								
					Add SB shared through-right lane	No	Fair Share	\$282,240	\$2,920								
					Add EB left turn lane	No	Fair Share	\$78,400	\$811								
					Add WB left turn lane	No	Fair Share	\$78,400	\$811								
<b>Total</b>									<b>\$878,080</b>		<b>\$9,084</b>						
44	Archibald Av. & Ontario Ranch Rd.	Ontario	None	Add 2nd WB through lane	Same	Yes	ST-010	Fees	\$0	1.2%	\$0						
					Add 2nd NB left turn lane	No	Fair Share	\$78,400	\$911								
					Add 3rd NB through lane	Yes	ST-002	Fees	\$0		\$0						
					Add 3rd SB through lane	Yes	ST-001	Fees	\$0		\$0						
					Add 3rd EB through lane	Yes	ST-010	Fees	\$0		\$0						
					Add 4th EB through lane	Yes	ST-010	Fees	\$0		\$0						
					Add 3rd WB through lane	Yes	ST-010	Fees	\$0		\$0						
					Add 4th WB through lane	Yes	ST-010	Fees	\$0		\$0						
					Add 2nd SB left turn lane	No	Fair Share	\$78,400	\$911								
					Modify the traffic signal to implement overlap phasing for the SB right turn lane	No	Fair Share	\$117,600	\$1,366								
					<b>Total</b>									<b>\$274,400</b>		<b>\$3,187</b>	
					45	Archibald Av. & Eucalyptus Av.	Ontario	None	None		NB left turn lane	No	ST-002	Fair Share	\$78,400	0.5%	\$403
Add 3rd NB through lane	Yes	Fees	\$0	\$0													
Add 3rd SB through lane	Yes	Fees	\$0	\$0													
Add EB left turn lane	No	Fair Share	\$78,400	\$403													
Add 2 EB through lanes	Yes	ST-011	Fees	\$0						\$0							
Restripe the WB to accommodate left, 2 throughs and 1 right turn lane	Yes	ST-011	Fees	\$0						\$0							
<b>Total</b>									<b>\$156,800</b>		<b>\$805</b>						



TABLE 1-3: SUMMARY OF IMPROVEMENTS RECOMMENDED TO MEET CITY OF ONTARIO OR SURROUNDING AGENCY LOS REQUIREMENTS (5 OF 5)

#	Intersection Location	Jurisdiction	E+P	2024 With Project	2040 With Project	Improvements in City DIF <sup>1</sup>	DIF Project #	Project Responsibility <sup>8</sup>	Total Cost <sup>2,3,4</sup>	Fair Share % <sup>5</sup>	Fair Share Cost <sup>3</sup>
46	Archibald Av. & Merrill Av.	Ontario	None	Stripe SB right turn lane (in place of defacto)	Same	No		Construct	\$39,200	1.5%	\$583
				Modify the traffic signal to implement overlap phasing for the SB right turn lane	Same	No		Construct	\$117,600		\$1,748
				Add 2nd EB left turn lane	Same	No		Fair Share	\$78,400		\$1,165
				Add 2nd NB left turn lane	Same	No		Fair Share	\$282,240		\$0
					Add EB free right turn lane	No		Fair Share	\$0		\$0
	Add 3rd SB through lane	Yes	ST-002	Fees	\$0	\$0	<b>Total</b>	<b>\$517,440</b>		<b>\$3,496</b>	
47	Archibald Av. & Limonite Av.	Eastvale	Add 2nd WB right turn lane	Same	No Longer Needed	No		Construct	\$78,400	1.2%	\$964
				Add 2nd SB left turn lane	Same	No		Fair Share	\$78,400		\$964
					Add 2nd WB left turn lane	No		Fair Share	\$78,400		\$964
					Add 2nd NB through lane	No		Fair Share	\$282,240		\$3,472
					Add 3rd NB through lane	No		Fair Share	\$282,240		\$3,472
					Add 2nd SB through lane	No		Fair Share	\$282,240		\$3,472
					Add 3rd SB through lane	No		Fair Share	\$282,240		\$3,472
					Add 2nd EB left turn lane	No		Fair Share	\$78,400		\$964
					Add 2nd EB through lane	No		Fair Share	\$282,240		\$3,472
					Add 2nd WB through lane	No		Fair Share	\$282,240		\$3,472
								<b>Total</b>	<b>\$2,007,040</b>		
48	Turner Av. & Ontario Ranch Rd.	Ontario	None	None	Add 3rd EB through lane	Yes	ST-010	Fees	\$0	--	\$0
					Add 3rd WB through lane	Yes	ST-010	Fees	\$0		\$0
								<b>Total</b>	<b>\$0</b>		<b>\$0</b>
49	Haven Av. & Ontario Ranch Rd.	Ontario	None	None	Add 2nd NB through lane	Yes	ST-014	Fees	\$0	--	\$0
					Add 2nd SB through lane	Yes	ST-014	Fees	\$0		\$0
								<b>Total</b>	<b>\$0</b>		<b>\$0</b>
50	Hamner Av. & Ontario Ranch Rd.	Ontario, Eastvale	Modify the traffic signal to extend the cycle length to 130 seconds Restripe the SB approach to provide two left turn lanes, two through lanes, and one shared through-right turn lane	Same	Same	No		Fair Share	\$117,600	1.5%	\$1,717
				Same	Same	No		Fair Share	\$39,200		\$572
				Add 3rd WB through lane	Same	No		Fair Share	\$282,240		\$4,120
					Add EB right turn lane	No		Fair Share	\$78,400		\$1,145
				Modify the traffic signal to implement overlap phasing for the NB and EB right turn lanes	No		Fair Share	\$117,600		\$1,717	
								<b>Total</b>	<b>\$635,040</b>		<b>\$9,271</b>
<b>Total Costs for Horizon Year (2040) Improvements</b>									<b>\$14,714,720</b>		<b>\$436,470</b>
<b>Total Project Fair Share Contribution to the City of Ontario (non-DIF/other)<sup>6</sup></b>										<b>\$308,307</b>	

<sup>1</sup> Improvements included in City of Ontario DIF program for local, regional and specific plan components.  
<sup>2</sup> Costs have been estimated using the data provided in Appendix "G" of the CMP (2003 Update) for preliminary construction costs.  
<sup>3</sup> Appendix "G" costs escalated by a factor of 1.568 per City direction except Traffic Signals.  
<sup>4</sup> Program improvements constructed by project may be eligible for fee credit, at discretion of City. See Table 8-2 for Fair Share Calculations.  
<sup>5</sup> Rough order of magnitude cost estimate.  
<sup>6</sup> Total project fair share contribution consists of the improvements which are not already included in the City-wide DIF for those intersections wholly or partially within the City of Ontario.  
<sup>7</sup> Improvements are anticipated to be constructed as part of the SR-60 Freeway/Archibald Avenue interchange improvements.  
<sup>8</sup> Improvement includes modifying the traffic signal to run the northbound and southbound left turns as lead-lag, with the northbound left turn running as lag.

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## 2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with City of Ontario's Traffic Study Guidelines.

### 2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

### 2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The 6<sup>th</sup> Edition Highway Capacity Manual (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (5) The HCM uses different procedures depending on the type of intersection control.

#### 2.2.1 SIGNALIZED INTERSECTIONS

##### ***City of Ontario, City of Chino, City of Eastvale, City of Jurupa Valley***

The City of Ontario, City of Chino, City of Eastvale, and City of Jurupa Valley require signalized intersection operations analysis based on the methodology described in the HCM. (5) Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described on Table 2-1.

**TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS**

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A	F
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B	F
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C	F
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D	F
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E	F
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up	F	F

Source: HCM (6<sup>th</sup> Edition)

Consistent with Appendix B of the San Bernardino County CMP, the following saturation flow rates, in vehicles per hour green per lane (vphgpl), will be utilized in the traffic analysis for signalized intersections:

*Existing and Opening Year Cumulative Traffic Conditions:*

- Exclusive through: 1800 vphgpl
- Exclusive left: 1700 vphgpl
- Exclusive right: 1800 vphgpl
- Exclusive dual left: 1600 vphgpl
- Exclusive triple left: 1500 vphgpl

*Horizon Year (2040) Traffic Conditions:*

- Exclusive through: 1900 vphgpl
- Exclusive left: 1800 vphgpl
- Exclusive dual left: 1700 vphgpl
- Exclusive right: 1900 vphgpl
- Exclusive dual right: 1800 vphgpl
- Exclusive triple left: 1600 vphgpl or less

The traffic modeling and signal timing optimization software package Synchro (Version 11) has been utilized to analyze signalized intersections within the City of Ontario, City of Chino, City of

Eastvale, and City of Jurupa Valley. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Common practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g.,  $PHF = [Hourly\ Volume] / [4 \times Peak\ 15\text{-minute}\ Flow\ Rate]$ ). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (5)

**California Department of Transportation (Caltrans)**

The traffic modeling and signal timing optimization software package Synchro (Version 11) has also been utilized to analyze signalized intersections under Caltrans’ jurisdiction, which include interchange to arterial ramps (i.e., SR-60 Freeway ramps at Euclid Avenue (SR-83), I-15 Freeway ramps at Cantu Galleano Ranch Road). (2) Euclid Avenue (SR-83) is also under Caltrans’ jurisdiction and intersections along Euclid Avenue (SR-83) have been evaluated per Caltrans’ guidelines. Signal timing for the freeway arterial-to-ramp intersections and intersections along Euclid Avenue (SR-83) have been obtained from Caltrans District 8 and were utilized for the purposes of this analysis.

**2.2.2 UNSIGNALIZED INTERSECTIONS**

The City of Ontario, City of Chino, City of Eastvale, and City of Jurupa Valley require the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (5) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2).

**TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS**

Description	Average Control Delay Per Vehicle (Seconds)	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Little or no delays.	0 to 10.00	A	F
Short traffic delays.	10.01 to 15.00	B	F
Average traffic delays.	15.01 to 25.00	C	F
Long traffic delays.	25.01 to 35.00	D	F
Very long traffic delays.	35.01 to 50.00	E	F
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F	F

Source: HCM (6<sup>th</sup> Edition)

At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. Per HCM, the worst individual turning movement (typically on the side-street) is reported for the overall intersection’s delay at cross-street stop-controlled intersections. For all-way stop controlled intersections, LOS is computed for the intersection as a whole.

**2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY**

The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TIA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD). (6)

The signal warrant criteria for Existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (6) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions. Warrant 3 is appropriate to use for this TIA because it provides specialized warrant criteria for intersections with rural characteristics (e.g., located in communities with populations of less than 10,000 persons or with adjacent major streets operating above 40 miles per hour). For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection.

Future intersections that do not currently exist have been assessed regarding the potential need for new traffic signals based on future average daily traffic (ADT) volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets.

Traffic signal warrant analyses were performed for the following study area intersection shown on Table 2-3:

**TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS**

ID	Intersection Location	Jurisdiction	SBCTA CMP?
10	Sultana Av. & Eucalyptus Av.	Ontario	No
11	Sultana Av. & Driveway 1	Ontario	No
12	Sultana Av. & Driveway 2	Ontario	No
13	Sultana Av. & Driveway 3	Ontario	No
14	Sultana Av. & Driveway 4	Ontario	No
15	Sultana Av. & Driveway 5	Ontario	No
16	Sultana Av. & Driveway 6	Ontario	No
17	Sultana Av. & Driveway 7	Ontario	No
18	Sultana Av. & Merrill Av.	Chino, Ontario	No

ID	Intersection Location	Jurisdiction	SBCTA CMP?
19	Driveway 8 & Merrill Av.	Chino, Ontario	No
20	Driveway 9 & Eucalyptus Av.	Ontario	No
21	Driveway 10 & Eucalyptus Av.	Ontario	No
22	Driveway 11 & Merrill Av.	Chino, Ontario	No
23	Campus Av. & Eucalyptus	Chino, Caltrans	No
24	Campus Av & Driveway 12	Ontario	No
25	Campus Av & Driveway 13	Ontario	No
26	Campus Av & Driveway 14	Ontario	No
27	Campus Av & Driveway 15	Ontario	No
28	Campus Av & Driveway 16	Ontario	No
29	Campus Av & Driveway 17	Ontario	No
30	Campus Av & Driveway 18	Ontario	No
31	Campus Av. & Merrill Av.	Chino, Caltrans	No
32	Bon View Av. & Eucalyptus Av.	Ontario	No
33	Bon View Av. & Merrill Av.	Chino, Ontario	No
34	Grove Av. & Eucalyptus Av.	Ontario	No
35	Grove Av. & Merrill Av.	Chino, Ontario	No
36	Walker Av. & Edison Av.	Ontario	No
38	Walker Av./Flight Av. & Merrill Av.	Chino, Ontario	No
39	Baker Av./Van Vliet Av. & Merrill Av.	Ontario	No
41	Vineyard Av./Hellman Av. & Merrill Av.	Chino, Ontario	No
42	Carpenter Av. & Merrill Av.	Chino, Ontario	No

Although unsignalized, traffic signal warrants have not been evaluated at the intersections of Driveway 2 on Bon View Avenue, Driveway 3 and Driveway 5 on Merrill Avenue, Driveway 6 and Driveway 8 on Eucalyptus Avenue, and Driveway 10 and Driveway 12 on Grove Avenue since these intersections are anticipated to have restricted access (right-in/right-out only) and would therefore not be suitable locations for installing a traffic signal.

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *E+P Traffic Analysis*, Section 6 *Opening Year Cumulative (2023) Traffic Analysis*, and Section 7 *Horizon Year (2040) Traffic Analysis* of this report. It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

## 2.4 FREEWAY OFF-RAMP QUEUING ANALYSIS

The study area for this TA includes the following freeway-to-arterial interchanges:

- Euclid Avenue (SR-83) & SR-60 Freeway
- I-15 Freeway & Cantu Galleano Ranch Road

The 95<sup>th</sup> percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing deficiencies at the freeway ramp intersections at the interchanges identified above. Specifically, the queuing analysis is utilized to identify any potential queuing and “spill back” onto the SR-60 or I-15 Freeway mainline from the off-ramps.

The traffic progression analysis tool and HCM intersection analysis program, Synchro, has been used to assess the potential deficiencies/needs of the intersections with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps have been based upon the 95<sup>th</sup> percentile queue resulting from the Synchro progression analysis. There are two footnotes which appear on the Synchro outputs. One footnote indicates if the 95<sup>th</sup> percentile cycle exceeds capacity. Traffic is simulated for two complete cycles of the 95<sup>th</sup> percentile traffic in Synchro in order to account for the effects of spillover between cycles. In practice, the 95<sup>th</sup> percentile queue shown will rarely be exceeded and the queues shown with the footnote are acceptable for the design of storage bays. The other footnote indicates whether or not the volume for the 95<sup>th</sup> percentile queue is metered by an upstream signal. In many cases, the 95<sup>th</sup> percentile queue will not be experienced and may potentially be less than the 50<sup>th</sup> percentile queue due to upstream metering. If the upstream intersection is at or near capacity, the 50<sup>th</sup> percentile queue represents the maximum queue experienced.

A vehicle is considered queued whenever it is traveling at less than 10 feet/second. A vehicle will only become queued when it is either at the stop bar or behind another queued vehicle. The 95<sup>th</sup> percentile queue is the maximum back of queue with 95<sup>th</sup> percentile traffic volumes during the peak hour and is derived from the average queue plus 1.65 standard deviations. The queue length reported is for the lane with the highest queue in the lane group. The 95<sup>th</sup> percentile queue is not necessarily ever observed it is simply based on statistical calculations.

## 2.5 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

Minimum Acceptable LOS and associated definitions of intersection deficiencies has been obtained from each of the applicable surrounding jurisdictions.

### 2.5.1 CITY OF ONTARIO

Per the Ontario Plan’s Policy M-1, the City of Ontario utilizes a minimum acceptable LOS of LOS E, where feasible. (7)

### 2.5.2 CITY OF CHINO

According to the City of Chino’s General Plan Objective TRA-1.2/Policy P1, LOS D is the minimum acceptable condition that should be maintained during the peak commute hours, where feasible. (8)



### **2.5.3 CITY OF EASTVALE**

The City of Eastvale General Plan Policy C-10 sets a standard of LOS C with LOS D as acceptable in commercial and employment areas and at intersections of any combination of major highways, urban arterials, secondary highways, or freeway ramps. (9) Based on this criterion, where feasible, LOS D is the minimum acceptable LOS at each of the study intersections within the City of Eastvale.

### **2.5.4 CITY OF JURUPA VALLEY**

Per the City of Jurupa Valley's General Plan Policy ME 1.1, the City of Jurupa Valley utilizes a minimum acceptable LOS of LOS D at all intersections, except where flexibility is warranted based on a multi-modal LOS evaluation, or where LOS E is deemed appropriate to accommodate complete streets/multi-modal facilities. (10)

### **2.5.5 CMP**

The CMP definition of deficiency is based on maintaining a level of service standard of LOS E or better, where feasible, except where an existing LOS F condition is identified in the CMP document. However, in an effort to overstate as opposed to understate potential deficiencies, LOS D has been utilized for the CMP intersections for the purposes of this analysis, unless the intersection is located in the City of Ontario (which uses LOS E). (1)

### **2.5.6 CALTRANS**

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State Highway System (SHS) facilities, however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. (2) If an existing State highway facility is operating at less than this target LOS, the existing LOS should be maintained. In general, the region-wide goal for an acceptable LOS on all freeways and intersections is LOS D. Consistent with the City of Ontario LOS threshold of LOS D and in excess of the City of Ontario stated LOS threshold of LOS E, LOS D will be used as the target LOS.

## 2.6 DEFICIENCY CRITERIA

To determine whether the addition of project traffic at a study intersection would result in a traffic deficiency, the following will be utilized:

- When the Without Project condition is at or better than LOS D (or LOS E for CMP intersections and intersections located in the City of Ontario) (i.e., acceptable LOS), and project-generated traffic causes deterioration below LOS D/LOS E (i.e., unacceptable LOS), a deficiency is deemed to occur.

When the Without Project condition is already below LOS D/LOS E (i.e., unacceptable LOS), the Project will be responsible for improving its deficiency to acceptable levels of service. Thus, for intersections operating at unacceptable LOS during either the AM and/or PM peak hour, improvements have been identified to improve the deficiencies of the Project to an intersection LOS that is equal to or better than Without Project conditions (see Table 2-6).

The Project’s contribution to a deficiency can be reduced if the Project is required to implement or fund its fair share of improvements designed to alleviate its contribution to the deficient condition.

**TABLE 2-6: DEFICIENCY CRITERIA**

Without Project Level of Service	Level of Service	Deficient?	Improvement Required?
<b>City of Ontario</b>			
A	A-D	No	No
B	B-D	No	No
C	C-D	No	No
D	D-E	No	No
E	E	No	No
A-E	F	Yes	Yes, bring LOS to E or better
F	F	Yes	Yes, bring LOS to E or better
<b>City of Chino, City of Eastvale, City of Jurupa Valley</b>			
A	A-D	No	No
B	B-D	No	No
C	C-D	No	No
D	D	No	No
A-D	E or F	Yes	Yes, bring LOS to D or better
E	E	Yes	Yes, bring LOS to D or better
E	F	Yes	Yes, bring LOS to D or better
F	F	Yes	Yes, bring LOS to D or better

In the event that an intersection is operating at or is forecast to operate at a deficient LOS, the CMP guidelines have defined a series of steps to be completed to determine the Project's contribution to the deficiency of intersections, which has been applied to both CMP and non-CMP study area intersections. The steps are as follows:

- Determine the improvements necessary to achieve an acceptable service level,
- Calculate the Project's share in the future traffic volume projections for the peak hours,
- Estimate the cost to implement recommended improvements, and
- Calculate the Project's fair-share contribution to improve the Project's traffic deficiencies

## 2.7 PROJECT FAIR SHARE CALCULATION METHODOLOGY

In cases where this TA identifies that the Project would contribute additional traffic volumes to traffic deficiencies, Project fair share costs of improvements necessary to address deficiencies have been identified. The Project's fair share cost of improvements is determined based on the following equation, which is the ratio of Project traffic to new traffic, and new traffic is total future (Horizon Year) traffic less existing baseline traffic:

$$\text{Project Fair Share \%} = \frac{\text{Project (2040) AM/PM Traffic}}{\text{(2040 With Project AM/PM Total Traffic - Existing AM/PM Traffic)}}$$

The project fair share percentage has been calculated for both the AM peak hour and PM peak hour and the highest of the two has been selected. The Project fair share contribution calculations are presented in Section 8 *Local and Regional Funding Mechanisms* of this TIA. The cost of implementing the improvements shown on Table 1-3 have been estimated based on the preliminary construction cost estimates found in Appendix G of the San Bernardino County CMP in conjunction with a total cost escalation factor of 1.568 to more closely approximate current (2021) costs. These cost estimates have been utilized in conjunction with the Project fair share percentages to determine the Project's fair share cost of the recommended improvements (see Table 8-2). These estimates are a rough order of magnitude only as they are intended only for discussion purposes and do not imply any legal responsibility or formula for contributions or physical improvements. If any analyzed intersections and roadway improvements fall outside of the jurisdiction of the City, the City does not have the authority to construct or demand the construction of such improvements. For this reason, the payment of fair share fees for the improvements identified in Table 1-3 is considered infeasible and therefore results in a significant and unavoidable impact for those locations outside of the City.

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### 3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the City of Ontario General Plan Circulation Network, and a review of existing peak hour intersection operations, off-ramp queueing, and traffic signal warrant analyses.

#### 3.1 EXISTING CIRCULATION NETWORK

Pursuant to the agreement with City of Ontario staff (Appendix 1.1), the study area includes a total of 52 existing and future intersections as shown previously on Exhibit 1-2. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

#### 3.2 CITY OF ONTARIO GENERAL PLAN CIRCULATION ELEMENT

As noted previously, the Project site is located within the City of Ontario. The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on the City of Ontario General Plan Circulation Element, are described subsequently. Exhibit 3-2 shows the City of Ontario General Plan Circulation Element and Exhibit 3-3 illustrates the City of Ontario General Plan roadway cross-sections.

The study area roadways that are classified as 8-lane Other Principal Arterials are identified as having four lanes of travel in each direction. The following study area roadways within the City of Ontario are classified as 8-lane Other Principal Arterials:

- Euclid Avenue (SR-83) from the SR-60 Freeway to Merrill Avenue
- Edison Avenue/Ontario Ranch Road from Euclid Avenue (SR-83) to Hamner Avenue
- Hamner Avenue from the SR-60 Freeway to Bellegrave Avenue

The study area roadways that are classified as 6-lane Other Principal Arterials are identified as having three lanes of travel in each direction and a 14-foot curbed or painted median. The following study area roadways within the City of Ontario are classified as 6-lane Other Principal Arterials:

- Grove Avenue north of Riverside Drive
- Vineyard Avenue from the SR-60 Freeway to Merrill Avenue
- Archibald Avenue north of Bellegrave Avenue

The study area roadways that are classified as 4-lane Other Principal Arterials are identified as having two lanes of travel in each direction. The following study area roadways within the City of Ontario are classified as 4-lane Other Principal Arterials:

- Grove Avenue north of Merrill Avenue
- Haven Avenue from Riverside Drive to Bellegrave Avenue

EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS (1 OF 4)

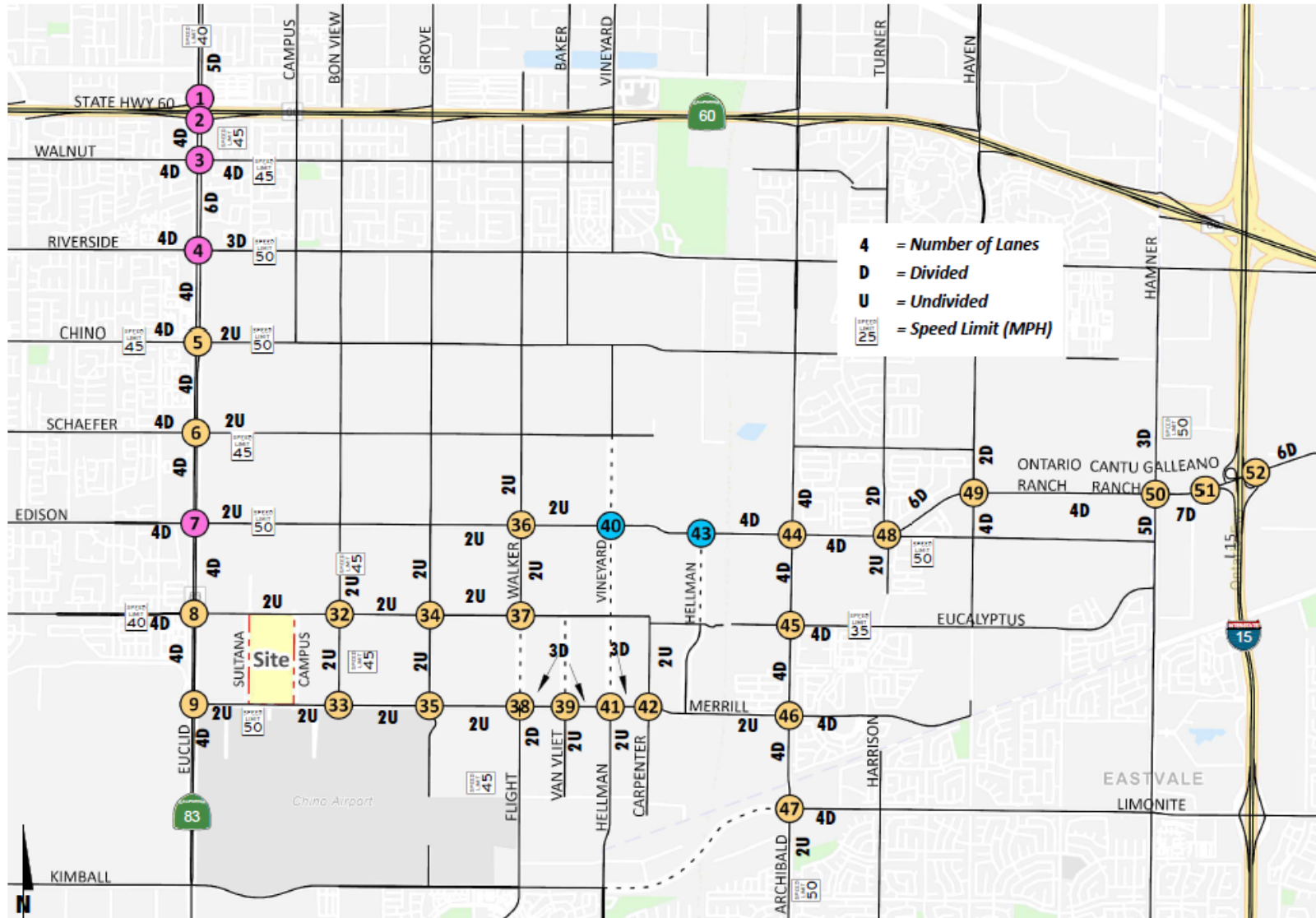
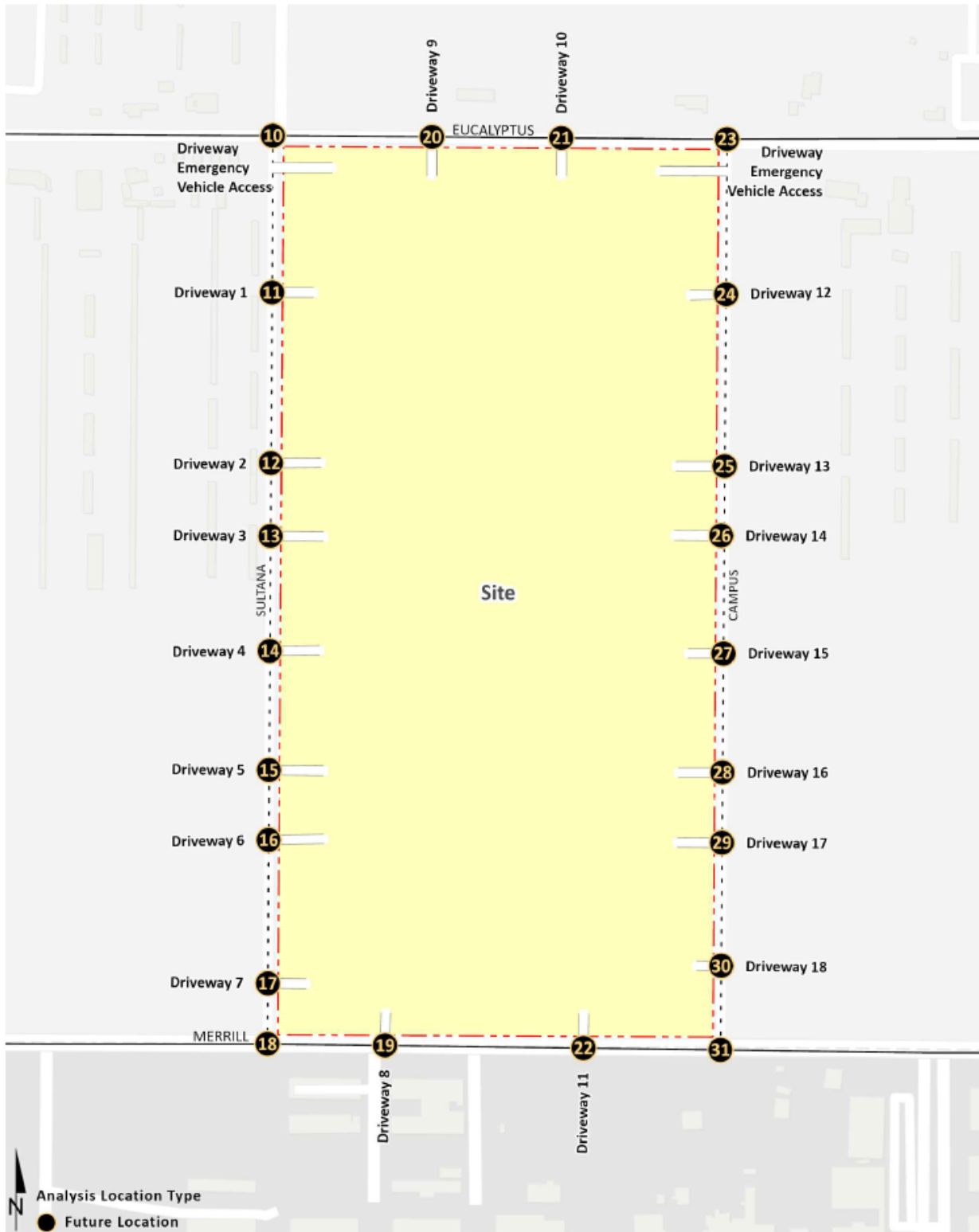


EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS (2 OF 4)



**EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS (3 OF 4)**

<p><b>1</b> Euclid Av. (SR-83) &amp; SR-60 WB Ramps</p>	<p><b>2</b> Euclid Av. (SR-83) &amp; SR-60 EB Ramps</p>	<p><b>3</b> Euclid Av. (SR-83) &amp; Walnut Av.</p>	<p><b>4</b> Euclid Av. (SR-83) &amp; Riverside Dr.</p>	<p><b>5</b> Euclid Av. (SR-83) &amp; Chino Av.</p>
<p><b>6</b> Euclid Av. (SR-83) &amp; Schaefer Av.</p>	<p><b>7</b> Euclid Av. (SR-83) &amp; Edison Av.</p>	<p><b>8</b> Euclid Av. (SR-83) &amp; Eucalyptus Av.</p>	<p><b>9</b> Euclid Av. (SR-83) &amp; E. Facility Dr./Merrill Av.</p>	<p><b>10</b> Sultana Av. &amp; Eucalyptus Av.</p> <p>Future Intersection</p>
<p><b>11</b> Sultana Av. &amp; Dwy. 1</p> <p>Future Intersection</p>	<p><b>12</b> Sultana Av. &amp; Dwy. 2</p> <p>Future Intersection</p>	<p><b>13</b> Sultana Av. &amp; Dwy. 3</p> <p>Future Intersection</p>	<p><b>14</b> Sultana Av. &amp; Dwy. 4</p> <p>Future Intersection</p>	<p><b>15</b> Sultana Av. &amp; Dwy. 5</p> <p>Future Intersection</p>
<p><b>16</b> Sultana Av. &amp; Dwy. 6</p> <p>Future Intersection</p>	<p><b>17</b> Sultana Av. &amp; Dwy. 7</p> <p>Future Intersection</p>	<p><b>18</b> Sultana Av. &amp; Merrill Av.</p> <p>Future Intersection</p>	<p><b>19</b> Dwy. 8 &amp; Merrill Av.</p> <p>Future Intersection</p>	<p><b>20</b> Dwy. 9 &amp; Eucalyptus Av.</p> <p>Future Intersection</p>
<p><b>21</b> Dwy. 10 &amp; Eucalyptus Av.</p> <p>Future Intersection</p>	<p><b>22</b> Dwy. 11 &amp; Merrill Av.</p> <p>Future Intersection</p>	<p><b>23</b> Campus Av. &amp; Eucalyptus Av.</p> <p>Future Intersection</p>	<p><b>24</b> Campus Av. &amp; Dwy. 12</p> <p>Future Intersection</p>	<p><b>25</b> Campus Av. &amp; Dwy. 13</p> <p>Future Intersection</p>





**EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS (4 OF 4)**

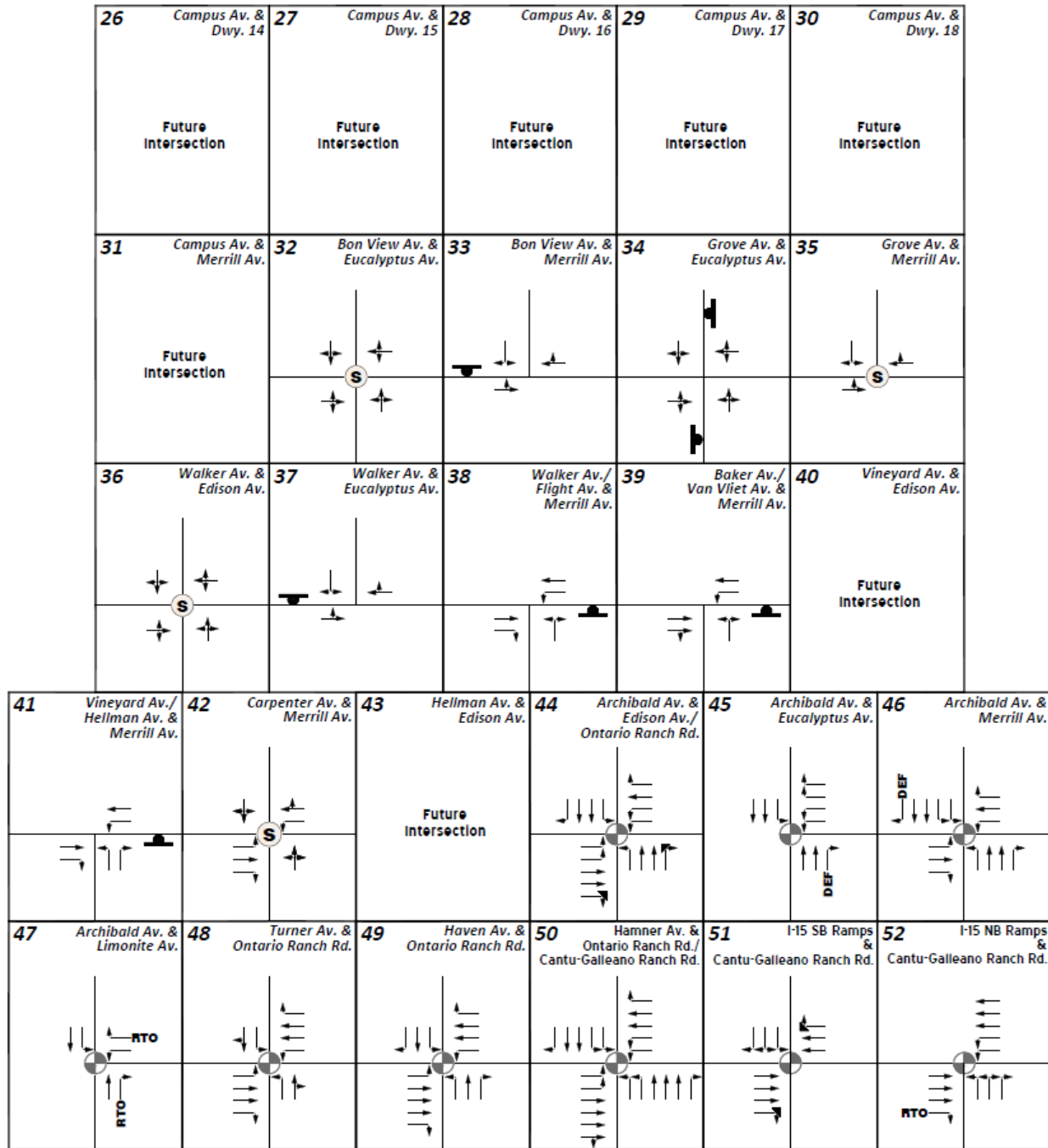
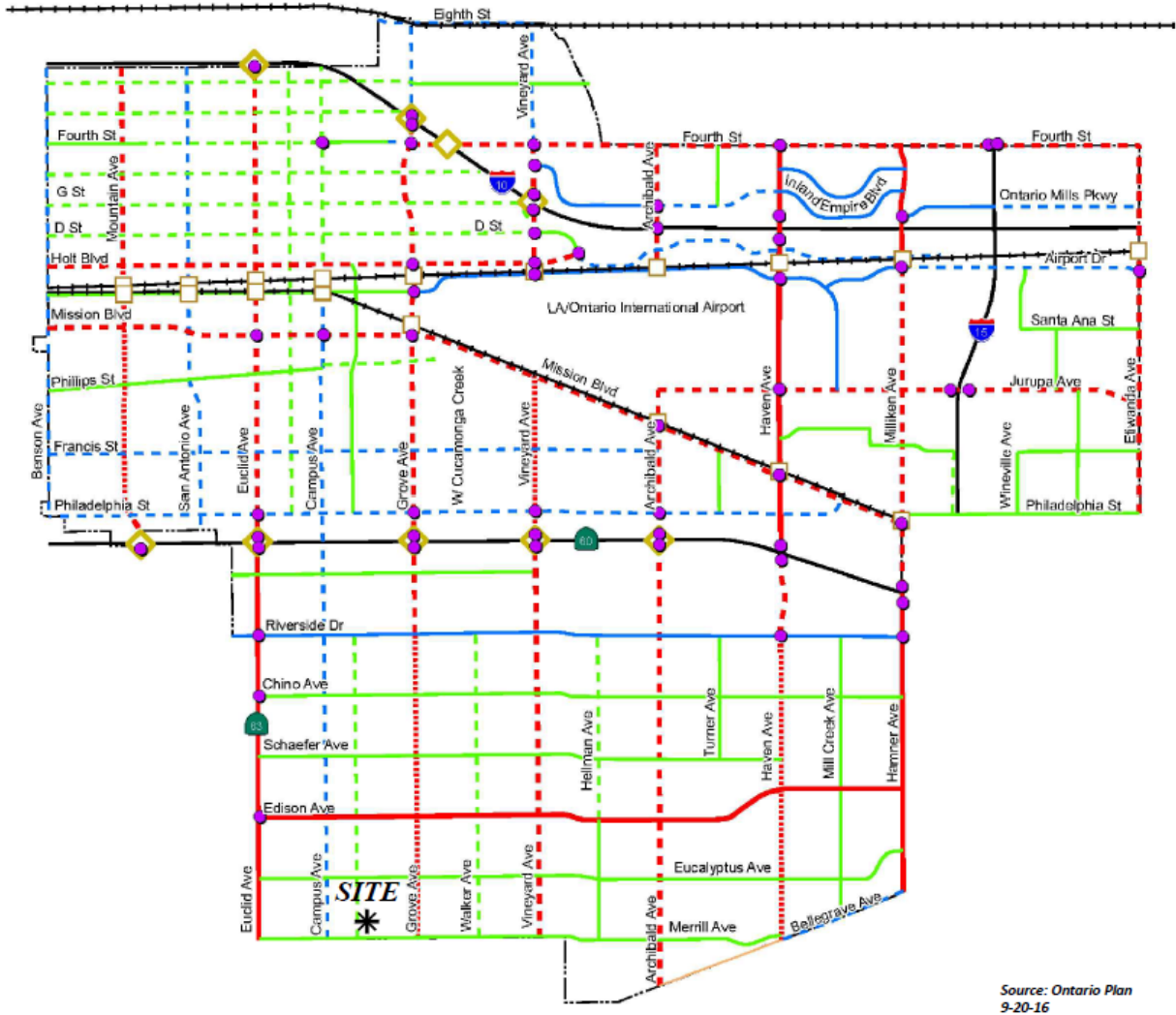


EXHIBIT 3-2: CITY OF ONTARIO GENERAL PLAN CIRCULATION ELEMENT

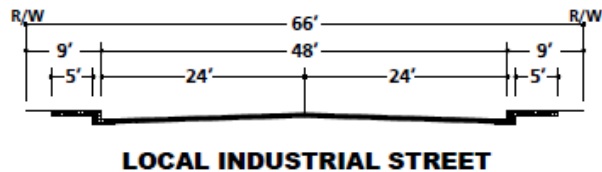
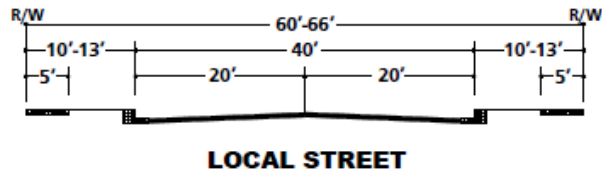
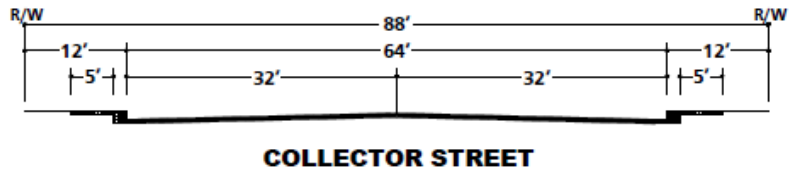
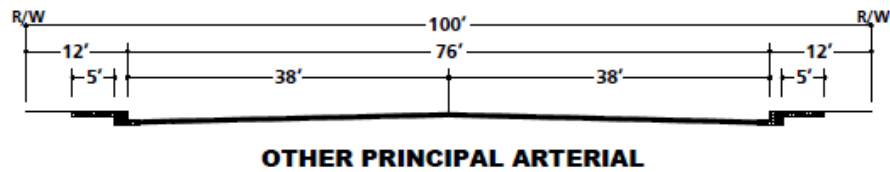
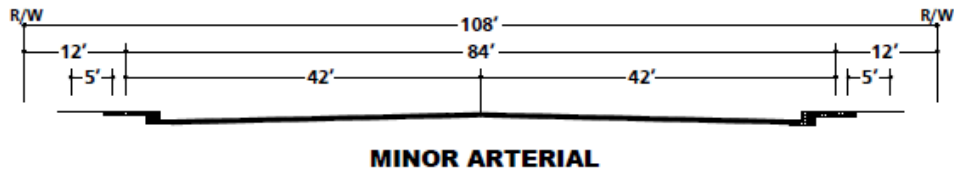
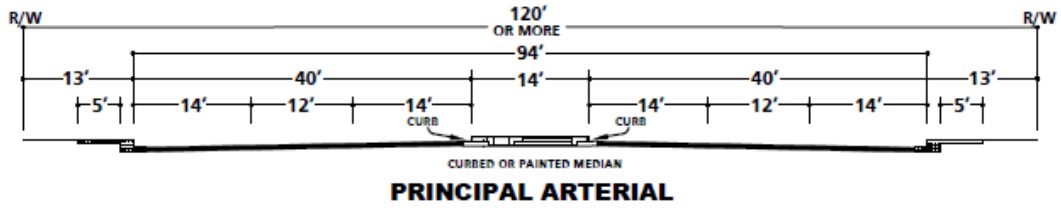


Source: Ontario Plan 9-20-16

- |                          |                                |
|--------------------------|--------------------------------|
| Other Principal Arterial | Freeways                       |
| 8 Lanes                  | Railroads                      |
| 6 Lanes                  | Freeway Interchange            |
| 4 Lanes                  | Grade-Separated Rail Crossings |
| Minor Arterial           | Enhanced Intersections         |
| 6 Lanes                  |                                |
| 4 Lanes                  |                                |
| Collector Street         |                                |
| 4 Lanes                  |                                |
| 2 Lanes                  |                                |



**EXHIBIT 3-3: CITY OF ONTARIO GENERAL PLAN ROADWAY CROSS-SECTIONS**



SOURCE: CITY OF ONTARIO

The study area roadway that is classified as a 6-lane Minor Arterial is identified as having three lanes of travel in each direction. The following study area roadway within the City of Ontario is classified as a 6-lane Minor Arterial:

- Riverside Drive

The study area roadway that is classified as a 4-lane Minor Arterial is identified as having two lanes of travel in each direction and a 14-foot median. The following study area roadway within the City of Ontario is classified as a 4-lane Minor Arterial:

- Bellegrave Avenue from Haven Avenue to Hamner Avenue

The study area roadways that are classified as Collector Streets are identified as having two to four lanes of travel in each direction. The following study area roadways within the City of Ontario are classified as Collector Streets:

- Walnut Street
- Chino Avenue
- Schaefer Avenue
- Eucalyptus Avenue
- Merrill Avenue
- Bon View Avenue
- Walker Avenue
- Hellman Avenue
- Turner Avenue

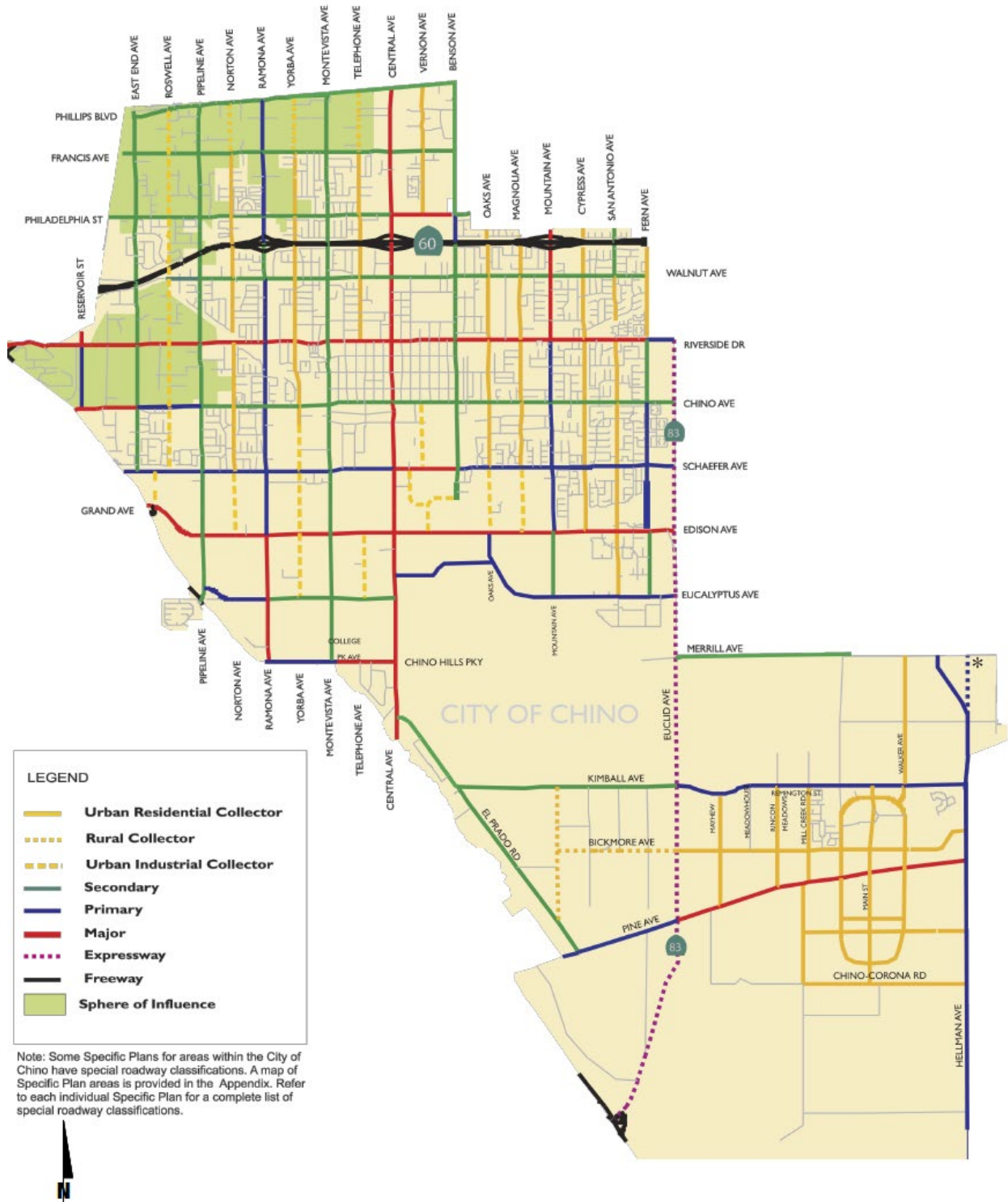
### **3.3 CITY OF CHINO, CITY OF EASTVALE, CITY OF JURUPA VALLEY GENERAL PLAN CIRCULATION ELEMENT**

Exhibits 3-4 and 3-5 show the City of Chino General Plan Circulation Element and roadway cross-sections, respectively. Exhibits 3-6 and 3-7 show the City of Eastvale General Plan Circulation Element and roadway cross-sections, respectively. Lastly, Exhibits 3-8 and 3-9 show the City of Jurupa Valley General Plan Circulation Element and roadway cross-sections, respectively.

### **3.4 TRUCK ROUTES**

The City of Ontario designated truck route map is shown on Exhibit 3-10. Euclid Avenue (SR-83), Edison Avenue/Ontario Ranch Road, Merrill Avenue, Archibald Avenue, and Hamner Avenue/Milliken Avenue are designated as Truck Routes in the City of Ontario. The designated truck route map has been utilized to route truck traffic for the proposed Project and cumulative development projects throughout the study area.

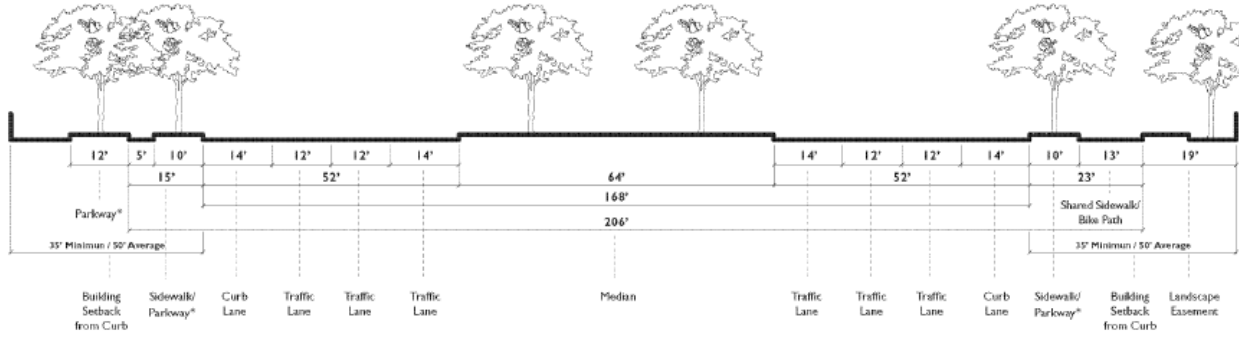
EXHIBIT 3-4: CITY OF CHINO GENERAL PLAN CIRCULATION ELEMENT



**EXHIBIT 3-5: CITY OF CHINO GENERAL PLAN ROADWAY CROSS-SECTIONS (1 OF 2)**

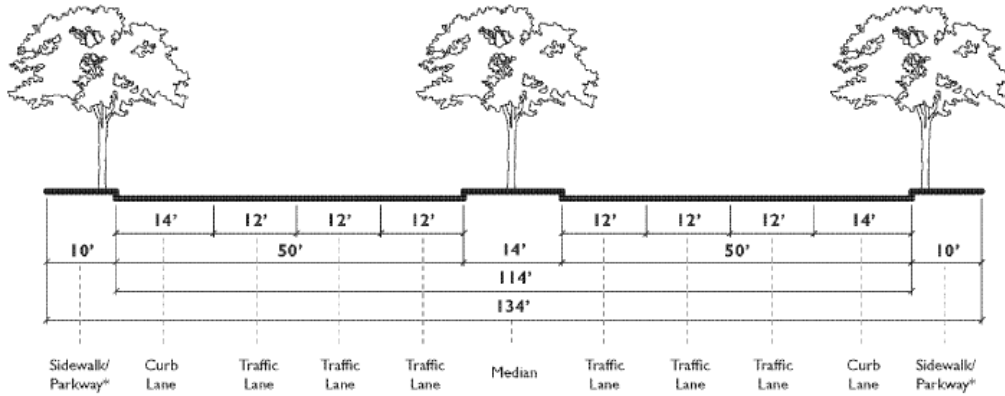
**Major Arterial (Expressway): Typical 8 Lane**

Provides 8 traffic lanes and a wide median without parking



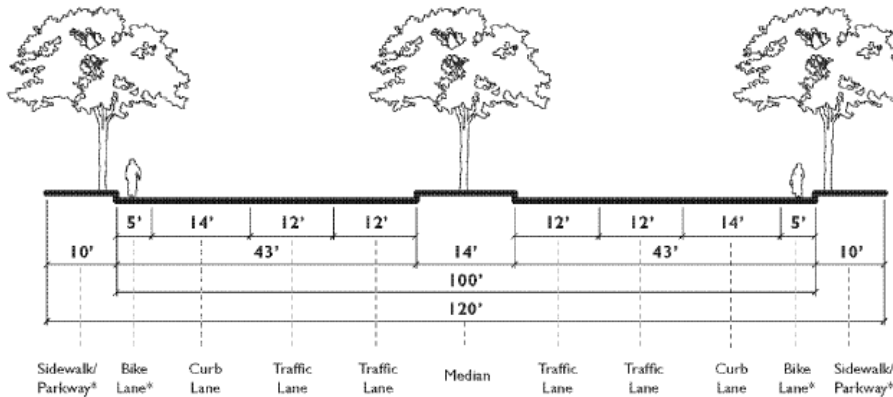
**Major Arterial: Minimum 8 Lane**

Provides 8 traffic lanes and 2 bicycle lanes separated by a median without parking



**Major Arterial: Minimum 6 Lane**

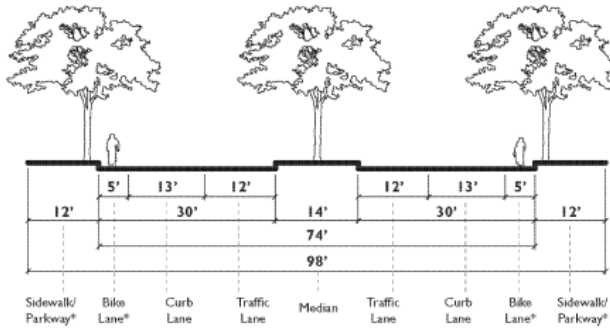
Provides 6 traffic lanes and 2 bicycle lanes separated by a median without parking



**EXHIBIT 3-5: CITY OF CHINO GENERAL PLAN ROADWAY CROSS-SECTIONS (2 OF 2)**

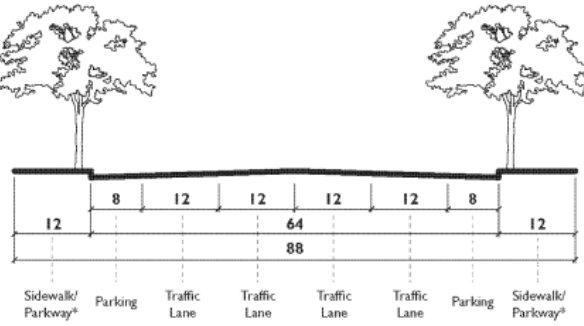
**Primary Arterial: Typical 4 Lane**

Provides 4 traffic lanes and 2 bicycle lanes separated by a median without parking



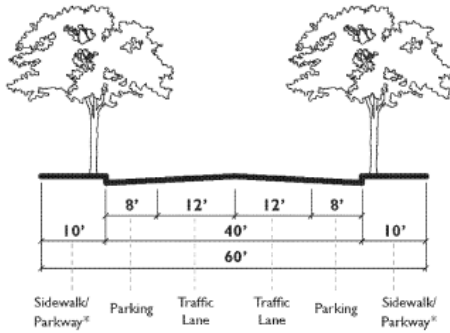
**Secondary Arterial**

Provides 4 traffic lanes with parking



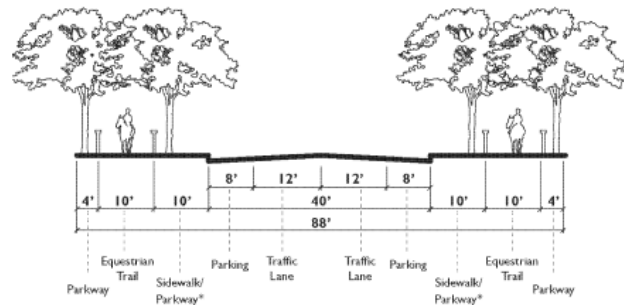
**Urban Residential/Rural Collector**

Provides 2 traffic lanes with parking and shared bicycle access



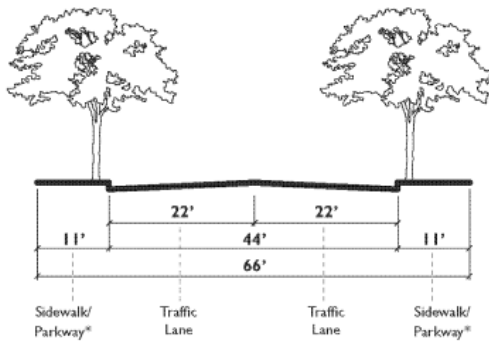
**Urban Residential/Rural Collector with Equestrian Trails**

Provides 2 traffic lanes and 2 equestrian trails with parking and shared bicycle access



**Urban Industrial Collector**

Provides 2 traffic lanes



**Local Street**

Provides 2 traffic lanes

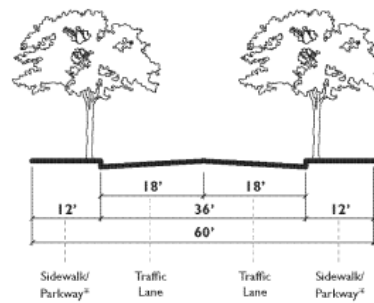
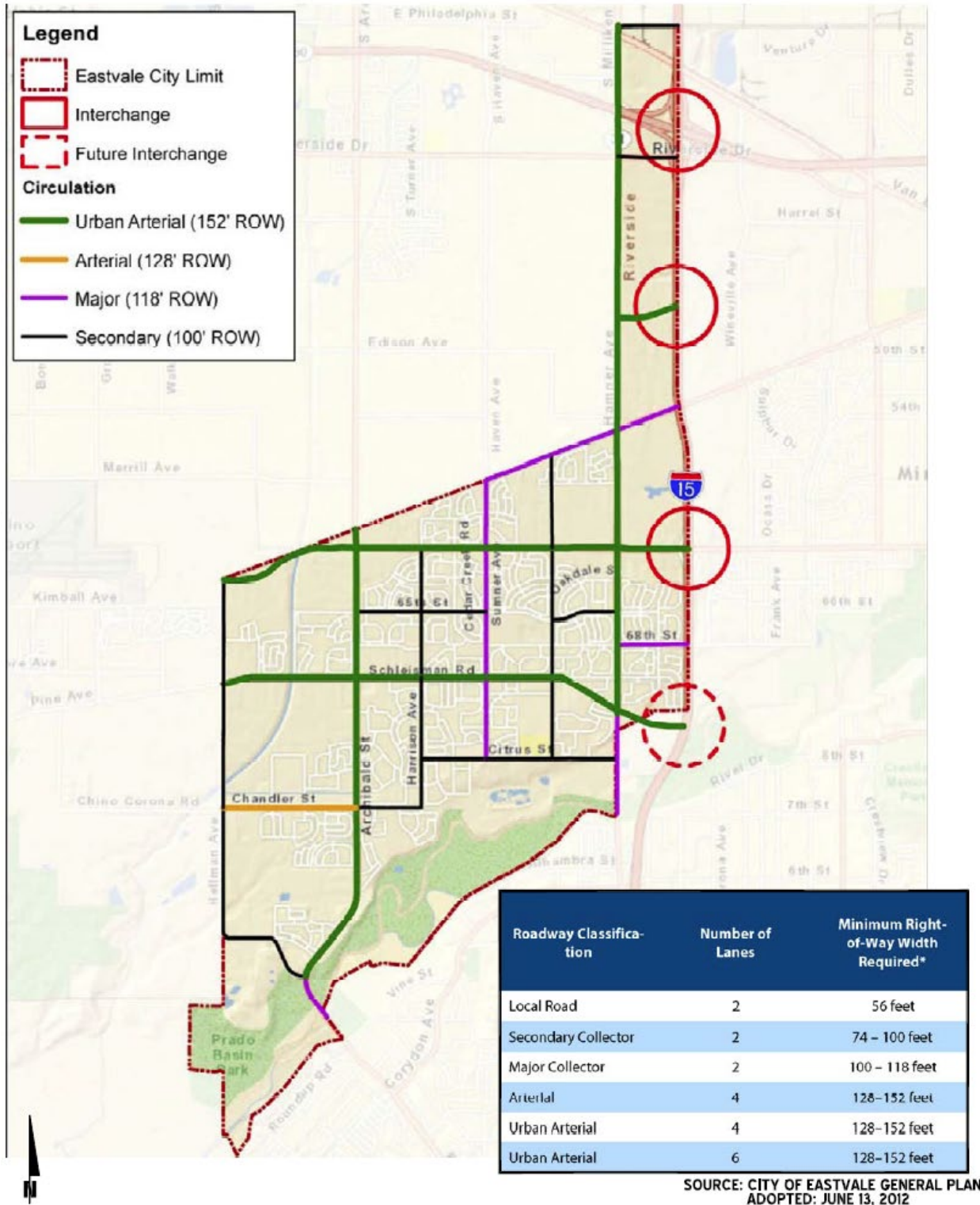


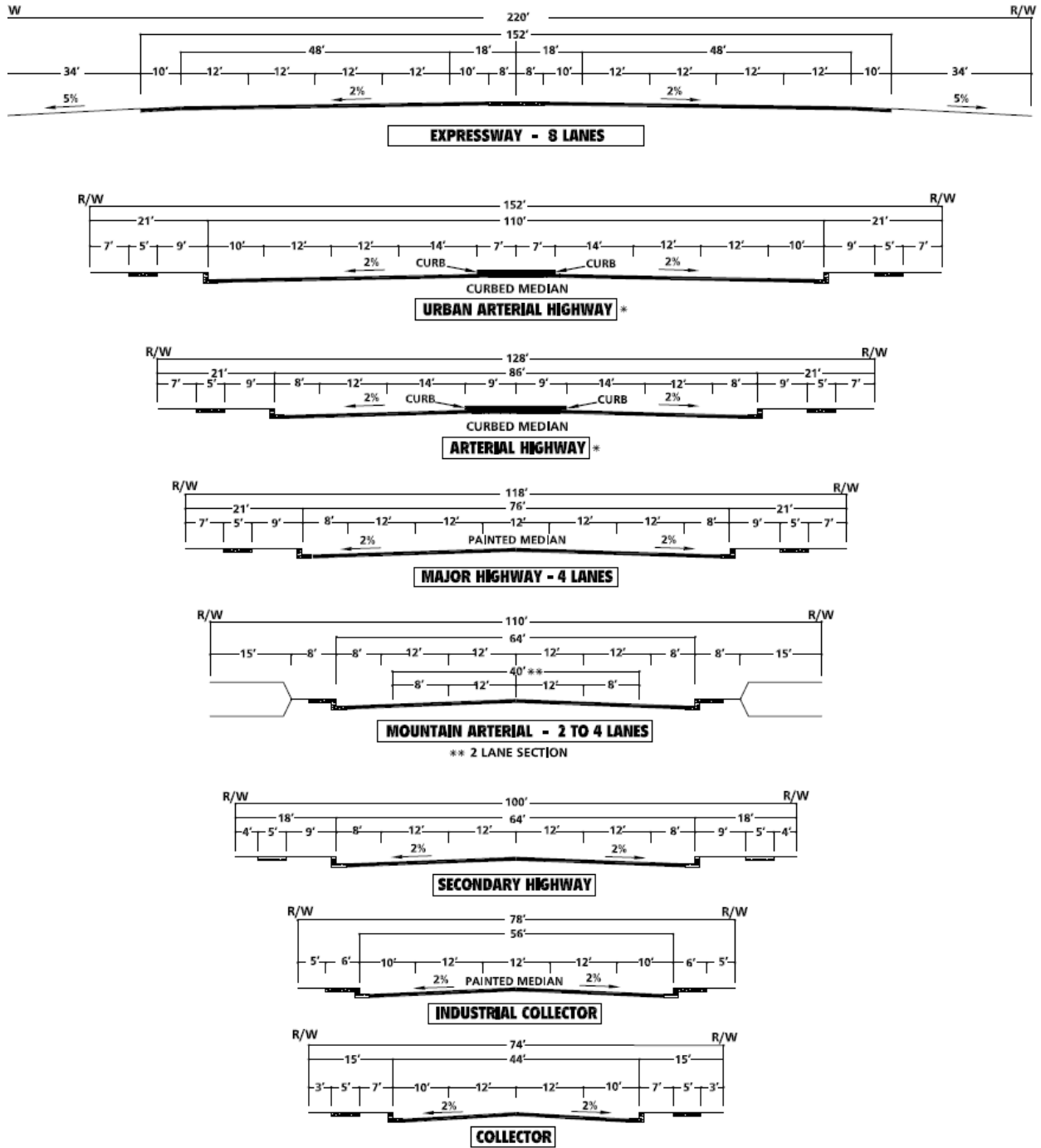


EXHIBIT 3-6: CITY OF EASTVALE GENERAL PLAN CIRCULATION ELEMENT





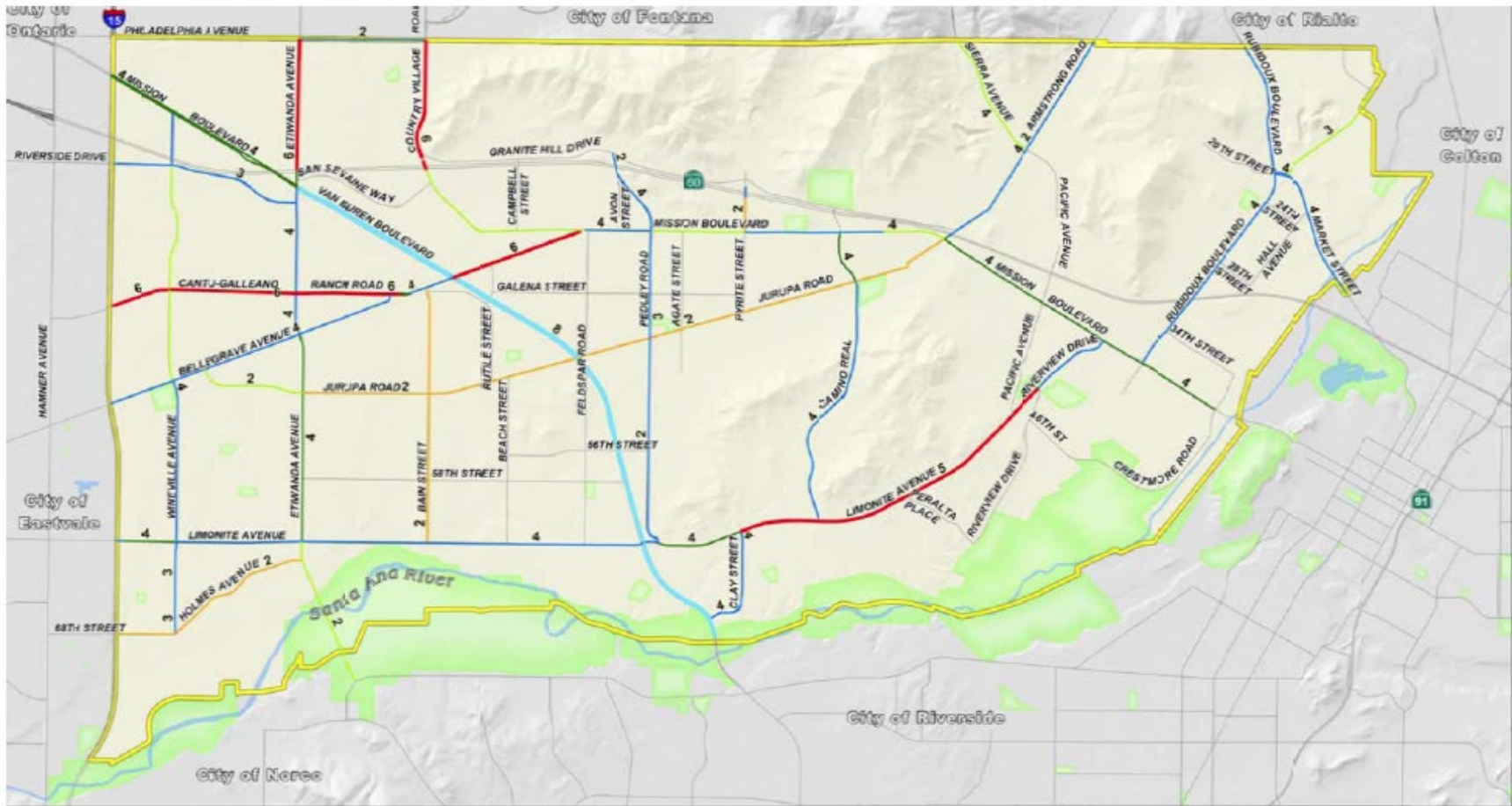
**EXHIBIT 3-7: CITY OF EASTVALE GENERAL PLAN ROADWAY CROSS-SECTIONS**



\* IMPROVEMENTS MAY BE RECONFIGURED TO ACCOMMODATE EXCLUSIVE TRANSIT LANES OR ALTERNATIVE LANE ARRANGEMENTS ADDITIONAL RIGHT OF WAY MAY BE REQUIRED AT INTERSECTIONS TO ACCOMMODATE ULTIMATE IMPROVEMENTS FOR STATE HIGHWAYS SHALL CONFORM TO CALTRANS DESIGN STANDARDS.

NOT TO SCALE

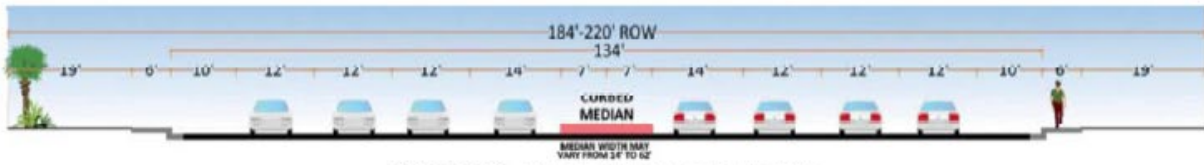
EXHIBIT 3-8: CITY OF JURUPA VALLEY GENERAL PLAN CIRCULATION ELEMENT



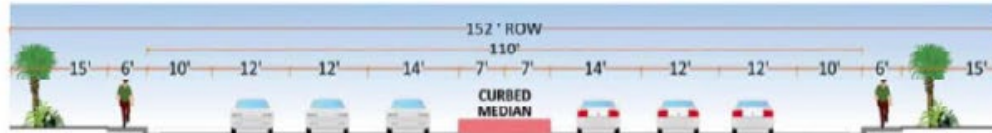
- |                       |                                 |                            |                                                                 |
|-----------------------|---------------------------------|----------------------------|-----------------------------------------------------------------|
| City of Jurupa Valley | Expressway (Up to 220' ROW)     | Major (Up to 118' ROW)     | <b>4</b> Number of Lanes                                        |
| Parks                 | Urban Arterial (Up to 152' ROW) | Secondary (Up to 100' ROW) | "3" lanes refers to two travel lanes plus a dedicated turn lane |
|                       | Arterial (Up to 128' ROW)       | Collector (Up to 74' ROW)  |                                                                 |
|                       |                                 | Local                      |                                                                 |



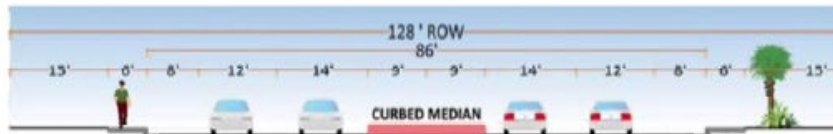
**EXHIBIT 3-9: CITY OF JURUPA VALLEY GENERAL PLAN ROADWAY CROSS-SECTIONS**



**EXHIBIT 1: EXPRESSWAY- 6 TO 8 LANES**



**EXHIBIT 2: URBAN ARTERIAL**



**EXHIBIT 3: ARTERIAL**



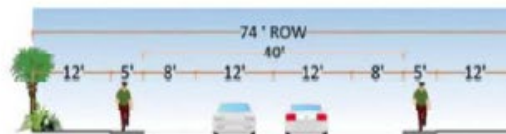
**EXHIBIT 4: MAJOR - 4 LANES**



**EXHIBIT 5: SECONDARY**

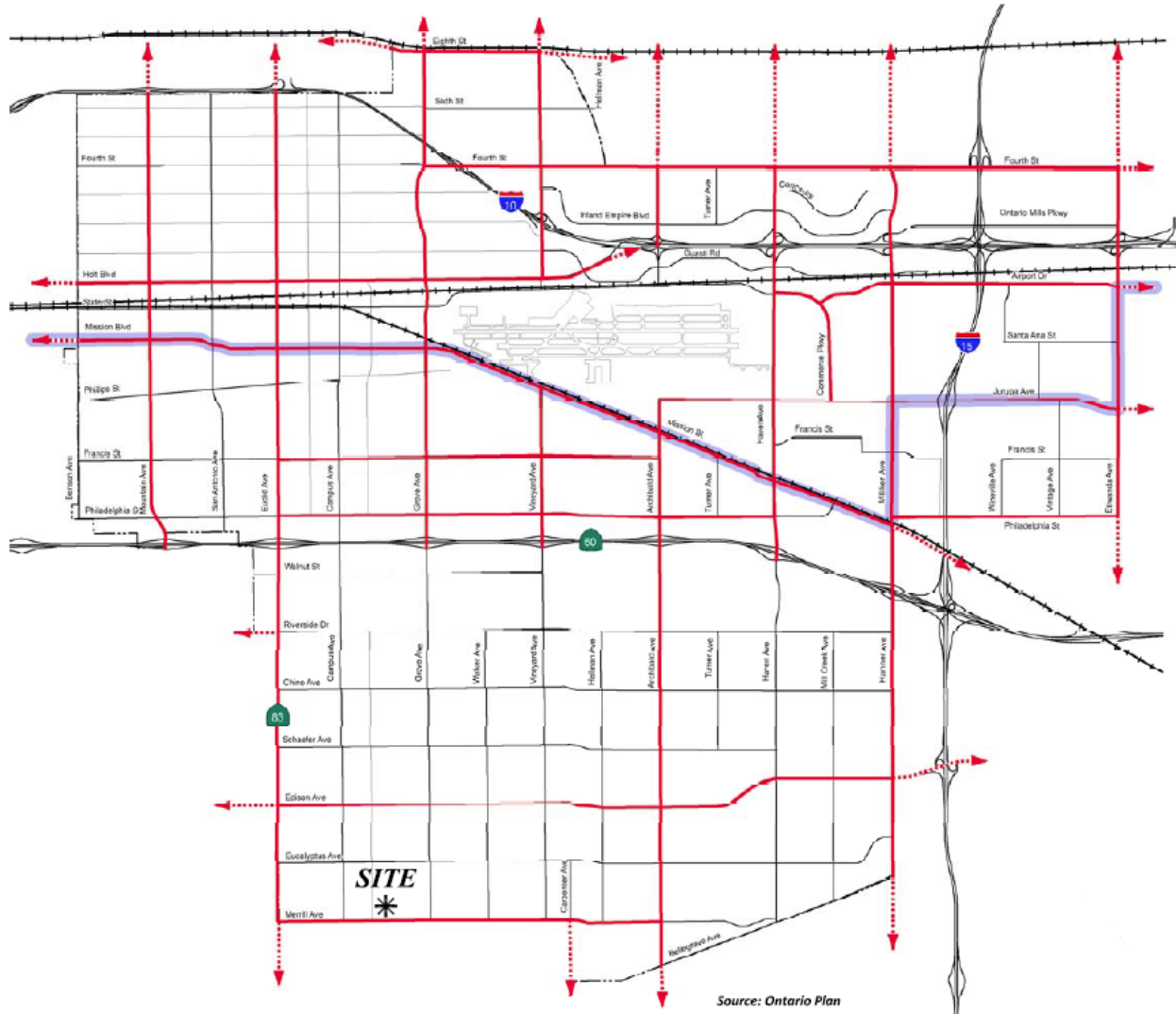


**EXHIBIT 6: INDUSTRIAL COLLECTOR**



**EXHIBIT 7: COLLECTOR**

**EXHIBIT 3-10: CITY OF ONTARIO TRUCK ROUTES**



**LEGEND:**

- Truck Routes
- State of California DOT Extralegal Load Network
- +—+— Railroad
- - - - - Adjacent Agency Truck Route
- Existing Streets



The City of Chino designated truck route map is shown on Exhibit 3-11. Riverside Drive, Edison Avenue (SR-83), Merrill Avenue, Flight Avenue, and Hellman Avenue are some of the designated City of Chino truck routes within the study area while Euclid Avenue (SR-83) is designated as a State Truck Route. The designated truck route map has been utilized to route study area truck traffic.

### **3.5 BICYCLE, EQUESTRIAN, & PEDESTRIAN FACILITIES**

Field observations indicate nominal pedestrian and bicycle activity within the study area. Exhibit 3-12 illustrates the City of Ontario future planned bicycle facilities, which proposes Class II and Multipurpose Trails along Merrill Avenue and Campus Avenue adjacent to the Project and the Cucamonga Creek Multipurpose Trail located east of the Project. A Multipurpose Trail is also proposed along Grove Avenue. Exhibit 3-13 illustrates City of Chino future bicycle facilities, which proposes Class I bicycle facilities along Hellman Avenue and Kimball Avenue near the vicinity of the site and Class II or II bicycle facilities along Euclid Avenue (SR-83). Exhibit 3-14 illustrates the City of Eastvale trails and bikeway systems. Existing pedestrian facilities within the study area are shown on Exhibit 3-15.

### **3.6 TRANSIT SERVICE**

The study area within the City of Ontario is currently served by Omnitrans, a public transit agency serving various jurisdictions within San Bernardino County. Based on a review of the existing transit routes within the vicinity of the proposed Project, Omnitrans Route 81 operates on Riverside Drive north of the site. However, there are no existing bus routes near the vicinity of the Project. The Riverside Transit Authority (RTA) serves the City of Eastvale (and other areas of Riverside County). Transit service is reviewed and updated by Omnitrans periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. As such, it is recommended that the applicant work in conjunction with Omnitrans to potentially provide additional bus service to the site. Existing transit routes in the vicinity of the study area are illustrated on Exhibit 3-16.

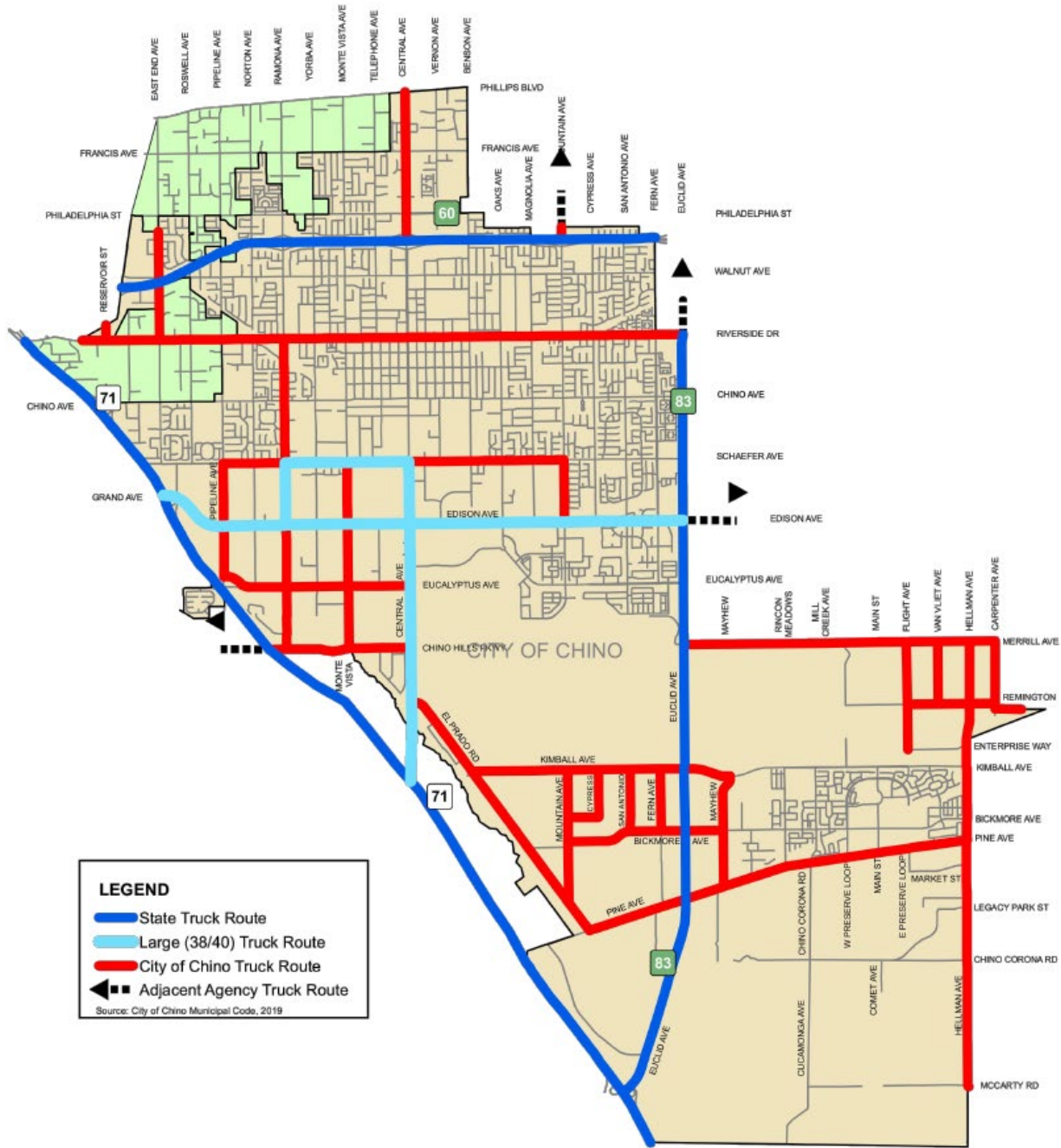
### **3.7 EXISTING TRAFFIC COUNTS**

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in January 2019. Historic traffic counts have been utilized for this analysis in an effort to be consistent with other traffic studies along the Merrill Avenue corridor. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

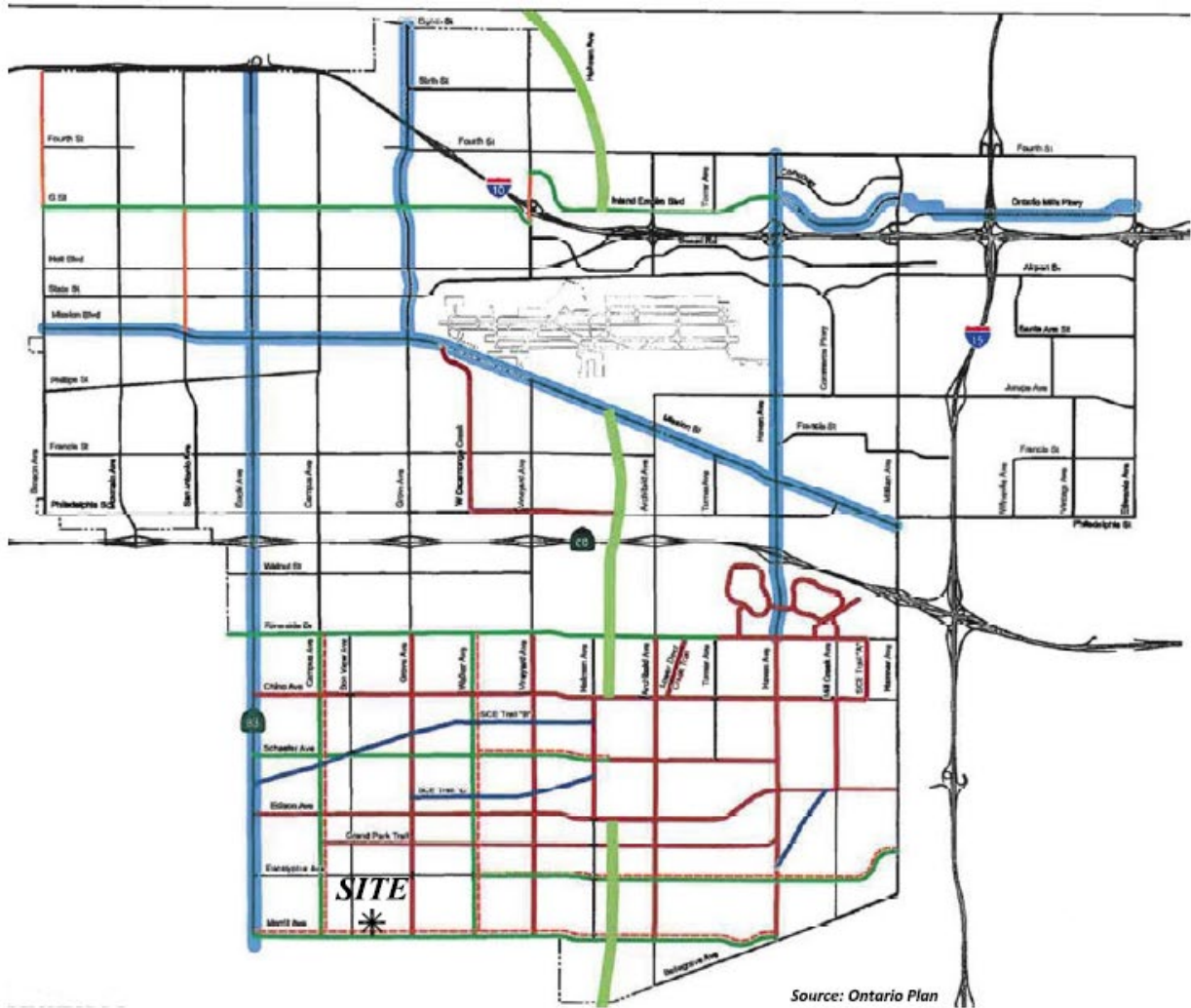


EXHIBIT 3-11: CITY OF CHINO TRUCK ROUTES



SOURCE: CITY OF CHINO GENERAL PLAN

EXHIBIT 3-12: CITY OF ONTARIO GENERAL PLAN TRAILS AND BIKEWAY SYSTEMS



Source: Ontario Plan

**LEGEND:**

- Freeways
- Backbone Street System
- Multipurpose Trail
- - - Class II & Multipurpose Trail
- Class II
- Class III
- SCE Trails
- Cucamonga Creek Multipurpose Trail
- Bicycle Corridors



EXHIBIT 3-13: CITY OF CHINO FUTURE BICYCLE FACILITIES

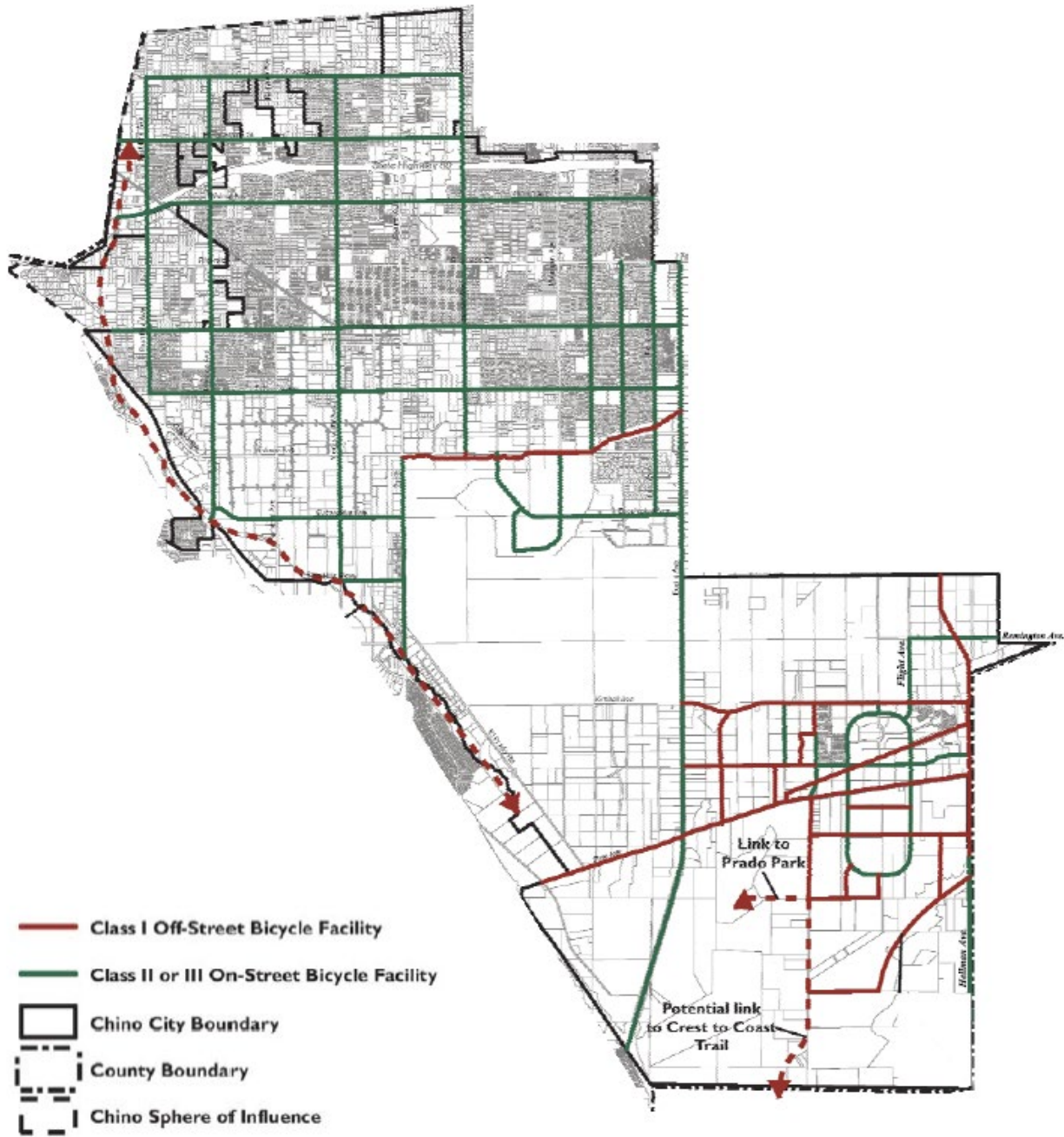




EXHIBIT 3-14: EASTVALE AREA TRAILS AND BIKEWAYS

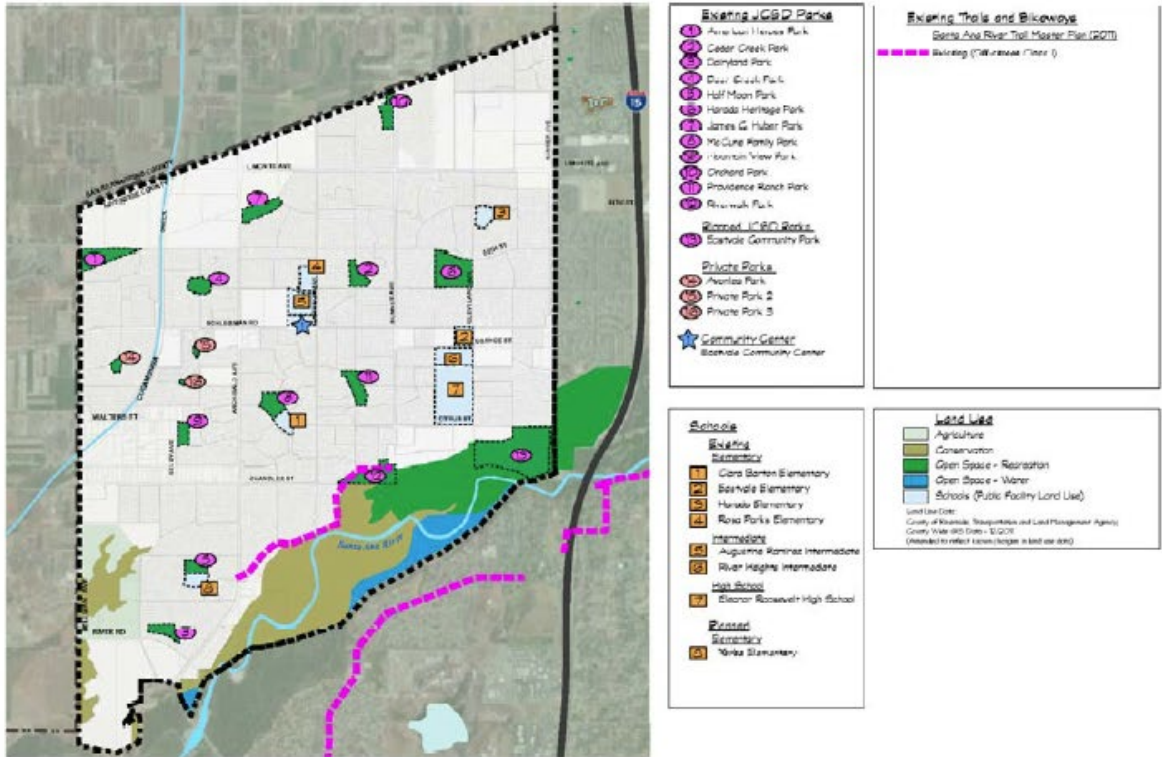


Exhibit 2.8-1 Existing Trails

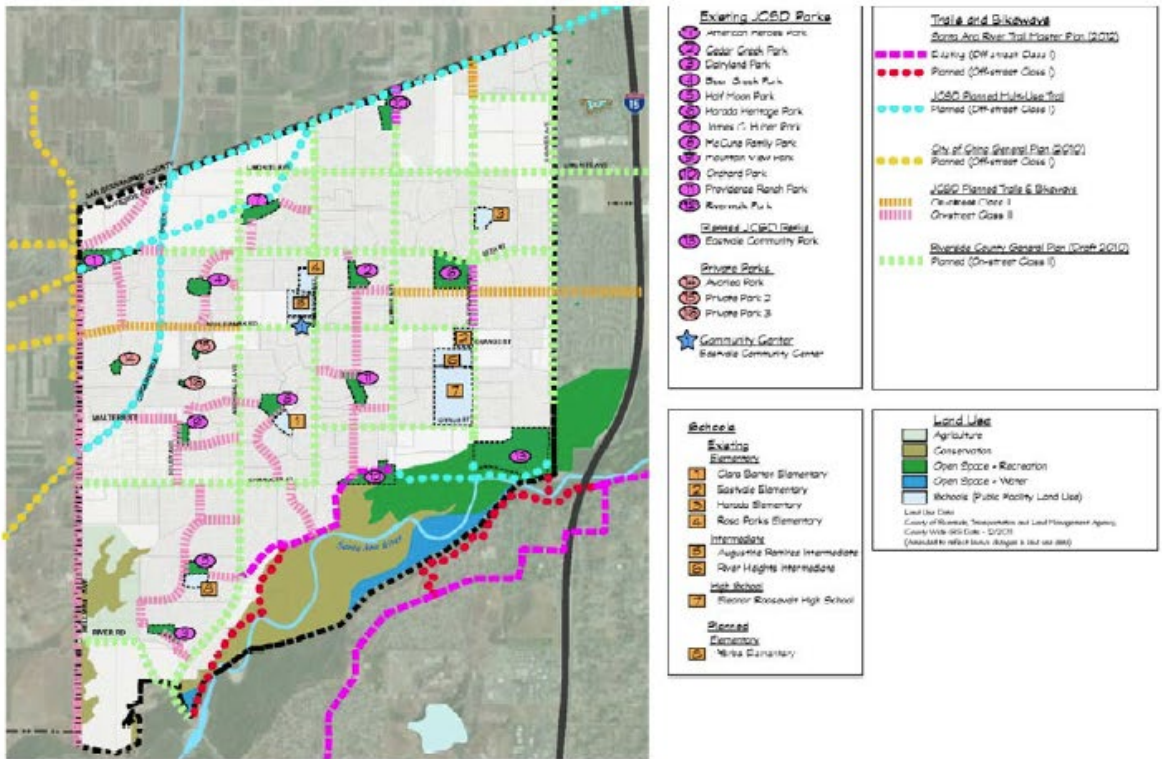
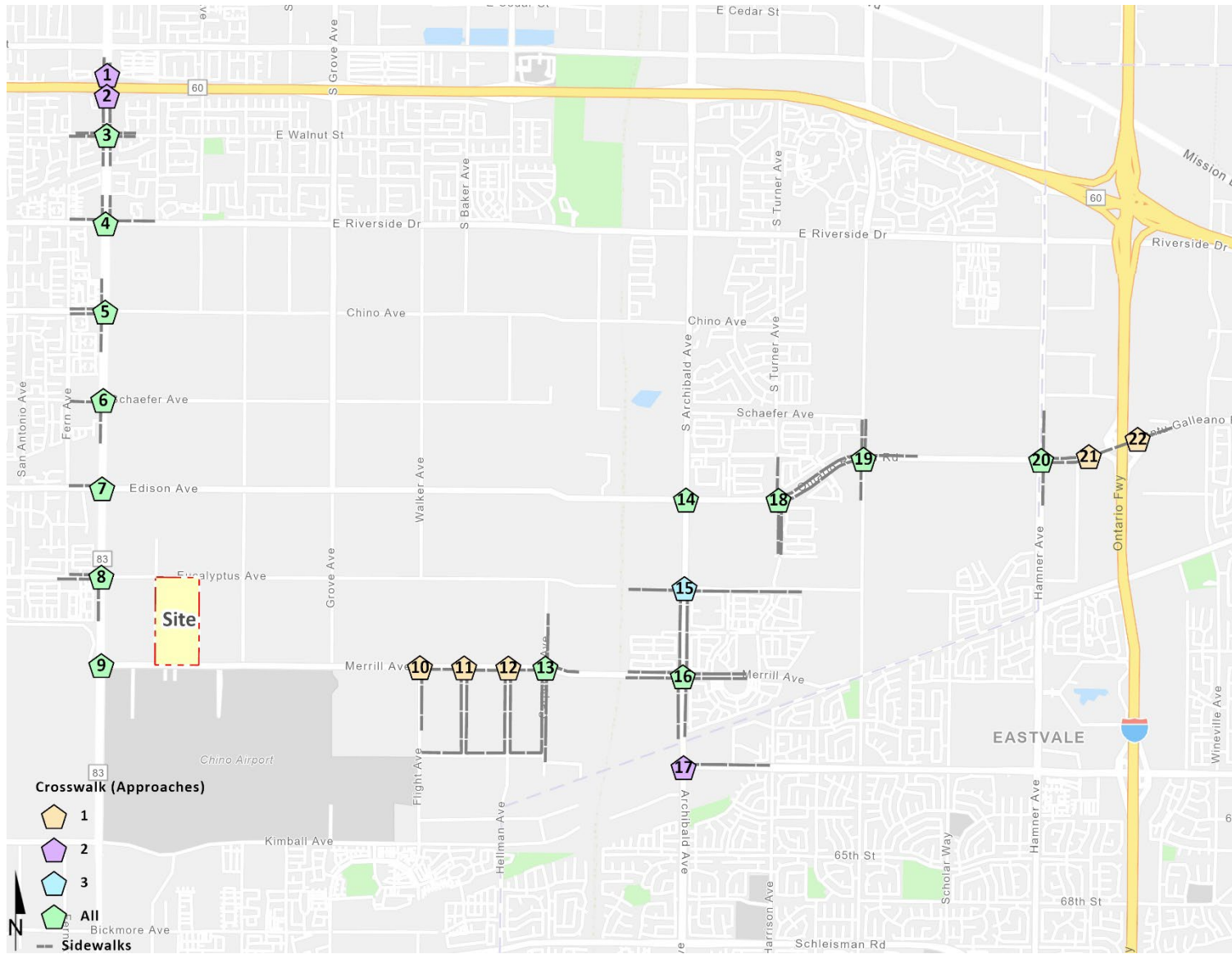
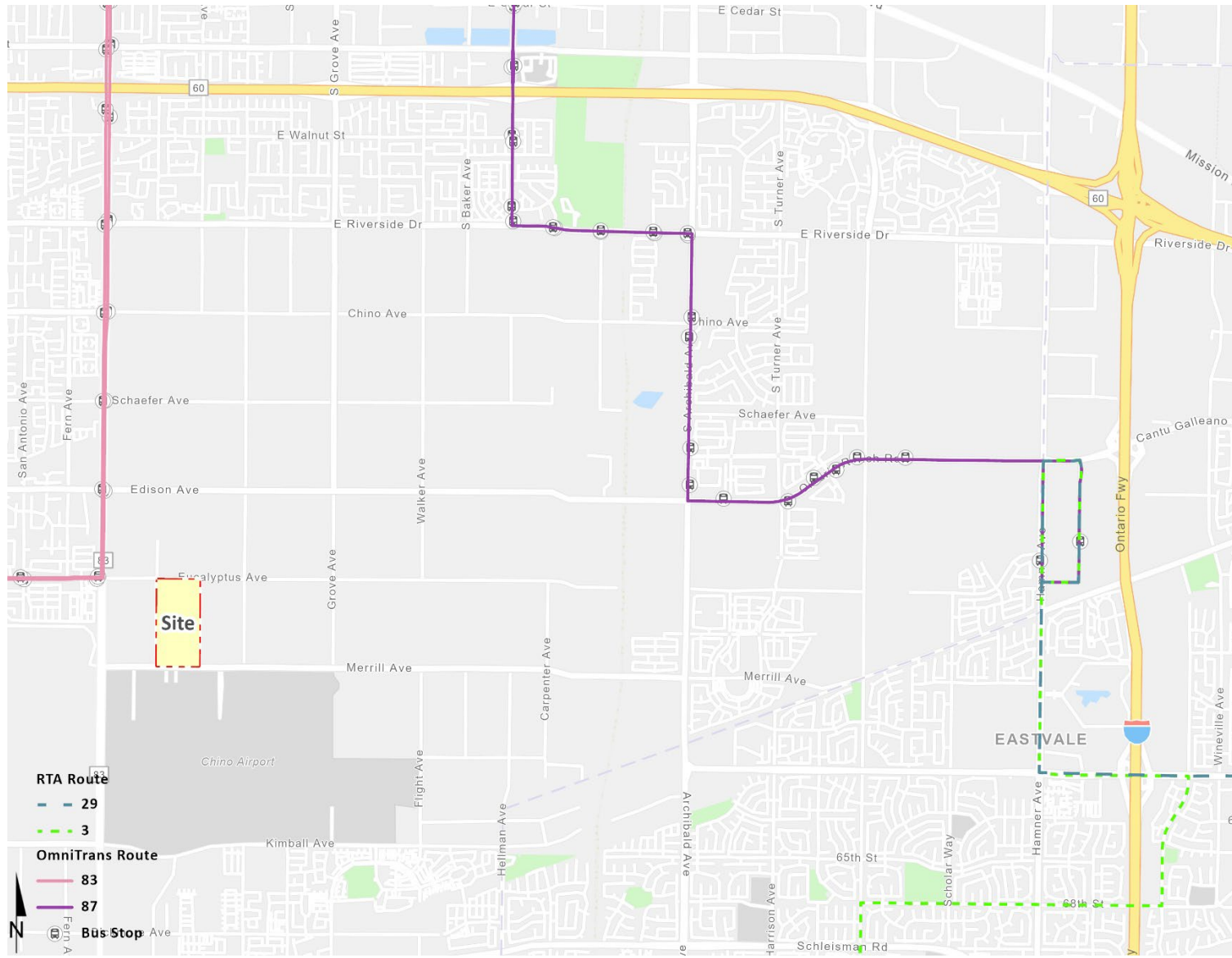


Exhibit 2.8-2 Planned Trails

**EXHIBIT 3-15: EXISTING PEDESTRIAN FACILITIES**



**EXHIBIT 3-16: EXISTING TRANSIT ROUTES**



The weekday AM and weekday PM peak hour count data is representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

The traffic counts collected in January 2019 include the following vehicle classifications: Passenger Cars, 2-Axle Trucks, 2-Axle Trucks, and 4 or More Axle Trucks. To represent the effect of large trucks, buses and recreational vehicles have on traffic flow; all trucks were converted into passenger car equivalent (PCE). By their size alone, these vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow-down is much longer than for passenger cars and varies depending on the type of vehicle and number of axles. For the purpose of this analysis, a PCE factor of 1.5 has been applied to 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4+-axle trucks to estimate each turning movement. These factors are consistent with the values recommended for use in the CMP.

Due to the school and business closures associated with the currently ongoing COVID-19 pandemic, traffic counts were not collected since the traffic volumes would likely be understated. As such and pursuant to discussions with City staff, a 5% per year growth rate for turning movements along major roadways (i.e., Archibald Avenue, Euclid Avenue, Limonite Avenue) and a 2% per year growth rate for all other movements have been utilized to conservatively reflect 2021 conditions.

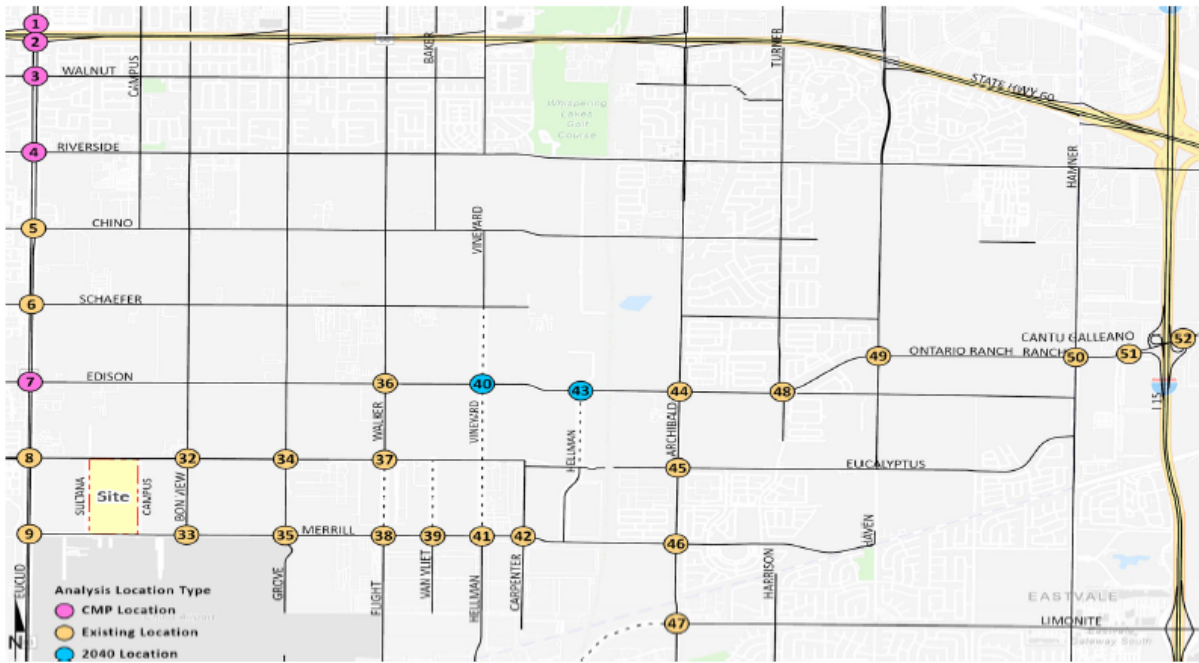
Existing weekday ADT volumes are shown on Exhibit 3-17. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 12.55 = \text{Leg Volume}$$

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 7.97 percent. As such, the above equation utilizing a factor of 12.55 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 7.97 percent (i.e.,  $1/0.0797 = 12.55$ ) and was assumed to sufficiently estimate average daily traffic (ADT) volumes for planning-level analyses. Existing weekday AM and weekday PM peak hour intersection volumes (in actual vehicles) are shown on Exhibit 3-17. The peak hour operations analyses utilize PCE volumes per the City's Traffic Study Guidelines (PCE volumes are included in the appendices with the HCM operations analysis worksheets for each applicable analysis scenario).



EXHIBIT 3-17: EXISTING (2021) TRAFFIC VOLUMES (1 OF 3)



1	2	3	4	5
<b>Euclid Av. (SR-83) &amp; SR-60 WB Ramps</b> 35,000 10,800 8,300 32,850	<b>Euclid Av. (SR-83) &amp; SR-60 EB Ramps</b> 32,900 9,700 7,900 32,250	<b>Euclid Av. (SR-83) &amp; Walnut Av.</b> 31,800 16,050 16,450 29,300	<b>Euclid Av. (SR-83) &amp; Riverside Dr.</b> 26,550 18,400 16,550 27,000	<b>Euclid Av. (SR-83) &amp; Chino Av.</b> 26,400 9,100 7,850 28,850
<b>6</b> <b>Euclid Av. (SR-83) &amp; Schaefer Av.</b> 29,850 6,750 12,650 29,450	<b>7</b> <b>Euclid Av. (SR-83) &amp; Edison Av.</b> 31,250 10,900 17,800 31,500	<b>8</b> <b>Euclid Av. (SR-83) &amp; Eucalyptus Av.</b> 29,900 3,150 7,550 31,500	<b>9</b> <b>Euclid Av. (SR-83) &amp; Merrill Av.</b> 32,350 9,950 700 32,600	<b>33</b> <b>Bon View Av. &amp; Merrill Av.</b> 2,100 11,200 11,650 32,600
<b>34</b> <b>Grove Av. &amp; Eucalyptus Av.</b> 7,950 1,450 3,600 7,450	<b>35</b> <b>Grove Av. &amp; Merrill Av.</b> 7,000 12,150 11,200 11,200	<b>36</b> <b>Walker Av. &amp; Edison Av.</b> 1,700 13,700 12,250 1,000	<b>37</b> <b>Walker Av &amp; Eucalyptus Av</b> 950 1,400 1,550 1,550	<b>38</b> <b>Walker Av./Flight Av. &amp; Merrill Av.</b> 1,400 11,800 11,850 4,950

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

EXHIBIT 3-17: EXISTING (2021) TRAFFIC VOLUMES (2 OF 3)

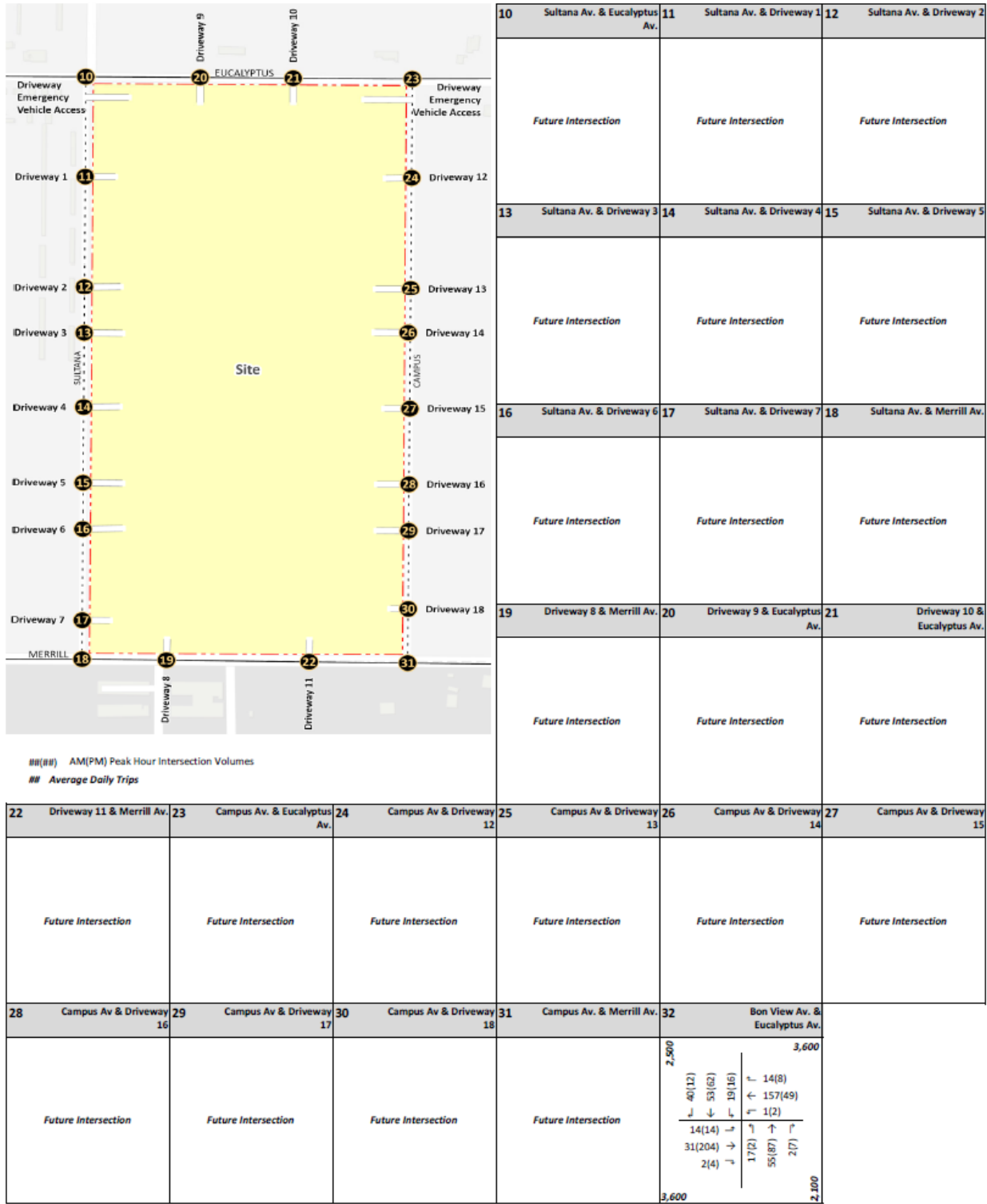
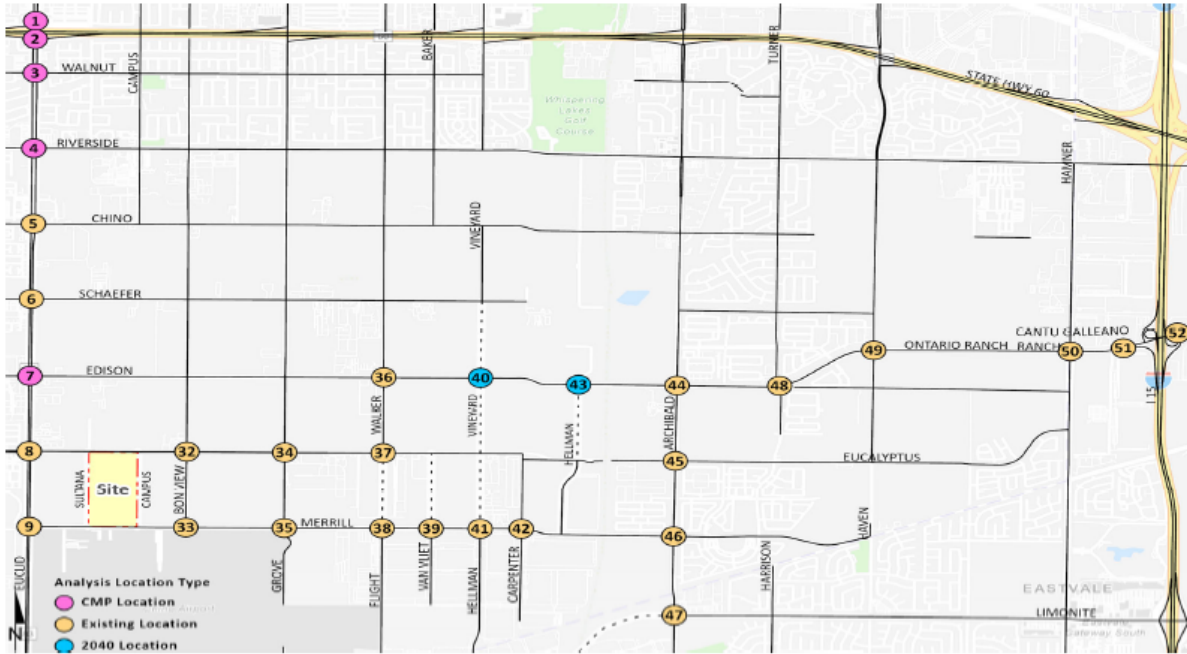


EXHIBIT 3-17: EXISTING (2021) TRAFFIC VOLUMES (3 OF 3)



39	40	41	42	43
Van Vliet Av./Baker Av. & Merrill Av.	Vineyard Av. & Edison Av.	Vineyard Av./Hellman Av. & Merrill Av.	Carpenter Av. & Merrill Av.	Hellman Av. & Edison Av.
<p>12,000</p> <p>↑ 561(336)</p> <p>↑ 11(5)</p> <p>264(604) →</p> <p>17(3) ↓</p> <p>6(6)</p> <p>16(10)</p> <p>11,900</p> <p>300</p>	<p>Future Intersection</p>	<p>12,100</p> <p>← 563(346)</p> <p>281(616) →</p> <p>12,100</p>	<p>800</p> <p>13,200</p> <p>↑ 34(4)</p> <p>↑ 549(288)</p> <p>↑ 83(12)</p> <p>7(1)</p> <p>0(4)</p> <p>104(45)</p> <p>8(4)</p> <p>249(609)</p> <p>15(18)</p> <p>10(27)</p> <p>0(4)</p> <p>62(95)</p> <p>11,900</p> <p>2,000</p>	<p>Future Intersection</p>
44	45	46	47	48
Archibald Av. & Ontario Ranch Rd.	Archibald Av. & Eucalyptus Av.	Archibald Av. & Merrill Av.	Archibald Av. & Limonite Av.	Turner Av. & Ontario Ranch Rd.
<p>20,200</p> <p>18,100</p> <p>← 86(64)</p> <p>← 354(759)</p> <p>← 63(138)</p> <p>↑ 118(66)</p> <p>↑ 414(178)</p> <p>↑ 277(265)</p> <p>22(76)</p> <p>162(517)</p> <p>34(119)</p> <p>153(68)</p> <p>941(506)</p> <p>342(279)</p> <p>12,850</p> <p>25,050</p>	<p>25,050</p> <p>250</p> <p>← 644(1133)</p> <p>← 21(10)</p> <p>↑ 14(8)</p> <p>↑ 7(2)</p> <p>142(844)</p> <p>9(1)</p> <p>24,750</p> <p>24,850</p>	<p>3,700</p> <p>11,850</p> <p>← 175(135)</p> <p>← 452(955)</p> <p>← 32(74)</p> <p>↑ 122(48)</p> <p>↑ 43(23)</p> <p>↑ 72(44)</p> <p>149(207)</p> <p>16(69)</p> <p>84(396)</p> <p>411(116)</p> <p>11,08(555)</p> <p>35(40)</p> <p>11,850</p> <p>26,450</p>	<p>26,950</p> <p>18,300</p> <p>← 437(835)</p> <p>← 171(560)</p> <p>↑ 773(243)</p> <p>↑ 261(313)</p> <p>798(508)</p> <p>281(344)</p> <p>25,100</p>	<p>19,600</p> <p>1,450</p> <p>← 57(21)</p> <p>← 15(7)</p> <p>← 29(26)</p> <p>↑ 16(12)</p> <p>↑ 821(521)</p> <p>↑ 35(29)</p> <p>24(43)</p> <p>455(939)</p> <p>28(38)</p> <p>50(25)</p> <p>24(7)</p> <p>34(33)</p> <p>19,950</p> <p>1,750</p>
49	50	51	52	
Haven Av. & Ontario Ranch Rd.	Hamner Av. & Ontario Ranch Rd.	I-15 SB Ramps & Cantu Galleano Ranch Rd.	I-15 NB Ramps & Cantu Galleano Ranch Rd.	
<p>10,850</p> <p>19,650</p> <p>59(109)</p> <p>53(258)</p> <p>115(168)</p> <p>↑ 80(129)</p> <p>↑ 677(438)</p> <p>↑ 18(53)</p> <p>130(112)</p> <p>484(754)</p> <p>26(65)</p> <p>56(21)</p> <p>189(87)</p> <p>76(23)</p> <p>18,800</p> <p>6,350</p>	<p>23,000</p> <p>29,900</p> <p>58(93)</p> <p>184(796)</p> <p>123(437)</p> <p>↑ 171(78)</p> <p>↑ 628(367)</p> <p>↑ 235(583)</p> <p>83(60)</p> <p>460(684)</p> <p>78(271)</p> <p>163(199)</p> <p>163(199)</p> <p>471(235)</p> <p>21,000</p> <p>30,750</p>	<p>19,450</p> <p>25,650</p> <p>920(886)</p> <p>257(261)</p> <p>↑ 130(402)</p> <p>↑ 475(416)</p> <p>845(964)</p> <p>275(477)</p> <p>19,450</p> <p>6,000</p>	<p>20,350</p> <p>378(629)</p> <p>308(252)</p> <p>367(548)</p> <p>735(677)</p> <p>228(188)</p> <p>239(191)</p> <p>25,650</p> <p>16,450</p>	

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

**TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2021) CONDITIONS**

#	Intersection	Traffic Control <sup>3</sup>	Delay <sup>2</sup> (secs.)		Level of Service		Jurisdiction(s) / LOS Standard <sup>4</sup>
			AM	PM	AM	PM	
1	Euclid Av. (SR-83) & SR-60 WB Ramps	TS	22.4	19.1	C	B	Ontario, Caltrans / LOS D
2	Euclid Av. (SR-83) & SR-60 EB Ramps	TS	27.9	22.8	C	C	Ontario, Caltrans / LOS D
3	Euclid Av. (SR-83) & Walnut Av.	TS	31.8	34.9	C	C	Ontario, Caltrans / LOS E
4	Euclid Av. (SR-83) & Riverside Dr.	TS	51.9	61.6	D	E	Chino, Ontario, Caltrans / LOS D
5	Euclid Av. (SR-83) & Chino Av.	TS	22.8	24.6	C	C	Chino, Ontario, Caltrans / LOS D
6	Euclid Av. (SR-83) & Schaefer Av.	TS	26.0	29.0	C	C	Chino, Ontario, Caltrans / LOS D
7	Euclid Av. (SR-83) & Edison Av.	TS	41.4	43.9	D	D	Chino, Ontario, Caltrans / LOS D
8	Euclid Av. (SR-83) & Eucalyptus Av.	TS	14.8	14.2	B	B	Chino, Ontario, Caltrans / LOS D
9	Euclid Av. (SR-83) & Merrill Av.	TS	29.7	35.9	C	D	Chino, Ontario, Caltrans / LOS D
10	Sultana Av. & Eucalyptus Av.		Future Intersection				Ontario / LOS E
11	Sultana Av. & Driveway 1		Future Intersection				Ontario / LOS E
12	Sultana Av. & Driveway 2		Future Intersection				Ontario / LOS E
13	Sultana Av. & Driveway 3		Future Intersection				Ontario / LOS E
14	Sultana Av. & Driveway 4		Future Intersection				Ontario / LOS E
15	Sultana Av. & Driveway 5		Future Intersection				Ontario / LOS E
16	Sultana Av. & Driveway 6		Future Intersection				Ontario / LOS E
17	Sultana Av. & Driveway 7		Future Intersection				Ontario / LOS E
18	Sultana Av. & Merrill Av.		Future Intersection				Chino, Ontario / LOS D
19	Driveway 8 & Merrill Av.		Future Intersection				Chino, Ontario / LOS D
20	Driveway 9 & Eucalyptus Av.		Future Intersection				Ontario / LOS E
21	Driveway 10 & Eucalyptus Av.		Future Intersection				Ontario / LOS E
22	Driveway 11 & Merrill Av.		Future Intersection				Chino, Ontario / LOS D
23	Campus Av. & Eucalyptus Av.		Future Intersection				Chino, Caltrans / LOS D
24	Campus Av & Driveway 12		Future Intersection				Ontario / LOS E
25	Campus Av & Driveway 13		Future Intersection				Ontario / LOS E
26	Campus Av & Driveway 14		Future Intersection				Ontario / LOS E
27	Campus Av & Driveway 15		Future Intersection				Ontario / LOS E
28	Campus Av & Driveway 16		Future Intersection				Ontario / LOS E
29	Campus Av & Driveway 17		Future Intersection				Ontario / LOS E
30	Campus Av & Driveway 18		Future Intersection				Ontario / LOS E
31	Campus Av. & Merrill Av.		Future Intersection				Chino, Caltrans / LOS D
32	Bon View Av. & Eucalyptus Av.	AWS	8.8	9.1	A	A	Ontario / LOS E
33	Bon View Av. & Merrill Av.	CSS	17.1	24.2	C	C	Chino, Ontario / LOS D
34	Grove Av. & Eucalyptus Av.	AWS	12.3	>100.0	B	F	Ontario / LOS E
35	Grove Av. & Merrill Av.	AWS	54.8	48.5	F	E	Chino, Ontario / LOS D
36	Walker Av. & Edison Av.	AWS	19.7	46.7	C	E	Ontario / LOS E
37	Walker Av & Eucalyptus Av.	CSS	10.4	10.2	B	B	Ontario / LOS E
38	Walker Av./Flight Av. & Merrill Av.	CSS	27.7	26.0	D	D	Chino, Ontario / LOS D
39	Van Vliet Av./Baker Av. & Merrill Av.	CSS	11.6	14.1	B	B	Ontario / LOS E
40	Vineyard Av. & Edison Av.		Future Intersection				Ontario / LOS E
41	Vineyard Av./Hellman Av. & Merrill Av.	CSS	0.0	0.0	A	A	Chino, Ontario / LOS D
42	Carpenter Av. & Merrill Av.	AWS	81.8	86.0	F	F	Chino, Ontario / LOS D



#	Intersection	Traffic Control <sup>3</sup>	Delay <sup>2</sup> (secs.)		Level of Service		Jurisdiction(s) / LOS Standard <sup>4</sup>
			AM	PM	AM	PM	
43	Hellman Av. & Edison Av.		Future Intersection				Ontario / LOS E
44	Archibald Av. & Ontario Ranch Rd.	TS	33.9	28.4	C	C	Ontario / LOS E
45	Archibald Av. & Eucalyptus Av.	TS	6.1	3.3	A	A	Ontario / LOS E
46	Archibald Av. & Merrill Av.	TS	32.1	31.1	C	C	Ontario / LOS E
47	Archibald Av. & Limonite Av.	TS	<b>64.1</b>	23.1	E	C	Eastvale / LOS D
48	Turner Av. & Ontario Ranch Rd.	TS	16.8	14.9	B	B	Ontario / LOS E
49	Haven Av. & Ontario Ranch Rd.	TS	24.1	23.0	C	C	Ontario / LOS E
50	Hamner Av. & Ontario Ranch Rd.	TS	47.1	<b>123.6</b>	D	F	Eastvale, Ontario / LOS D
51	I-15 SB Ramps & Cantu Galleano Ranch Rd.	TS	15.2	13.3	B	B	Eastvale, Caltrans / LOS D
52	I-15 NB Ramps & Cantu Galleano Ranch Rd.	TS	20.3	12.8	C	B	Jurupa Valley, Caltrans / LOS D

**BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; d= Defacto Right Turn Lane

<sup>2</sup> Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal

<sup>4</sup> Minimum acceptable LOS for each applicable jurisdiction.

### 3.8 INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized on Table 3-1, which indicates that all existing study area intersections are currently operating at acceptable LOS during the peak hours with exception to the following:

- Euclid Avenue (SR-83) & Riverside Drive (#4) – LOS E PM peak hour only
- Grove Avenue & Eucalyptus Avenue (#34) – LOS F PM peak hour only
- Grove Avenue & Merrill Avenue (#35) – LOS F AM peak hour; LOS E PM peak hour
- Carpenter Avenue & Merrill Avenue (#42) – LOS F AM and PM peak hours
- Archibald Avenue & Limonite Avenue (#47) – LOS E AM peak hour only
- Hamner Avenue & Ontario Ranch Road (#50) – LOS F PM peak hour only

The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

### 3.9 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. The following study area intersections currently warrant a traffic signal for Existing traffic conditions:

- Grove Avenue & Eucalyptus Avenue (#34)
- Grove Avenue & Merrill Avenue (#35)

- Walker Avenue/Flight Avenue & Merrill Avenue (#38)
- Carpenter Avenue & Merrill Avenue (#42)

Existing conditions traffic signal warrant analysis worksheets are provided in Appendix 3.3.

### 3.10 OFF-RAMP QUEUING ANALYSIS

A queuing analysis was performed for the off-ramps at the study area intersections along the SR-60 Freeway, and I-15 Freeway to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially “spill back” onto the SR-60, and I-15 Freeway mainlines. Queuing analysis findings are presented on Table 3-2. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown on Table 3-2, there are no movements that are currently experiencing queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows. Worksheets for Existing traffic conditions off-ramp queuing analysis are provided in Appendix 3.4.

**TABLE 3-2: PEAK HOUR FREEWAY OFF-RAMP QUEUING SUMMARY FOR EXISTING (2021) CONDITIONS**

#	Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet) <sup>3</sup>		Acceptable? <sup>1</sup>	
				AM Peak Hour	PM Peak Hour	AM	PM
1	Euclid Avenue (SR-83) & SR-60 WB Ramps	WBL	400	323 <sup>2</sup>	287	Yes	Yes
		WBL/T/R	1,430	331 <sup>2</sup>	294	Yes	Yes
		WBR	400	216	217	Yes	Yes
2	Euclid Avenue (SR-83) & SR-60 EB Ramps	EBL	900	386 <sup>2</sup>	375 <sup>2</sup>	Yes	Yes
		EBT/R	1,270	303 <sup>2</sup>	315 <sup>2</sup>	Yes	Yes
51	I-15 SB Ramps & Cantu Galleano	SBL	1,440	110	94	Yes	Yes
		SBL/R	560	371 <sup>2</sup>	204	Yes	Yes
		SBR	460	280 <sup>2</sup>	183	Yes	Yes
52	I-15 NB Ramps & Cantu Galleano	NBL	1,680	91	67	Yes	Yes
		NBR	440	52	45	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

<sup>2</sup> 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

<sup>3</sup> Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the SR-60, SR-71, or I-15 Freeway mainline.

## 4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network. The proposed Project is anticipated to be developed by the Year 2023 in a single phase.

The proposed Project includes the following mix of land uses are assumed, which represent a reasonable mix of industrial and business park uses that would be permitted by the Project:

- Industrial: 913,053 square feet of high-cube fulfillment center warehouse use, 179,135 square feet of high-cube cold storage warehouse, and 320,551 square feet of general warehousing use.
- Business Park: 227,951 square feet of a mix of uses including merchant wholesale, professional services, professional office, warehouse/storage, and research and development uses (as would fall under ITE Land Use Code 130).
- **Total of 1,640,690 square feet**

### 4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

Trip generation rates for the Project are shown on Table 4-1 for both actual vehicles and PCE. The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project in actual vehicles and PCE are shown in Table 4-2 and Table 4-3, respectively. The trip generation rates used for this analysis are based upon information collected by the ITE as provided in their Trip Generation Manual (10<sup>th</sup> Edition, 2017) and the High-Cube Warehouse Trip Generation Study (WSP, January 29, 2019). (3) (4)

**TABLE 4-1: PROJECT TRIP GENERATION RATES**

Land Use <sup>1</sup>	Units <sup>2</sup>	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
<b>Actual Vehicle Trip Generation Rates</b>									
High-Cube Fulfillment Center Warehouse <sup>3</sup>	TSF	--	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks			0.006	0.002	0.008	0.003	0.008	0.011	0.162
5+ Axle Trucks			0.008	0.003	0.011	0.003	0.007	0.010	0.217
High-Cube Cold Storage Warehouse <sup>5</sup>	TSF	157	0.085	0.025	0.110	0.032	0.088	0.120	2.120
Passenger Cars			0.062	0.018	0.080	0.025	0.067	0.092	1.378
2-Axle Trucks			0.008	0.002	0.010	0.003	0.007	0.010	0.257
3-Axle Trucks			0.003	0.001	0.003	0.001	0.002	0.003	0.082
4+ Axle Trucks			0.012	0.004	0.016	0.004	0.011	0.015	0.403
Business Park <sup>4,5</sup>	TSF	130	0.324	0.076	0.400	0.084	0.316	0.400	3.370
Passenger Cars			0.285	0.067	0.352	0.076	0.284	0.360	2.865
2-Axle Trucks			0.006	0.002	0.008	0.001	0.005	0.007	0.084
3-Axle Trucks			0.008	0.002	0.010	0.002	0.007	0.008	0.105
4+ Axle Trucks			0.024	0.006	0.030	0.005	0.020	0.025	0.316
Warehousing <sup>6</sup>	TSF	150	0.131	0.039	0.170	0.051	0.139	0.190	1.740
Passenger Cars			0.114	0.034	0.148	0.044	0.118	0.162	1.270
2-Axle Trucks			0.003	0.001	0.004	0.001	0.003	0.005	0.078
3-Axle Trucks			0.004	0.001	0.005	0.002	0.004	0.006	0.097
4+ Axle Trucks			0.011	0.003	0.014	0.005	0.013	0.018	0.294
<b>Passenger Car Equivalent (PCE) Trip Generation Rates<sup>5</sup></b>									
High-Cube Fulfillment Center Warehouse <sup>3</sup>	TSF	--	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (PCE = 2.0)			0.012	0.004	0.016	0.006	0.016	0.022	0.324
5+ Axle Trucks (PCE = 3.0)			0.025	0.008	0.033	0.008	0.022	0.030	0.651
High-Cube Cold Storage Warehouse <sup>5</sup>	TSF	157	0.085	0.025	0.110	0.032	0.088	0.120	2.120
Passenger Cars			0.062	0.018	0.080	0.025	0.067	0.092	1.378
2-Axle Trucks (PCE = 1.5)			0.012	0.004	0.015	0.004	0.010	0.014	0.386
3-Axle Trucks (PCE = 2.0)			0.005	0.002	0.007	0.002	0.004	0.006	0.163
4+ Axle Trucks (PCE = 3.0)			0.037	0.011	0.048	0.012	0.033	0.045	1.209
Business Park <sup>4,5</sup>	TSF	130	0.324	0.076	0.400	0.084	0.316	0.400	3.370
Passenger Cars			0.285	0.067	0.352	0.076	0.284	0.360	2.865
2-Axle Trucks (PCE = 1.5)			0.010	0.002	0.012	0.002	0.008	0.010	0.127
3-Axle Trucks (PCE = 2.0)			0.016	0.004	0.020	0.003	0.013	0.017	0.209
4+ Axle Trucks (PCE = 3.0)			0.073	0.017	0.090	0.016	0.059	0.075	0.949
Warehousing <sup>6</sup>	TSF	150	0.131	0.039	0.170	0.051	0.139	0.190	1.740
Passenger Cars			0.114	0.034	0.148	0.044	0.118	0.162	1.270
2-Axle Trucks (PCE = 1.5)			0.004	0.001	0.006	0.002	0.005	0.007	0.118
3-Axle Trucks (PCE = 2.0)			0.007	0.002	0.009	0.003	0.009	0.012	0.194
4+ Axle Trucks (PCE = 3.0)			0.032	0.010	0.042	0.014	0.039	0.054	0.882

<sup>1</sup> Trip Generation Source: Institute of Transportation Engineers (ITE), *Trip Generation Manual*, Tenth Edition (2017).

<sup>2</sup> TSF = thousand square feet

<sup>3</sup> Vehicle Mix Source: *High Cube Warehouse Trip Generation Study*, WSP, January 29, 2019.

Inbound and outbound split source: *High Cube Warehouse Vehicle Trip Generation Analysis*, October 2016, ITE.

<sup>4</sup> The Specific Plan allows for the Business Park area to be developed with merchant wholesale, professional services, professional office, warehouse/storage, and research and development uses. However, the Business Park (ITE Land Use Code 770) land use has trip generation rates for the peak hours is based on limited data (i.e., one surveyed site). As such, the trip generation rates for ITE Land Use Code 130 has been utilized for the business park portion of the Project.

<sup>5</sup> Vehicle Mix Source: ITE *Trip Generation Handbook Supplement* (2020), Appendix C.

Vehicle Mix Source: Institute of Transportation Engineers (ITE), *Trip Generation Handbook*, Third Edition (September 2017).

Truck Mix Source: South Coast Air Quality Management District (SCAQMD) *Warehouse Truck Trip Study Data Results and Usage* (2014).

Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.

Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

<sup>6</sup> Vehicle Mix Source: ITE *Trip Generation Handbook* (3rd Edition, 2017).

Truck Mix Source: South Coast Air Quality Management District (SCAQMD) *Warehouse Truck Trip Study Data Results and Usage* (2014).

**TABLE 4-2: PROJECT TRIP GENERATION SUMMARY (ACTUAL)**

Land Use	Quantity <sup>2</sup> Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
<b>Planning Area 1: Business Park</b>	227.951 TSF							
Passenger Cars:		65	15	80	17	65	82	654
2-axle Trucks:		1	0	1	0	1	1	20
3-axle Trucks:		2	0	2	0	1	1	24
4+-axle Trucks:		6	1	7	1	5	6	72
Total Truck:		9	1	10	1	7	8	116
<b>Planning Area 1: Total (Actual Vehicles)</b>		<b>74</b>	<b>16</b>	<b>90</b>	<b>18</b>	<b>72</b>	<b>90</b>	<b>770</b>
<b>Planning Area 2: Fulfillment Center Warehouse (65%)</b>	913.053 TSF							
Passenger Cars:		72	22	94	37	95	132	1,598
2-4 axle Trucks:		6	2	8	3	7	10	148
5+-axle Trucks:		8	2	10	3	7	10	198
Total Truck:		14	4	18	6	14	20	346
<b>Fulfillment Center Warehouse (Actual Vehicles)</b>		<b>86</b>	<b>26</b>	<b>112</b>	<b>43</b>	<b>109</b>	<b>152</b>	<b>1,944</b>
<b>Planning Area 2: High-Cube Cold Storage Warehouse (13%)</b>	179.135 TSF							
Passenger Cars:		11	3	14	4	12	16	248
2-axle Trucks:		1	0	1	0	1	1	46
3-axle Trucks:		0	0	0	0	0	0	16
4+-axle Trucks:		2	1	3	1	2	3	72
Total Truck:		3	1	4	1	3	4	134
<b>High-Cube Cold Storage Warehouse (Actual Vehicles)</b>		<b>14</b>	<b>4</b>	<b>18</b>	<b>5</b>	<b>15</b>	<b>20</b>	<b>382</b>
<b>Planning Area 2: Warehouse (22%)</b>	320.551 TSF							
Passenger Cars:		37	11	48	14	38	52	408
2-axle Trucks:		1	0	1	0	1	1	26
3-axle Trucks:		1	0	1	1	1	2	32
4+-axle Trucks:		3	1	4	2	4	6	94
Total Truck:		5	1	6	3	6	9	152
<b>Warehouse (Actual Vehicles)</b>		<b>42</b>	<b>12</b>	<b>54</b>	<b>17</b>	<b>44</b>	<b>61</b>	<b>560</b>
<b>Planning Area 2: Total (Actual Vehicles)</b>		<b>142</b>	<b>42</b>	<b>184</b>	<b>65</b>	<b>168</b>	<b>233</b>	<b>2,886</b>
<b>Passenger Cars</b>		<b>185</b>	<b>51</b>	<b>236</b>	<b>72</b>	<b>210</b>	<b>282</b>	<b>2,908</b>
<b>Trucks (Actual Vehicles)</b>		<b>31</b>	<b>7</b>	<b>38</b>	<b>11</b>	<b>30</b>	<b>41</b>	<b>748</b>
<b>Total (Actual Vehicles)</b>		<b>216</b>	<b>58</b>	<b>274</b>	<b>83</b>	<b>240</b>	<b>323</b>	<b>3,656</b>

<sup>1</sup> TSF = thousand square feet

**TABLE 4-3: PROJECT TRIP GENERATION SUMMARY (PCE)**

Land Use	Quantity <sup>2</sup> Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
<b>Planning Area 1: Business Park</b>	227.951 TSF							
Passenger Cars:		65	15	80	17	65	82	654
2-axle Trucks:		2	1	3	0	2	2	30
3-axle Trucks:		4	1	5	1	3	4	48
4+-axle Trucks:		17	4	21	4	14	18	216
Total Truck:		23	6	29	5	19	24	294
<b>Planning Area 1: Total (PCE)</b>		<b>88</b>	<b>21</b>	<b>109</b>	<b>22</b>	<b>84</b>	<b>106</b>	<b>948</b>
<b>Planning Area 2: Fulfillment Center Warehouse (65%)</b>	913.053 TSF							
Passenger Cars:		72	22	94	37	95	132	1,598
2-4 axle Trucks:		11	3	14	6	14	20	296
5+-axle Trucks:		23	7	30	8	20	28	594
Total Truck:		34	10	44	14	34	48	890
<b>Fulfillment Center Warehouse (PCE)</b>		<b>106</b>	<b>32</b>	<b>138</b>	<b>51</b>	<b>129</b>	<b>180</b>	<b>2,488</b>
<b>Planning Area 2: High-Cube Cold Storage Warehouse (13%)</b>	179.135 TSF							
Passenger Cars:		11	3	14	4	12	16	248
2-axle Trucks:		2	1	3	1	2	3	70
3-axle Trucks:		1	0	1	0	1	1	30
4+-axle Trucks:		7	2	9	2	6	8	218
Total Truck:		10	3	13	3	9	12	318
<b>High-Cube Cold Storage Warehouse (PCE)</b>		<b>21</b>	<b>6</b>	<b>27</b>	<b>7</b>	<b>21</b>	<b>28</b>	<b>566</b>
<b>Planning Area 2: Warehouse (22%)</b>	320.551 TSF							
Passenger Cars:		37	11	48	14	38	52	408
2-axle Trucks:		1	0	1	1	2	3	38
3-axle Trucks:		2	1	3	1	3	4	62
4+-axle Trucks:		10	3	13	5	13	18	284
Total Truck:		13	4	17	7	18	25	384
<b>Warehouse (PCE)</b>		<b>50</b>	<b>15</b>	<b>65</b>	<b>21</b>	<b>56</b>	<b>77</b>	<b>792</b>
<b>Planning Area 2: Total (PCE)</b>		<b>177</b>	<b>53</b>	<b>230</b>	<b>79</b>	<b>206</b>	<b>285</b>	<b>3,846</b>
Passenger Cars		185	51	236	72	210	282	2,908
Trucks (PCE)		80	23	103	29	80	109	1,886
<b>Total (PCE)</b>		<b>265</b>	<b>74</b>	<b>339</b>	<b>101</b>	<b>290</b>	<b>391</b>	<b>4,794</b>

<sup>1</sup> TSF = thousand square feet

For purposes of this analysis, the following ITE land use codes and vehicle mixes have been utilized:

- High-Cube Fulfillment Center Warehouse has been used to derive site specific trip generation estimates for up to 913,053 square feet of the proposed Project. The ITE Trip Generation Manual (2017) has trip generation rates for high-cube fulfillment center use (ITE land use code 155), however, these rates are unreliable because they are based on limited data (i.e., one to two surveyed sites) and the ITE Trip Generation Manual recommends the use of local data sources where available. As such, the trip-generation statistics published in the High-Cube Warehouse Trip Generation Study (WSP, January 29, 2019) which was commissioned by the Western Riverside Council of Governments (WRCOG) in support of the Transportation Uniform Mitigation Fee (TUMF) update, has been utilized for the high-cube fulfillment center use. The WSP trip generation rates were published in January 2019 and are based on data collected at 11 local high-cube fulfillment center sites. However, the WSP study does not include a split for inbound and outbound vehicles, as such, the inbound and outbound splits per the ITE High-Cube Warehouse Vehicle Trip Generation Analysis (October 2016) have been utilized. (11)
- ITE land use code 150 (Warehousing) has been used to derive site specific trip generation estimates for up to 320,551 square feet of the proposed Project. The vehicle mix has been obtained from the ITE's Trip Generation Manual Supplement (dated February 2020). (12) This study provides the following vehicle mix: AM Peak Hour: 87.0% passenger cars and 13.0% trucks; PM Peak Hour: 85.0% passenger cars and 15.0% trucks; Weekday Daily: 73.0% passenger cars and 27.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.
- ITE land use code 157 (High-Cube Cold Storage Warehouse) has been used to derive site specific trip generation estimates for up to 179,135 square feet. High-cube cold storage warehouses include warehouses characterized by the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. The High-Cube Cold Storage Warehouse vehicle mix (passenger cars versus trucks) has been obtained from the ITE's Trip Generation Manual Supplement (dated February 2020). (12) This study provides the following vehicle mix: AM Peak Hour: 73.0% passenger cars and 27.0% trucks; PM Peak Hour: 77.0% passenger cars and 23.0% trucks; Weekday Daily: 65.0% passenger cars and 35.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 34.7%; 3-Axle = 11.0%; 4+-Axle = 54.3%.
- Because the peak hour trip generation rates collected for the "business park" land use category by the ITE as provided in their Trip Generation Manual, 10<sup>th</sup> Edition, 2017 (ITE land use code 770) are based on limited data (i.e., a single surveyed site) that does not have the same physical or operational characteristics as the range of uses permitted in the Business Park buildings, the trip generation rates for ITE land use code 130 (Industrial Park) have been used to derive site specific trip generation estimates for up to 227,951 square feet of business park uses proposed for the Project). The vehicle mix has been obtained from the ITE's Trip Generation Manual Supplement (dated February 2020). (12) This study provides the following vehicle mix: AM Peak Hour: 88.0% passenger cars and 12.0% trucks; PM Peak Hour: 90.0% passenger cars and 10.0% trucks; Weekday Daily: 85.0% passenger cars and 15.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.

Finally, PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+-axles) for the Project. PCEs allow the typical “real-world” mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in Appendix B of the San Bernardino County Congestion Management Program (CMP), 2016 Update.

As shown on Table 4-2, the proposed Project is anticipated to generate a total of 3,656 two-way trips per day, with 274 AM peak hour trips and 323 PM peak hour trips (in actual vehicles). For the purposes of the operations analysis, the PCE trip generation shown in Table 4-3 has been utilized.

## 4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern of passenger cars is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. The trip distribution pattern for truck traffic is also influenced by the local truck routes approved by the City of Ontario, City of Chino, City of Eastvale, City of Jurupa Valley, and Caltrans. Given these differences, separate trip distributions were generated for both passenger cars and truck trips.

The Opening Year Cumulative distribution patterns utilize the existing roadway system in relation to the Horizon Year trip distribution patterns, which assumes future roadway connections. The Project trip distribution patterns are also affected by near-term development patterns in the vicinity of the Project site. The extension of Limonite Avenue/Kimball Avenue extension between Hellman Avenue and Archibald Avenue, and the Merrill Avenue extension to Bellegrave Avenue have also been assumed for Horizon Year conditions only.

Exhibit 4-1 illustrates the truck trip distribution patterns for Opening Year Cumulative and Horizon Year conditions. As shown on Exhibit 4-1, trucks are anticipated to utilize designated truck routes such as Merrill Avenue, Euclid Avenue (SR-83), Archibald Avenue, Edison Avenue/Ontario Ranch Road, and Limonite Avenue to reach regional freeways such as the SR-60, and I-15 Freeways. These travel patterns are not anticipated to change with the addition of new future facilities for Horizon Year traffic conditions.

Exhibit 4-2 illustrates the Opening Year Cumulative passenger car trip distribution patterns. The Opening Year Cumulative passenger car trip distribution patterns are based on a SBTAM select zone run for a zone wholly or partially containing the Project, with modifications to utilize existing roadways. Exhibit 4-3 illustrates the passenger car trip distribution patterns for Horizon Year traffic conditions which is based on a SBTAM select zone run of the Project.



**EXHIBIT 4-1: PROJECT (TRUCK) TRIP DISTRIBUTION (1 OF 2)**

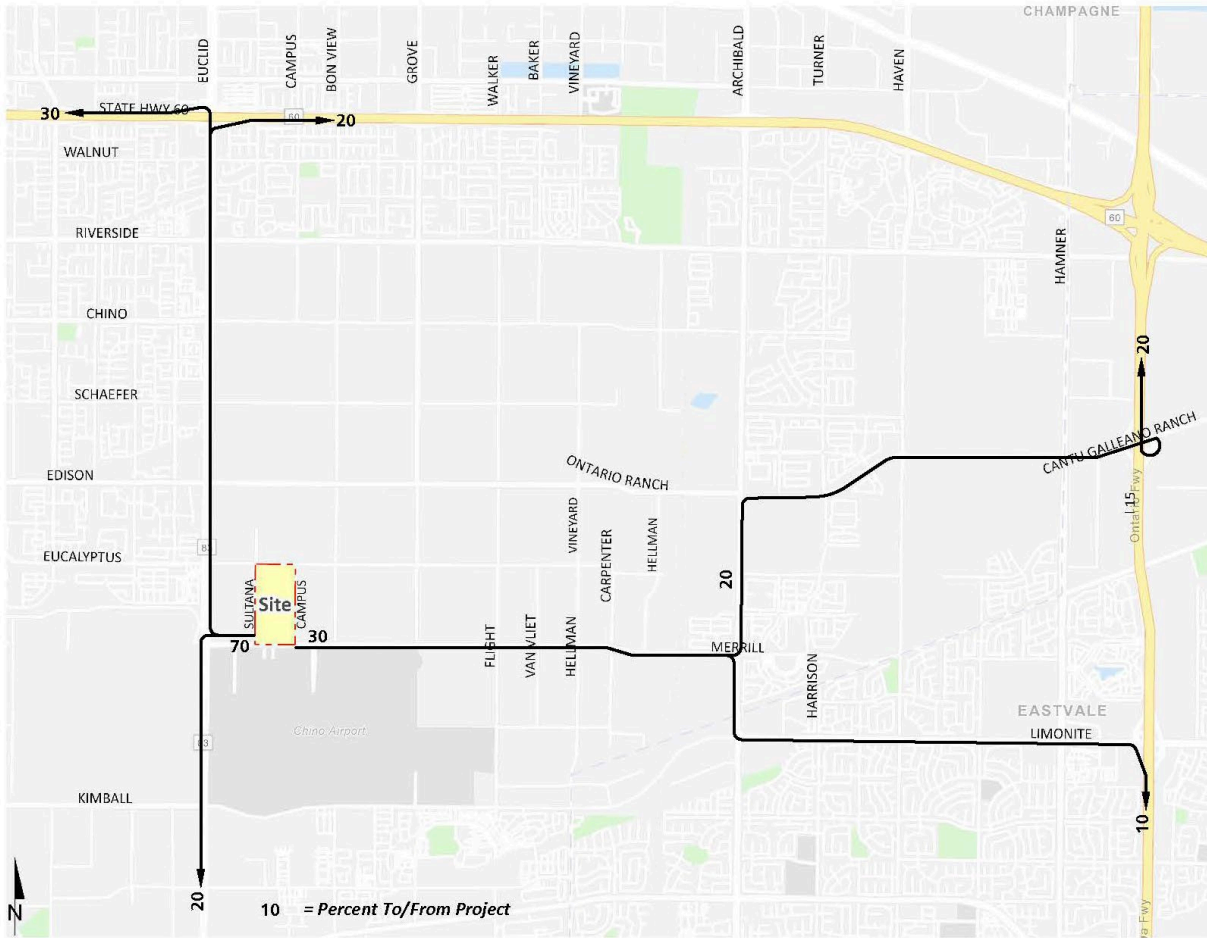


EXHIBIT 4-1: PROJECT (TRUCK) TRIP DISTRIBUTION (2 OF 2)

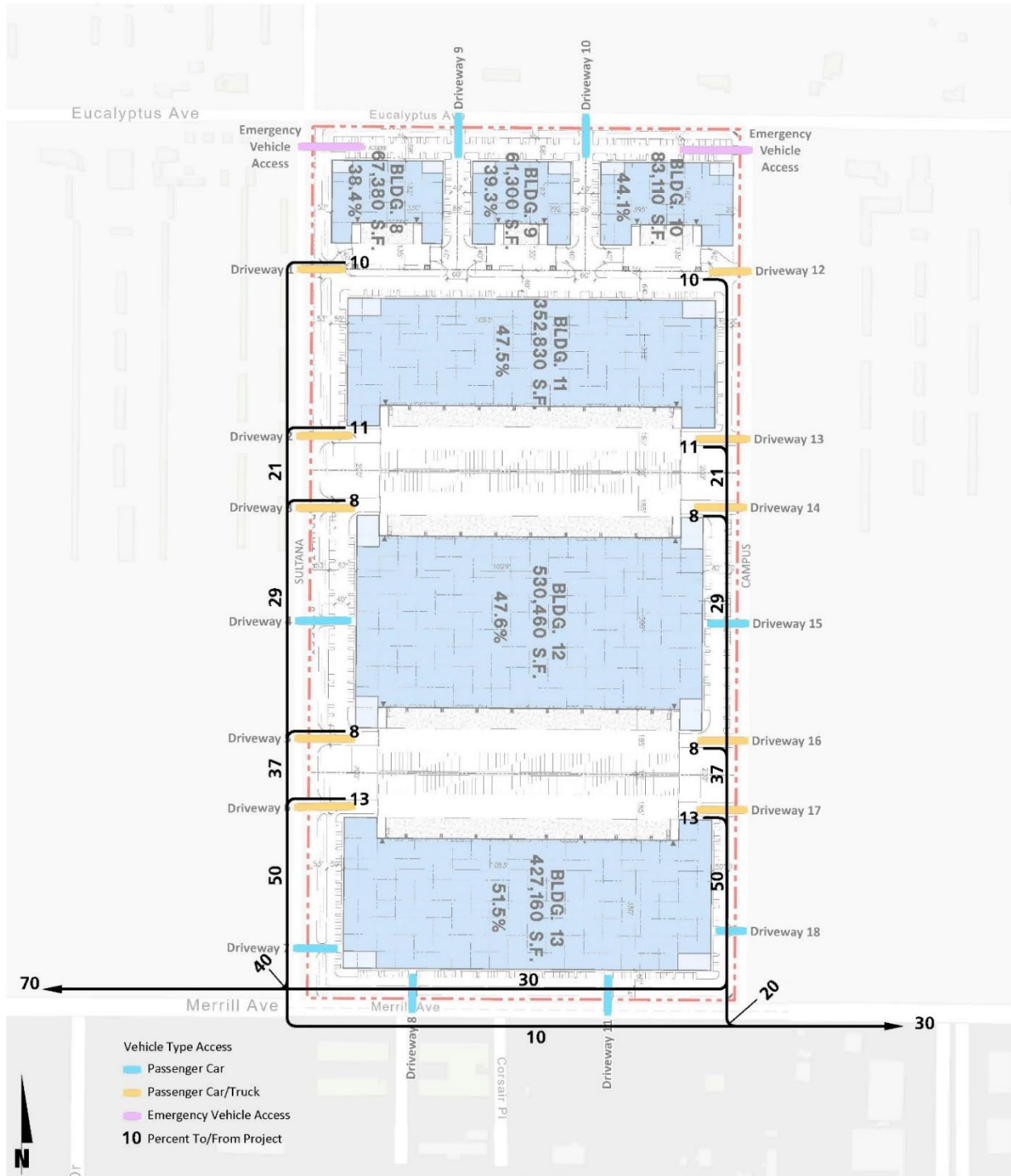


EXHIBIT 4-2: PROJECT (OPENING YEAR PASSENGER CAR) TRIP DISTRIBUTION (1 OF 2)

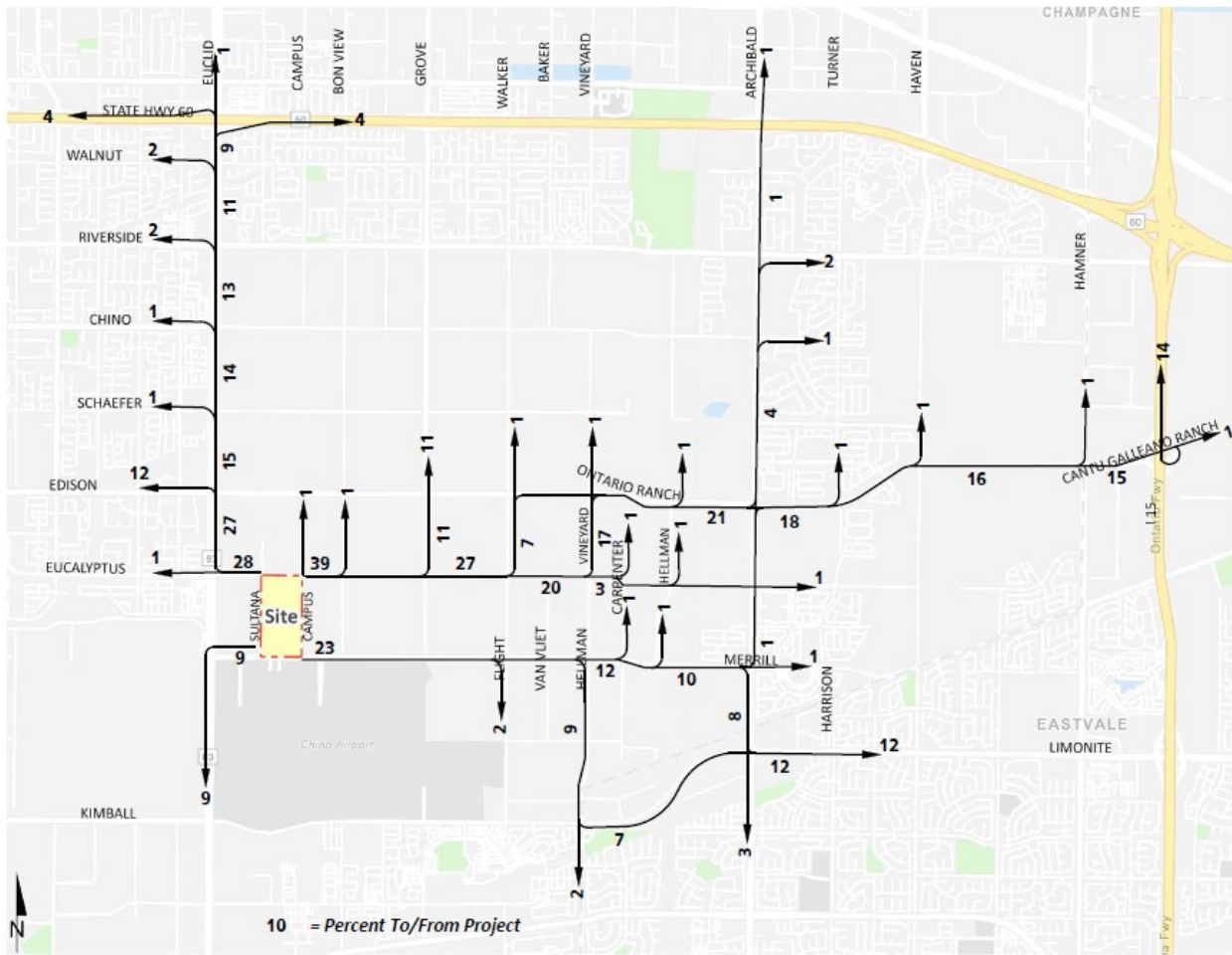


EXHIBIT 4-2: PROJECT (OPENING YEAR PASSENGER CAR) TRIP DISTRIBUTION (2 OF 2)

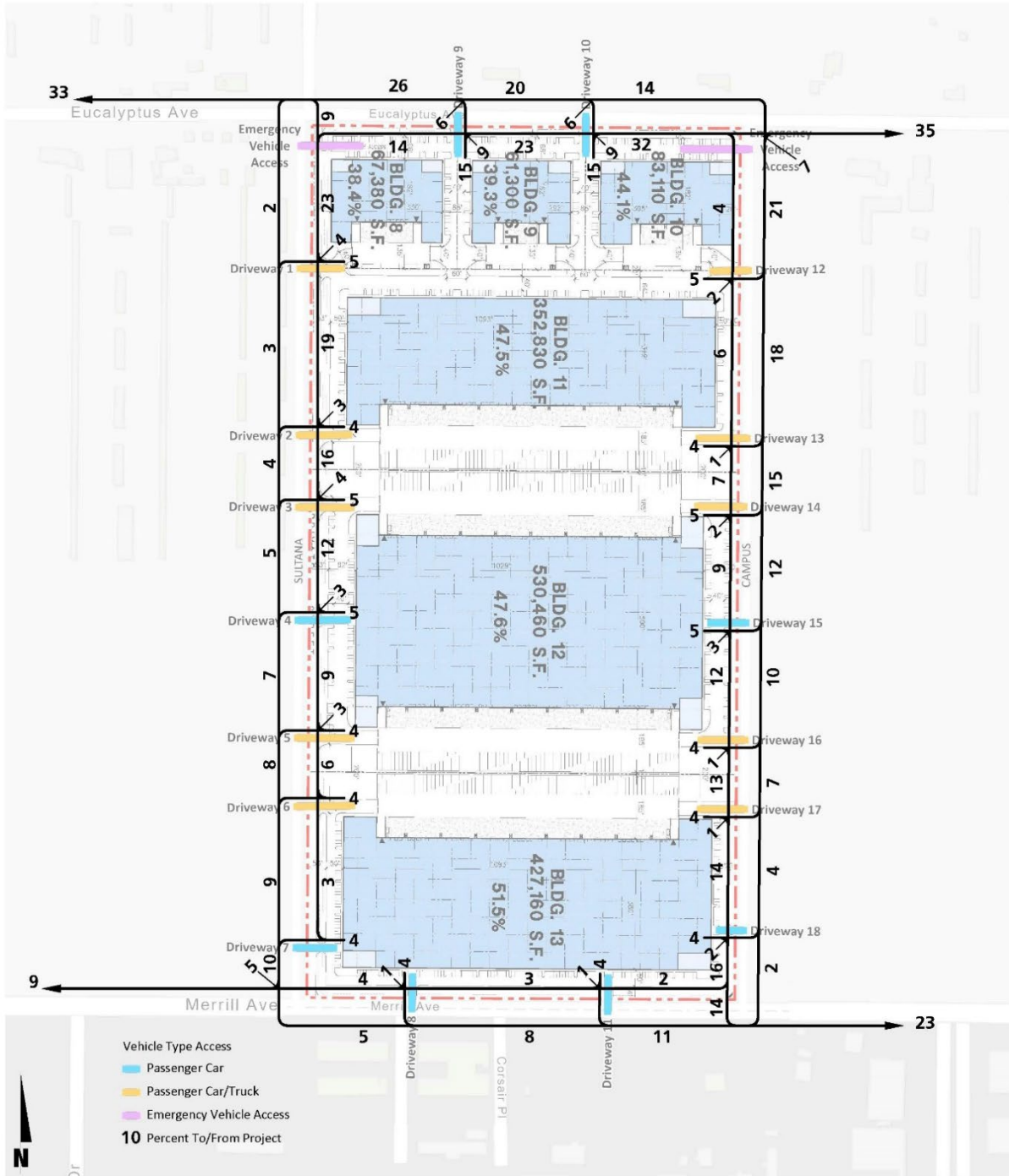
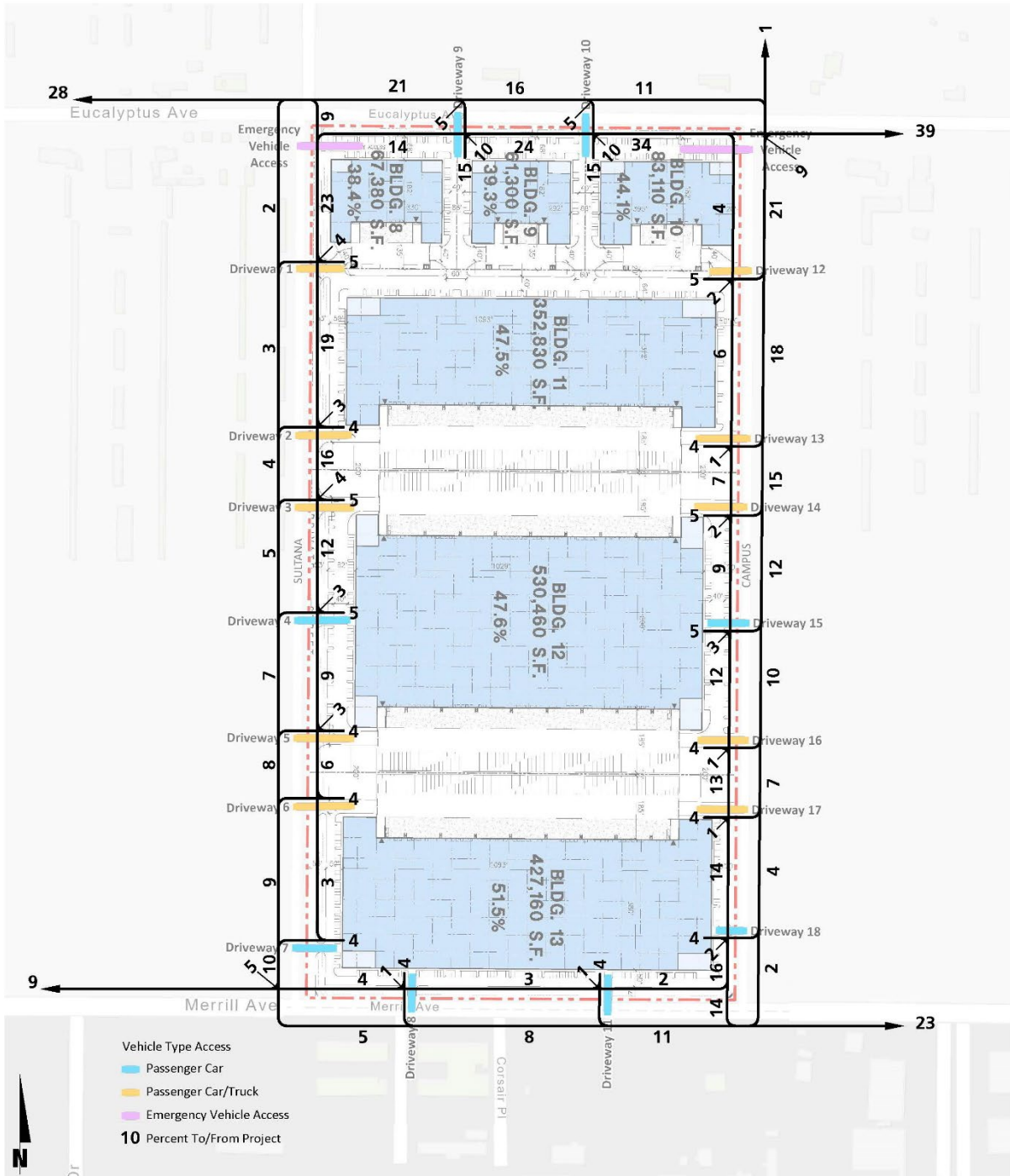






EXHIBIT 4-3: PROJECT (HORIZON YEAR PASSENGER CAR) TRIP DISTRIBUTION (2 OF 2)



### **4.3 MODAL SPLIT**

The potential for Project trips (non-truck) to be reduced by the use of public transit, walking or bicycling have not been included as part of the Project's estimated trip generation. Essentially, the Project's traffic projections are "conservative" in that these alternative travel modes would reduce the forecasted traffic volumes (non-truck trips only).

### **4.4 PROJECT TRIP ASSIGNMENT**

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project ADT and peak hour intersection turning movement volumes are shown on the following exhibits:

- Exhibits 4-4 for near-term Project Buildout traffic conditions
- Exhibits 4-5 for Horizon Year (2040) traffic conditions

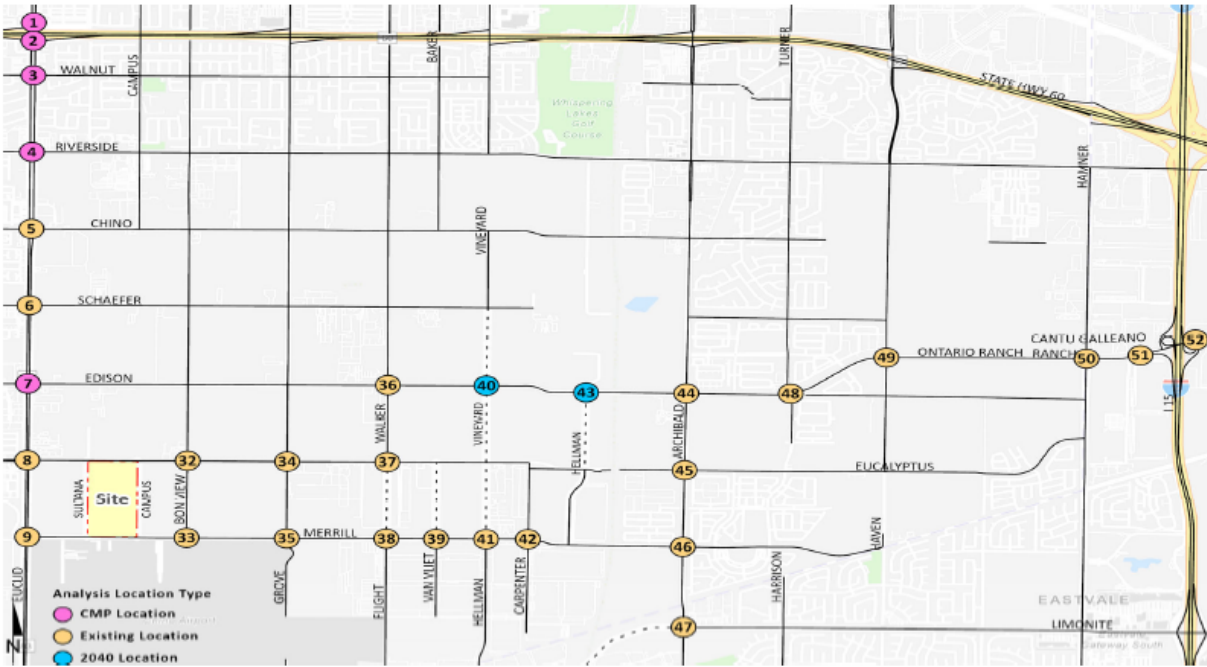
### **4.5 BACKGROUND TRAFFIC**

#### **4.5.1 OPENING YEAR CUMULATIVE CONDITIONS**

Future year traffic forecasts have been based upon background (ambient) growth at 2% per year for 2023 traffic conditions. The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies.

Opening Year Cumulative (2023) traffic volumes are provided in Section 6 of this report. The traffic generated by the proposed Project was then manually added to the base volume to determine Opening Year Cumulative "With Project" forecasts.

**EXHIBIT 4-4: PROJECT ONLY TRAFFIC VOLUMES (1 OF 3)**

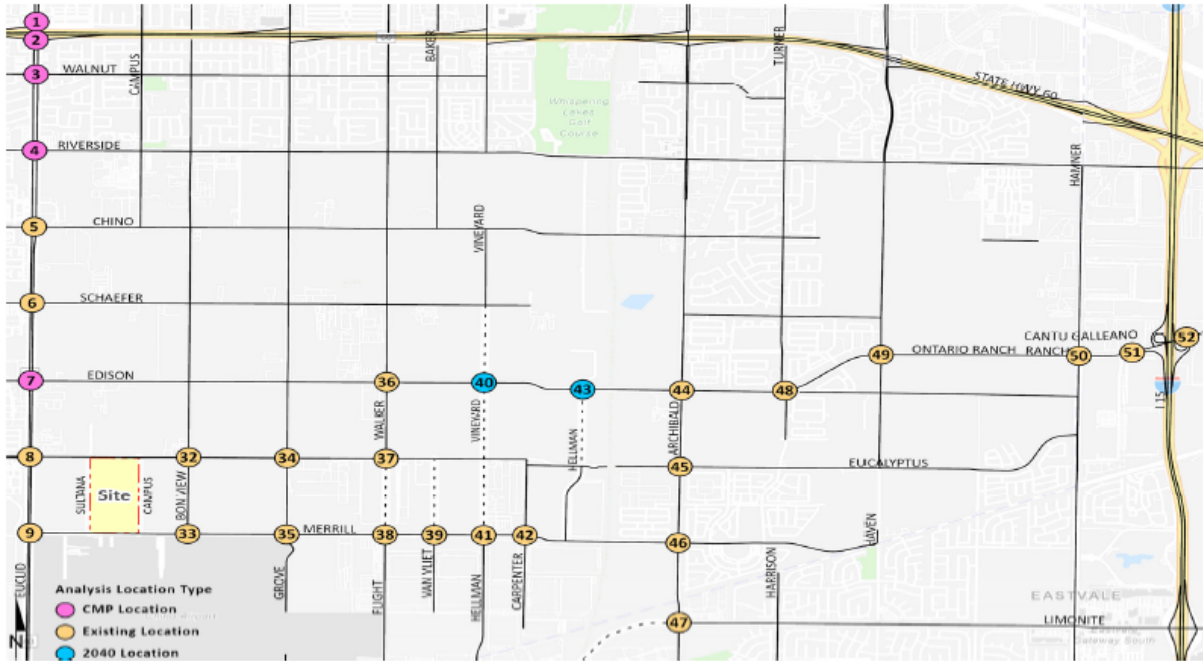


<b>39</b> Van Vliet Av./Baker Av. & Merrill Av. 850 ← 48(18) 13(53) → 850	<b>40</b> Vineyard Av. & Edison Av. Nominal 650 ↓ 2(1) ↑ 9(4) 3(11) → 1(2) → 9(36) → 150	<b>41</b> Vineyard Av./Hellman Av. & Merrill Av. 550 ← 32(12) 8(34) → 5(19) ↓ 17(6) → 850	<b>42</b> Carpenter Av. & Merrill Av. Nominal 550 ↓ 2(1) ← 30(11) 1(2) → 8(32) → 600	<b>43</b> Hellman Av. & Edison Av. Nominal 600 ↓ 2(1) ← 39(15) 1(2) → 11(44) → 650
<b>44</b> Archibald Av. & Ontario Ranch Rd. 100 650 ↓ 6(2) ↓ 2(1) ↑ 33(13) ↑ 6(2) 2(6) → 9(38) → 1(2) → 1(6) → 600	<b>45</b> Archibald Av. & Eucalyptus Av. 200 Nominal 200 8(8) ← 2(1) 1(2) → 2(8) → 200	<b>46</b> Archibald Av. & Merrill Av. 200 Nominal 500 8(8) ← 2(1) 2(8) → 1(2) → 5(20) ↓ 18(7) → 300	<b>47</b> Archibald Av. & Limonite Av. 300 400 ↓ 2(6) ↓ 3(14) ↑ 12(5) ↑ 13(5) 4(15) → 6(2) → 200	<b>48</b> Turner Av. & Ontario Ranch Rd. Nominal 650 ↓ 2(1) ← 38(14) 1(2) → 10(42) → 650
<b>49</b> Haven Av. & Ontario Ranch Rd. Nominal 600 ↓ 2(1) ↑ 36(14) 1(2) → 10(40) → 650	<b>50</b> Hamner Av. & Ontario Ranch Rd. Nominal 600 ↓ 2(1) ← 34(13) 1(2) → 9(38) → 600	<b>51</b> I-15 SB Ramps & Cantu Galleano Ranch Rd. 300 300 ↓ 32(12) ← 2(1) 9(38) → 600	<b>52</b> I-15 NB Ramps & Cantu Galleano Ranch Rd. Nominal 300 ← 2(1) 1(2) → 9(35) → 300	

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips



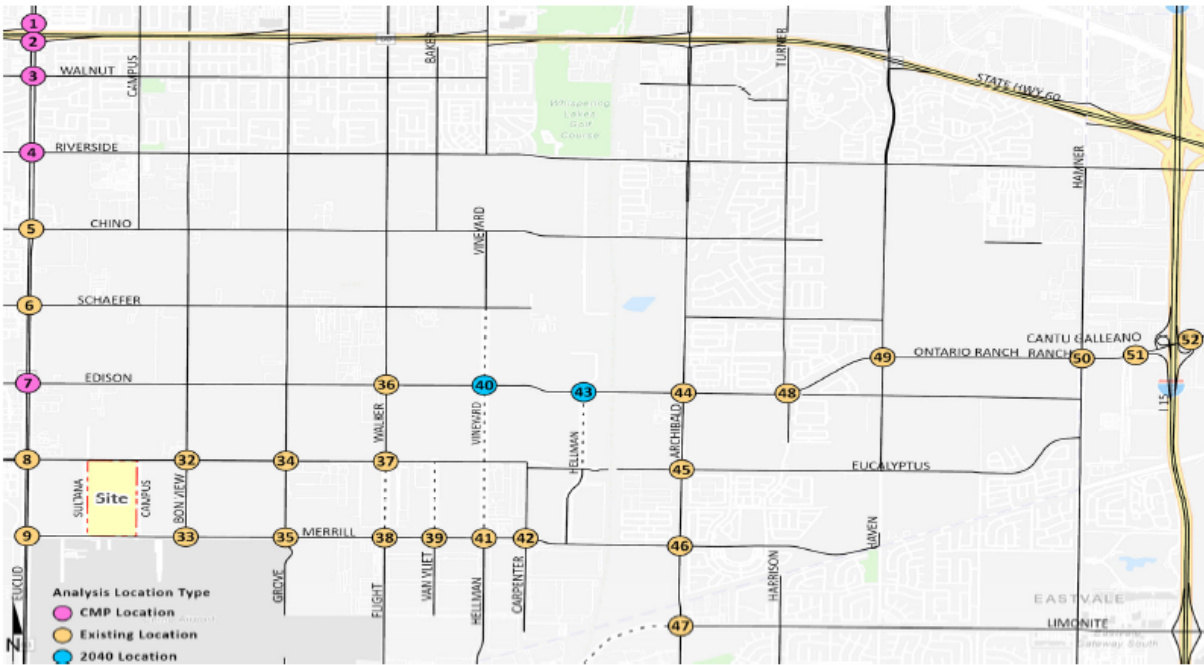
**EXHIBIT 4-4: PROJECT ONLY TRAFFIC VOLUMES (2 OF 3)**



1	2	3	4	5
Euclid Av. (SR-83) & SR-60 WB Ramps	Euclid Av. (SR-83) & SR-60 EB Ramps	Euclid Av. (SR-83) & Walnut Av.	Euclid Av. (SR-83) & Riverside Dr.	Euclid Av. (SR-83) & Chino Av.
Nominal 200 400	200 800	Nominal 850	Nominal 900	Nominal 950
← 2(1) 19(7) 5(22) → 1(2) →	← 21(8) 6(24) → 20(8) ↓ 5(21) ↗	← 41(16) 1(4) → 4(1) ↓ 11(44) →	← 45(17) 1(4) → 4(1) ↓ 12(49) →	← 49(18) 1(2) → 2(1) ↓ 13(53) →
200 400	200 800	Nominal 850	Nominal 900	Nominal 950
6	7	8	9	33
Euclid Av. (SR-83) & Schaefer Av.	Euclid Av. (SR-83) & Edison Av.	Euclid Av. (SR-83) & Eucalyptus Av.	Euclid Av. (SR-83) & Merrill Av.	Bon View Av. & Merrill Av.
950 Nominal	950 350	1,300 Nominal	350 400	900 900
← 51(19) 2(1) → 1(2) → 13(55) →	← 53(20) 22(9) ↓ 6(25) → 14(57) →	← 16(6) 59(23) 2(1) → 16(67) 1(2) 4(15) →	← 16(6) 4(15) 6(25) 23(9) ↗	← 52(20) 14(57) →
950 Nominal	950 350	1,300 Nominal	350 400	900 900
34	35	36	37	38
Grove Av. & Eucalyptus Av.	Grove Av. & Merrill Av.	Walker Av. & Edison Av.	Walker Av. & Eucalyptus Av.	Walker Av./Flight Av. & Merrill Av.
300 700	900 900	700 700	700 700	850 Nominal
← 19(7) 5(21) → 12(50) → 44(17) ←	← 52(20) 14(57) →	← 44(17) 12(50) ↗	← 44(17) 12(50) →	← 48(18) 13(53) → 1(4) ↓ 4(1) ↓
300 700	900 900	700 700	700 700	850 Nominal

##(##) AM(PM) Peak Hour Intersection Volumes  
## Average Daily Trips

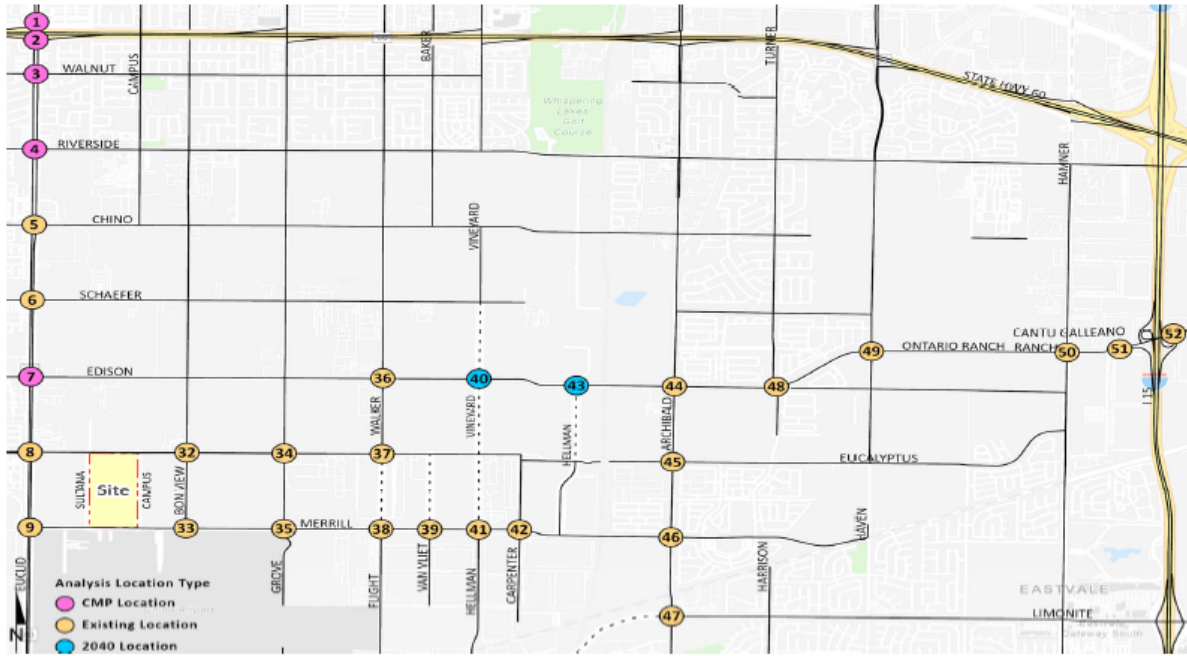
EXHIBIT 4-4: PROJECT ONLY TRAFFIC VOLUMES (3 OF 3)



<p><b>39</b> Van Vliet Av./Baker Av. &amp; Merrill Av.</p> <p>800</p> <p>← 44(17)</p> <p>12(49) →</p> <p>1(4) ↓</p> <p>4(1) →</p> <p>Nominal</p> <p>850</p>	<p><b>40</b> Vineyard Av. &amp; Edison Av.</p> <p>Future Intersection</p>	<p><b>41</b> Vineyard Av./Hellman Av. &amp; Merrill Av.</p> <p>800</p> <p>← 44(17)</p> <p>12(49) →</p> <p>800</p>	<p><b>42</b> Carpenter Av. &amp; Merrill Av.</p> <p>800</p> <p>← 44(17)</p> <p>12(49) →</p> <p>800</p>	<p><b>43</b> Hellman Av. &amp; Edison Av.</p> <p>Future Intersection</p>
<p><b>44</b> Archibald Av. &amp; Ontario Ranch Rd.</p> <p>150</p> <p>6(2) ↓</p> <p>4(1) ↓</p> <p>2(6) ↓</p> <p>11(44) →</p> <p>700</p>	<p><b>45</b> Archibald Av. &amp; Eucalyptus Av.</p> <p>200</p> <p>← 10(4)</p> <p>2(10) →</p> <p>200</p>	<p><b>46</b> Archibald Av. &amp; Merrill Av.</p> <p>200</p> <p>10(4) ↓</p> <p>2(10) ↓</p> <p>1(2) ↓</p> <p>9(37) ↓</p> <p>Nominal</p> <p>800</p>	<p><b>47</b> Archibald Av. &amp; Limonite Av.</p> <p>50</p> <p>← 2(8)</p> <p>7(28) ↓</p> <p>7(3) →</p> <p>550</p>	<p><b>48</b> Turner Av. &amp; Ontario Ranch Rd.</p> <p>Nominal</p> <p>2(1) ↓</p> <p>1(2) ↓</p> <p>12(48) →</p> <p>750</p>
<p><b>49</b> Haven Av. &amp; Ontario Ranch Rd.</p> <p>Nominal</p> <p>2(1) ↓</p> <p>1(2) ↓</p> <p>11(46) →</p> <p>750</p>	<p><b>50</b> Hamner Av. &amp; Ontario Ranch Rd.</p> <p>Nominal</p> <p>2(1) ↓</p> <p>1(2) ↓</p> <p>11(44) →</p> <p>700</p>	<p><b>51</b> I-15 SB Ramps &amp; Cantu Galleano Ranch Rd.</p> <p>300</p> <p>38(14) ↓</p> <p>11(44) →</p> <p>650</p>	<p><b>52</b> I-15 NB Ramps &amp; Cantu Galleano Ranch Rd.</p> <p>Nominal</p> <p>← 2(1)</p> <p>1(2) →</p> <p>10(42) ↓</p> <p>350</p>	<p><b>53</b> I-15 NB Ramps &amp; Cantu Galleano Ranch Rd.</p> <p>Nominal</p> <p>← 2(1)</p> <p>300</p>

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

EXHIBIT 4-5: PROJECT ONLY (2040) TRAFFIC VOLUMES (1 OF 3)



<p><b>1</b> Euclid Av. (SR-83) &amp; SR-60 WB Ramps</p> <p>Nominal</p> <p>150</p> <p>← 2(1)</p> <p>↑ 14(5)</p> <p>4(17) →</p> <p>1(2) →</p> <p>350</p>	<p><b>2</b> Euclid Av. (SR-83) &amp; SR-60 EB Ramps</p> <p>150</p> <p>← 15(6)</p> <p>17(6) →</p> <p>5(20) →</p> <p>3(14) →</p> <p>650</p>	<p><b>3</b> Euclid Av. (SR-83) &amp; Walnut Av.</p> <p>Nominal</p> <p>650</p> <p>← 32(12)</p> <p>4(1) ↓</p> <p>1(4) →</p> <p>8(34) →</p> <p>700</p>	<p><b>4</b> Euclid Av. (SR-83) &amp; Riverside Dr.</p> <p>Nominal</p> <p>700</p> <p>← 36(13)</p> <p>4(1) ↓</p> <p>1(4) →</p> <p>9(38) →</p> <p>750</p>	<p><b>5</b> Euclid Av. (SR-83) &amp; Chino Av.</p> <p>Nominal</p> <p>750</p> <p>← 40(15)</p> <p>2(1) ↓</p> <p>1(2) →</p> <p>10(42) →</p> <p>800</p>
<p><b>6</b> Euclid Av. (SR-83) &amp; Schaeffer Av.</p> <p>800</p> <p>← 41(16)</p> <p>2(1) ↓</p> <p>1(2) →</p> <p>11(44) →</p> <p>800</p>	<p><b>7</b> Euclid Av. (SR-83) &amp; Edison Av.</p> <p>800</p> <p>← 43(16)</p> <p>22(9) ↓</p> <p>6(25) →</p> <p>11(47) →</p> <p>1,150</p>	<p><b>8</b> Euclid Av. (SR-83) &amp; Eucalyptus Av.</p> <p>Nominal</p> <p>1,150</p> <p>← 16(6)</p> <p>2(1) →</p> <p>14(57) →</p> <p>1(2) →</p> <p>4(15) →</p> <p>800</p>	<p><b>9</b> Euclid Av. (SR-83) &amp; Merrill Av.</p> <p>350</p> <p>← 16(6)</p> <p>1(2) →</p> <p>6(25) →</p> <p>23(9) →</p> <p>800</p>	<p><b>33</b> Bon View Av. &amp; Merrill Av.</p> <p>Nominal</p> <p>900</p> <p>← 52(20)</p> <p>14(57) →</p>
<p><b>34</b> Grove Av. &amp; Eucalyptus Av.</p> <p>300</p> <p>← 20(8)</p> <p>6(23) ↓</p> <p>14(57) →</p> <p>800</p>	<p><b>35</b> Grove Av. &amp; Merrill Av.</p> <p>800</p> <p>← 52(20)</p> <p>14(57) →</p> <p>900</p>	<p><b>36</b> Walker Av. &amp; Edison Av.</p> <p>Nominal</p> <p>150</p> <p>← 2(1)</p> <p>9(4) →</p> <p>1(2) →</p> <p>3(11) →</p> <p>150</p>	<p><b>37</b> Walker Av &amp; Eucalyptus Av</p> <p>150</p> <p>← 11(4)</p> <p>3(13) ↓</p> <p>11(44) →</p> <p>600</p>	<p><b>38</b> Walker Av./Flight Av. &amp; Merrill Av.</p> <p>850</p> <p>← 48(18)</p> <p>13(53) →</p> <p>1(4) ↓</p> <p>4(1) →</p> <p>Nominal</p>

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

EXHIBIT 4-5: PROJECT ONLY (2040) TRAFFIC VOLUMES (3 OF 3)

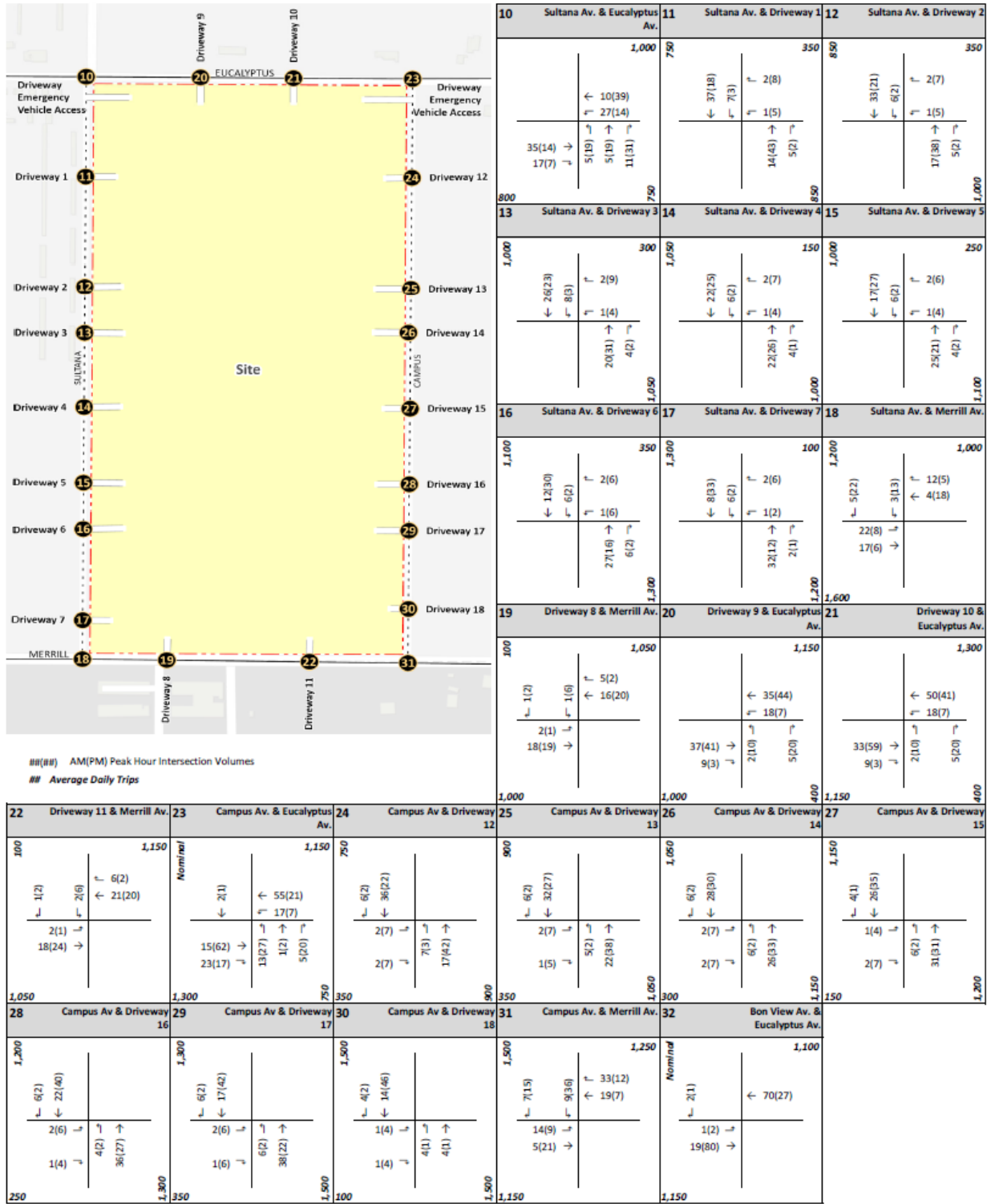
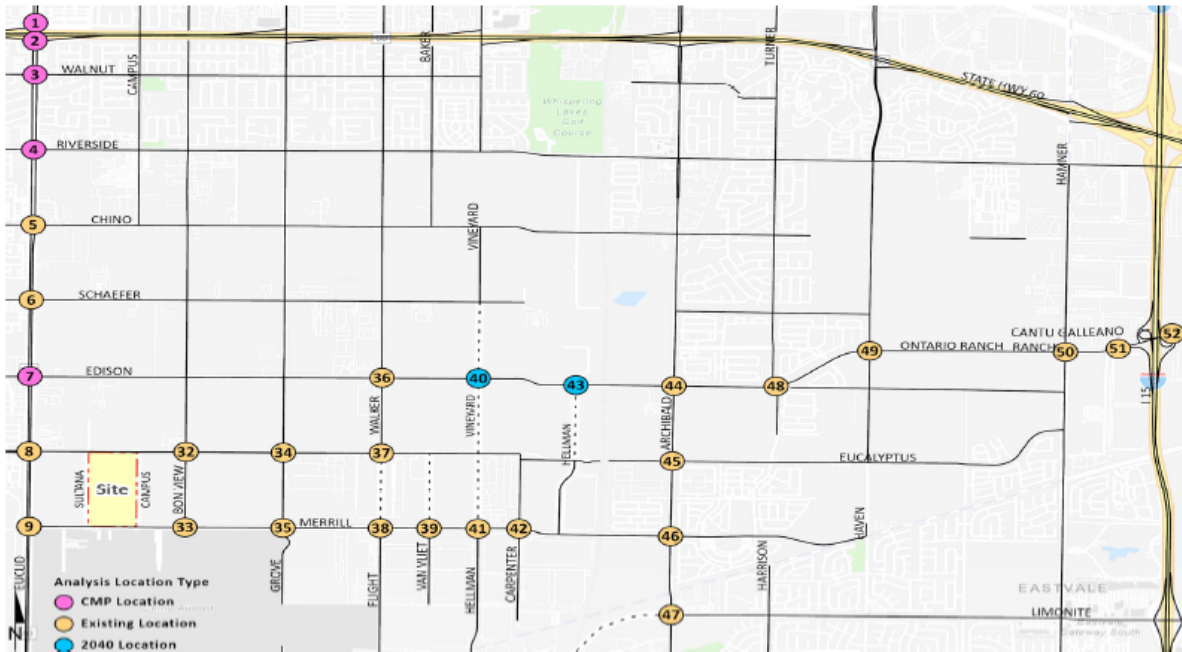


EXHIBIT 4-5: PROJECT ONLY (2040) TRAFFIC VOLUMES (3 OF 3)



39	Van Vliet Av./Baker Av. & Merrill Av.	40	Vineyard Av. & Edison Av.	41	Vineyard Av./Hellman Av. & Merrill Av.	42	Carpenter Av. & Merrill Av.	43	Hellman Av. & Edison Av.
850	← 48(18) 13(53) →	Nominal	650	← 2(1) ↑ 9(4) 3(11) → 1(2) → 9(36) →	550	← 32(12) 8(34) → 5(19) ↓	Nominal	550	← 30(11) 1(2) ↓ 8(32) →
850		150	500	850	250	600	650		
44	Archibald Av. & Ontario Ranch Rd.	45	Archibald Av. & Eucalyptus Av.	46	Archibald Av. & Merrill Av.	47	Archibald Av. & Limonite Av.	48	Turner Av. & Ontario Ranch Rd.
100	← 6(2) ↓ 2(1) ↑ 33(13) 6(2) 2(6) ↓ 9(38) →	200	Nominal	200	Nominal	300	400	Nominal	650
600	← 8(3) 2(8) ↓ 1(2) ↓ 5(20) ↓	200	500	300	200	100	650	← 12(5) ↑ 13(5) 3(14) 4(15) → 6(2) ↑	← 38(14) 1(2) ↓ 10(42) →
600		200	200	300	200	100			
49	Haven Av. & Ontario Ranch Rd.	50	Hamner Av. & Ontario Ranch Rd.	51	I-15 SB Ramps & Cantu Galleano Ranch Rd.	52	I-15 NB Ramps & Cantu Galleano Ranch Rd.		
Nominal	← 2(1) ↑ 36(14) 1(2) ↓ 10(40) →	Nominal	600	300	300	Nominal	300	← 2(1) 1(2) → 9(35) ↓	
650		600	600	600	300	300			

##(##) AM(PM) Peak Hour Intersection Volumes  
## Average Daily Trips

#### 4.5.2 HORIZON YEAR (2040) CONDITIONS

The adopted Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (May 2020) growth forecasts for the City of Ontario identifies projected growth in population of 172,200 in 2016 to 269,100 in 2045, or a 56.3% increase over the 29-year period. (13) The change in population equates to roughly a 1.55% growth rate, compounded annually. Similarly, growth over the same 29-year period in households is projected to increase by 62.0%, or a 1.67% annual growth rate. Finally, growth in employment over the same 29-year period is projected to increase by 48.6%, or a 1.38% annual growth rate.

Therefore, the annual growth rate utilized for the purposes of this analysis would appear to conservatively approximate the anticipated regional growth in traffic volumes in the City of Ontario for Opening Year Cumulative and Horizon Year (2040) traffic conditions, especially when considered along with the addition of project-related traffic. As such, the growth in traffic volumes assumed in this traffic impact analysis would tend to overstate as opposed to understate the potential deficiencies to traffic and circulation. Horizon Year (2040) With Project traffic forecasts reflects buildout of the Project.

#### 4.6 CUMULATIVE DEVELOPMENT TRAFFIC

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of Ontario. The cumulative projects listed are those that would generate traffic and would contribute traffic to study area intersections. The neighboring jurisdictions of Chino, Eastvale, and Jurupa Valley have also been contacted to include key projects in their respective cities.

Exhibit 4-6 illustrates the cumulative development location map. A summary of cumulative development projects and their proposed land uses are shown on Table 4-4. If applicable, the traffic generated by individual cumulative projects was manually added to the Opening Year Cumulative forecasts to ensure that traffic generated by the listed cumulative development projects on Table 4-4 are reflected as part of the background traffic. In an effort to conduct a conservative analysis, the cumulative projects are added in conjunction with the ambient growth identified in Section 4.5.1 *Background Traffic: Opening Year Cumulative Conditions*. Cumulative ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-7.



EXHIBIT 4-6: CUMULATIVE DEVELOPMENT LOCATION MAP

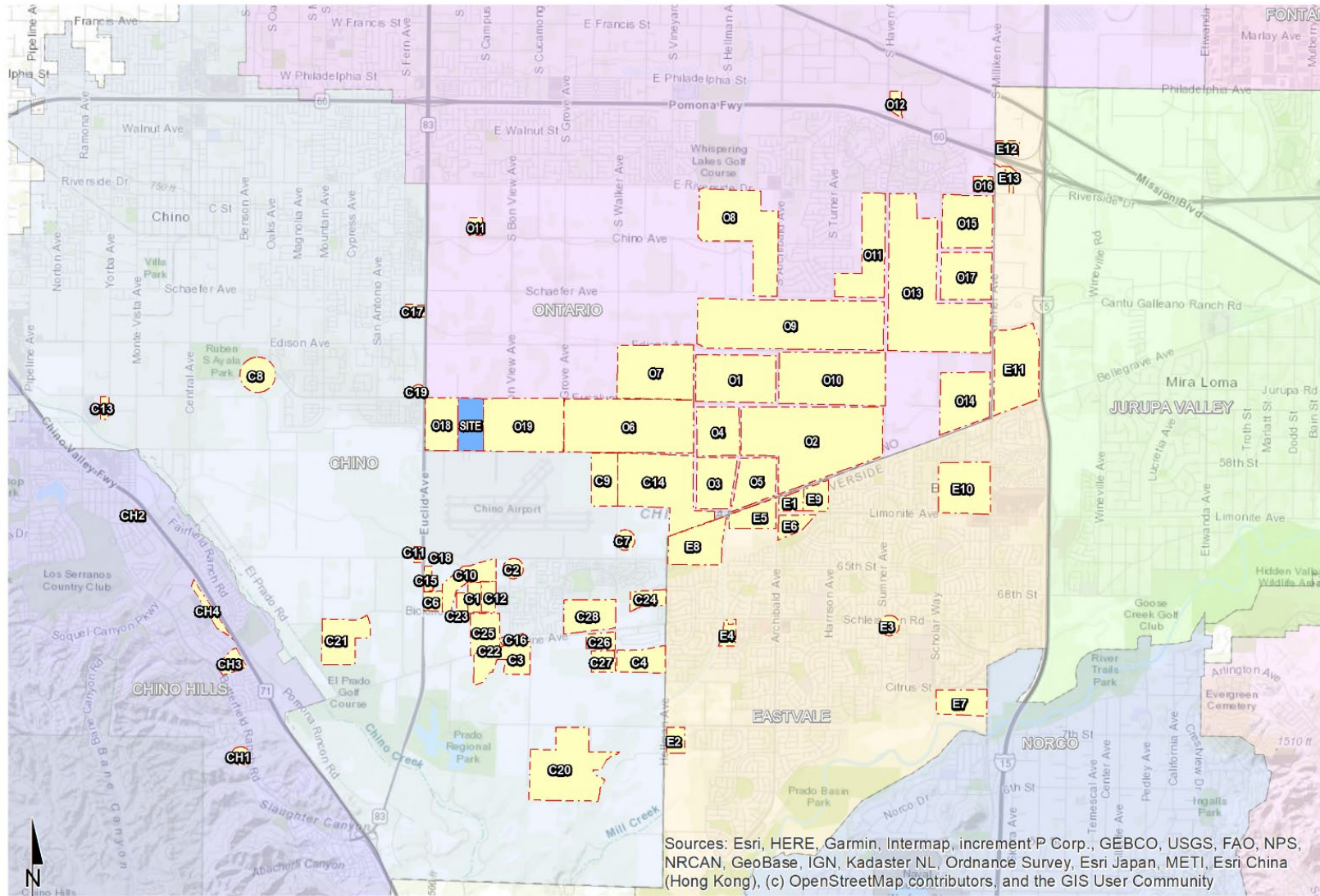
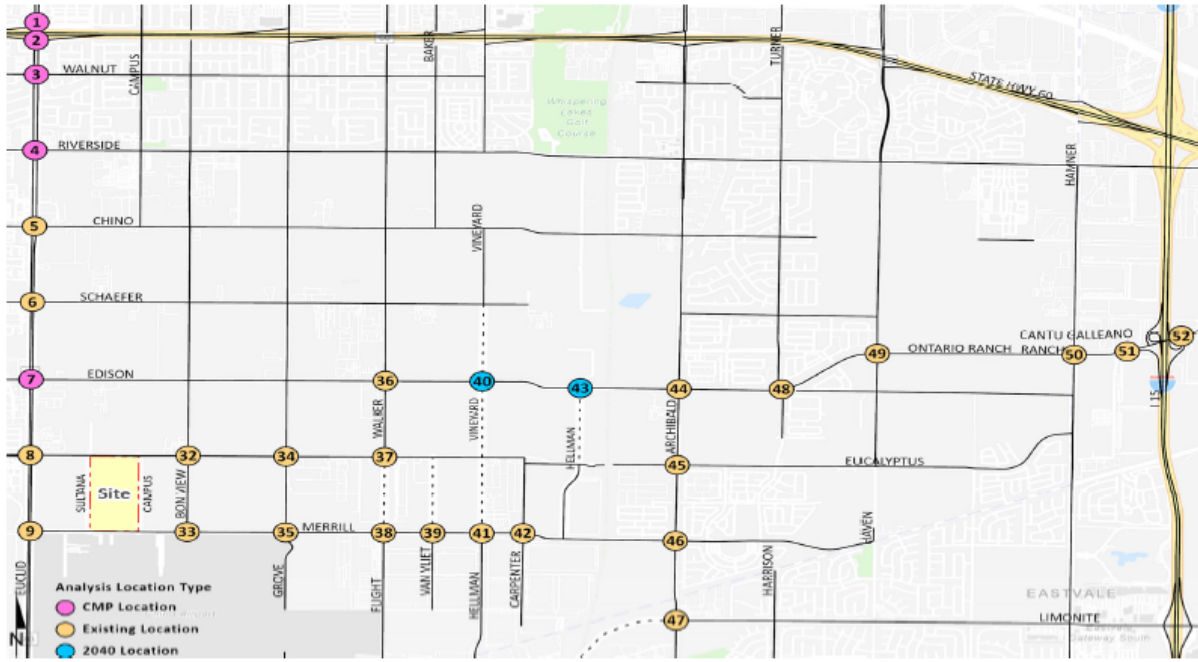


EXHIBIT 4-7: CUMULATIVE ONLY TRAFFIC VOLUMES (1 OF 3)



1	2	3	4	5
Euclid Av. (SR-83) & SR-60 WB Ramps	Euclid Av. (SR-83) & SR-60 EB Ramps	Euclid Av. (SR-83) & Walnut Av.	Euclid Av. (SR-83) & Riverside Dr.	Euclid Av. (SR-83) & Chino Av.
850 1,050 4,250	6,150 1,050 4,250	11,400 Nominal 200	11,650 400 1,400	12,900 350 650
36(29) 162(431) 25(46) 103(52)	139(81) 410(196) 188(476) 44(110)	550(279) 11(4) 3(13) 232(586) 11(2)	563(280) 1(4) 4(11) 69(30) 23(80) 232(599) 5(6)	634(313) 1(4) 4(11) 24(13) 11(28) 257(680) 1(2)
6	7	8	9	33
Euclid Av. (SR-83) & Schaefer Av.	Euclid Av. (SR-83) & Edison Av.	Euclid Av. (SR-83) & Eucalyptus Av.	Euclid Av. (SR-83) & Merrill Av.	Bon View Av. & Merrill Av.
13,300 250 500	13,550 8,950 5,850	13,450 2,300 750	11,150 11,550 12,200	2,700 10,950 11,150
658(323) 9(4) 18(10) 1(4) 4(2) 3(11) 9(20) 264(709) 173(268) 337(138)	530(277) 253(137) 45(28) 5(4) 39(166) 109(294) 73(48) 22(54) 234(563) 27(75)	4(2) 1(4) 16(6) 18(12) 514(304) 131(47) 35(144) 5(19) 9(22) 246(544)	233(212) 71(252) 107(361) 173(268) 337(138)	24(89) 90(31) 438(315) 0(-76) 27(72) 69(6) 199(485)
34	35	36	37	38
Grove Av. & Eucalyptus Av.	Grove Av. & Merrill Av.	Walker Av. & Edison Av.	Walker Av & Eucalyptus Av	Walker Av./Flight Av. & Merrill Av.
11,400 8,400 4,900	7,150 13,600 12,850	10,450 8,150 2,300	8,150 8,150	3,850 13,050 500
152(63) 263(109) 261(105) 40(185) 76(227) 2(-72) 71(272) 121(111) 98(36) 6(2) 74(291) 18(74)	94(26) 119(142) 360(327) 99(205) 148(103) 326(398)	180(0) 115(0) 302(103) 76(0) 21(0) 48(0) 56(573)	465(194) 219(573)	28(107) 5(22) 2(86) 103(36) 347(481) 8(16) 82(29) 432(385) 7(3) 14(9) 19(8) 2(7)

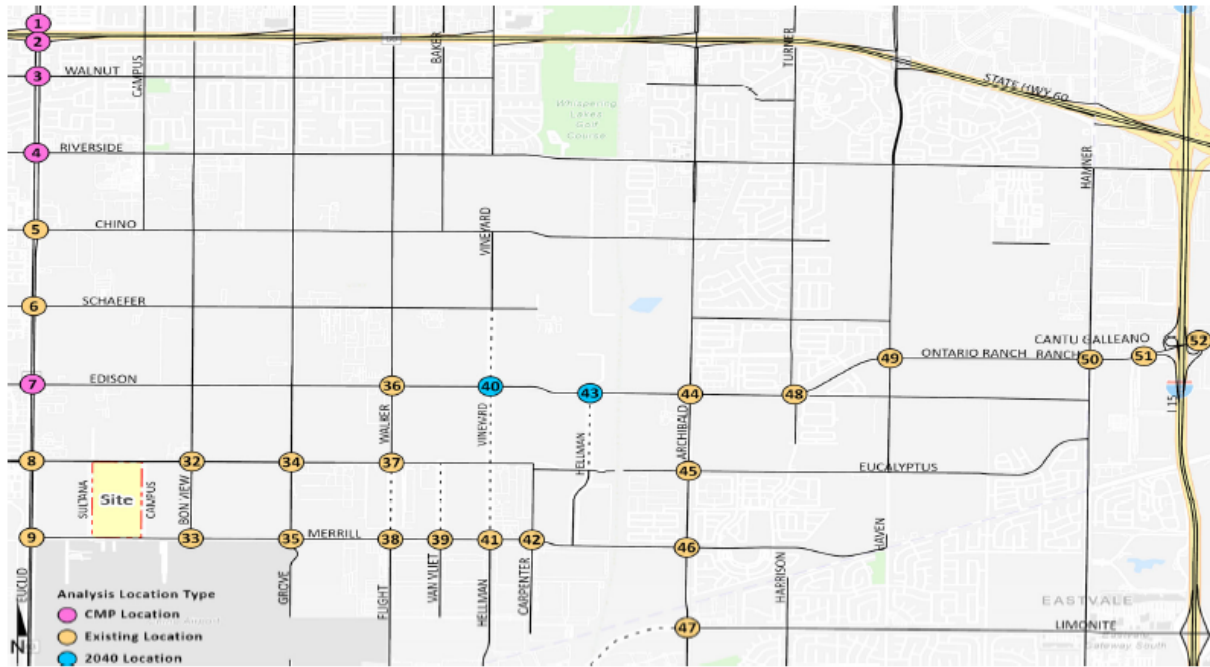
##(##) AM(PM) Peak Hour Intersection Volumes  
## Average Daily Trips



EXHIBIT 4-7: CUMULATIVE ONLY TRAFFIC VOLUMES (2 OF 3)



EXHIBIT 4-7: CUMULATIVE ONLY TRAFFIC VOLUMES (3 OF 3)



39	Van Vliet Av./Baker Av. & Merrill Av.	40	Vineyard Av. & Edison Av.	41	Vineyard Av./Hellman Av. & Merrill Av.	42	Carpenter Av. & Merrill Av.	43	Hellman Av. & Edison Av.																																													
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##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

**TABLE 4-4: CUMULATIVE DEVELOPMENT LAND USE SUMMARY (1 OF 4)**

#	Project/Location	Land Use <sup>1</sup>	Quantity Units <sup>2</sup>
<b>City of Ontario</b>			
O1	Parkside	SFDR	437 DU
		Multi-Family Attached (Apartments)	1,510 DU
		Shopping Center	115.000 TSF
O2	Subarea 29 & Amendment (40% complete)	SFDR	2,149 DU
		Shopping Center	87.000 TSF
O3	Colony Commerce West	High-Cube Warehouse	2213.360 TSF
		Manufacturing	737.786 TSF
O4	West Ontario Commerce Center SP	High-Cube Warehouse	1976.535 TSF
		Manufacturing	658.845 TSF
		Business Park	115.760 TSF
O5	Colony Commerce East	High-Cube Warehouse	998.680 TSF
		Manufacturing	233.129 TSF
		Warehousing	699.387 TSF
O6	Merrill Commerce Center	High-Cube Fulfillment Warehouse	7014.000 TSF
		Business Park	1441.000 TSF
O7	Parente Home Ranch SP	SFDR	270 DU
		Condo/Townhouse	1,872 DU
		General Office	462.281 TSF
		Shopping Center	194.278 TSF
O8	Countryside	SFDR	819 DU
	Armstrong Ranch	SFDR	994 DU
O9	The Avenue	SFDR	2,020 DU
		Multi-Family Attached (Apartments)	586 DU
		Shopping Center	250.000 TSF
O10	Grand Park	SFDR	484 DU
		Multi-Family Attached (Apartments)	843 DU
O11	West Haven	SFDR	753 DU
		Shopping Center	87.000 TSF
O12	Haven Gateway	General Light Industrial	42.160 TSF
		High-Cube Warehouse	168.640 TSF
O13	Rich Haven	SFDR	2,732 DU
		Multi-Family Attached (Condo)	1,524 DU
		Shopping Center	317.400 TSF
O14	Esperanza	SFDR	914 DU
		Multi-Family Attached (Apartments)	496 DU
O15	Edenglen	SFDR	310 DU
		Multi-Family Attached (Condo)	274 DU
		Shopping Center	217.520 TSF
		Business Park	550.000 TSF
O16	PDEV10-008 - Dry Food Storage	Mini-Warehouse	17.000 TSF

**TABLE 4-4: CUMULATIVE DEVELOPMENT LAND USE SUMMARY (2 OF 4)**

#	Project/Location	Land Use <sup>1</sup>	Quantity Units <sup>2</sup>
O17	Tuscana Village	SFDR	176 DU
		Shopping Center	26.000 TSF
O18	Ontario Ranch Commerce Center	High-Cube Fulfillment Warehouse	1,447.123 TSF
		Business Park	457.904 TSF
O19	South Ontario Logistics Center	Business Park	1,075.235 TSF
		High-Cube Fulfillment Warehouse	2,819.282 TSF
		High-Cube Cold Storage Warehouse	563.857 TSF
		Warehousing	954.218 TSF
<b>City of Chino</b>			
C1	Bickmore Street Residential (TM 18858) (30% complete)	SFDR	185 DU
C2	TM17574 (80% complete)	Condo/Townhouse	108 DU
C3	Pines Community	SFDR	552 DU
		Public Park	3.0 AC
		Self Storage & RV Storage	120.000 TSF
		Sports Park	41.8 AC
C4	Tract 19980 (Homecoming Phase 4)	Apartments	454 DU
	TTM No. 20166 & 20167	SFDR	148 DU
	Brio & TTM No. 21065 & 20168 (Orchards)	SFDR	239 DU
C5	Farmer Boys	Fast-food w/ Drive-Thru	3.218 TSF
		Shopping Center	2.300 TSF
C6	Euclid & Bickmore Warehouse	Warehousing	205.820 TSF
		General Light Industrial	51.030 TSF
		Business Park	110.620 TSF
C7	Kimball Business Park	Business Park	146.550 TSF
C8	Chaffey College Expansion	Junior/Community College	93.50 AC
	College Park Commercial	Shopping Center	7.50 AC
C9	Chino Parcel Delivery	Parcel Delivery Facility	765.274 TSF
C10	Altitude Business Centre	Warehousing	715.000 TSF
		Light Industrial	255.000 TSF
		Business Park	233.000 TSF
		Self-Storage	110.000 TSF
C11	Majestic Gateway	Specialty Retail	25.000 TSF
		Pharmacy/Drugstore with Drive-Thru	13.000 TSF
		Fast-Food with Drive-Thru	8.600 TSF
C12	Bouma Residential	SFDR	106 DU
		Condo/Townhouse	94 DU
C13	Fairfield Inn & Suites (PL 17-0060 & PL 17-0061)	Hotel	111 RM
C14	Watson Industrial Park (40% complete)	High-Cube Warehouse	3,889.900 TSF
C15	Chino Business Park	General Light Industrial	165.500 TSF
		Business Park	21.500 TSF
C16	Flores Site	Shopping Center	4.000 TSF
		Gas Station w/ convenience store	16 VFP
		Express Car Wash	5.000 TSF

**TABLE 4-4: CUMULATIVE DEVELOPMENT LAND USE SUMMARY (3 OF 4)**

#	Project/Location	Land Use <sup>1</sup>	Quantity Units <sup>2</sup>
C17	Brewart Residential (Stonebrook - TM 18923)	SFDR	127 DU
C18	Archibald's (PL 17-0037)	Fast-Food with Drive-Thru	3.147 TSF
C19	TM 18972 (80% complete)	SFDR	147 DU
C20	Rancho Miramonte	SFDR	691 DU
		Condo/Townhouse	132 DU
		Neighborhood Retail	21.780 TSF
		Church	400 SEAT
C21	Majestic Chino Heritage	High-Cube Fulfillment Warehouse	1982.700 TSF
		High-Cube Cold Storage Warehouse	100.000 TSF
C22	Church	Church	47.979 TSF
		Daycare	190 STU
C23	Appesetche Residential	SFDR	60 DU
		Condo/Townhouse	160 DU
C24	Tract 19951, 19952, 19953, 19935 & 18479	SFDR	151 DU
		Condo/Townhouse	150 DU
C25	Ag. Buffer, Bungalow, Lic. Product, Liberty Deluxe, Lyon 2 & 3	SFDR	474 DU
C26	The Preserve Town Center (Blocks 6 and 7)	Multifamily Housing	549 DU
		Office	16.300 TSF
		Shopping Center	36.800 TSF
		Pharmacy with Drive-Thru	12.900 TSF
		Supermarket	45.000 TSF
		Fast-Food Restaurant with Drive-Thru	6.500 TSF
		Fast Casual Restaurant	13.750 TSF
		Quality Restaurant	13.750 TSF
C27	The Preserve Civic Center	Elementary School	1,200 STU
		Library	10.00 AC
		Community Center	10.00 AC
		Park	8.00 AC
C28	Falloncrest at the Preserve	Multifamily Housing (Low-Rise)	698 DU
		Multifamily Housing (Mid-Rise)	440 DU
		Public Parks	21.60 AC
		General Office	77.597 TSF
		Commercial Retail	77.597 TSF

**TABLE 4-4: CUMULATIVE DEVELOPMENT LAND USE SUMMARY (4 OF 4)**

#	Project/Location	Land Use <sup>1</sup>	Quantity Units <sup>2</sup>
<b>City of Eastvale</b>			
E1	The Merge	Warehousing	336.501 TSF
		Shopping Center	4.750 TSF
		Supermarket	30.000 TSF
		Gas Station w/ convenience store	16 VFP
		Pharmacy/Drugstore with Drive-Thru	14.600 TSF
		Fast-Food with Drive-Thru	6.000 TSF
		Automated Car Wash	4.000 TSF
		Fast-Food Without Drive-Thru	7.750 TSF
		Coffee/Donut Shop With Drive-Thru	2.500 TSF
E2	TR29997	SFDR	122 DU
E3	13-0632 - Sumner Residential (Stratham Homes)	SFDR	129 DU
E4	TR35751	Condo/Townhouse	243 DU
E5	PP23219 (PM35865) (50% complete)	General Light Industrial	738.430 TSF
E6	Eastvale Shopping Center	Free-Standing Discount Superstore	192.000 TSF
		Specialty Retail	9.200 TSF
		Fast-Food Without Drive-Thru	7.200 TSF
		Coffee/Donut Shop w/ Drive Thru	2.000 TSF
		Fast-Food with Drive-Thru	3.500 TSF
		Gas Station w/ convenience store and car wash	16 VFP
E7	Van Leeuwen	SFDR	224 DU
E8	SP00358 - The Ranch at Eastvale	Shopping Center	267.200 TSF
		General Light Industrial	801.500 TSF
		Business Park	1,121.100 TSF
E9	SC Limonite, LLC	SFDR	330 TSF
E10	Leal Master Plan	Lifestyle Center (Commercial)	1,300.000 TSF
		General Commercial	225.000 TSF
		Office	920.000 TSF
		Hotel	450 RM
		High Density Residential	500-660 DU
E11	Eastvale Commerce Center	Shopping Center	650.000 TSF
E12	S. Milliken Warehouse	High-Cube Warehouse	280.000 TSF
E13	15-1508 - Industrial Warehouse	Warehousing	155.000 TSF
<b>City of Chino Hills</b>			
CH1	Vila Borba Specific Plan (TR 16414)	SFDR	172 DU
CH2	Country Club Villas	Condo/Townhouse	46 DU
CH3	The Goddard School	Daycare	10.587 TSF
CH4	Heritage Professional Center	Hospital	55.000 TSF
		Medical Office Building	86.952 TSF
		Hotel	120 RM
		Shopping Center	38.848 TSF
		Restaurant	7.200 TSF

<sup>1</sup> SFDR = Single Family Detached Residential

<sup>2</sup> TSF = Thousand Square Feet; DU = Dwelling Unit; VFP = Vehicle Fueling Position ; AC = Acres; RM = Rooms

## 4.7 HORIZON YEAR (2040) VOLUME DEVELOPMENT

Traffic projections for Horizon Year (2040) without Project conditions were derived from the San Bernardino Transportation Analysis Model (SBTAM) using accepted procedures for model forecast refinement and smoothing for study area intersections located within the County of San Bernardino. The current version of the SBTAM (Version 2.20, March 2019) reflects the local input in the adopted 2020 SCAG RTP within the County of San Bernardino.

The traffic forecasts reflect the area-wide growth anticipated between Existing (2021) conditions and Horizon Year (2040) traffic conditions. In most instances the traffic model zone structure is not designed to provide accurate turning movements along arterial roadways unless refinement and reasonableness checking is performed. Therefore, the Horizon Year (2040) peak hour forecasts were refined using the model derived long range forecasts, base (validation) year model forecasts, along with existing peak hour traffic count data collected at each analysis location in January 2019. The SBTAM has a base (validation) year of 2012 and a horizon (future forecast) year of 2040. The difference in model volumes (2040-2012) defines the growth in traffic over the 28-year period. Similarly, the Riverside Transportation Analysis Model (RivTAM) has a base (validation) year of 2012 and a horizon (future forecast) year of 2040.

The refined future peak hour approach and departure volumes obtained from the model output data are then entered into a spreadsheet program consistent with the National Cooperative Highway Research Program (NCHRP Report 785), along with initial estimates of turning movement proportions. A linear programming algorithm is used to calculate individual turning movements which match the known directional roadway segment forecast volumes computed in the previous step. This program computes a likely set of intersection turning movements from intersection approach counts and the initial turning proportions from each approach leg.

The SBTAM uses an AM peak period-to-peak hour factor of 0.35 and a PM peak period-to-peak hour factor of 0.27. These factors represent the relationship of the highest single AM peak hour to the modeled 3-hour AM peak period (an even distribution would result in a factor of 0.33) and the highest single PM peak hour to the modeled 4-hour PM peak period (an even distribution would result in a factor of 0.25). The model data from RivTAM represents peak hour data and therefore did not require adjustments.

Typically, the model growth is prorated and is subsequently added to the existing (base validation) traffic volumes to represent Horizon Year traffic conditions. In an effort to conduct a conservative analysis, reductions to traffic forecasts from either Existing or Opening Year Cumulative traffic conditions were not assumed as part of this analysis. As such, in conjunction with the addition of cumulative projects that are not consistent with the General Plan, additional growth has also been applied on a movement-by-movement basis, where applicable, to estimate reasonable Horizon Year (2040) forecasts. Horizon Year (2040) turning volumes were compared to Opening Year Cumulative (2023) volumes in order to ensure a minimum growth as a part of the refinement process. The minimum growth includes any additional growth between Opening Year Cumulative (2023) and Horizon Year (2040) traffic conditions that is not accounted for by the traffic generated by cumulative development projects and ambient growth rates assumed between Existing (2021) and Opening Year Cumulative (2023) conditions. Adjustments have not

been made to study area intersections that may be affected by new future roadway connections (such as the extension of Kimball Avenue/Limonite Avenue), where travel patterns would likely get affected and forecasts may potentially decrease from the Opening Year Cumulative conditions. Future estimated peak hour traffic data was used for new intersections and intersections with an anticipated change in travel patterns to further refine the Horizon Year (2040) peak hour forecasts.

The future Horizon Year (2040) Without Project peak hour turning movements were then reviewed by Urban Crossroads, Inc. for reasonableness, and in some cases, were adjusted to achieve flow conservation, reasonable growth, and reasonable diversion between parallel routes. Flow conservation checks ensure that traffic flow between two closely spaced intersections, such as two adjacent driveway locations, is verified in order to make certain that vehicles leaving one intersection are entering the adjacent intersection and that there is no unexplained loss of vehicles. The result of this traffic forecasting procedure is a series of traffic volumes which are suitable for traffic operations analysis.

The SBTAM and RivTAM do not include a truck component or have data that is unusually low. As such, in an effort to conduct a conservative analysis, the presence of trucks has been accounted for based on the manual volume adjustments made to demonstrate growth above Opening Year Cumulative (2023) traffic forecasts, which are presented and evaluated in PCE (see Section 3.7 *Existing Traffic Counts* for discussion on PCE). As such, the Horizon Year (2040) forecasts are also assumed to be in PCE for the purposes of this analysis. Post-processing worksheets for Horizon Year (2040) without Project traffic conditions are provided in Appendix 4.1.



## 5 E+P TRAFFIC CONDITIONS

This section discusses the traffic forecasts for Existing plus Project (E+P) conditions and the resulting intersection operations, off-ramp queuing, and traffic signal warrant analyses.

### 5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for E+P conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for E+P conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).

### 5.2 EXISTING PLUS PROJECT TRAFFIC VOLUME FORECASTS

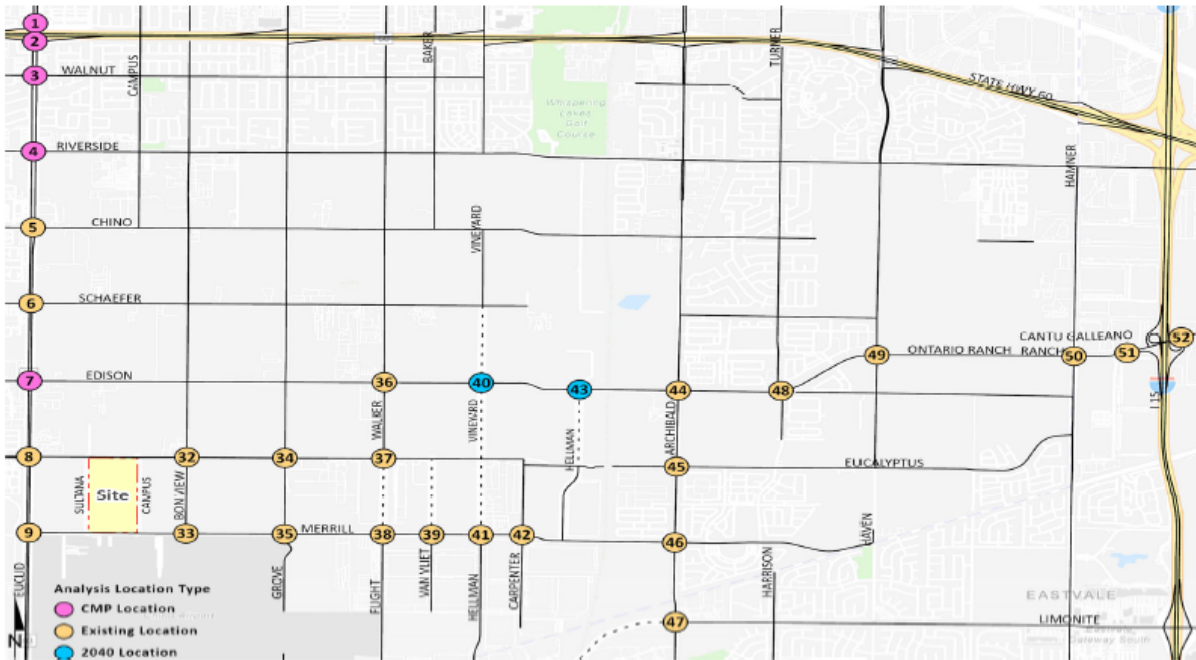
This scenario includes Existing traffic volumes plus Project traffic. The ADT and weekday AM and PM peak hour intersection turning movement volumes which can be expected for E+P traffic conditions are shown on Exhibit 5-1.

### 5.3 INTERSECTION OPERATIONS ANALYSIS

E+P peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TIA. The intersection analysis results are summarized on Table 5-1 for E+P traffic conditions, which indicate that the following no additional study area intersections are anticipated to operate at an unacceptable LOS, in addition to those identified for Existing traffic conditions.

The intersection operations analysis worksheets for E+P traffic conditions are included in Appendix 5.1 of this TA.

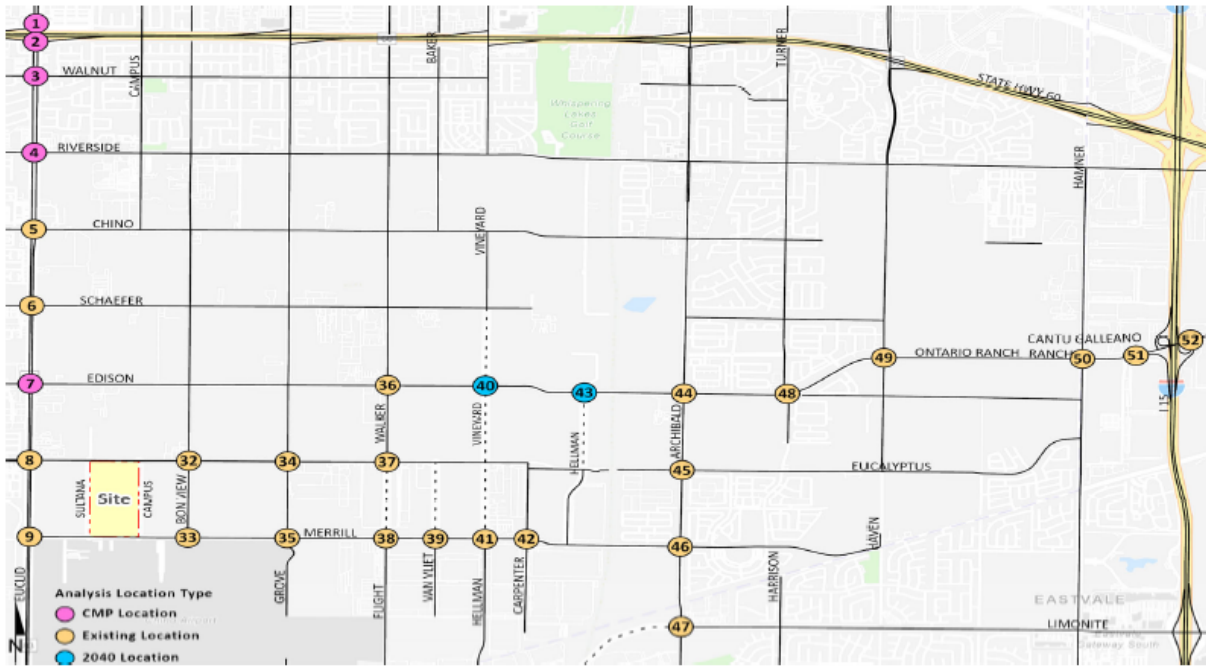
EXHIBIT 5-1: E+P TRAFFIC VOLUMES (1 OF 3)



1	2	3	4	5
<b>Euclid Av. (SR-83) &amp; SR-60 WB Ramps</b> 35,000 4,34(460) ← 871(957) → ↑ 406(383) ↓ ↑ 390(480) ↓ 284(221) ↓ 855(990) ↑ 8,500	<b>Euclid Av. (SR-83) &amp; SR-60 EB Ramps</b> 33,300 978(1087) ↓ 354(359) ↑ 376(367) ↓ 2(1) ↓ 250(270) ↓ 763(841) ↑ 518(432) ↑ 8,100	<b>Euclid Av. (SR-83) &amp; Walnut Av.</b> 32,550 61(152) ↓ 894(924) ↓ 160(272) ↑ 114(105) ↓ 295(363) → 111(134) ↓ 130(198) ↑ 946(999) ↑ 45(76) ↓ 16,050	<b>Euclid Av. (SR-83) &amp; Riverside Dr.</b> 27,400 153(195) ↓ 762(760) ↓ 183(133) ↑ 141(138) ↓ 310(446) → 51(70) ↓ 63(71) ↑ 741(894) ↑ 155(247) ↓ 18,400	<b>Euclid Av. (SR-83) &amp; Chino Av.</b> 27,300 92(71) ↓ 849(866) ↓ 49(24) ↑ 96(89) ↓ 163(275) → 36(47) ↓ 48(37) ↓ 835(1113) ↑ 123(230) ↑ 9,100
<b>Euclid Av. (SR-83) &amp; Schaefer Av.</b> 30,750 129(118) ↓ 828(927) ↓ 29(25) ↑ 154(280) ↓ 71(281) ↓ 57(180) ↓ 110(91) ↓ 841(1078) ↑ 29(72) ↑ 10(23) ↑ 178(61) ↓ 111(76) ↓ 6,750	<b>Euclid Av. (SR-83) &amp; Edison Av.</b> 32,200 140(152) ↓ 757(1075) ↓ 53(83) ↑ 105(200) ↓ 216(419) ↓ 109(275) ↓ 204(160) ↓ 790(1022) ↑ 30(56) ↓ 49(34) ↑ 397(244) ↑ 29(31) ↓ 18,150	<b>Euclid Av. (SR-83) &amp; Eucalyptus Av.</b> 31,200 39(67) ↓ 862(1185) ↓ 78(63) ↑ 69(34) ↓ 28(161) ↓ 149(207) ↓ 180(111) ↓ 979(1070) ↑ 10(17) ↓ 42(74) ↑ 157(23) ↓ 28(7) ↓ 4,100	<b>Euclid Av. (SR-83) &amp; Merrill Av.</b> 32,700 42(11) ↓ 867(1143) ↓ 131(255) ↑ 3(11) ↓ 6(30) ↓ 11(10) ↓ 11(2) ↓ 954(1051) ↑ 161(226) ↓ 212(136) ↑ 49(2) ↓ 207(199) ↓ 10,750	<b>Bon View Av. &amp; Merrill Av.</b> 2,100 36(32) ↓ 20(36) ↓ 21(69) ↓ 224(598) → 53(28) ↑ 526(307) ↑ 12,100
<b>Grove Av. &amp; Eucalyptus Av.</b> 8,250 61(37) ↓ 165(207) ↓ 7(5) ↑ 22(103) ↓ 35(127) ↓ 12(68) ↓ 62(14) ↓ 205(300) ↑ 6(4) ↓ 7(10) ↑ 112(33) ↓ 2,150	<b>Grove Av. &amp; Merrill Av.</b> 7,000 76(77) ↓ 113(162) ↑ 65(164) ↓ 179(470) → 209(153) ↑ 504(258) ↑ 13,050	<b>Walker Av. &amp; Edison Av.</b> 1,700 8(9) ↓ 11(10) ↓ 14(61) ↑ 11(12) ↓ 206(626) ↓ 5(1) ↓ 2(2) ↓ 14(14) ↓ 16(94) ↑ 129(27) ↑ 360(325) ↑ 145(25) ↓ 14,400	<b>Walker Av &amp; Eucalyptus Av</b> 1,650 78(20) ↓ 109(14) ↑ 19(90) ↓ 26(54) → 15(20) ↑ 52(25) ↓ 1,400	<b>Walker Av./Flight Av. &amp; Merrill Av.</b> 12,650 513(296) ↑ 89(81) ↓ 208(521) → 76(107) ↓ 163(98) ↓ 86(113) ↓ 5,000

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

EXHIBIT 5-1: E+P TRAFFIC VOLUMES (2 OF 3)

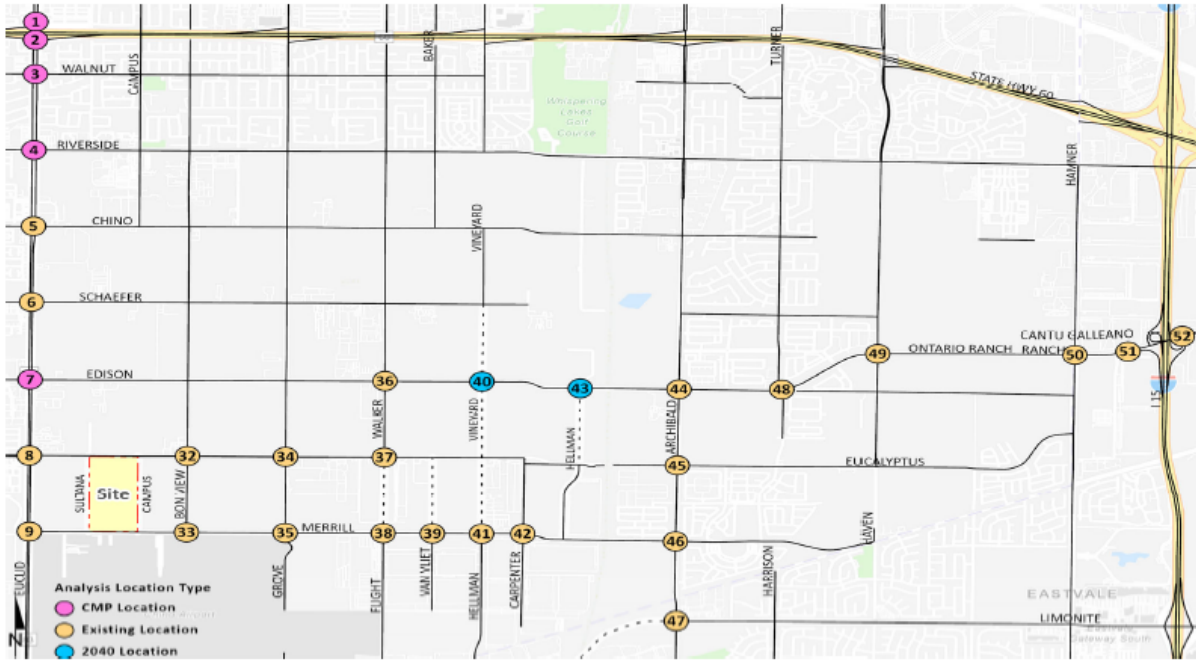


1	2	3	4	5
Euclid Av. (SR-83) & SR-60 WB Ramps	Euclid Av. (SR-83) & SR-60 EB Ramps	Euclid Av. (SR-83) & Walnut Av.	Euclid Av. (SR-83) & Riverside Dr.	Euclid Av. (SR-83) & Chino Av.
35,000 434(460) 871(957) 10,950 406(383) 3(2) 390(480) 284(221) → 855(990) ↑ 33,250	33,300 978(1087) 354(359) 9,850 376(367) ↓ 2(1) → 250(270) ↓ 33,050	32,550 61(152) 894(924) 160(272) 16,050 208(138) 311(363) 69(67) 114(105) ↓ 295(363) ↓ 111(134) ↓ 130(198) ↓ 946(999) → 45(76) ↓ 30,150	27,400 153(195) 762(760) 183(133) 18,400 101(59) 485(402) 180(180) 141(138) ↓ 310(446) → 51(70) ↓ 63(71) ↓ 741(894) → 155(247) → 27,900	27,300 92(71) 849(866) 49(24) 9,100 29(9) 143(108) 65(77) 96(89) ↓ 163(275) ↓ 36(47) ↓ 48(37) ↓ 895(1113) → 123(230) → 29,750
8,500	8,100	16,500	16,600	7,850
6	7	8	9	33
Euclid Av. (SR-83) & Schaefer Av.	Euclid Av. (SR-83) & Edison Av.	Euclid Av. (SR-83) & Eucalyptus Av.	Euclid Av. (SR-83) & Merrill Av.	Bon View Av. & Merrill Av.
30,750 129(118) 828(927) 29(25) 10(23) 178(61) 111(76) 154(280) ↓ 71(281) → 57(180) ↓ 110(91) ↓ 841(1,078) ↑ 29(72) ↓ 30,400	32,200 140(152) 757(1,075) 53(63) 49(34) 397(244) 29(31) 105(200) ↓ 216(419) → 109(275) ↓ 204(160) → 790(1,022) → 30(56) ↓ 32,800	31,200 39(67) 862(1,185) 78(63) 42(74) 157(23) 28(7) 69(34) ↓ 28(161) → 149(207) ↓ 180(111) ↓ 979(1,070) ↑ 10(17) ↓ 32,700	32,700 42(1) 867(1,143) 131(255) 212(136) 49(2) 207(199) 3(11) ↓ 6(30) → 11(10) ↓ 11(2) ↓ 954(1,051) ↑ 161(226) ↓ 33,000	2,100 36(32) 20(36) 53(28) 526(307) 21(69) ↓ 224(598) → 12,550
12,700	18,150	7,550	700	12,550
34	35	36	37	38
Grove Av. & Eucalyptus Av.	Grove Av. & Merrill Av.	Walker Av. & Edison Av.	Walker Av. & Eucalyptus Av.	Walker Av./Flight Av. & Merrill Av.
8,250 61(37) 165(207) 7(5) 7(10) 112(33) 11(3) 22(103) ↓ 35(127) → 12(68) ↓ 62(14) ↓ 205(300) ↑ 6(4) ↓ 7,450	7,000 76(77) 113(162) 209(153) 504(258) 65(164) ↓ 179(470) → 7,000	1,700 8(9) 11(10) 14(61) 129(27) 360(325) 145(25) 11(12) ↓ 206(626) → 5(1) ↓ 2(2) ↓ 14(14) → 16(94) → 1,700	1,650 78(20) 109(14) 15(20) 52(25) 19(90) ↓ 26(54) → 1,400	12,650 513(296) 89(81) 208(521) → 76(107) ↓ 163(98) ↓ 86(113) → 5,000
4,600	12,100	12,250	2,250	12,750

##(##) AM(PM) Peak Hour Intersection Volumes

## Average Daily Trips

EXHIBIT 5-1: E+P TRAFFIC VOLUMES (3 OF 3)



1	2	3	4	5
<b>Euclid Av. (SR-83) &amp; SR-60 WB Ramps</b> 35,000 434(460) 871(957) 406(383) 3(2) 390(480) 284(221) 855(990) 8,500 33,250	<b>Euclid Av. (SR-83) &amp; SR-60 EB Ramps</b> 33,300 978(1087) 354(359) 376(367) 2(1) 250(270) 763(841) 518(432) 8,100 33,050	<b>Euclid Av. (SR-83) &amp; Walnut Av.</b> 32,550 61(152) 894(924) 160(272) 114(105) 295(363) 111(134) 130(198) 946(999) 45(76) 16,500 30,150	<b>Euclid Av. (SR-83) &amp; Riverside Dr.</b> 27,400 153(195) 762(760) 183(133) 141(138) 310(446) 51(70) 63(71) 741(894) 155(247) 16,600 27,900	<b>Euclid Av. (SR-83) &amp; Chino Av.</b> 27,300 92(71) 849(866) 49(24) 96(89) 163(275) 36(47) 48(37) 835(1113) 123(230) 7,850 29,750
6	7	8	9	33
<b>Euclid Av. (SR-83) &amp; Schaefer Av.</b> 30,750 129(118) 828(927) 29(25) 10(23) 178(61) 111(76) 154(280) 71(281) 57(180) 110(91) 841(1078) 29(72) 12,700 30,400	<b>Euclid Av. (SR-83) &amp; Edison Av.</b> 32,200 140(152) 757(1075) 53(83) 49(34) 397(244) 29(31) 105(200) 216(419) 109(275) 204(160) 790(1022) 30(56) 18,150 32,800	<b>Euclid Av. (SR-83) &amp; Eucalyptus Av.</b> 31,200 39(67) 862(1185) 78(63) 42(74) 157(23) 28(7) 69(34) 28(161) 149(207) 180(111) 979(1070) 10(17) 7,550 32,700	<b>Euclid Av. (SR-83) &amp; Merrill Av.</b> 32,700 42(1) 867(1143) 131(255) 212(136) 49(2) 207(199) 3(11) 6(30) 11(10) 11(2) 954(1051) 161(216) 700 33,000	<b>Bon View Av. &amp; Merrill Av.</b> 2,100 36(32) 20(36) 53(28) 526(307) 21(69) 224(598) 12,550
34	35	36	37	38
<b>Grove Av. &amp; Eucalyptus Av.</b> 8,250 61(37) 165(207) 7(5) 7(10) 112(33) 11(3) 22(103) 35(127) 12(68) 62(14) 205(300) 6(4) 4,600 7,450	<b>Grove Av. &amp; Merrill Av.</b> 7,000 76(77) 113(162) 209(153) 504(258) 65(164) 179(470) 12,100	<b>Walker Av. &amp; Edison Av.</b> 1,700 8(9) 11(10) 14(61) 129(27) 360(325) 145(25) 11(12) 206(626) 5(1) 2(2) 14(14) 16(94) 1,700	<b>Walker Av. &amp; Eucalyptus Av.</b> 1,650 78(20) 108(14) 15(20) 52(25) 19(90) 26(54) 2,250	<b>Walker Av./Flight Av. &amp; Merrill Av.</b> 1,400 15(20) 52(25) 208(521) 76(107) 163(96) 86(113) 12,650

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips



TABLE 5-1: INTERSECTION ANALYSIS FOR E+P CONDITIONS (1 OF 2)

#	Intersection	Traffic Control <sup>2</sup>	Existing (2021)				E+P				Jurisdiction(s) / LOS Standard <sup>3</sup>
			Delay <sup>1</sup> (secs.)		Level of Service		Delay <sup>1</sup> (secs.)		Level of Service		
			AM	PM	AM	PM	AM	PM	AM	PM	
1	Euclid Av. (SR-83) & SR-60 WB Ramps	TS	22.4	19.1	C	B	23.2	20.3	C	C	Ontario, Caltrans / LOS D
2	Euclid Av. (SR-83) & SR-60 EB Ramps	TS	27.9	22.8	C	C	29.5	23.3	C	C	Ontario, Caltrans / LOS D
3	Euclid Av. (SR-83) & Walnut Av.	TS	31.8	34.9	C	C	31.9	35.2	C	D	Ontario, Caltrans / LOS E
4	Euclid Av. (SR-83) & Riverside Dr.	TS	51.9	<b>61.6</b>	D	<b>E</b>	53.2	<b>68.8</b>	D	<b>E</b>	Chino, Ontario, Caltrans / LOS D
5	Euclid Av. (SR-83) & Chino Av.	TS	22.8	24.6	C	C	23.0	25.2	C	C	Chino, Ontario, Caltrans / LOS D
6	Euclid Av. (SR-83) & Schaefer Av.	TS	26.0	29.0	C	C	27.7	30.6	C	C	Chino, Ontario, Caltrans / LOS D
7	Euclid Av. (SR-83) & Edison Av.	TS	41.4	43.9	D	D	44.7	47.8	D	D	Chino, Ontario, Caltrans / LOS D
8	Euclid Av. (SR-83) & Eucalyptus Av.	TS	14.8	14.2	B	B	16.9	15.2	B	B	Chino, Ontario, Caltrans / LOS D
9	Euclid Av. (SR-83) & Merrill Av.	TS	29.7	35.9	C	D	36.6	50.8	D	D	Chino, Ontario, Caltrans / LOS D
10	Sultana Av. & Eucalyptus Av.	CSS	Future Intersection				10.0	11.1	B	B	Ontario / LOS E
11	Sultana Av. & Driveway 1	CSS	Future Intersection				8.7	8.8	A	A	Ontario / LOS E
12	Sultana Av. & Driveway 2	CSS	Future Intersection				8.7	8.8	A	A	Ontario / LOS E
13	Sultana Av. & Driveway 3	CSS	Future Intersection				8.7	8.8	A	A	Ontario / LOS E
14	Sultana Av. & Driveway 4	CSS	Future Intersection				8.6	8.7	A	A	Ontario / LOS E
15	Sultana Av. & Driveway 5	CSS	Future Intersection				8.7	8.8	A	A	Ontario / LOS E
16	Sultana Av. & Driveway 6	CSS	Future Intersection				8.9	8.8	A	A	Ontario / LOS E
17	Sultana Av. & Driveway 7	CSS	Future Intersection				8.6	8.8	A	A	Ontario / LOS E
18	Sultana Av. & Merrill Av.	CSS	Future Intersection				15.9	16.8	C	C	Chino, Ontario / LOS D
19	Driveway 8 & Merrill Av.	CSS	Future Intersection				12.7	13.4	B	B	Chino, Ontario / LOS D
20	Driveway 9 & Eucalyptus Av.	CSS	Future Intersection				9.4	9.9	A	A	Ontario / LOS E
21	Driveway 10 & Eucalyptus Av.	CSS	Future Intersection				9.5	10.0	A	B	Ontario / LOS E
22	Driveway 11 & Merrill Av.	CSS	Future Intersection				12.7	13.5	B	C	Chino, Ontario / LOS D
23	Campus Av. & Eucalyptus Av.	CSS	Future Intersection				10.9	11.4	B	B	Chino, Caltrans / LOS D
24	Campus Av & Driveway 12	CSS	Future Intersection				8.7	8.6	A	A	Ontario / LOS E
25	Campus Av & Driveway 13	CSS	Future Intersection				8.7	8.7	A	A	Ontario / LOS E
26	Campus Av & Driveway 14	CSS	Future Intersection				8.7	8.7	A	A	Ontario / LOS E
27	Campus Av & Driveway 15	CSS	Future Intersection				8.6	8.7	A	A	Ontario / LOS E
28	Campus Av & Driveway 16	CSS	Future Intersection				8.7	8.8	A	A	Ontario / LOS E
29	Campus Av & Driveway 17	CSS	Future Intersection				8.7	8.8	A	A	Ontario / LOS E
30	Campus Av & Driveway 18	CSS	Future Intersection				8.7	8.9	A	A	Ontario / LOS E
31	Campus Av. & Merrill Av.	CSS	Future Intersection				18.1	24.6	C	C	Chino, Caltrans / LOS D
32	Bon View Av. & Eucalyptus Av.	AWS	8.8	9.1	A	A	9.4	10.1	A	B	Ontario / LOS E
33	Bon View Av. & Merrill Av.	CSS	17.1	24.2	C	C	19.0	28.3	C	D	Chino, Ontario / LOS D
34	Grove Av. & Eucalyptus Av.	AWS	12.3	<b>&gt;100.0</b>	B	<b>F</b>	12.3	<b>&gt;100.0</b>	B	<b>F</b>	Ontario / LOS E
35	Grove Av. & Merrill Av.	AWS	<b>54.8</b>	<b>48.5</b>	<b>F</b>	<b>F</b>	<b>79.7</b>	<b>73.9</b>	<b>F</b>	<b>F</b>	Chino, Ontario / LOS D
36	Walker Av. & Edison Av.	AWS	19.7	<b>46.7</b>	C	<b>F</b>	25.0	<b>56.9</b>	C	<b>F</b>	Ontario / LOS E
37	Walker Av & Eucalyptus Av.	CSS	10.4	10.2	B	B	10.8	10.4	B	B	Ontario / LOS E
38	Walker Av./Flight Av. & Merrill Av.	CSS	27.7	26.0	D	D	32.9	31.2	D	D	Chino, Ontario / LOS D
39	Van Vliet Av./Baker Av. & Merrill Av.	CSS	11.6	14.1	B	B	12.6	15.1	B	C	Ontario / LOS E
40	Vineyard Av. & Edison Av.		Future Intersection				Future Intersection				Ontario / LOS E
41	Vineyard Av./Hellman Av. & Merrill Av.	CSS	0.0	0.0	A	A	0.0	0.0	A	A	Chino, Ontario / LOS D
42	Carpenter Av. & Merrill Av.	AWS	<b>81.8</b>	<b>86.0</b>	<b>F</b>	<b>F</b>	<b>110.0</b>	<b>118.5</b>	<b>F</b>	<b>F</b>	Chino, Ontario / LOS D

**TABLE 5-1: INTERSECTION ANALYSIS FOR E+P CONDITIONS (2 OF 2)**

#	Intersection	Traffic Control <sup>2</sup>	Existing (2021)				E+P				Jurisdiction(s) / LOS Standard <sup>3</sup>
			Delay <sup>1</sup> (secs.)		Level of Service		Delay <sup>1</sup> (secs.)		Level of Service		
			AM	PM	AM	PM	AM	PM	AM	PM	
43	Hellman Av. & Edison Av.		Future Intersection				Future Intersection				Ontario / LOS E
44	Archibald Av. & Ontario Ranch Rd.	TS	33.9	28.4	C	C	39.3	29.6	D	C	Ontario / LOS E
45	Archibald Av. & Eucalyptus Av.	TS	6.1	3.3	A	A	6.1	3.4	A	A	Ontario / LOS E
46	Archibald Av. & Merrill Av.	TS	32.1	31.1	C	C	36.7	34.2	D	C	Ontario / LOS E
47	Archibald Av. & Limonite Av.	TS	<b>64.1</b>	23.1	<b>E</b>	C	<b>70.5</b>	25.3	<b>E</b>	C	Eastvale / LOS D
48	Turner Av. & Ontario Ranch Rd.	TS	16.8	14.9	B	B	17.1	15.3	B	B	Ontario / LOS E
49	Haven Av. & Ontario Ranch Rd.	TS	24.1	23.0	C	C	24.0	23.0	C	C	Ontario / LOS E
50	Hamner Av. & Ontario Ranch Rd.	TS	47.1	<b>123.6</b>	D	A	49.4	<b>126.2</b>	D	<b>F</b>	Eastvale, Ontario / LOS D
51	I-15 SB Ramps & Cantu Galleano Ranch Rd.	TS	15.2	13.3	B	A	15.6	13.4	B	B	Eastvale, Caltrans / LOS D
52	I-15 NB Ramps & Cantu Galleano Ranch Rd.	TS	20.3	12.8	C	A	20.2	12.9	C	B	Jurupa Valley, Caltrans / LOS D

**BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).  
<sup>1</sup> Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.  
<sup>2</sup> CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **CSS** = Improvement  
<sup>3</sup> Minimum acceptable LOS for each applicable jurisdiction.

### 5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The following study area intersections are anticipated to meet peak hour volume-based traffic signal warrants for E+P traffic conditions (see Appendix 5.2), in addition to those previously warranted under Existing traffic conditions:

- Walker Avenue & Edison Avenue (#36)

### 5.5 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for E+P are presented on Table 5-2. As shown on Table 5-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows with the addition of Project traffic. Worksheets for E+P traffic conditions off-ramp queuing analysis are provided in Appendix 5.3.

**TABLE 5-2: PEAK HOUR FREEWAY OFF-RAMP QUEUING SUMMARY FOR E+P CONDITIONS**

#	Intersection	Movement	Available Stacking Distance (Feet)	Existing (2021)				E+P			
				95th Percentile Queue (Feet) <sup>3</sup>		Acceptable? <sup>1</sup>		95th Percentile Queue (Feet) <sup>3</sup>		Acceptable? <sup>1</sup>	
				AM Peak	PM Peak	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
1	Euclid Avenue (SR-83) & SR-60 WB Ramps	WBL	400	323 <sup>2</sup>	287	Yes	Yes	343 <sup>2</sup>	292	Yes	Yes
		WBL/T/R	1,430	331 <sup>2</sup>	294	Yes	Yes	359 <sup>2</sup>	295	Yes	Yes
		WBR	400	216	217	Yes	Yes	225	222	Yes	Yes
2	Euclid Avenue (SR-83) & SR-60 EB Ramps	EBL	900	386 <sup>2</sup>	375 <sup>2</sup>	Yes	Yes	386 <sup>2</sup>	375 <sup>2</sup>	Yes	Yes
		EBT/R	1,270	303 <sup>2</sup>	315 <sup>2</sup>	Yes	Yes	362 <sup>2</sup>	338 <sup>2</sup>	Yes	Yes
51	I-15 SB Ramps & Cantu Galleano	SBL	1,440	110	94	Yes	Yes	110	94	Yes	Yes
		SBL/R	560	371 <sup>2</sup>	204	Yes	Yes	397 <sup>2</sup>	210	Yes	Yes
		SBR	460	280 <sup>2</sup>	183	Yes	Yes	358 <sup>2</sup>	189	Yes	Yes
52	I-15 NB Ramps & Cantu Galleano	NBL	1,680	91	67	Yes	Yes	91	67	Yes	Yes
		NBR	440	52	45	Yes	Yes	52	45	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

<sup>2</sup> 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

<sup>3</sup> Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the SR-60, SR-71, or I-15 Freeway mainline.

## 5.6 IMPROVEMENTS

This section provides a summary of Project deficiencies and identified improvements. Based on the City of Ontario deficiency criteria discussed in Section 2.6 *Deficiency Criteria*, intersections were found to be deficient.

### 5.6.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

The effectiveness of the proposed recommended improvements is presented on Table 5-2 for E+P traffic conditions. The intersection operations analysis worksheets for E+P traffic conditions, with improvements, are included in Appendix 5.4 of this TA.

**TABLE 5-3: INTERSECTION ANALYSIS FOR E+P CONDITIONS WITH IMPROVEMENTS**

#	Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (secs.)		Level of Service		Jurisdiction(s) / LOS Standard		
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM			
			L	T	R	L	T	R	L	T	R	L	T	R	L	T	R				
4	Euclid Av. (SR-83) & Riverside Dr. - Without Improvements <sup>4</sup> - With Improvements <sup>5</sup>	TS	1	2	0	1	2	1>	1	1	0	1	2	d	53.2	68.8		D	E	Chino, Ontario, Caltrans / LOS D	
		TS	1	3	0	1	2	1>	1	1	1	1	2	d	45.4	48.7		D	D		
34	Grove Av. & Eucalyptus Av. - Without Improvements - With Improvements	AWS	0	1	0	0	1	0	0	1	0	0	1	0	12.3	>100.0		B	F	Ontario / LOS E	
		TS	0	2	0	0	1	0	1	1	0	0	1	0	8.8	13.2		A	B		
35	Grove Av. & Merrill Av. - Without Improvements - With Improvements	AWS	0	0	0	0	1	0	0	1	0	0	1	0	79.7	73.9		F	F	Chino, Ontario / LOS D	
		TS	0	0	0	0	1	0	1	1	0	0	1	0	18.3	14.4		B	B		
36	Walker Av. & Edison Av. - Without Improvements - With Improvements	AWS	0	1	0	0	1	0	0	1	0	0	1	0	25.0	56.9		C	F	Ontario / LOS E	
		TS	0	1	0	0	1	0	0	1	0	0	1	0	8.7	10.1		A	B		
42	Carpenter Av. & Merrill Av. - Without Improvements - With Improvements	AWS	0	1	0	0	1	0	1	1	1	1	1	0	110.0	118.5		F	F	Chino, Ontario / LOS D	
		TS	0	1	0	0	1	0	1	1	1	1	1	0	9.7	9.4		A	A		
47	Archibald Av. & Limonite Av. - Without Improvements - With Improvements	TS	0	1	1>	1	1	0	0	0	0	2	0	1>	70.5	25.3		E	C	Eastvale / LOS D	
		TS	0	1	1>	1	1	0	0	0	0	2	0	2>	35.0	38.9		D	D		
50	Hamner Av. & Ontario Ranch Rd. - Without Improvements <sup>5</sup> - With Improvements <sup>5</sup>	TS	2	3	1	2	2	1	2	4	0	2	2	1	49.4	126.2		D	F	Eastvale, Ontario / LOS D	
		TS	2	3	1	2	3	0	2	4	0	2	2	1	46.5	66.5		D	E		

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.  
L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; d= Defacto Right Turn Lane; 1 = Improvement

<sup>2</sup> Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> AWS = All-Way Stop; CSS = Cross-Street Stop; TS = Traffic Signal; TS = Improvement

<sup>4</sup> Improvement includes restriping the northbound approach to provide one left turn lane, two through lanes, and one shared through-right turn lane.

<sup>5</sup> Improvement includes modifying the traffic signal to extend the cycle length to 130 seconds.

**5.6.2 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES**

As shown previously on Table 5-2, there are no peak hour queuing issues anticipated at the SR-60 Freeway, and I-15 Freeway study area interchanges. As such, no improvements have been identified.



## 6 OPENING YEAR CUMULATIVE (2023) TRAFFIC CONDITIONS

This section discusses the methods used to develop Opening Year Cumulative (2023) Without and With Project traffic forecasts, and the resulting intersection operations, off-ramp queuing, and traffic signal warrant analyses.

### 6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Opening Year Cumulative (2023) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Opening Year Cumulative conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Opening Year Cumulative conditions only.

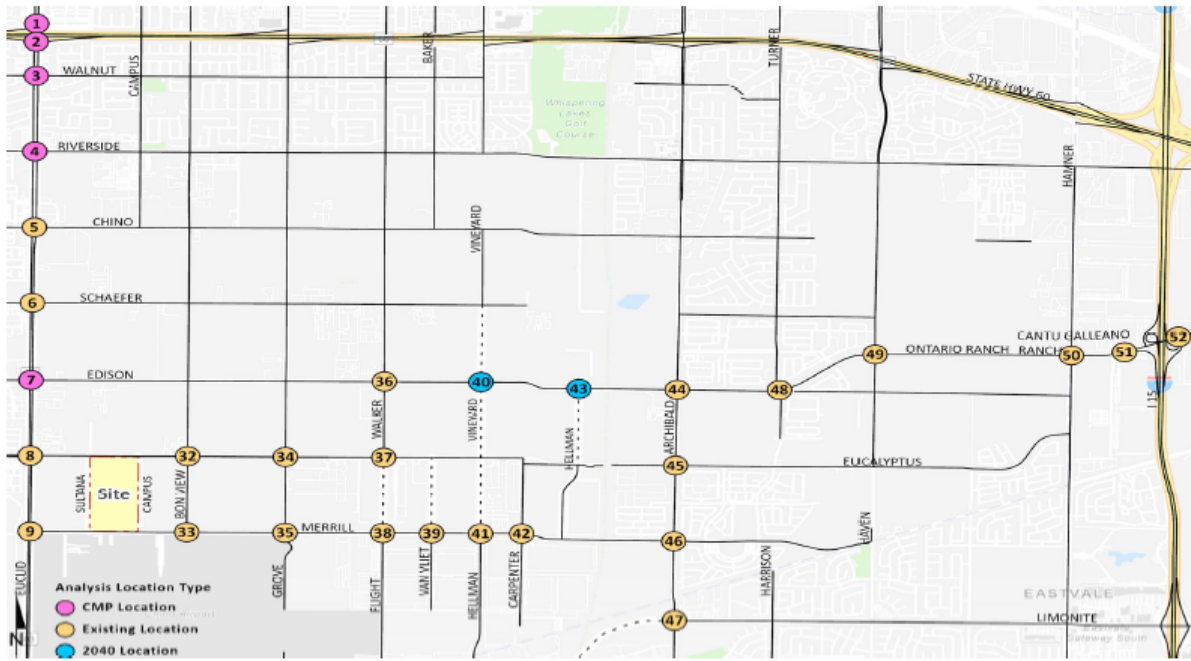
### 6.2 OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus an ambient growth factor of 4.04% plus traffic from pending and approved but not yet constructed known development projects in the area. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Opening Year Cumulative (2023) Without Project traffic conditions are shown on Exhibit 6-1.

### 6.3 OPENING YEAR CUMULATIVE (2023) WITH PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes Opening Year Cumulative (2023) Without Project traffic in conjunction with the addition of Project traffic. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Opening Year Cumulative (2023) With Project traffic conditions are shown on Exhibit 6-2, respectively.

**EXHIBIT 6-1: OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT TRAFFIC VOLUMES (1 OF 3)**



1	2	3	4	5
<b>Euclid Av. (SR-83) &amp; SR-60 WB Ramps</b> 36,650 451(478) 915(1003) 422(398) 3(2) 417(508) 339(336) 898(1042) 9,900 36,000	<b>Euclid Av. (SR-83) &amp; SR-60 EB Ramps</b> 36,100 1038(1147) 368(373) 391(382) 2(1) 362(332) 844(993) 547(461) 9,500 37,000	<b>Euclid Av. (SR-83) &amp; Walnut Av.</b> 36,500 63(158) 1053(1029) 166(283) 119(109) 307(378) 115(140) 135(206) 1043(1169) 47(80) 17,150 33,950	<b>Euclid Av. (SR-83) &amp; Riverside Dr.</b> 31,100 159(203) 915(857) 191(140) 106(62) 508(420) 189(189) 71(94) 828(1059) 163(259) 17,650 31,950	<b>Euclid Av. (SR-83) &amp; Chino Av.</b> 31,300 95(73) 1023(976) 51(26) 32(10) 152(115) 68(80) 100(93) 171(289) 43(52) 53(45) 932(1307) 129(240) 8,350 34,000
6	7	8	9	33
<b>Euclid Av. (SR-83) &amp; Schaeffer Av.</b> 35,050 134(123) 1006(1042) 30(28) 12(24) 186(67) 116(79) 160(291) 76(293) 63(189) 116(99) 941(1277) 30(75) 13,300 34,700	<b>Euclid Av. (SR-83) &amp; Edison Av.</b> 36,600 146(158) 892(1181) 99(103) 63(86) 446(343) 52(47) 109(208) 301(477) 104(286) 213(156) 878(1173) 39(81) 20,250 36,800	<b>Euclid Av. (SR-83) &amp; Eucalyptus Av.</b> 35,150 41(71) 1035(1318) 59(55) 38(51) 164(27) 29(8) 72(37) 32(168) 160(219) 190(122) 1088(1261) 10(17) 8,050 37,200	<b>Euclid Av. (SR-83) &amp; Merrill Av.</b> 37,000 44(1) 972(1252) 196(286) 238(201) 51(2) 241(289) 3(12) 6(31) 12(11) 11(2) 1044(1174) 244(267) 750 37,550	<b>Bon View Av. &amp; Merrill Av.</b> 2,950 45(60) 29(59) 76(31) 553(444) 49(81) 350(657) 0(-23) 15,500
34	35	36	37	38
<b>Grove Av. &amp; Eucalyptus Av.</b> 11,700 89(50) 251(248) 86(37) 29(92) 107(50) 41(14) 29(141) 47(148) 14(49) 67(15) 235(399) 12(27) 5,200 9,550	<b>Grove Av. &amp; Merrill Av.</b> 9,400 107(118) 148(230) 262(190) 568(367) 103(214) 280(528) 15,500	<b>Walker Av. &amp; Edison Av.</b> 1,750 9(10) 66(11) 49(64) 144(28) 401(367) 168(67) 12(13) 305(683) 28(1) 8(2) 28(14) 21(217) 13,450 3,500	<b>Walker Av. &amp; Eucalyptus Av.</b> 3,450 175(61) 114(14) 15(21) 54(26) 73(213) 27(56) 4,050	<b>Walker Av. /Flight Av. &amp; Merrill Av.</b> 1,150 8(32) 2(7) 7(26) 25(9) 613(405) 95(85) 31(11) 307(631) 80(112) 170(108) 6(2) 90(120) 16,350 5,300

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

EXHIBIT 6-1: OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT TRAFFIC VOLUMES (2 OF 3)

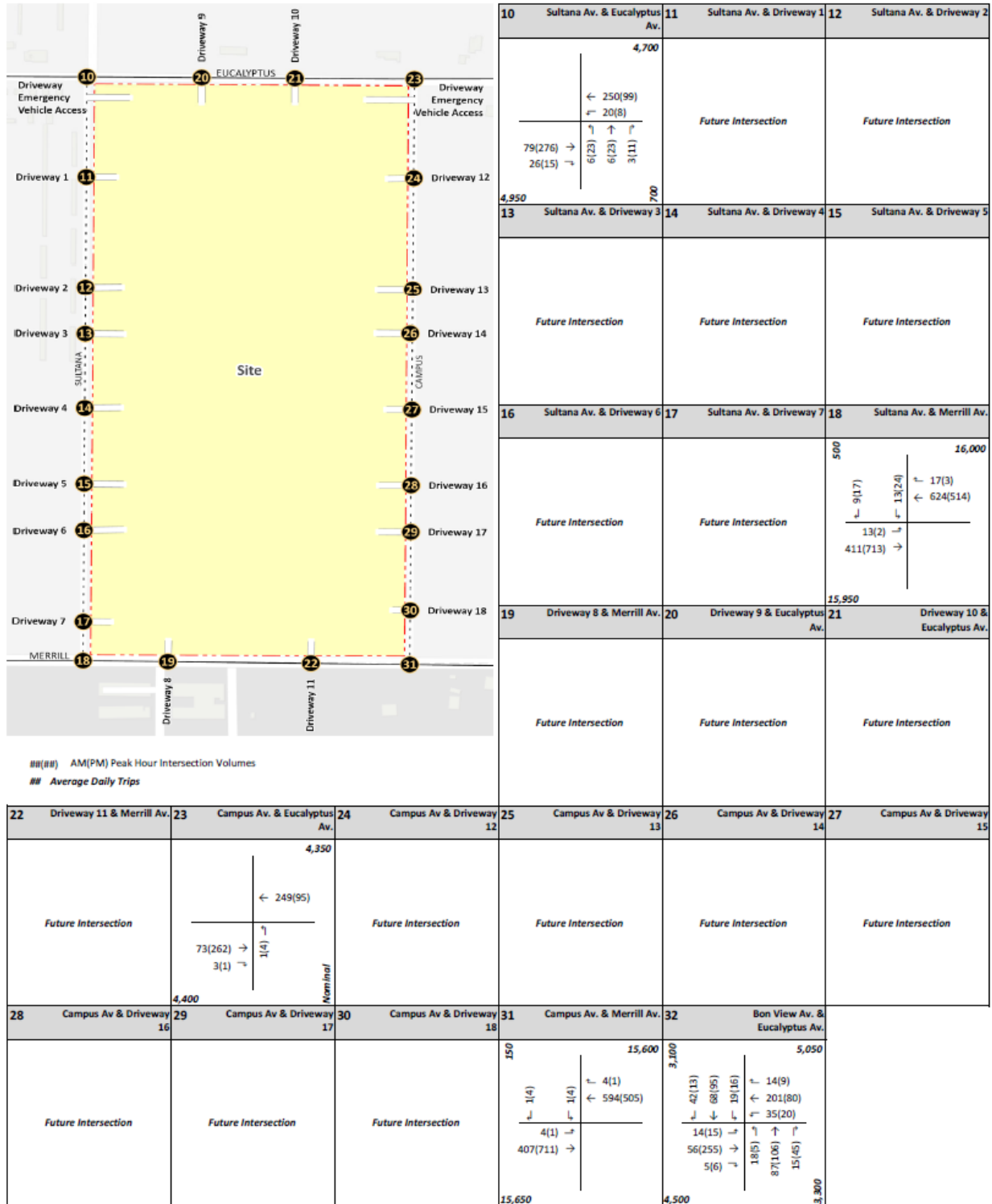
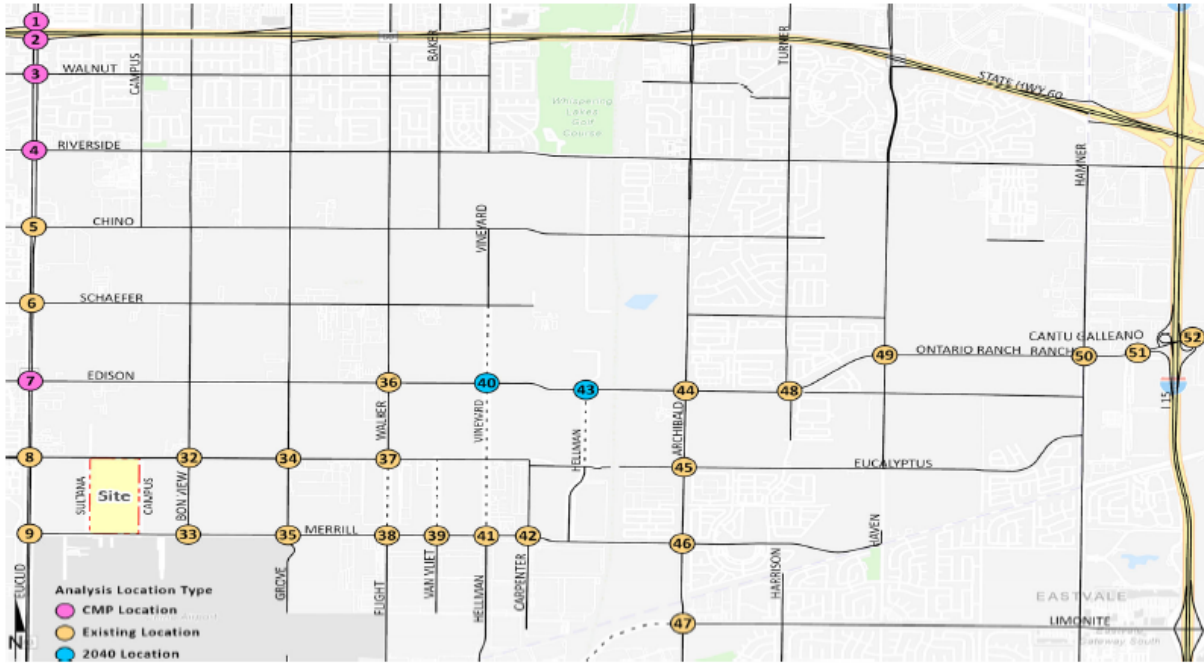


EXHIBIT 6-1: OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT TRAFFIC VOLUMES (3 OF 3)

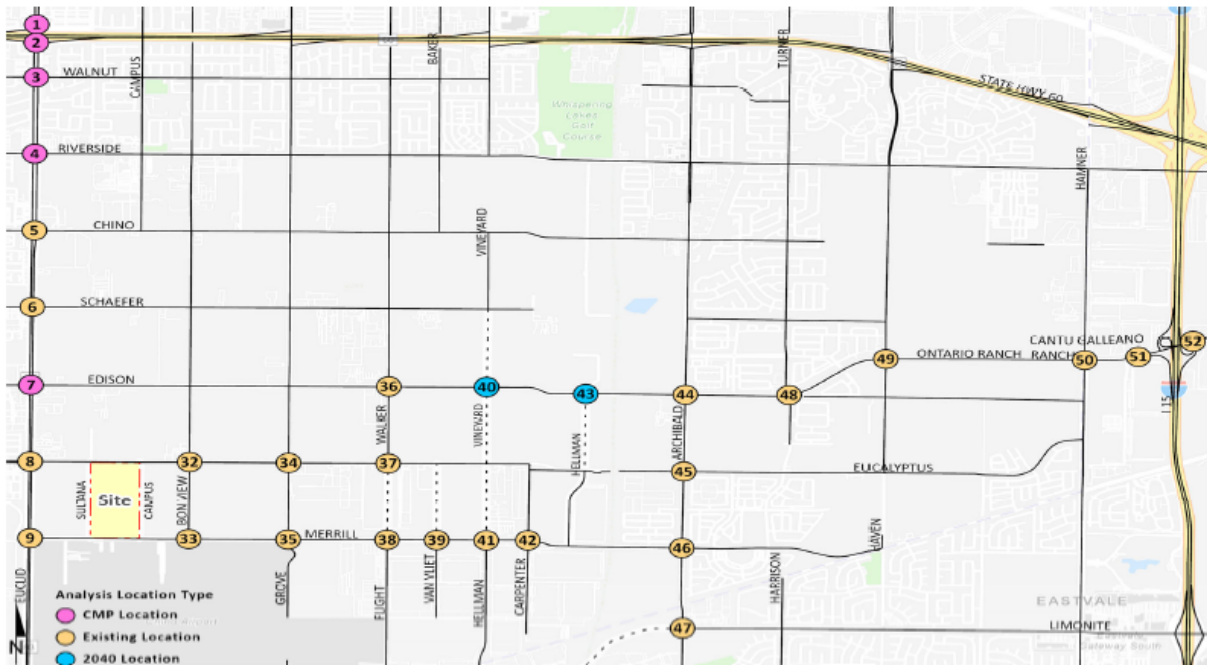


39	40	41	42	43																																																						
Van Vliet Av./Baker Av. & Merrill Av.	Vineyard Av. & Edison Av.	Vineyard Av./Hellman Av. & Merrill Av.	Carpenter Av. & Merrill Av.	Hellman Av. & Edison Av.																																																						
800 16,150		900 16,950	1,350 18,700																																																							
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Archibald Av. & Ontario Ranch Rd.	Archibald Av. & Eucalyptus Av.	Archibald Av. & Merrill Av.	Archibald Av. & Limonite Av.	Turner Av. & Ontario Ranch Rd.																																																						
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Haven Av. & Ontario Ranch Rd.	Hamner Av. & Ontario Ranch Rd.	I-15 SB Ramps & Cantu Galleano Ranch Rd.	I-15 NB Ramps & Cantu Galleano Ranch Rd.																																																							
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811(871) →																																																										
22,900	25,050	38,900	18,550																																																							

##(##) AM(PM) Peak Hour Intersection Volumes

## Average Daily Trips

**EXHIBIT 6-2: OPENING YEAR CUMULATIVE (2023) WITH PROJECT TRAFFIC VOLUMES (1 OF 3)**



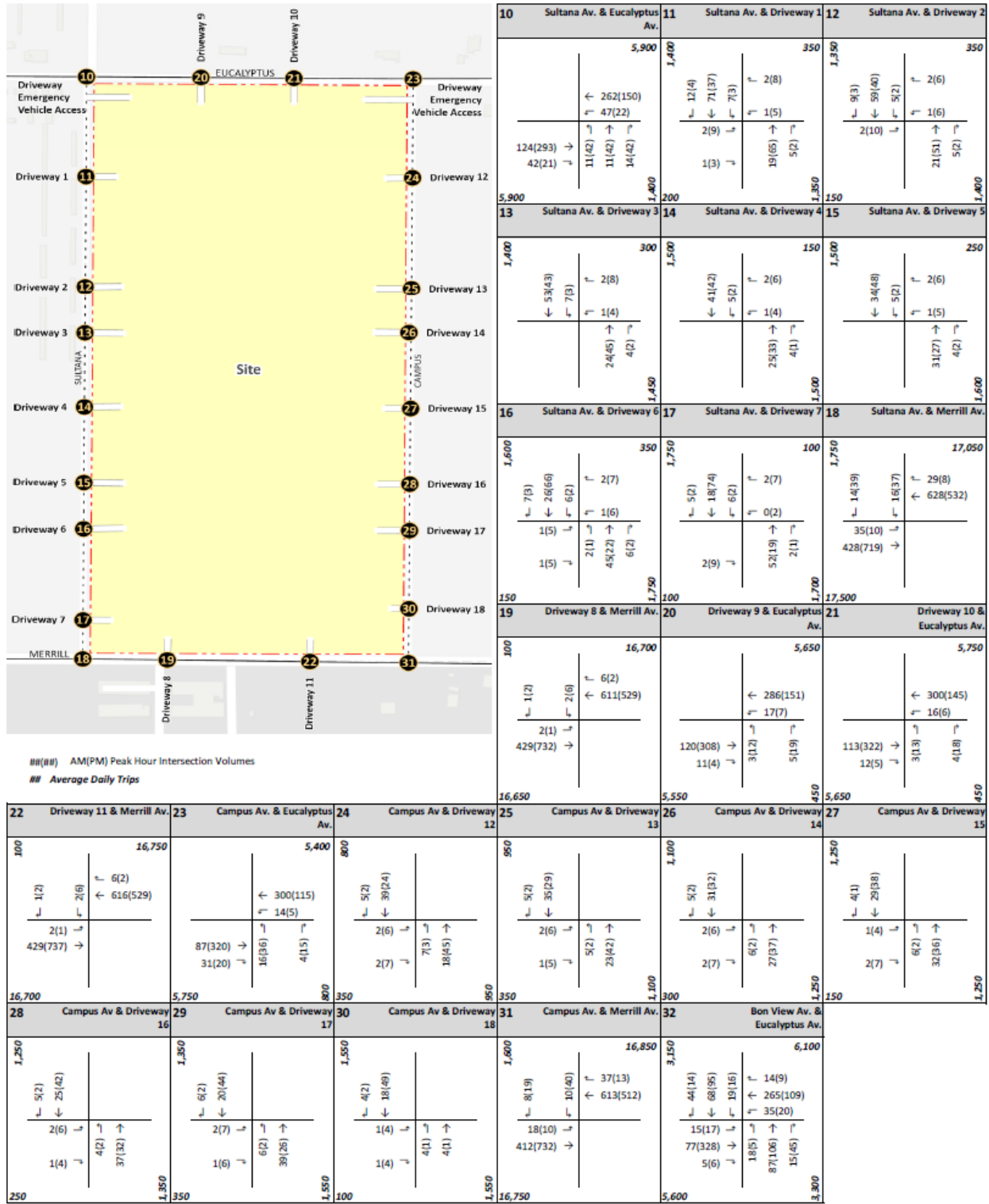
1	2	3	4	5
<b>Euclid Av. (SR-83) &amp; SR-60 WB Ramps</b>	<b>Euclid Av. (SR-83) &amp; SR-60 EB Ramps</b>	<b>Euclid Av. (SR-83) &amp; Walnut Av.</b>	<b>Euclid Av. (SR-83) &amp; Riverside Dr.</b>	<b>Euclid Av. (SR-83) &amp; Chino Av.</b>
36,700 ← 451(478) ← 917(1004) ↑ 422(398) ↑ 3(2) ↑ 436(515) 344(358) → 897(1044) → 10,100	11,700 36,500 ← 1059(1155) ← 368(373) 391(382) ↓ 2(1) → 382(340) ↓ 850(1017) → 552(482) → 9,700	37,250 ← 631(58) ← 1094(1045) 119(109) ↓ 307(378) → 119(141) ↓ 136(210) → 1054(1213) → 47(80) → 17,250	16,700 31,950 ← 159(203) ← 960(874) 147(144) ↓ 324(468) → 73(81) ↓ 159(203) → 960(874) → 191(140) → 189(189) → 508(420) → 163(259) → 17,700	19,300 32,200 ← 95(73) ← 1072(994) 100(93) ↓ 171(289) → 45(53) ↓ 95(73) → 1072(994) → 51(26) → 152(115) → 68(80) → 945(1360) → 129(240) → 8,400
<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>33</b>
<b>Euclid Av. (SR-83) &amp; Schaefer Av.</b>	<b>Euclid Av. (SR-83) &amp; Edison Av.</b>	<b>Euclid Av. (SR-83) &amp; Eucalyptus Av.</b>	<b>Euclid Av. (SR-83) &amp; Merrill Av.</b>	<b>Bon View Av. &amp; Merrill Av.</b>
35,950 134(123) ↓ ← 1057(1061) 30(28) ↓ ↑ 12(24) ↑ 186(67) ↑ 116(79) 160(291) → 76(293) → 65(190) ↓ 117(101) → 954(1332) → 30(75) → 7,100 13,350	7,100 37,550 146(158) ↓ ← 945(1201) 99(103) ↓ ↑ 63(86) ↑ 446(343) ↑ 52(47) 109(208) ↓ 301(477) ↓ 126(295) ↓ 219(181) → 892(1230) → 39(81) → 14,050 20,600	36,450 41(71) ↓ ← 1051(1324) 118(78) ↓ ↑ 54(118) ↑ 165(29) 29(8) ↓ 72(37) → 34(169) → 160(219) ↓ 190(122) → 1092(1276) → 10(17) → 4,950 8,100	4,950 37,350 44(1) ↓ ← 972(1252) 212(292) ↓ ↑ 242(216) ↑ 51(2) 247(314) → 3(12) ↓ 6(31) → 12(11) ↓ 11(2) → 1044(1174) → 267(276) → 14,600 750	15,850 2,950 45(60) ↓ ← 29(59) ↑ 76(31) ← 605(464) 49(81) ↓ 364(714) → 0(-23) ↓ 16,350
<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>38</b>
<b>Grove Av. &amp; Eucalyptus Av.</b>	<b>Grove Av. &amp; Merrill Av.</b>	<b>Walker Av. &amp; Edison Av.</b>	<b>Walker Av. &amp; Eucalyptus Av.</b>	<b>Walker Av. /Flight Av. &amp; Merrill Av.</b>
12,000 108(57) ↓ ← 251(248) 86(37) ↓ ↑ 29(92) ↑ 151(67) ↑ 41(14) 34(162) ↓ 59(198) → 14(49) ↓ 67(15) → 235(399) → 12(27) → 4,750 6,200	4,750 9,400 107(118) ↓ ← 148(230) ↑ 262(190) ↑ 620(387) 103(214) ↓ 294(585) → 17,600 16,400	17,600 1,750 9(10) ↓ ← 66(11) 49(64) ↓ ↑ 144(28) ↑ 401(367) 212(84) ↓ 12(13) ↓ 305(683) → 28(1) ↓ 8(2) → 28(14) → 33(267) → 18,100 13,450	18,100 4,150 219(78) ↓ ← 114(14) ↑ 15(21) ↑ 54(26) 85(263) ↓ 27(56) → 1,450 4,200	1,450 1,150 8(32) ↓ ← 2(7) 7(26) ↓ ↑ 25(9) ↑ 661(423) 95(85) ↓ 31(11) ↓ 320(684) → 81(116) ↓ 174(104) → 6(2) → 90(120) → 17,050 5,350

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

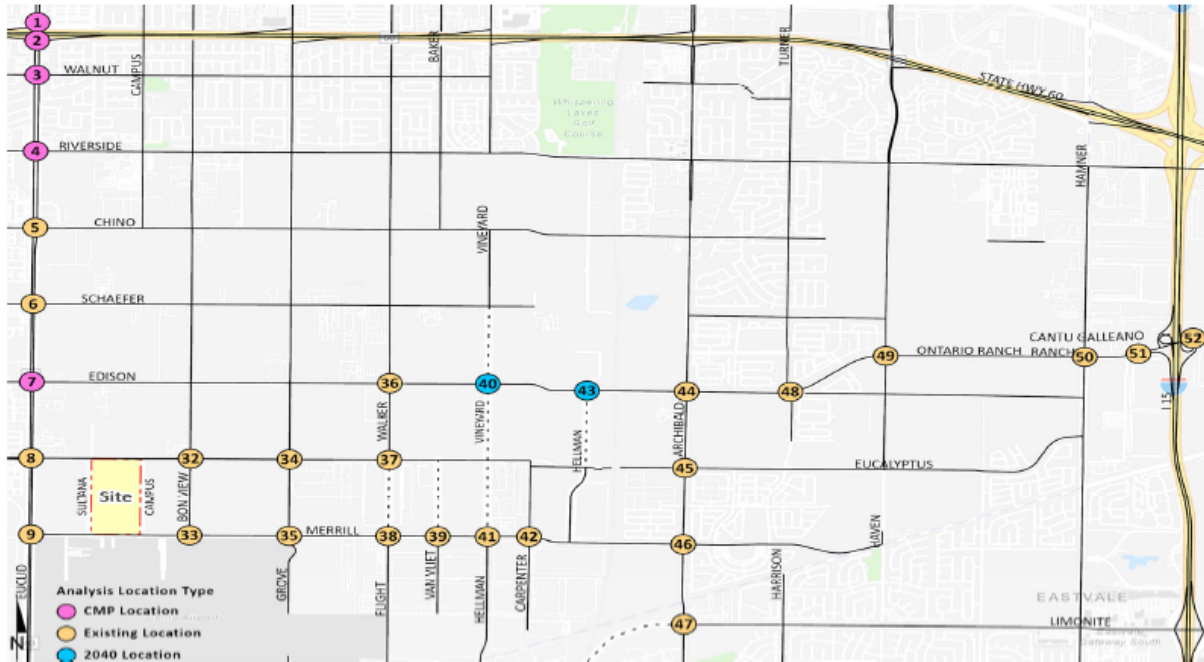




EXHIBIT 6-2: OPENING YEAR CUMULATIVE (2023) WITH PROJECT TRAFFIC VOLUMES (2 OF 3)



**EXHIBIT 6-2: OPENING YEAR CUMULATIVE (2023) WITH PROJECT TRAFFIC VOLUMES (3 OF 3)**



<p><b>39 Van Vliet Av./Baker Av. &amp; Merrill Av.</b></p> <p>800</p> <p>16,950</p> <p>5(19) ↓    6(23) ↓</p> <p>↑ 22(8)    ↑ 775(461)</p> <p>↓ 12(5)</p> <p>19(7) →    14(19) →</p> <p>365(837) →    16(11) →</p> <p>33(13) ↓</p> <p>17,150</p>	<p><b>40 Vineyard Av. &amp; Edison Av.</b></p> <p>Future Intersection</p>	<p><b>41 Vineyard Av./Hellman Av. &amp; Merrill Av.</b></p> <p>900</p> <p>17,750</p> <p>3(10) ↓    2(7) ↓    8(32) ↓</p> <p>↑ 31(11)    ↑ 789(459)</p> <p>↓ 18(15)</p> <p>10(3) →    7(10) →    6(2) →</p> <p>372(861) →    13(20) →</p> <p>6(8) ↓</p> <p>17,000</p>	<p><b>42 Carpenter Av. &amp; Merrill Av.</b></p> <p>1,350</p> <p>19,450</p> <p>10(11) ↓    0(4) ↓    113(66) ↓</p> <p>↑ 54(11)    ↑ 821(413)</p> <p>↓ 106(20)</p> <p>18(8) →    11(30) →    0(4) →</p> <p>348(902) →    71(114) →</p> <p>17(19) ↓</p> <p>17,550</p>	<p><b>43 Hellman Av. &amp; Edison Av.</b></p> <p>Future Intersection</p>
<p><b>44 Archibald Av. &amp; Ontario Ranch Rd.</b></p> <p>23,750</p> <p>23,000</p> <p>150(90) ↓    451(825) ↓    65(143) ↓</p> <p>↑ 122(68)    ↑ 585(256)</p> <p>↓ 359(304)</p> <p>39(147) →    163(82) →    1006(611) →</p> <p>222(716) →    378(363) →</p> <p>47(130) ↓</p> <p>17,200</p>	<p><b>45 Archibald Av. &amp; Eucalyptus Av.</b></p> <p>300</p> <p>835(1250) ↓    22(10) ↓</p> <p>↑ 14(9)</p> <p>8(2) ↓</p> <p>1534(1046) →    9(1) →</p> <p>29,600</p>	<p><b>46 Archibald Av. &amp; Merrill Av.</b></p> <p>29,300</p> <p>4,000</p> <p>319(189) ↓    499(1016) ↓    33(77) ↓</p> <p>↑ 127(50)    ↑ 53(27)</p> <p>↓ 75(46)</p> <p>192(352) →    599(191) →    1169(608) →</p> <p>19(81) →    37(41) →</p> <p>140(601) ↓</p> <p>18,400</p>	<p><b>47 Archibald Av. &amp; Limonite Av.</b></p> <p>31,600</p> <p>22,450</p> <p>477(927) ↓    220(737) ↓</p> <p>↑ 945(309)</p> <p>↓ 295(362)</p> <p>879(559) →    321(392) →</p> <p>27,900</p>	<p><b>48 Turner Av. &amp; Ontario Ranch Rd.</b></p> <p>1,650</p> <p>24,450</p> <p>67(25) ↓    15(8) ↓    30(27) ↓</p> <p>↑ 16(13)    ↑ 1072(639)</p> <p>↓ 37(30)</p> <p>28(53) →    52(26) →    25(8) →</p> <p>547(1219) →    36(35) →</p> <p>29(40) ↓</p> <p>24,900</p>
<p><b>49 Haven Av. &amp; Ontario Ranch Rd.</b></p> <p>11,400</p> <p>24,350</p> <p>70(118) ↓    55(268) ↓    120(174) ↓</p> <p>↑ 83(134)    ↑ 915(548)</p> <p>↓ 18(55)</p> <p>139(126) →    58(22) →    197(91) →</p> <p>573(1017) →    79(24) →</p> <p>27(67) ↓</p> <p>23,650</p>	<p><b>50 Hamner Av. &amp; Ontario Ranch Rd.</b></p> <p>24,100</p> <p>34,900</p> <p>69(101) ↓    193(830) ↓    128(455) ↓</p> <p>↑ 178(81)    ↑ 856(469)</p> <p>↓ 245(606)</p> <p>91(72) →    170(207) →    1700(207) →</p> <p>546(934) →    490(245) →</p> <p>81(282) ↓</p> <p>25,750</p>	<p><b>51 I-15 SB Ramps &amp; Cantu Galleano Ranch Rd.</b></p> <p>21,950</p> <p>28,650</p> <p>1148(998) ↓    267(272) ↓</p> <p>↑ 135(418)    ↑ 506(444)</p> <p>941(1223) →    291(499) ↓</p> <p>39,600</p>	<p><b>52 I-15 NB Ramps &amp; Cantu Galleano Ranch Rd.</b></p> <p>21,350</p> <p>402(661) ↑    320(262) ↑</p> <p>388(581) ↓    821(913) ↓</p> <p>239(201) →    249(199) →</p> <p>18,900</p>	

##(##) AM(PM) Peak Hour Intersection Volumes

## Average Daily Trips

## 6.4 INTERSECTION OPERATIONS ANALYSIS

### 6.4.1 OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT TRAFFIC CONDITIONS

LOS calculations were conducted for the study intersections to evaluate their operations under Opening Year Cumulative (2023) Without Project conditions with roadway and intersection geometrics consistent with Section 6.1 *Roadway Improvements*. As shown on Table 6-1, the following additional study area intersections are anticipated to operate at an unacceptable LOS under Opening Year Cumulative (2023) Without Project traffic conditions:

- Euclid Avenue (SR-83) & Riverside Drive (#4) – LOS E AM peak hour; LOS F PM peak hour
- Euclid Avenue (SR-83) & Edison Avenue (#7) – LOS E AM peak hour; LOS F PM peak hour
- Euclid Avenue (SR-83) & Merrill Avenue (#9) – LOS E AM peak hour; LOS F PM peak hour
- Sultana Avenue & Merrill Avenue (#18) – LOS E AM peak hour only
- Bon View Avenue & Merrill Avenue (#33) – LOS F PM peak hour only
- Grove Avenue & Eucalyptus Avenue (#34) – LOS F PM peak hour only
- Grove Avenue & Merrill Avenue (#35) – LOS F AM and PM peak hours
- Walker Avenue & Edison Avenue (#36) – LOS F AM and PM peak hours
- Walker Avenue/Flight Avenue & Merrill Avenue (#38) – LOS F AM and PM peak hours
- Carpenter Avenue & Merrill Avenue (#42) – LOS F AM and PM peak hours
- Archibald Avenue & Merrill Avenue (#46) – LOS F PM peak hour only
- Archibald Avenue & Limonite Avenue (#47) – LOS F AM peak hour only
- Hamner Avenue & Ontario Ranch Road (#50) – LOS E AM peak hour; LOS F PM peak hour

The intersection operations analysis worksheets for Opening Year Cumulative (2023) Without Project traffic conditions are included in Appendix 6.1 of this TA.



**TABLE 6-1: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2023) CONDITIONS (1 OF 2)**

#	Intersection	Traffic Control <sup>2</sup>	2023 Without Project				2023 With Project				Jurisdiction(s) / LOS Standard <sup>3</sup>
			Delay <sup>1</sup> (secs.)		Level of Service		Delay <sup>1</sup> (secs.)		Level of Service		
			AM	PM	AM	PM	AM	PM	AM	PM	
1	Euclid Av. (SR-83) & SR-60 WB Ramps	TS	25.7	25.6	C	C	27.1	30.2	C	C	Ontario, Caltrans / LOS D
2	Euclid Av. (SR-83) & SR-60 EB Ramps	TS	39.2	25.9	D	C	41.2	27.1	D	C	Ontario, Caltrans / LOS D
3	Euclid Av. (SR-83) & Walnut Av.	TS	33.9	37.6	C	D	34.3	38.3	C	D	Ontario, Caltrans / LOS E
4	Euclid Av. (SR-83) & Riverside Dr.	TS	65.5	95.9	E	F	70.8	107.9	E	F	Chino, Ontario, Caltrans / LOS D
5	Euclid Av. (SR-83) & Chino Av.	TS	25.7	30.1	C	C	26.4	32.5	C	C	Chino, Ontario, Caltrans / LOS D
6	Euclid Av. (SR-83) & Schaefer Av.	TS	34.7	36.4	C	D	38.8	40.7	D	D	Chino, Ontario, Caltrans / LOS D
7	Euclid Av. (SR-83) & Edison Av.	TS	62.6	75.7	E	E	71.5	84.7	E	F	Chino, Ontario, Caltrans / LOS D
8	Euclid Av. (SR-83) & Eucalyptus Av.	TS	18.8	17.7	B	B	23.3	22.0	C	C	Chino, Ontario, Caltrans / LOS D
9	Euclid Av. (SR-83) & Merrill Av.	TS	55.4	87.7	E	F	63.5	99.6	E	F	Chino, Ontario, Caltrans / LOS D
10	Sultana Av. & Eucalyptus Av.	CSS	12.2	12.4	B	B	14.5	14.8	B	B	Ontario / LOS E
11	Sultana Av. & Driveway 1	CSS	Future Intersection				9.0	9.1	A	A	Ontario / LOS E
12	Sultana Av. & Driveway 2	CSS	Future Intersection				9.1	9.2	A	A	Ontario / LOS E
13	Sultana Av. & Driveway 3	CSS	Future Intersection				8.8	8.9	A	A	Ontario / LOS E
14	Sultana Av. & Driveway 4	CSS	Future Intersection				8.7	8.7	A	A	Ontario / LOS E
15	Sultana Av. & Driveway 5	CSS	Future Intersection				8.8	8.8	A	A	Ontario / LOS E
16	Sultana Av. & Driveway 6	CSS	Future Intersection				9.0	9.1	A	A	Ontario / LOS E
17	Sultana Av. & Driveway 7	CSS	Future Intersection				8.7	8.8	A	A	Ontario / LOS E
18	Sultana Av. & Merrill Av.	CSS	30.2	39.8	D	E	44.2	65.2	E	F	Chino, Ontario / LOS D
19	Driveway 8 & Merrill Av.	CSS	Future Intersection				14.1	15.5	B	B	Chino, Ontario / LOS D
20	Driveway 9 & Eucalyptus Av.	CSS	Future Intersection				9.6	10.1	A	B	Ontario / LOS E
21	Driveway 10 & Eucalyptus Av.	CSS	Future Intersection				9.7	10.3	A	B	Ontario / LOS E
22	Driveway 11 & Merrill Av.	CSS	Future Intersection				14.1	15.5	B	C	Chino, Ontario / LOS D
23	Campus Av. & Eucalyptus Av.	CSS	11.0	11.2	B	B	12.5	12.9	B	B	Chino, Caltrans / LOS D
24	Campus Av & Driveway 12	CSS	Future Intersection				8.7	8.7	A	A	Ontario / LOS E
25	Campus Av & Driveway 13	CSS	Future Intersection				8.7	8.7	A	A	Ontario / LOS E
26	Campus Av & Driveway 14	CSS	Future Intersection				8.7	8.7	A	A	Ontario / LOS E
27	Campus Av & Driveway 15	CSS	Future Intersection				8.7	8.8	A	A	Ontario / LOS E
28	Campus Av & Driveway 16	CSS	Future Intersection				8.8	8.8	A	A	Ontario / LOS E
29	Campus Av & Driveway 17	CSS	Future Intersection				8.7	8.8	A	A	Ontario / LOS E
30	Campus Av & Driveway 18	CSS	Future Intersection				8.8	8.9	A	A	Ontario / LOS E
31	Campus Av. & Merrill Av.	CSS	26.1	33.2	D	D	36.3	70.2	E	F	Chino, Caltrans / LOS D
32	Bon View Av. & Eucalyptus Av.	AWS	10.3	9.9	B	A	11.6	10.7	B	B	Ontario / LOS E
33	Bon View Av. & Merrill Av.	CSS	26.5	93.2	D	F	30.9	>100.0	D	F	Chino, Ontario / LOS D
34	Grove Av. & Eucalyptus Av.	AWS	28.0	>100.0	D	F	41.4	>100.0	E	F	Ontario / LOS E
35	Grove Av. & Merrill Av.	AWS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Chino, Ontario / LOS D
36	Walker Av. & Edison Av.	AWS	71.8	>100.0	F	F	91.7	>100.0	F	F	Ontario / LOS E
37	Walker Av & Eucalyptus Av.	CSS	12.9	11.4	B	B	13.8	12.0	B	B	Ontario / LOS E
38	Walker Av./Flight Av. & Merrill Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Chino, Ontario / LOS D
39	Van Vliet Av./Baker Av. & Merrill Av.	CSS	14.4	20.5	B	C	16.1	22.3	C	C	Ontario / LOS E
40	Vineyard Av. & Edison Av.		Future Intersection				Future Intersection				Ontario / LOS E
41	Vineyard Av./Hellman Av. & Merrill Av.	CSS	23.6	25.2	C	D	25.3	27.4	D	D	Chino, Ontario / LOS D
42	Carpenter Av. & Merrill Av.	AWS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Chino, Ontario / LOS D

**TABLE 6-1: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2023) CONDITIONS (2 OF 2)**

#	Intersection	Traffic Control <sup>2</sup>	2023 Without Project				2023 With Project				Jurisdiction(s) / LOS Standard <sup>3</sup>
			Delay <sup>1</sup> (secs.)		Level of Service		Delay <sup>1</sup> (secs.)		Level of Service		
			AM	PM	AM	PM	AM	PM	AM	PM	
43	Hellman Av. & Edison Av.		Future Intersection				Future Intersection				Ontario / LOS E
44	Archibald Av. & Ontario Ranch Rd.	TS	74.6	38.4	E	D	81.8	40.5	F	D	Ontario / LOS E
45	Archibald Av. & Eucalyptus Av.	TS	6.6	3.8	A	A	6.6	3.8	A	A	Ontario / LOS E
46	Archibald Av. & Merrill Av.	TS	70.2	81.5	E	F	81.5	101.2	F	F	Ontario / LOS E
47	Archibald Av. & Limonite Av.	TS	100.1	46.6	F	D	107.4	54.0	F	D	Eastvale / LOS D
48	Turner Av. & Ontario Ranch Rd.	TS	18.5	16.9	B	B	19.1	17.6	B	B	Ontario / LOS E
49	Haven Av. & Ontario Ranch Rd.	TS	25.1	23.8	C	C	25.2	24.0	C	C	Ontario / LOS E
50	Hamner Av. & Ontario Ranch Rd.	TS	60.8	149.0	E	F	63.0	151.5	E	F	Eastvale, Ontario / LOS D
51	I-15 SB Ramps & Cantu Galleano Ranch Rd.	TS	17.3	14.0	B	B	17.9	14.2	B	B	Eastvale, Caltrans / LOS D
52	I-15 NB Ramps & Cantu Galleano Ranch Rd.	TS	22.4	13.9	C	B	22.4	14.4	C	B	Jurupa Valley, Caltrans / LOS D

<sup>4</sup> **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

<sup>1</sup> Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>2</sup> CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **CSS** = Improvement

**6.4.2 OPENING YEAR CUMULATIVE (2023) WITH PROJECT TRAFFIC CONDITIONS**

As shown on Table 6-1, the following study area intersections are anticipated to operate at a deficient LOS during one or both peak hours for Opening Year Cumulative (2023) With Project traffic conditions with the addition of Project Buildout traffic, in addition to the locations identified above for Opening Year Cumulative (2023) Without Project traffic conditions.

- Campus Avenue & Merrill Avenue (#31) – LOS E AM peak hour; LOS F PM peak hour

The intersection operations analysis worksheets for Opening Year Cumulative (2023) With Project traffic conditions are included in Appendix 6.2 of this TA.

**6.5 TRAFFIC SIGNAL WARRANTS ANALYSIS**

The following additional unsignalized study area intersection is anticipated to meet a peak hour or daily volume-based traffic signal warrant under Opening Year Cumulative (2023) Without Project traffic conditions, in addition to the locations previously identified under Existing and E+P traffic conditions (see Appendix 6.3):

- Bon View Avenue & Merrill Avenue (#33)

The following additional unsignalized study area intersections anticipated to meet a peak hour or daily volume-based traffic signal warrant under Opening Year Cumulative (2023) With Project traffic conditions (see Appendix 6.4):

- Sultana Avenue & Merrill Avenue (#18)

## 6.6 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for Opening Year Cumulative (2023) Without Project and With Project traffic conditions are shown on Table 6-2. As shown on Table 6-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows under Opening Year Cumulative (2023) Without Project and With Project traffic conditions. Worksheets for Opening Year Cumulative (2023) Without and With Project traffic conditions off-ramp queuing analysis are provided in Appendices 6.5 and 6.6, respectively.

**TABLE 6-2: PEAK HOUR FREEWAY OFF-RAMP QUEUING SUMMARY FOR OPENING YEAR CUMULATIVE (2023) CONDITIONS**

# Intersection	Movement	Available Stacking Distance (Feet)	2023 Without Project				2023 With Project (Project Buildout)			
			95th Percentile Queue (Feet) <sup>3</sup>		Acceptable? <sup>1</sup>		95th Percentile Queue (Feet) <sup>3</sup>		Acceptable? <sup>1</sup>	
			AM Peak	PM Peak	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
1 Euclid Avenue (SR-83) & SR-60 WB Ramps	WBL	400	364 <sup>2</sup>	309	Yes	Yes	380 <sup>2</sup>	309	Yes	Yes
	WBL/T/R	1,430	382 <sup>2</sup>	314	Yes	Yes	403 <sup>2</sup>	321 <sup>2</sup>	Yes	Yes
	WBR	400	247	234	Yes	Yes	257	238	Yes	Yes
2 Euclid Avenue (SR-83) & SR-60 EB Ramps	EBL	900	408 <sup>2</sup>	396 <sup>2</sup>	Yes	Yes	408 <sup>2</sup>	396 <sup>2</sup>	Yes	Yes
	EBT/R	1,270	548 <sup>2</sup>	444 <sup>2</sup>	Yes	Yes	605 <sup>2</sup>	464 <sup>2</sup>	Yes	Yes
51 I-15 SB Ramps & Cantu Galleano	SBL	1,440	115	97	Yes	Yes	115	97	Yes	Yes
	SBL/R	560	485 <sup>2</sup>	253	Yes	Yes	512 <sup>2</sup>	261	Yes	Yes
	SBR	460	444 <sup>2</sup>	226	Yes	Yes	469 <sup>2</sup>	233	Yes <sup>3</sup>	Yes
52 I-15 NB Ramps & Cantu Galleano	NBL	1,680	101 <sup>2</sup>	71	Yes	Yes	101 <sup>2</sup>	71	Yes	Yes
	NBR	440	54	47	Yes	Yes	54	47	Yes	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

<sup>2</sup> 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

<sup>3</sup> Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the SR-60, SR-71, or I-15 Freeway mainline.

## 6.7 IMPROVEMENTS

### 6.7.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Improvement strategies have been identified at intersections that have been identified as deficient, in an effort to reduce each location’s peak hour delay and improve the associated LOS grade to an acceptable LOS (LOS D or better).

The effectiveness of the recommended improvement strategies to address Opening Year Cumulative (2023) traffic deficiencies are presented on Table 6-3. If not constructed by the Project, the Project Applicant shall contribute to these improvements through payment of City DIF fees or fair share contribution as identified on Table 1-3. Worksheets for Opening Year Cumulative (2023) Without and With Project conditions, with improvements, HCM calculation worksheets are provided in Appendix 6.7.

### 6.7.2 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

As shown previously on Table 6-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows for Opening Year Cumulative (2023) traffic conditions. As such, no improvements have been recommended.



## 7 HORIZON YEAR (2040) TRAFFIC CONDITIONS

This section discusses the methods used to develop Horizon Year (2040) Without and With Project traffic forecasts, and the resulting intersection operations, off-ramp queuing, and traffic signal warrant analyses.

### 7.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Horizon Year (2040) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Horizon Year conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Horizon Year conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages and driveways such as the northern extension of Meadow Valley Avenue on Kimball Avenue and the northern extension of Hellman Avenue north of Kimball Avenue).
- The Kimball Avenue/Limonite Avenue extension between Hellman Avenue and Archibald Avenue.
- Other parallel facilities, that although not evaluated for the purposes of this analysis, are anticipated to be in place for Horizon Year traffic conditions and would affect the travel patterns within the study area (e.g., new future roadways within the New Model Colony area such as Schaefer Avenue east of Archibald Avenue, Eucalyptus Avenue east of Archibald Avenue, Merrill Avenue east of Archibald Avenue, The Preserve Specific Plan roadway network within the City of Chino, etc.).

### 7.2 HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUME FORECASTS

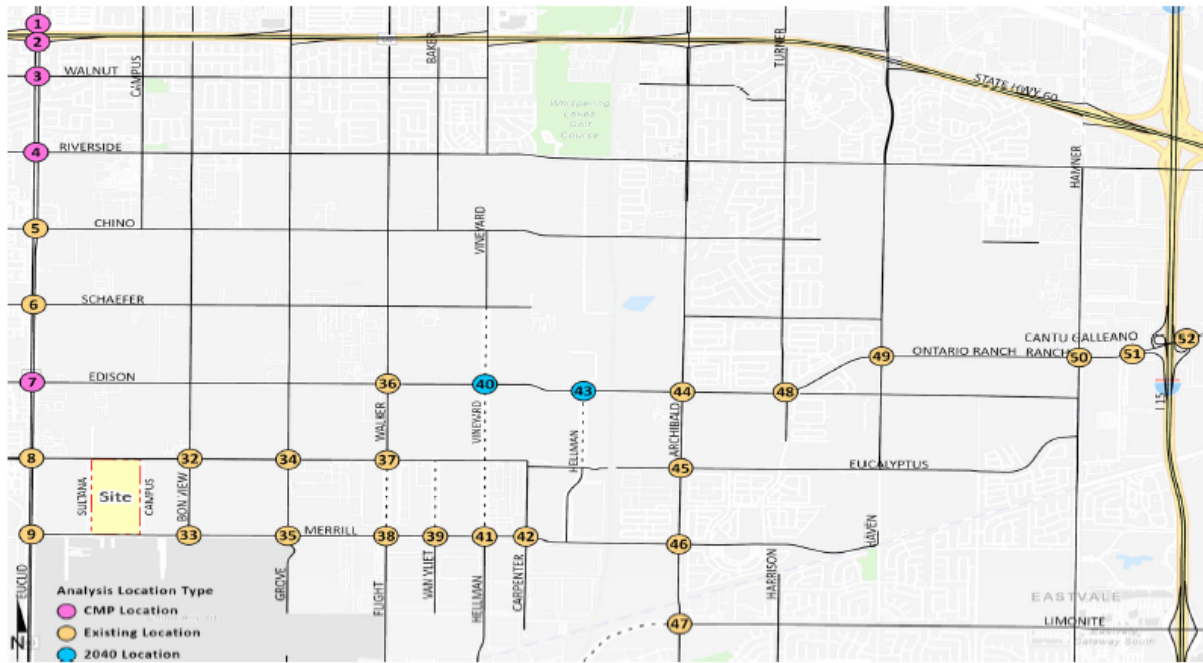
This scenario includes the refined post-process volumes obtained from the SBTAM/RivTAM (see Section 4.7 *Horizon Year (2040) Volume Development* of this TA for a detailed discussion on the post-processing methodology). The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2040) Without Project traffic conditions are shown on Exhibit 7-1.

### 7.3 HORIZON YEAR (2040) WITH PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes the refined post-process volumes obtained from the SBTAM/RivTAM, plus the traffic generated by the proposed Project. Horizon Year (2040) With Project traffic forecasts assumes buildout of the Project. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for Horizon Year (2040) With Project traffic conditions are shown on Exhibit 7-2.



EXHIBIT 7-1: HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUMES (1 OF 3)



1	2	3	4	5
Euclid Av. (SR-83) & SR-60 WB Ramps	Euclid Av. (SR-83) & SR-60 EB Ramps	Euclid Av. (SR-83) & Walnut Av.	Euclid Av. (SR-83) & Riverside Dr.	Euclid Av. (SR-83) & Chino Av.
35,000 434(460) 871(957) 10,950 406(383) 3(2) 390(480) 284(221) → ↑ 855(990) → ↑	33,300 9,850 33,300 9,850 33,300 9,850 33,300 9,850 33,300 9,850 33,300 9,850	32,550 16,050 32,550 16,050 32,550 16,050 32,550 16,050 32,550 16,050 32,550 16,050	27,400 18,400 27,400 18,400 27,400 18,400 27,400 18,400 27,400 18,400 27,400 18,400	27,300 9,100 27,300 9,100 27,300 9,100 27,300 9,100 27,300 9,100 27,300 9,100
8,500	8,100	16,500	16,600	7,850
6	7	8	9	33
Euclid Av. (SR-83) & Schaeffer Av.	Euclid Av. (SR-83) & Edison Av.	Euclid Av. (SR-83) & Eucalyptus Av.	Euclid Av. (SR-83) & Merrill Av.	Bon View Av. & Merrill Av.
30,750 129(118) 828(927) 29(25) 10(23) 178(61) 111(76) 154(280) ↓ 71(281) → 57(180) ↓	6,750 32,200 6,750 32,200 6,750 32,200 6,750 32,200 6,750 32,200 6,750 32,200	10,900 31,200 10,900 31,200 10,900 31,200 10,900 31,200 10,900 31,200 10,900 31,200	4,100 32,700 4,100 32,700 4,100 32,700 4,100 32,700 4,100 32,700 4,100 32,700	10,750 33,000 10,750 33,000 10,750 33,000 10,750 33,000 10,750 33,000 10,750 33,000
12,700	18,150	7,550	700	12,550
34	35	36	37	38
Grove Av. & Eucalyptus Av.	Grove Av. & Merrill Av.	Walker Av. & Edison Av.	Walker Av & Eucalyptus Av	Walker Av./Flight Av. & Merrill Av.
8,250 61(37) 165(207) 7(5) 7(10) 112(33) 11(3) 22(103) ↓ 35(127) → 12(68) ↓	2,150 7,000 2,150 7,000 2,150 7,000 2,150 7,000 2,150 7,000 2,150 7,000	13,050 1,700 13,050 1,700 13,050 1,700 13,050 1,700 13,050 1,700 13,050 1,700	14,400 1,650 14,400 1,650 14,400 1,650 14,400 1,650 14,400 1,650 14,400 1,650	1,400 12,650 1,400 12,650 1,400 12,650 1,400 12,650 1,400 12,650 1,400 12,650
4,600	7,450	12,250	2,250	12,750

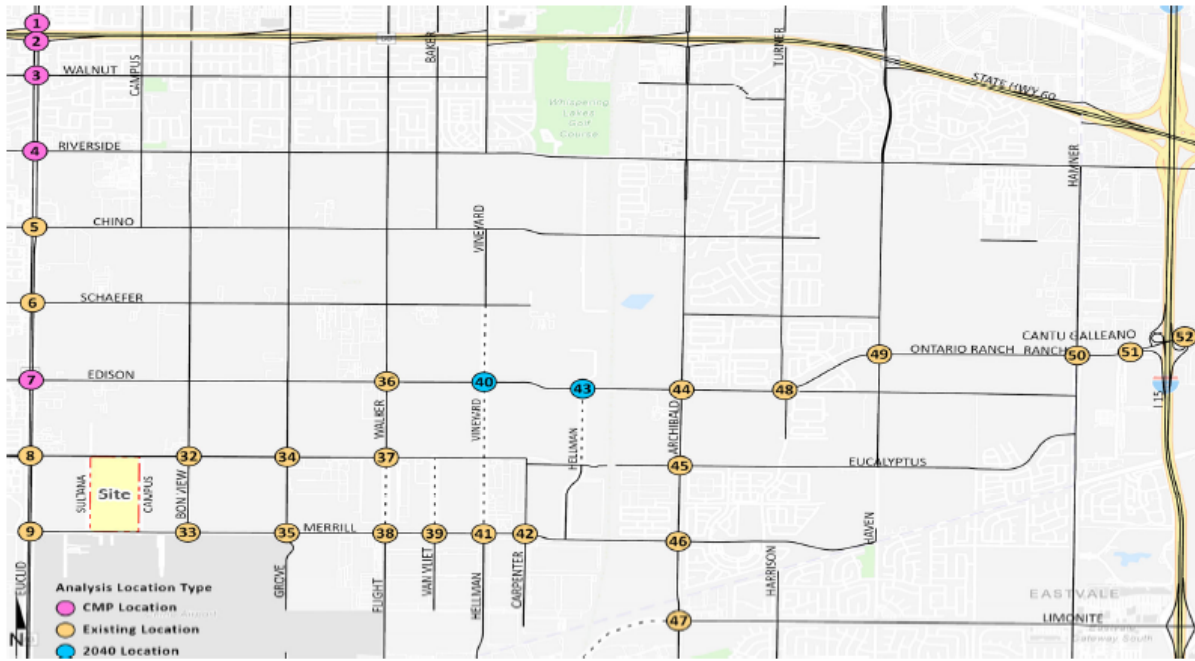
##(##) AM(PM) Peak Hour Intersection Volumes

## Average Daily Trips

EXHIBIT 7-1: HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUMES (2 OF 3)



EXHIBIT 7-1: HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC VOLUMES (3 OF 3)

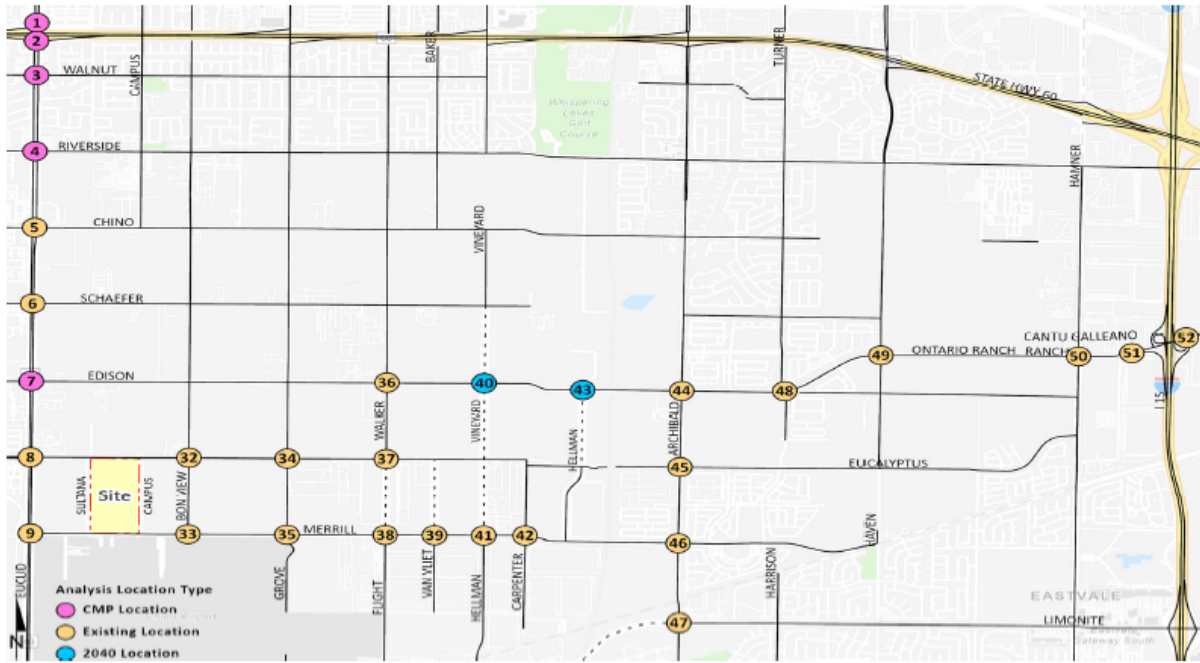


39	40	41	42	43
Van Vliet Av./Baker Av. & Merrill Av.	Vineyard Av. & Edison Av.	Vineyard Av./Hellman Av. & Merrill Av.	Carpenter Av. & Merrill Av.	Hellman Av. & Edison Av.
2,600 17(64) 20(75) 72(26) 1464(974) 36(14) 62(22) 875(1473) 38(54) 26,500	26,850 3,000 30(25) 38(27) 61(64) 43(87) 2646(1945) 313(217) 19(40) 1465(2911) 73(74) 54(108) 22(60) 164(435) 48,650	50,800 16,250 73(249) 165(142) 112(42.3) 80(332) 572(644) 150(68) 24(242) 287(1193) 137(139) 87(121) 54(119) 12(82) 26,950	29,050 3,000 71(84) 0(7) 180(140) 118(32) 1461(880) 253(36) 44(65) 837(1553) 37(80) 78(79) 0(6) 153(14.3) 6,350	30,450 3,100 67(43) 84(24) 43(58) 48(67) 2815(2001) 175(100) 36(81) 1471(3123) 211(96) 61(205) 10(89) 49(25.6) 8,100
44	45	46	47	48
Archibald Av. & Ontario Ranch Rd.	Archibald Av. & Eucalyptus Av.	Archibald Av. & Merrill Av.	Archibald Av. & Limonite Av.	Turner Av. & Ontario Ranch Rd.
34,400 337(454) 706(1071) 79(278) 299(157) 1952(1430) 639(428) 472(476) 943(2169) 411(614) 56,800	42,950 42,700 169(102) 1403(1663) 60(184) 162(73) 280(75) 122(107) 47(207) 31(375) 36(305) 237(89) 2004(1589) 84(160) 6,250	8,050 42,450 665(347) 925(1511) 48(88) 158(67) 103(66) 139(129) 364(697) 30(109) 256(862) 817(345) 1492(1057) 88(193) 29,700	6,250 47,900 193(282) 796(1523) 434(730) 724(719) 852(753) 366(470) 215(212) 579(818) 113(127) 149(131) 1140(1188) 372(484) 42,900	44,500 7,350 217(128) 19(10) 96(126) 93(142) 2398(1775) 52(39) 100(205) 1112(2602) 41(48) 70(32) 30(10) 45(48) 36,900
49	50	51	52	
Haven Av. & Ontario Ranch Rd.	Hamner Av. & Ontario Ranch Rd.	I-15 SB Ramps & Cantu Galleano Ranch Rd.	I-15 NB Ramps & Cantu Galleano Ranch Rd.	
19,550 268(268) 124(320) 319(283) 114(349) 2041(1574) 26(75) 241(367) 1258(2166) 44(81) 41,250	42,850 30,750 225(231) 467(1050) 275(568) 246(167) 1622(1231) 388(940) 131(194) 1158(1735) 195(537) 334(391) 334(391) 692(294) 8,950	47,800 29,600 1490(1367) 392(522) 221(528) 734(907) 1496(2018) 528(632) 20,450	38,450 29,350 635(1031) 445(368) 667(912) 1220(1630) 319(404) 365(289) 39,050	

##(##) AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips



EXHIBIT 7-2: HORIZON YEAR (2040) WITH PROJECT TRAFFIC VOLUMES (1 OF 3)



<p><b>1</b> Euclid Av. (SR-83) &amp; SR-60 WB Ramps</p> <p>46,200</p> <table border="1"> <tr><td>593(598)</td><td>↑ 516(495)</td></tr> <tr><td>1,233(1,260)</td><td>↑ 7(8)</td></tr> <tr><td>837(779)</td><td>↑ 837(779)</td></tr> <tr><td>571(695)</td><td>↑ 1198(1,353)</td></tr> </table> <p>15,100</p>	593(598)	↑ 516(495)	1,233(1,260)	↑ 7(8)	837(779)	↑ 837(779)	571(695)	↑ 1198(1,353)	<p><b>2</b> Euclid Av. (SR-83) &amp; SR-60 EB Ramps</p> <p>50,100</p> <table border="1"> <tr><td>161,1(1,582)</td><td>↑ 459(458)</td></tr> <tr><td>520(505)</td><td>↑ 3(4)</td></tr> <tr><td>749(566)</td><td>↑ 1246(1,541)</td></tr> <tr><td>867(793)</td><td>↑ 867(793)</td></tr> </table> <p>56,350</p>	161,1(1,582)	↑ 459(458)	520(505)	↑ 3(4)	749(566)	↑ 1246(1,541)	867(793)	↑ 867(793)	<p><b>3</b> Euclid Av. (SR-83) &amp; Walnut Av.</p> <p>55,350</p> <table border="1"> <tr><td>123(265)</td><td>↑ 258(170)</td></tr> <tr><td>1935(1,595)</td><td>↑ 388(449)</td></tr> <tr><td>189(320)</td><td>↑ 91(85)</td></tr> <tr><td>252(179)</td><td>↑ 165(251)</td></tr> <tr><td>365(449)</td><td>↑ 1630(2,005)</td></tr> <tr><td>159(181)</td><td>↑ 58(90)</td></tr> </table> <p>20,350</p>	123(265)	↑ 258(170)	1935(1,595)	↑ 388(449)	189(320)	↑ 91(85)	252(179)	↑ 165(251)	365(449)	↑ 1630(2,005)	159(181)	↑ 58(90)	<p><b>4</b> Euclid Av. (SR-83) &amp; Riverside Dr.</p> <p>48,200</p> <table border="1"> <tr><td>192(345)</td><td>↑ 149(80)</td></tr> <tr><td>1723(1,373)</td><td>↑ 627(506)</td></tr> <tr><td>220(173)</td><td>↑ 241(229)</td></tr> <tr><td>193(234)</td><td>↑ 163(230)</td></tr> <tr><td>457(732)</td><td>↑ 1363(1,799)</td></tr> <tr><td>154(208)</td><td>↑ 201(295)</td></tr> </table> <p>21,700</p>	192(345)	↑ 149(80)	1723(1,373)	↑ 627(506)	220(173)	↑ 241(229)	193(234)	↑ 163(230)	457(732)	↑ 1363(1,799)	154(208)	↑ 201(295)	<p><b>5</b> Euclid Av. (SR-83) &amp; Chino Av.</p> <p>51,800</p> <table border="1"> <tr><td>116(87)</td><td>↑ 84(20)</td></tr> <tr><td>1882(1,557)</td><td>↑ 296(230)</td></tr> <tr><td>71(39)</td><td>↑ 105(137)</td></tr> <tr><td>131(134)</td><td>↑ 70(79)</td></tr> <tr><td>247(498)</td><td>↑ 1468(2,122)</td></tr> <tr><td>71(72)</td><td>↑ 180(278)</td></tr> </table> <p>52,050</p>	116(87)	↑ 84(20)	1882(1,557)	↑ 296(230)	71(39)	↑ 105(137)	131(134)	↑ 70(79)	247(498)	↑ 1468(2,122)	71(72)	↑ 180(278)				
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<p><b>6</b> Euclid Av. (SR-83) &amp; Schaefer Av.</p> <p>52,200</p> <table border="1"> <tr><td>457(455)</td><td>↑ 190(75)</td></tr> <tr><td>1792(1588)</td><td>↑ 377(158)</td></tr> <tr><td>40(203)</td><td>↑ 177(95)</td></tr> <tr><td>193(487)</td><td>↑ 232(250)</td></tr> <tr><td>92(463)</td><td>↑ 1428(2,060)</td></tr> <tr><td>106(267)</td><td>↑ 44(100)</td></tr> </table> <p>19,100</p>	457(455)	↑ 190(75)	1792(1588)	↑ 377(158)	40(203)	↑ 177(95)	193(487)	↑ 232(250)	92(463)	↑ 1428(2,060)	106(267)	↑ 44(100)	<p><b>7</b> Euclid Av. (SR-83) &amp; Edison Av.</p> <p>54,750</p> <table border="1"> <tr><td>211(220)</td><td>↑ 351(404)</td></tr> <tr><td>1520(1,638)</td><td>↑ 1185(835)</td></tr> <tr><td>343(221)</td><td>↑ 279(472)</td></tr> <tr><td>196(334)</td><td>↑ 289(253)</td></tr> <tr><td>1063(1266)</td><td>↑ 1315(1,856)</td></tr> <tr><td>189(387)</td><td>↑ 176(350)</td></tr> </table> <p>42,950</p>	211(220)	↑ 351(404)	1520(1,638)	↑ 1185(835)	343(221)	↑ 279(472)	196(334)	↑ 289(253)	1063(1266)	↑ 1315(1,856)	189(387)	↑ 176(350)	<p><b>8</b> Euclid Av. (SR-83) &amp; Eucalyptus Av.</p> <p>52,200</p> <table border="1"> <tr><td>55(80)</td><td>↑ 206(314)</td></tr> <tr><td>1696(1,848)</td><td>↑ 197(168)</td></tr> <tr><td>182(286)</td><td>↑ 385(413)</td></tr> <tr><td>85(51)</td><td>↑ 221(148)</td></tr> <tr><td>50(205)</td><td>↑ 1567(1,876)</td></tr> <tr><td>205(266)</td><td>↑ 133(383)</td></tr> </table> <p>9,800</p>	55(80)	↑ 206(314)	1696(1,848)	↑ 197(168)	182(286)	↑ 385(413)	85(51)	↑ 221(148)	50(205)	↑ 1567(1,876)	205(266)	↑ 133(383)	<p><b>9</b> Euclid Av. (SR-83) &amp; Merrill Av.</p> <p>53,100</p> <table border="1"> <tr><td>49(1)</td><td>↑ 469(460)</td></tr> <tr><td>1829(2122)</td><td>↑ 60(3)</td></tr> <tr><td>408(404)</td><td>↑ 430(754)</td></tr> <tr><td>10(14)</td><td>↑ 13(5)</td></tr> <tr><td>10(37)</td><td>↑ 145(1,903)</td></tr> <tr><td>21(15)</td><td>↑ 555(851)</td></tr> </table> <p>950</p>	49(1)	↑ 469(460)	1829(2122)	↑ 60(3)	408(404)	↑ 430(754)	10(14)	↑ 13(5)	10(37)	↑ 145(1,903)	21(15)	↑ 555(851)	<p><b>33</b> Bon View Av. &amp; Merrill Av.</p> <p>4,550</p> <table border="1"> <tr><td>67(120)</td><td>↑ 145(110)</td></tr> <tr><td>69(103)</td><td>↑ 1074(924)</td></tr> <tr><td>89(117)</td><td>↑ 782(1215)</td></tr> </table> <p>27,300</p>	67(120)	↑ 145(110)	69(103)	↑ 1074(924)	89(117)	↑ 782(1215)		
457(455)	↑ 190(75)																																																											
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<p><b>34</b> Grove Av. &amp; Eucalyptus Av.</p> <p>19,400</p> <table border="1"> <tr><td>309(238)</td><td>↑ 150(295)</td></tr> <tr><td>669(424)</td><td>↑ 253(322)</td></tr> <tr><td>355(123)</td><td>↑ 171(75)</td></tr> <tr><td>84(327)</td><td>↑ 82(42)</td></tr> <tr><td>174(383)</td><td>↑ 436(930)</td></tr> <tr><td>18(91)</td><td>↑ 46(107)</td></tr> </table> <p>7,850</p>	309(238)	↑ 150(295)	669(424)	↑ 253(322)	355(123)	↑ 171(75)	84(327)	↑ 82(42)	174(383)	↑ 436(930)	18(91)	↑ 46(107)	<p><b>35</b> Grove Av. &amp; Merrill Av.</p> <p>16,500</p> <table border="1"> <tr><td>266(325)</td><td>↑ 474(462)</td></tr> <tr><td>478(513)</td><td>↑ 1092(767)</td></tr> <tr><td>272(556)</td><td>↑ 696(1047)</td></tr> </table> <p>26,500</p>	266(325)	↑ 474(462)	478(513)	↑ 1092(767)	272(556)	↑ 696(1047)	<p><b>36</b> Walker Av. &amp; Edison Av.</p> <p>10,650</p> <table border="1"> <tr><td>45(69)</td><td>↑ 285(65)</td></tr> <tr><td>52(298)</td><td>↑ 1318(1,418)</td></tr> <tr><td>59(173)</td><td>↑ 441(261)</td></tr> <tr><td>63(95)</td><td>↑ 105(91)</td></tr> <tr><td>953(2034)</td><td>↑ 250(75)</td></tr> <tr><td>96(51)</td><td>↑ 165(369)</td></tr> </table> <p>48,400</p>	45(69)	↑ 285(65)	52(298)	↑ 1318(1,418)	59(173)	↑ 441(261)	63(95)	↑ 105(91)	953(2034)	↑ 250(75)	96(51)	↑ 165(369)	<p><b>37</b> Walker Av. &amp; Eucalyptus Av.</p> <p>11,100</p> <table border="1"> <tr><td>308(110)</td><td>↑ 111(210)</td></tr> <tr><td>268(105)</td><td>↑ 350(252)</td></tr> <tr><td>153(140)</td><td>↑ 19(14)</td></tr> <tr><td>41(410)</td><td>↑ 28(87)</td></tr> <tr><td>201(345)</td><td>↑ 67(302)</td></tr> <tr><td>76(36)</td><td>↑ 13(21)</td></tr> </table> <p>11,200</p>	308(110)	↑ 111(210)	268(105)	↑ 350(252)	153(140)	↑ 19(14)	41(410)	↑ 28(87)	201(345)	↑ 67(302)	76(36)	↑ 13(21)	<p><b>38</b> Walker Av./Flight Av. &amp; Merrill Av.</p> <p>4,800</p> <table border="1"> <tr><td>84(167)</td><td>↑ 91(46)</td></tr> <tr><td>50(49)</td><td>↑ 1305(941)</td></tr> <tr><td>36(96)</td><td>↑ 148(107)</td></tr> <tr><td>163(52)</td><td>↑ 831(1349)</td></tr> <tr><td>179(159)</td><td>↑ 176(121)</td></tr> <tr><td></td><td>↑ 33(65)</td></tr> <tr><td></td><td>↑ 121(157)</td></tr> </table> <p>28,900</p>	84(167)	↑ 91(46)	50(49)	↑ 1305(941)	36(96)	↑ 148(107)	163(52)	↑ 831(1349)	179(159)	↑ 176(121)		↑ 33(65)		↑ 121(157)
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478(513)	↑ 1092(767)																																																											
272(556)	↑ 696(1047)																																																											
45(69)	↑ 285(65)																																																											
52(298)	↑ 1318(1,418)																																																											
59(173)	↑ 441(261)																																																											
63(95)	↑ 105(91)																																																											
953(2034)	↑ 250(75)																																																											
96(51)	↑ 165(369)																																																											
308(110)	↑ 111(210)																																																											
268(105)	↑ 350(252)																																																											
153(140)	↑ 19(14)																																																											
41(410)	↑ 28(87)																																																											
201(345)	↑ 67(302)																																																											
76(36)	↑ 13(21)																																																											
84(167)	↑ 91(46)																																																											
50(49)	↑ 1305(941)																																																											
36(96)	↑ 148(107)																																																											
163(52)	↑ 831(1349)																																																											
179(159)	↑ 176(121)																																																											
	↑ 33(65)																																																											
	↑ 121(157)																																																											

### AM(PM) Peak Hour Intersection Volumes  
 ## Average Daily Trips

EXHIBIT 7-2: HORIZON YEAR (2040) WITH PROJECT TRAFFIC VOLUMES (2 OF 3)

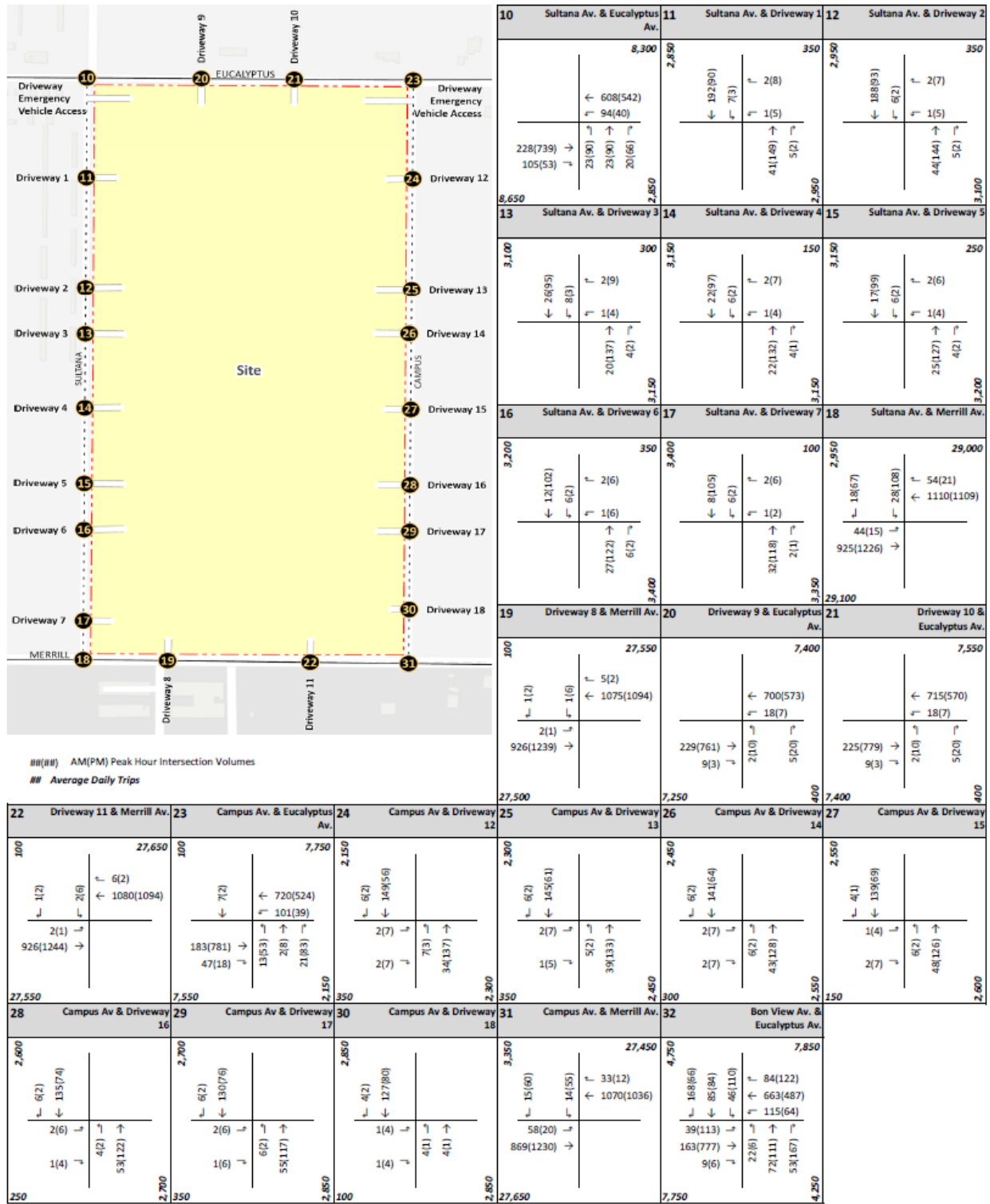
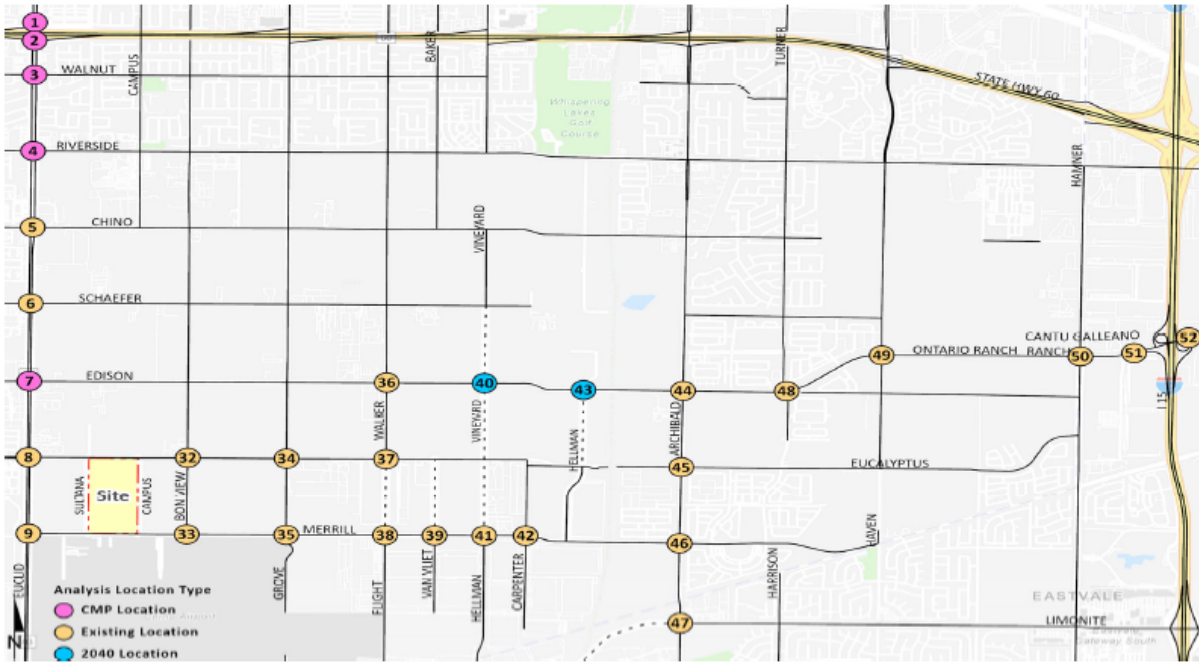


EXHIBIT 7-2: HORIZON YEAR (2040) WITH PROJECT TRAFFIC VOLUMES (3 OF 3)



39	40	41	42	43
Van Vliet Av./Baker Av. & Merrill Av.	Vineyard Av. & Edison Av.	Vineyard Av./Hellman Av. & Merrill Av.	Carpenter Av. & Merrill Av.	Hellman Av. & Edison Av.
2,600 17(64) 62(22) 888(1526) 38(54) 27,350	27,700 72(26) 1512(992) 36(14) 14(38) 85(25) 800	3,050 30(25) 40(28) 61(64) 19(40) 1468(2922) 73(74) 48,800	51,450 43(87) 2655(1949) 344(229) 54(108) 23(62) 173(471) 8,250	16,250 73(249) 165(142) 112(423) 24(242) 295(1227) 142(158) 27,800
			29,650 80(332) 604(656) 150(68) 104(127) 54(119) 12(82) 6,650	3,050 73(85) 0(7) 180(140) 45(67) 845(1585) 37(80) 28,300
				31,000 118(32) 1491(891) 253(36) 0(6) 153(143) 3,450
				53,450 69(44) 84(24) 43(58) 37(83) 1482(3167) 211(96) 51,500
				8,100 48(67) 2854(2016) 175(100) 61(205) 10(89) 49(256)
44	45	46	47	48
Archibald Av. & Ontario Ranch Rd.	Archibald Av. & Eucalyptus Av.	Archibald Av. & Merrill Av.	Archibald Av. & Limonite Av.	Turner Av. & Ontario Ranch Rd.
34,500 343(456) 708(1072) 79(278) 474(482) 952(2207) 411(614) 57,400	43,600 299(157) 1985(1443) 645(430) 515(433) 1285(921) 529(568) 42,850	8,050 169(102) 1411(1666) 601(84) 47(207) 32(377) 36(305) 6,250	8,050 162(73) 282(76) 122(107) 237(89) 200(1597) 84(160) 42,600	42,600 673(350) 925(1511) 48(88) 366(705) 31(111) 261(882) 30,250
			6,300 158(67) 105(67) 139(129) 835(352) 1492(1057) 88(193) 43,200	48,250 193(282) 798(1529) 437(744) 215(212) 583(833) 113(127) 27,950
				44,950 736(724) 865(758) 366(470) 149(131) 114(1190) 372(484) 37,000
				7,400 219(129) 19(10) 96(126) 101(207) 1122(2644) 41(48) 43,600
				41,900 93(142) 2436(1789) 52(39) 70(32) 30(10) 45(48) 2,300
49	50	51	52	
Haven Av. & Ontario Ranch Rd.	Hammer Av. & Ontario Ranch Rd.	I-15 SB Ramps & Cantu Galleano Ranch Rd.	I-15 NB Ramps & Cantu Galleano Ranch Rd.	
19,550 270(269) 124(320) 319(283) 242(369) 1268(2206) 44(81) 41,900	43,450 114(349) 2077(1588) 26(75) 76(79) 232(242) 96(47) 8,950	30,800 227(232) 467(1050) 275(569) 132(196) 1167(1773) 195(537) 37,300	48,400 246(167) 1656(1244) 388(940) 334(391) 334(391) 692(294) 38,700	38,750 1522(1379) 392(522) 221(528) 736(908) 1505(2056) 528(632) 54,200
			29,400 637(1032) 445(368) 668(914) 1229(1665) 319(404) 365(289) 38,950	

##(##) AM(PM) Peak Hour Intersection Volumes

## Average Daily Trips

## 7.4 INTERSECTION OPERATIONS ANALYSIS

### 7.4.1 HORIZON YEAR (2040) WITHOUT PROJECT TRAFFIC CONDITIONS

LOS calculations were conducted for the study intersections to evaluate their operations under Horizon Year (2040) Without Project conditions with roadway and intersection geometrics consistent with Section 7.1 *Roadway Improvements*. As shown on Table 7-1, the following additional study area intersections are anticipated to operate at an unacceptable LOS under Horizon Year (2040) Without Project traffic conditions:

- Euclid Avenue (SR-83) & SR-60 Westbound Ramps (#1) –LOS E AM and PM peak hours
- Euclid Avenue (SR-83) & SR-60 Eastbound Ramps (#2) – LOS F AM and PM peak hours
- Euclid Avenue (SR-83) & Riverside Drive (#4) – LOS F AM and PM peak hours
- Euclid Avenue (SR-83) & Chino Avenue (#5) – LOS E AM peak hour; LOS F PM peak hour
- Euclid Avenue (SR-83) & Schaefer Avenue (#6) – LOS F AM and PM peak hours
- Euclid Avenue (SR-83) & Edison Avenue (#7) – LOS F AM and PM peak hours
- Euclid Avenue (SR-83) & Eucalyptus Avenue (#8) – LOS F AM and PM peak hours
- Euclid Avenue (SR-83) & Merrill Avenue (#9) – LOS F AM and PM peak hours
- Sultana Avenue & Eucalyptus Avenue (#10) – LOS F PM peak hour only
- Sultana Avenue & Merrill Avenue (#18) – LOS F AM and PM peak hours
- Campus Avenue & Eucalyptus Avenue (#23) – LOS E PM peak hour only
- Campus Avenue & Merrill Avenue (#31) – LOS F AM and PM peak hours
- Bon View Avenue & Eucalyptus Avenue (#32) – LOS F PM peak hour only
- Bon View Avenue & Merrill Avenue (#33) – LOS F AM and PM peak hours
- Grove Avenue & Eucalyptus Avenue (#34) – LOS F AM and PM peak hours
- Grove Avenue & Merrill Avenue (#35) – LOS F AM and PM peak hours
- Walker Avenue & Edison Avenue (#36) – LOS F AM and PM peak hours
- Walker Avenue & Eucalyptus Avenue (#37) – LOS F AM and PM peak hours
- Walker Avenue/Flight Avenue & Merrill Avenue (#38) – LOS F AM and PM peak hours
- Van Vliet Avenue/Baker Avenue & Merrill Avenue (#39) – LOS F PM peak hour only
- Vineyard Avenue & Edison Avenue (#40) – LOS F PM peak hour only
- Vineyard Avenue/Hellman Avenue & Merrill Avenue (#41) – LOS F AM and PM peak hours
- Carpenter Avenue & Merrill Avenue (#42) – LOS F AM and PM peak hours
- Hellman Avenue & Edison Avenue (#43) – LOS F AM and PM peak hours
- Archibald Avenue & Ontario Ranch Road (#44) – LOS F AM and PM peak hours
- Archibald Avenue & Eucalyptus Avenue (#45) – LOS F AM and PM peak hours
- Archibald Avenue & Merrill Avenue (#46) – LOS F AM and PM peak hours
- Archibald Avenue & Limonite Avenue (#47) – LOS F AM and PM peak hours

- Turner Avenue & Ontario Ranch Road (#48) – LOS F AM and PM peak hours
- Haven Avenue & Ontario Ranch Road (#49) – LOS F AM peak hour only
- Hamner Avenue & Ontario Ranch Road (#50) – LOS F AM and PM peak hours

The intersection operations analysis worksheets for Horizon Year (2040) Without Project traffic conditions are included in Appendix 7.1 of this TA.

#### **7.4.2 HORIZON YEAR (2040) WITH PROJECT TRAFFIC CONDITIONS**

As shown on Table 7-1, no additional study area intersections are anticipated to operate at a deficient LOS during one or both peak hours for Horizon Year (2040) With Project traffic conditions with the addition of Project traffic, in addition to the locations identified above for Horizon Year (2040) Without Project traffic conditions.

The intersection operations analysis worksheets for Horizon Year (2040) With Project traffic conditions are included in Appendix 7.2 of this TA.

### **7.5 TRAFFIC SIGNAL WARRANTS ANALYSIS**

The following study area intersections are anticipated to meet peak hour or planning level (ADT) volume-based traffic signal warrants for Horizon Year (2040) Without Project traffic conditions (see Appendix 7.3), in addition to those previously warranted under Existing, E+P, and Opening Year Cumulative traffic conditions:

- Campus Avenue & Merrill Avenue (#31)
- Bon View Avenue & Eucalyptus Avenue (#32)
- Walker Avenue & Eucalyptus Avenue (#37)
- Van Vliet Avenue/Baker Avenue & Merrill Avenue (#39)
- Vineyard Avenue/Hellman Avenue & Merrill Avenue (#40)

The following additional study area intersections anticipated to meet planning level (ADT) volume-based traffic signal warrant for Horizon Year (2040) With Project traffic conditions (see Appendix 7.4), in addition to those previously warranted under Horizon Year (2040) Without Project traffic conditions:

- Sultana Avenue & Eucalyptus Avenue (#10)



**TABLE 7-1: INTERSECTION ANALYSIS FOR HORIZON YEAR (2040) CONDITIONS (1 OF 2)**

#	Intersection	Traffic Control <sup>2</sup>	2040 Without Project				2040 With Project				Jurisdiction(s) / LOS Standard <sup>3</sup>
			Delay <sup>1</sup> (secs.)		Level of Service		Delay <sup>1</sup> (secs.)		Level of Service		
			AM	PM	AM	PM	AM	PM	AM	PM	
1	Euclid Av. (SR-83) & SR-60 WB Ramps	TS	80.8	99.2	F	F	85.3	108.3	F	F	Ontario, Caltrans / LOS D
2	Euclid Av. (SR-83) & SR-60 EB Ramps	TS	128.0	104.6	F	F	135.6	113.2	F	F	Ontario, Caltrans / LOS D
3	Euclid Av. (SR-83) & Walnut Av.	TS	67.3	73.6	E	E	72.8	79.8	E	E	Ontario, Caltrans / LOS E
4	Euclid Av. (SR-83) & Riverside Dr.	TS	155.7	>200.0	F	F	164.6	>200.0	F	F	Chino, Ontario, Caltrans / LOS D
5	Euclid Av. (SR-83) & Chino Av.	TS	78.0	153.7	E	F	86.1	161.9	F	F	Chino, Ontario, Caltrans / LOS D
6	Euclid Av. (SR-83) & Schaefer Av.	TS	190.9	>200.0	F	F	>200.0	>200.0	F	F	Chino, Ontario, Caltrans / LOS D
7	Euclid Av. (SR-83) & Edison Av.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F	Chino, Ontario, Caltrans / LOS D
8	Euclid Av. (SR-83) & Eucalyptus Av.	TS	92.2	162.9	F	F	108.9	175.0	F	F	Chino, Ontario, Caltrans / LOS D
9	Euclid Av. (SR-83) & Merrill Av.	TS	174.8	>200.0	F	F	189.0	>200.0	F	F	Chino, Ontario, Caltrans / LOS D
10	Sultana Av. & Eucalyptus Av.	CSS	27.3	>100.0	D	F	38.2	>100.0	E	F	Ontario / LOS E
11	Sultana Av. & Driveway 1	CSS	Future Intersection				9.3	9.5	A	A	Ontario / LOS E
12	Sultana Av. & Driveway 2	CSS	Future Intersection				9.3	9.6	A	A	Ontario / LOS E
13	Sultana Av. & Driveway 3	CSS	Future Intersection				8.7	9.4	A	A	Ontario / LOS E
14	Sultana Av. & Driveway 4	CSS	Future Intersection				8.6	9.3	A	A	Ontario / LOS E
15	Sultana Av. & Driveway 5	CSS	Future Intersection				8.7	9.4	A	A	Ontario / LOS E
16	Sultana Av. & Driveway 6	CSS	Future Intersection				8.9	9.6	A	A	Ontario / LOS E
17	Sultana Av. & Driveway 7	CSS	Future Intersection				8.7	9.2	A	A	Ontario / LOS E
18	Sultana Av. & Merrill Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Chino, Ontario / LOS D
19	Driveway 8 & Merrill Av.	CSS	Future Intersection				18.9	26.3	C	D	Chino, Ontario / LOS D
20	Driveway 9 & Eucalyptus Av.	CSS	Future Intersection				10.5	13.4	B	B	Ontario / LOS E
21	Driveway 10 & Eucalyptus Av.	CSS	Future Intersection				10.5	13.5	B	B	Ontario / LOS E
22	Driveway 11 & Merrill Av.	CSS	Future Intersection				20.9	26.3	C	D	Chino, Ontario / LOS D
23	Campus Av. & Eucalyptus Av.	CSS	9.3	35.0	A	E	28.2	64.3	D	F	Chino, Caltrans / LOS D
24	Campus Av & Driveway 12	CSS	Future Intersection				9.3	9.0	A	A	Ontario / LOS E
25	Campus Av & Driveway 13	CSS	Future Intersection				9.3	9.0	A	A	Ontario / LOS E
26	Campus Av & Driveway 14	CSS	Future Intersection				9.3	9.1	A	A	Ontario / LOS E
27	Campus Av & Driveway 15	CSS	Future Intersection				9.2	9.0	A	A	Ontario / LOS E
28	Campus Av & Driveway 16	CSS	Future Intersection				9.3	9.1	A	A	Ontario / LOS E
29	Campus Av & Driveway 17	CSS	Future Intersection				9.2	9.1	A	A	Ontario / LOS E
30	Campus Av & Driveway 18	CSS	Future Intersection				9.3	9.2	A	A	Ontario / LOS E
31	Campus Av. & Merrill Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Chino, Caltrans / LOS D
32	Bon View Av. & Eucalyptus Av.	AWS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Ontario / LOS E
33	Bon View Av. & Merrill Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Chino, Ontario / LOS D
34	Grove Av. & Eucalyptus Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Ontario / LOS E
35	Grove Av. & Merrill Av.	AWS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Chino, Ontario / LOS D
36	Walker Av. & Edison Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Ontario / LOS E
37	Walker Av & Eucalyptus Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Ontario / LOS E
38	Walker Av./Flight Av. & Merrill Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Chino, Ontario / LOS D
39	Van Vliet Av./Baker Av. & Merrill Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Ontario / LOS E
40	Vineyard Av. & Edison Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Ontario / LOS E
41	Vineyard Av./Hellman Av. & Merrill Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Chino, Ontario / LOS D
42	Carpenter Av. & Merrill Av.	AWS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Chino, Ontario / LOS D

**TABLE 7-1: INTERSECTION ANALYSIS FOR HORIZON YEAR (2040) CONDITIONS (2 OF 2)**

#	Intersection	Traffic Control <sup>2</sup>	2040 Without Project				2040 With Project				Jurisdiction(s) / LOS Standard <sup>3</sup>
			Delay <sup>1</sup> (secs.)		Level of Service		Delay <sup>1</sup> (secs.)		Level of Service		
			AM	PM	AM	PM	AM	PM	AM	PM	
43	Hellman Av. & Edison Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Ontario / LOS E
44	Archibald Av. & Ontario Ranch Rd.	TS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	Ontario / LOS E
45	Archibald Av. & Eucalyptus Av.	TS	96.7	175.0	F	F	98.1	179.4	F	F	Ontario / LOS E
46	Archibald Av. & Merrill Av.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F	Ontario / LOS E
47	Archibald Av. & Limonite Av.	TS	>200.0	>200.0	F	F	>200.0	>200.0	F	F	Eastvale / LOS D
48	Turner Av. & Ontario Ranch Rd.	TS	164.6	177.4	F	F	173.6	186.7	F	F	Ontario / LOS E
49	Haven Av. & Ontario Ranch Rd.	TS	123.2	89.9	F	F	128.8	93.7	F	F	Ontario / LOS E
50	Hamner Av. & Ontario Ranch Rd.	TS	139.3	>200.0	F	F	143.5	>200.0	F	F	Eastvale, Ontario / LOS D
51	I-15 SB Ramps & Cantu Galleano Ranch Rd.	TS	20.7	43.9	C	D	23.7	51.6	C	D	Eastvale, Caltrans / LOS D
52	I-15 NB Ramps & Cantu Galleano Ranch Rd.	TS	32.7	44.3	C	D	35.6	51.5	D	D	Jurupa Valley, Caltrans / LOS D

**BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).  
<sup>1</sup> Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.  
<sup>2</sup> CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; **CSS** = Improvement

### 7.6 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for Horizon Year (2040) Without and With Project traffic conditions are shown on Table 7-2. As shown on Table 7-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows under Horizon Year (2040) Without and With Project traffic conditions. Worksheets for Horizon Year (2040) Without and With Project traffic conditions off-ramp queuing analysis are provided in Appendices 7.5 and 7.6, respectively.

**TABLE 7-2: PEAK HOUR FREEWAY OFF-RAMP QUEUING SUMMARY FOR HORIZON YEAR (2040) CONDITIONS**

#	Intersection	Movement	Available Stacking Distance (Feet)	2040 Without Project				2040 With Project			
				95th Percentile Queue (Feet) <sup>3</sup>		Acceptable? <sup>1</sup>		95th Percentile Queue (Feet) <sup>3</sup>		Acceptable? <sup>1</sup>	
				AM Peak	PM Peak	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
1	Euclid Avenue (SR-83) & SR-60 WB Ramps	WBL	400	497 <sup>2</sup>	421 <sup>2</sup>	Yes <sup>3</sup>	Yes <sup>3</sup>	503 <sup>2</sup>	428 <sup>2</sup>	Yes <sup>3</sup>	Yes <sup>3</sup>
		WBL/T/R	1,430	513 <sup>2</sup>	448 <sup>2</sup>	Yes	Yes	537 <sup>2</sup>	447 <sup>2</sup>	Yes	Yes
		WBR	400	388 <sup>2</sup>	326 <sup>2</sup>	Yes	Yes	395 <sup>2</sup>	334 <sup>2</sup>	Yes	Yes
2	Euclid Avenue (SR-83) & SR-60 EB Ramps	EBL	900	518 <sup>2</sup>	489 <sup>2</sup>	Yes	Yes	518 <sup>2</sup>	489 <sup>2</sup>	Yes	Yes
		EBT/R	1,270	1,074 <sup>2</sup>	747 <sup>2</sup>	Yes	Yes	1,122 <sup>2</sup>	764 <sup>2</sup>	Yes	Yes
51	I-15 SB Ramps & Cantu Galleano	SBL	1,440	134	214	Yes	Yes	134	214	Yes	Yes
		SBL/R	560	593 <sup>2</sup>	517 <sup>2</sup>	Yes <sup>3</sup>	Yes	614 <sup>2</sup>	523 <sup>2</sup>	Yes <sup>3</sup>	Yes
		SBR	460	547 <sup>2</sup>	486 <sup>2</sup>	Yes <sup>3</sup>	Yes <sup>3</sup>	569 <sup>2</sup>	495 <sup>2</sup>	Yes <sup>3</sup>	Yes <sup>3</sup>
52	I-15 NB Ramps & Cantu Galleano	NBL	1,680	135 <sup>2</sup>	159 <sup>2</sup>	Yes	Yes	146 <sup>2</sup>	159 <sup>2</sup>	Yes	Yes
		NBR	440	57	56	Yes	Yes	589	56	Yes <sup>3</sup>	Yes

<sup>1</sup> Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.  
<sup>2</sup> 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.  
<sup>3</sup> Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the SR-60, SR-71, or I-15 Freeway mainline.

## **7.7 IMPROVEMENTS**

### **7.7.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS**

Improvement strategies have been identified at intersections that have been identified as deficient, in an effort to reduce each location's peak hour delay and improve the associated LOS grade to an acceptable LOS (LOS D/E or better). The effectiveness of the recommended improvement strategies to address Horizon Year (2040) traffic deficiencies are presented on Table 7-3. If not constructed by the Project, the Project Applicant shall contribute to these improvements through payment of City DIF fees or fair share contribution as identified on Table 1-3.

Worksheets for Horizon Year (2040) Without and With Project conditions, with improvements, HCM calculation worksheets are provided in Appendix 7.7, respectively.

### **7.7.2 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES**

As shown previously on Table 7-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95<sup>th</sup> percentile traffic flows for Horizon Year (2040) traffic conditions. As such, no improvements have been identified.



**TABLE 7-3: INTERSECTION ANALYSIS FOR HORIZON YEAR (2040) CONDITIONS WITH IMPROVEMENTS  
(1 OF 2)**

#	Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (secs.)		Level of Service		Jurisdiction(s) / LOS Standard		
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM			
			L	T	R	L	T	R	L	T	R	L	T	R	L	T	R				
1	Euclid Av. (SR-83) & SR-60 WB Ramps	TS	1	2	0	0	2	1	0	0	0	1	1	1	85.3	108.3		F	F	Ontario, Caltrans / LOS	
	- Without Improvements	TS	2	2	0	0	2	1	0	0	0	1	1	1	33.8	37.2		C	D		
2	Euclid Av. (SR-83) & SR-60 EB Ramps	TS	0	2	1	1	2	0	1	1	0	0	0	0	135.6	113.2		F	F	Ontario, Caltrans / LOS	
	- Without Improvements	TS	0	2	1	2	2	0	1	1	1	0	0	0	40.4	23.3		D	C		
4	Euclid Av. (SR-83) & Riverside Dr.	TS	1	2	1	1	2	1>	1	1	0	1	2	d	164.6	>200.0		F	F	Chino, Ontario, Caltrans / LOS	
	- Without Improvements	TS	2	3	1	2	3	1>	1	2	1	1	2	d	44.0	51.9		D	D		
5	Euclid Av. (SR-83) & Chino Av.	TS	1	2	1	1	2	1	1	1	1	0	1	0	86.1	161.9		F	F	Chino, Ontario, Caltrans / LOS	
	- Without Improvements	TS	1	3	1	1	3	1	1	1	1	1	1	0	31.4	43.2		C	D		
6	Euclid Av. (SR-83) & Schaefer Av.	TS	1	2	1	1	2	1	1	1	1	1	1	0	>200.0	>200.0		F	F	Chino, Ontario, Caltrans / LOS	
	- Without Improvements	TS	2	3	1	2	3	1	2	1	1	1	1	0	47.8	52.0		D	D		
7	Euclid Av. (SR-83) & Edison Av.	TS	1	2	1	1	2	1	1	1	1	1	1	0	>200.0	>200.0		F	F	Chino, Ontario, Caltrans / LOS	
	- Without Improvements	TS	2	3	1	2	3	1>	2	3	1	2	2	1>	50.6	54.7		D	D		
8	Euclid Av. (SR-83) & Eucalyptus Av.	TS	1	2	1	1	2	1	1	1	1	1	1	0	108.9	175.0		F	F	Chino, Ontario, Caltrans / LOS	
	- Without Improvements	TS	1	3	1	1	3	1	1	1	1	2	1	1	23.6	54.7		D	D		
9	Euclid Av. (SR-83) & Merrill Av.	TS	1	2	1	1	2	0	0	1	0	0	1	0	189.0	>200.0		F	F	Chino, Ontario, Caltrans / LOS	
	- Without Improvements	TS	1	3	1>	2	3	0	1	1	0	2	1	1>	30.2	53.2		C	D		
10	Sultana Av. & Eucalyptus Av.	CSS	1	1	0	0	1	0	1	2	0	1	1	0	38.2	>100.0		E	F	Ontario / LOS E	
	- Without Improvements	TS	1	1	0	0	1	0	1	2	0	1	2	0	6.2	6.7		A	A		
18	Sultana Av. & Merrill Av.	CSS	0	0	0	1	0	1	1	1	0	0	2	0	>100.0	>100.0		F	F	Chino, Ontario / LOS D	
	- Without Improvements	TS	0	0	0	1	0	1	1	2	0	0	2	0	7.4	7.4		A	A		
23	Campus Av. & Eucalyptus Av.	CSS	1	0	1	0	0	0	0	2	0	1	1	0	28.2	64.3		D	F	Ontario / LOS E	
	- Without Improvements	TS	1	0	1	0	0	0	0	2	0	1	1	0	7.4	8.3		A	A		
31	Campus Av. & Merrill Av.	CSS	0	0	0	1	0	1	1	1	0	0	2	0	>100.0	>100.0		F	F	Chino, Ontario / LOS D	
	- Without Improvements	TS	0	0	0	1	0	1	1	2	0	0	2	0	8.3	7.9		A	A		
32	Bon View Av. & Eucalyptus Av.	CSS	0	1	0	0	1	0	0	2	0	0	1	0	>100.0	>100.0		F	F	Ontario / LOS E	
	- Without Improvements	TS	0	1	0	0	1	0	1	2	0	1	1	0	12.6	11.5		B	B		
33	Bon View Av. & Merrill Av.	CSS	0	0	0	0	1	0	0	1	0	0	2	0	>100.0	>100.0		F	F	Chino, Ontario / LOS D	
	- Without Improvements	TS	0	0	0	0	1	0	1	2	0	0	2	0	12.0	13.1		B	B		
34	Grove Av. & Eucalyptus Av.	CSS	0	1	0	0	1	0	0	1	1	0	1	0	>100.0	>100.0		F	F	Ontario / LOS E	
	- Without Improvements	TS	1	2	0	1	2	0	1	2	0	1	2	0	28.3	52.1		C	D		
35	Grove Av. & Merrill Av.	CSS	0	0	0	1	0	1	0	1	0	0	1	0	>100.0	>100.0		F	F	Chino, Ontario / LOS D	
	- Without Improvements	TS	0	0	0	1	0	1	1	2	0	0	2	1	45.2	54.1		D	D		
36	Walker Av. & Edison Av.	CSS	0	1	0	0	1	0	0	1	0	0	1	0	>100.0	>100.0		F	F	Ontario / LOS E	
	- Without Improvements	TS	1	1	0	1	1	0	1	3	0	1	3	0	31.1	47.9		C	D		
37	Walker Av & Eucalyptus Av.	CSS	0	1	0	0	1	0	0	1	0	0	1	0	>100.0	>100.0		F	F	Ontario / LOS E	
	- Without Improvements	TS	1	1	0	1	1	0	1	2	0	1	2	0	21.9	54.0		C	D		
38	Walker Av./Flight Av. & Merrill Av.	CSS	0	1	0	0	1	0	1	1	1	1	1	0	>100.0	>100.0		F	F	Chino, Ontario / LOS D	
	- Without Improvements	TS	1	1	0	1	1	0	1	2	0	1	2	0	29.2	34.1		C	C		
39	Van Vliet Av./Baker Av. & Merrill Av.	CSS	0	1	0	0	1	0	1	2	0	1	1	0	>100.0	>100.0		F	F	Chino, Ontario / LOS D	
	- Without Improvements	TS	0	1	0	0	1	0	1	2	0	1	2	0	13.9	8.7		B	A		

**TABLE 7-3: INTERSECTION ANALYSIS FOR HORIZON YEAR (2040) CONDITIONS WITH IMPROVEMENTS  
(2 OF 2)**

#	Intersection	Traffic Control <sup>3</sup>	Intersection Approach Lanes <sup>1</sup>												Delay <sup>2</sup> (secs.)		Level of Service		Jurisdiction(s) / LOS Standard			
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM				
			L	T	R	L	T	R	L	T	R	L	T	R	L	T	R					
40	Vineyard Av. & Edison Av.																					
	- Without Improvements	CSS	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	>100.0	>100.0	F	F	Ontario / LOS E
	- With Improvements	TS	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>3</u>	0	<u>1</u>	<u>3</u>	0	<u>1</u>	<u>3</u>	0	28.0	72.9	C	E	
41	Vineyard Av./Hellman Av. & Merrill Av.																					
	- Without Improvements	CSS	1	<u>1</u>	1	0	1	0	<u>1</u>	2	0	1	1	0	>100.0	>100.0	F	F			Chino, Ontario / LOS D	
	- With Improvements	TS	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	2	0	<u>1</u>	<u>2</u>	<u>1</u>	14.2	52.7	B	D				
42	Carpenter Av. & Merrill Av.																					
	- Without Improvements	CSS	0	1	0	0	1	0	1	1	1	1	1	0	>100.0	>100.0	F	F			Chino, Ontario / LOS D	
	- With Improvements	TS	<u>1</u>	1	0	<u>1</u>	1	0	1	<u>2</u>	1	1	<u>2</u>	0	31.1	23.5	C	C				
43	Hellman Av. & Edison Av.																					
	- Without Improvements	CSS	0	1	0	0	1	0	0	1	0	0	1	0	>100.0	>100.0	F	F			Ontario / LOS E	
	- With Improvements	TS	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>3</u>	0	<u>1</u>	<u>3</u>	0	21.9	50.1	C	D				
44	Archibald Av. & Ontario Ranch Rd.																					
	- Without Improvements	TS	1	2	1>	1	2	1	2	2	1>>	2	1	1	>100.0	>100.0	F	F			Ontario / LOS E	
	- With Improvements	TS	<u>2</u>	<u>3</u>	1>>	<u>2</u>	<u>3</u>	1>	<u>2</u>	<u>4</u>	1>>	<u>2</u>	<u>4</u>	1	75.6	78.6	E	E				
45	Archibald Av. & Eucalyptus Av.																					
	- Without Improvements	TS	1	2	1	1	2	0	1	1	0	2	1	1	98.1	179.4	F	F			Ontario / LOS E	
	- With Improvements	TS	<u>1</u>	<u>3</u>	0	1	<u>3</u>	0	<u>1</u>	<u>2</u>	0	<u>1</u>	<u>2</u>	<u>1</u>	30.5	33.3	C	C				
46	Archibald Av. & Merrill Av.																					
	- Without Improvements	TS	1	3	1	2	2	1	1	1	1	1	1	1	>200.0	>200.0	F	F			Ontario / LOS E	
	- With Improvements	TS	<u>2</u>	<u>3</u>	1	<u>2</u>	<u>3</u>	1>	<u>2</u>	<u>1</u>	1>>	1	1	1	59.3	63.9	E	E				
47	Archibald Av. & Limonite Av.																					
	- Without Improvements	TS	1	1	1>	1	1	0	1	2	1	2	1	1>	>200.0	>200.0	F	F			Eastvale / LOS D	
	- With Improvements	TS	<u>1</u>	<u>3</u>	1>	<u>2</u>	<u>3</u>	0	<u>2</u>	<u>2</u>	1	<u>2</u>	<u>2</u>	1>	46.5	53.2	D	D				
48	Turner Av. & Ontario Ranch Rd.																					
	- Without Improvements	TS	1	1	0	1	1	0	1	2	1	1	2	1	173.6	186.7	F	F			Ontario / LOS E	
	- With Improvements	TS	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>3</u>	1	<u>1</u>	<u>3</u>	1	45.5	45.1	D	D				
49	Haven Av. & Ontario Ranch Rd.																					
	- Without Improvements	TS	1	1	1	1	1	1	1	3	1	1	3	1	128.8	93.7	F	F			Ontario / LOS E	
	- With Improvements	TS	<u>1</u>	<u>2</u>	1	<u>1</u>	<u>2</u>	1	<u>1</u>	3	1	<u>1</u>	3	1	50.2	53.0	D	D				
50	Hamner Av. & Ontario Ranch Rd.																					
	- Without Improvements <sup>7</sup>	TS	2	3	1	2	2	1	2	4	0	2	2	1	143.5	>200.0	F	F			Eastvale, Ontario / LOS D	
	- With Improvements <sup>7</sup>	TS	<u>2</u>	<u>3</u>	1>	<u>2</u>	<u>3</u>	0	<u>2</u>	<u>4</u>	1>	<u>2</u>	<u>3</u>	1	54.4	78.9	D	E				

<sup>1</sup> When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.  
L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free Right Turn Lane; d = Defacto Right Turn Lane; 1 = Improvement

<sup>2</sup> Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

<sup>3</sup> CSS = Cross-street Stop; AWS = All-Way Stop; TS = Traffic Signal; TS = Improvement

<sup>4</sup> Improvement consists of modifying the traffic signal to extend the cycle length to 120 seconds. No other physical improvements are recommended.

<sup>5</sup> Assumes signalization of the intersection and the buildout of the east leg.

<sup>6</sup> Improvement includes modifying the coordinated cycle length from 90 seconds to 120 seconds.

<sup>7</sup> Improvement consists of modifying the traffic signal to extend the cycle length to 130 seconds.

## 8 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements within the City of Ontario are funded through a combination of construction of improvements, development impact fee programs or fair share contributions, such as the City of Ontario DIF program. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors.

### 8.1 CITY OF ONTARIO DEVELOPMENT IMPACT FEE PROGRAM

The City of Ontario has created its own local DIF program to impose and collect fees from new residential, commercial, and industrial development for the purpose of funding roadways and intersections necessary to accommodate City growth as identified in the City's General Plan Circulation Element. The City's DIF includes regional improvements to comply with Measure "I." The fee schedule was last updated in January 2020 and is reviewed/adjusted annually based upon changes in the construction cost index (CCI). Under the City's DIF program, the City may grant to developers a credit against specific components of fees when those developers construct certain facilities and landscaped medians identified in the list of improvements funded by the DIF program.

The timing to use the DIF fees is established through periodic capital improvement programs which are overseen by the City's Public Works Department. Periodic traffic counts, review of traffic accidents, and a review of traffic trends throughout the City are also periodically performed by City staff and consultants. The City uses this data to determine the timing of implementing the improvements listed in its facilities list. The City also uses this data to ensure that the improvements listed on the facilities list are constructed before the LOS falls below the LOS performance standards adopted by the City. In this way, the improvements are constructed before the LOS falls below the City's LOS performance thresholds.

The Project Applicant will be subject to the City's DIF fee program and will pay the requisite City DIF fees at the rates then in effect pursuant to the City's ordinance. The Project Applicant's payment of the requisite DIF at the rates then in effect, pursuant to the City DIF Program, would satisfy the Project's proportional improvement requirements at potentially affected DIF-funded facilities.

**TABLE 8-1: ESTIMATED FEE OBLIGATION**

Fee Reference	Light Industrial (\$ PER SQ. FT.)
Industrial: Regional and Local Streets	\$3.002/SF
Business Park: Regional and Local Streets	\$5.824/SF

\* Ontario Ranch DIF rates effective as of January 1, 2020.

**Fee Calculation**

Program	Category	Unit Cost	Units/Sq.Ft.	Local Circulation
Local/Regional Impacts	Industrial	\$3.00	1,412,739	\$4,238,500
	Business Park	\$5.82	227,951	\$1,327,587
<b>Total Transportation Impact Fees</b>				<b>\$5,566,086</b>

## 8.2 MEASURE “I” FUNDS

In 2004, the voters of San Bernardino County approved the 30-year extension of Measure “I,” a one-half of one percent sales tax on retail transactions, through the year 2040, for transportation projects including, but not limited to, infrastructure improvements, commuter rail, public transit, and other identified improvements. The Measure “I” extension requires that a regional traffic impact fee be created to ensure development is paying its fair share. A regional Nexus study was prepared by SBCTA and concluded that each jurisdiction should include a regional fee component in their local programs in order to meet the Measure “I” requirement. The regional component assigns specific facilities and cost sharing formulas to each jurisdiction and was most recently updated in November 2011. Revenues collected through these programs are used in tandem with Measure “I” funds to deliver projects identified in the Nexus Study. While Measure “I” is a self-executing sales tax administered by SBCTA, it bears discussion here because the funds raised through Measure “I” have funded in the past and will continue to fund new transportation facilities in San Bernardino County.

## 8.3 FAIR SHARE CONTRIBUTION

Project improvement may include a combination of fee payments to established programs, construction of specific improvements, payment of a fair share contribution toward future improvements or a combination of these approaches. Improvements constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate (to be determined at the City’s discretion).

When off-site improvements are identified with a minor share of responsibility assigned to proposed development, the approving jurisdiction may elect to collect a fair share contribution or require the development to construct improvements. Detailed fair share calculations, for each peak hour, has been provided on Table 8-2 for the applicable deficient study area intersections.

These fees are collected with the proceeds solely used as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected population increases.

TABLE 8-2: PROJECT FAIR SHARE CALCULATIONS FOR INTERSECTIONS

#	Intersection		Existing	Total Project	2040 With Project Volume	Total New Traffic	Project % of New Traffic
4	Euclid Av. (SR-83) & Riverside Dr.	AM:	3,264	50	5,684	2,420	2.1%
		PM:	3,525	56	6,204	2,679	2.1%
5	Euclid Av. (SR-83) & Chino Av.	AM:	2,462	53	4,721	2,259	2.3%
		PM:	2,873	60	5,253	2,380	2.5%
6	Euclid Av. (SR-83) & Schaefer Av.	AM:	2,480	55	5,128	2,648	2.1%
		PM:	3,136	63	6,202	3,066	2.1%
7	Euclid Av. (SR-83) & Edison Av.	AM:	2,786	82	7,118	4,332	1.9%
		PM:	3,641	97	8,236	4,595	2.1%
8	Euclid Av. (SR-83) & Eucalyptus Av.	AM:	2,522	87	4,981	2,459	3.5%
		PM:	2,906	100	6,037	3,131	3.2%
9	Euclid Av. (SR-83) & Merrill Av.	AM:	2,604	49	5,305	2,701	1.8%
		PM:	3,012	55	6,569	3,557	1.5%
10	Sultana Av. & Eucalyptus Av.	AM:	260	105	1,077	817	12.9%
		PM:	285	124	1,530	1,245	10.0%
18	Sultana Av. & Merrill Av.	AM:	742	63	2,179	1,437	4.4%
		PM:	929	72	2,546	1,617	4.5%
23	Campus Av. & Eucalyptus Av.	AM:	260	131	1,093	833	15.7%
		PM:	285	157	1,508	1,223	12.8%
31	Campus Av. & Merrill Av.	AM:	742	87	2,059	1,317	6.6%
		PM:	929	100	2,413	1,484	6.7%
32	Bon View Av. & Eucalyptus Av.	AM:	404	92	1,518	1,114	8.3%
		PM:	468	110	2,113	1,645	6.7%
33	Bon View Av. & Merrill Av.	AM:	815	66	2,227	1,412	4.7%
		PM:	994	77	2,589	1,595	4.8%
34	Grove Av. & Eucalyptus Av.	AM:	626	90	2,747	2,121	4.2%
		PM:	816	107	3,358	2,542	4.2%
35	Grove Av. & Merrill Av.	AM:	1,080	66	3,278	2,198	3.0%
		PM:	1,208	77	3,670	2,462	3.1%
36	Walker Av. & Edison Av.	AM:	866	15	3,832	2,966	0.5%
		PM:	1,140	18	4,999	3,859	0.5%
37	Walker Av & Eucalyptus Av.	AM:	243	64	1,634	1,391	4.6%
		PM:	155	76	2,032	1,877	4.0%

#	Intersection	Existing	Total Project	2040 With Project Volume	Total New Traffic	Project % of New Traffic
38	Walker Av./Flight Av. & Merrill Av.	AM: 1,070	66	3,217	2,147	3.1%
		PM: 1,140	76	3,309	2,169	3.5%
39	Van Vliet Av./Baker Av. & Merrill Av.	AM: 875	61	2,744	1,869	3.3%
		PM: 965	71	2,837	1,872	3.8%
40	Vineyard Av. & Edison Av.	AM: 0	55	4,983	4,983	1.1%
		PM: 0	66	6,059	6,059	1.1%
41	Vineyard Av./Hellman Av. & Merrill Av.	AM: 844	62	1,815	971	6.4%
		PM: 962	71	3,825	2,863	2.5%
42	Carpenter Av. & Merrill Av.	AM: 1,123	41	3,272	2,149	1.9%
		PM: 1,111	46	3,153	2,042	2.3%
43	Hellman Av. & Edison Av.	AM: 0	53	5,123	5,123	1.0%
		PM: 0	62	6,205	6,205	1.0%
44	Archibald Av. & Ontario Ranch Rd.	AM: 2,966	60	8,224	5,258	1.1%
		PM: 3,034	70	9,061	6,027	1.2%
45	Archibald Av. & Eucalyptus Av.	AM: 2,117	13	4,648	2,531	0.5%
		PM: 1,999	14	4,943	2,944	0.5%
46	Archibald Av. & Merrill Av.	AM: 2,698	36	5,120	2,422	1.5%
		PM: 2,660	41	5,513	2,853	1.4%
47	Archibald Av. & Limonite Av.	AM: 2,721	40	5,973	3,252	1.2%
		PM: 2,803	47	7,484	4,681	1.0%
48	Turner Av. & Ontario Ranch Rd.	AM: 1,588	51	4,325	2,737	1.9%
		PM: 1,703	59	5,223	3,520	1.7%
49	Haven Av. & Ontario Ranch Rd.	AM: 1,964	49	4,888	2,924	1.7%
		PM: 2,217	57	5,908	3,691	1.5%
50	Hamner Av. & Ontario Ranch Rd.	AM: 3,332	46	6,636	3,304	1.4%
		PM: 4,169	54	7,868	3,699	1.5%

BOLD = Denotes highest fair share percentage.

<sup>1</sup> Fair share based on total traffic only.

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## 9 REFERENCES

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4. **WSP.** *High Cube Warehouse Trip Generation Study.* November 6, 2018.
5. **Transportation Research Board.** *Highway Capacity Manual (HCM).* 6th Edition. s.l. : National Academy of Sciences, 2016.
6. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (CA MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CA MUTCD).* 2014.
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8. **The City of Chino.** *Envision Chino General Plan 2025.* Chino : s.n., July 2010.
9. **The City of Eastvale.** *Adopted Genreal Plan.* Eastvale : s.n., June 13, 2012.
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11. **Institute of Transportation Engineers.** *High Cube Warehouse Vehicle Trip Generation Analysis.* Washington, DC : ITE, October 2016.
12. **Institute of Transportation Engineers (ITE).** *Trip Generation Manual Supplement.* February 2020.
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**APPENDIX 1.1:**

**APPROVED TRAFFIC STUDY SCOPING AGREEMENT**

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June 16, 2021

Mr. Jay Bautista  
City of Ontario  
303 E. B Street  
Ontario, CA 91764

**SUBJECT: SCOPING ASSUMPTIONS FOR THE ONTARIO RANCH BUSINESS PARK TRAFFIC ANALYSIS**

Dear Mr. Jay Bautista:

Urban Crossroads, Inc. has conducted an initial assessment of the proposed Ontario Ranch Business Park development (**Project**) to establish a traffic analysis (**TA**) scope of work that would be prepared in support of a Project Environmental Impact Report (**EIR**). It should be noted, the proposed Project is part of a specific plan amendment to the Ontario Rancho Business Park Specific Plan. The Project is located on the northwest corner of Campus Avenue and Merrill Avenue in the City of Ontario. The following memo outlines the project-related trip generation, trip distribution patterns, proposed study area and analysis scenarios expected to be included in the Project traffic analysis.

## **PROJECT DESCRIPTION**

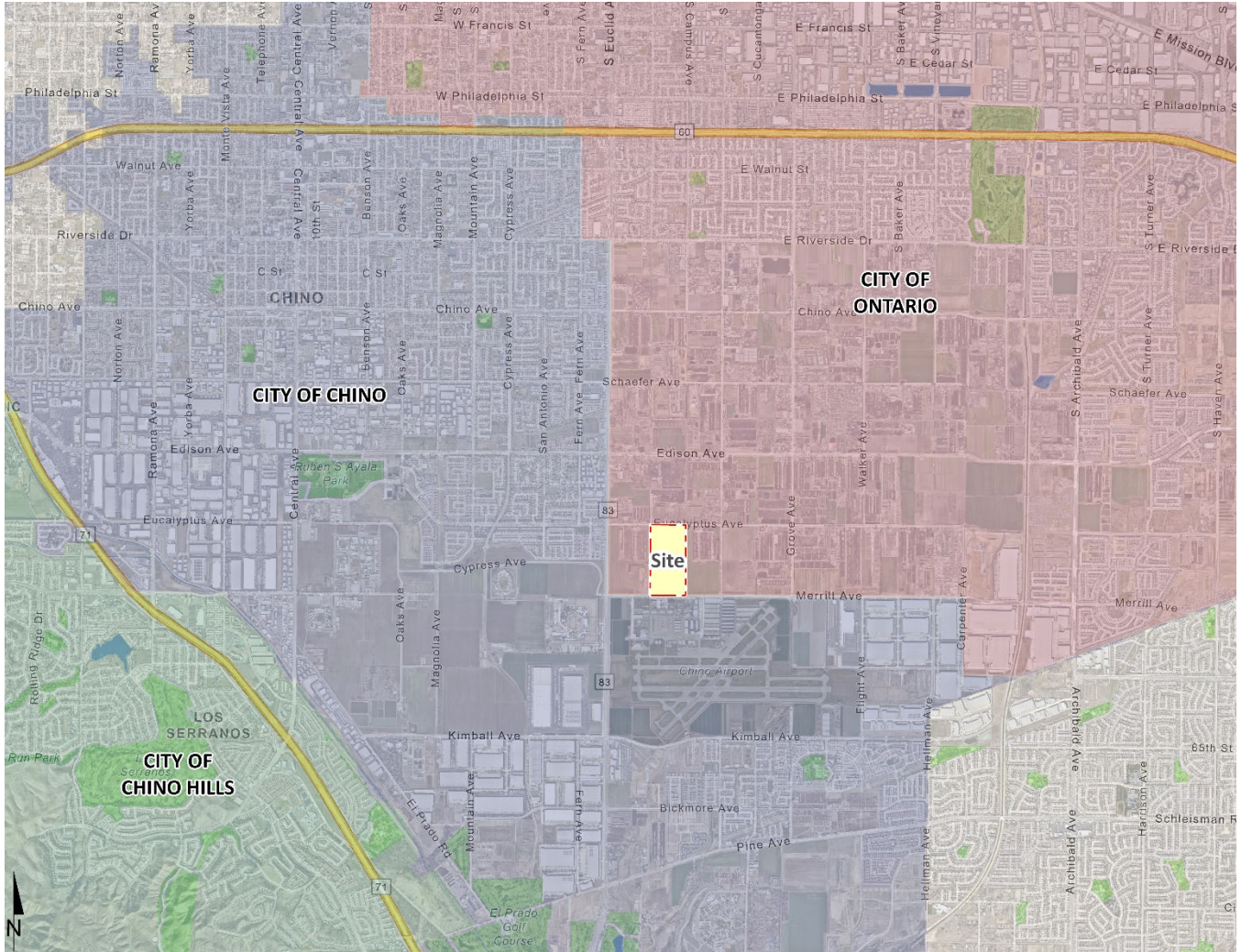
Exhibit 1 illustrates the location map for the proposed Project and Exhibit 2 shows the preliminary site plan. The proposed Project is anticipated to be developed in one phase with an opening year of 2023. For purposes of scoping the TA, the following mix of land uses are assumed, which represent a reasonable mix of industrial and business park uses that would be permitted by the Project:

- Industrial: 913,053 square feet of high-cube fulfillment center warehouse use, 179,135 square feet of high-cube cold storage warehouse, and 320,551 square feet of general warehousing use.
- Business Park: 227,951 square feet of a mix of uses including merchant wholesale, professional services, professional office, warehouse/storage, and research and development uses (as would fall under ITE Land Use Code 130).
- **Total of 1,640,690 square feet**

It should be noted, although the square footages above are higher than the square footages of the buildings shown on Exhibit 2, the square footages above will be utilized for the purposes of the traffic analysis as it provides a conservative approach and will provide flexibility in the event site plan is adjusted.

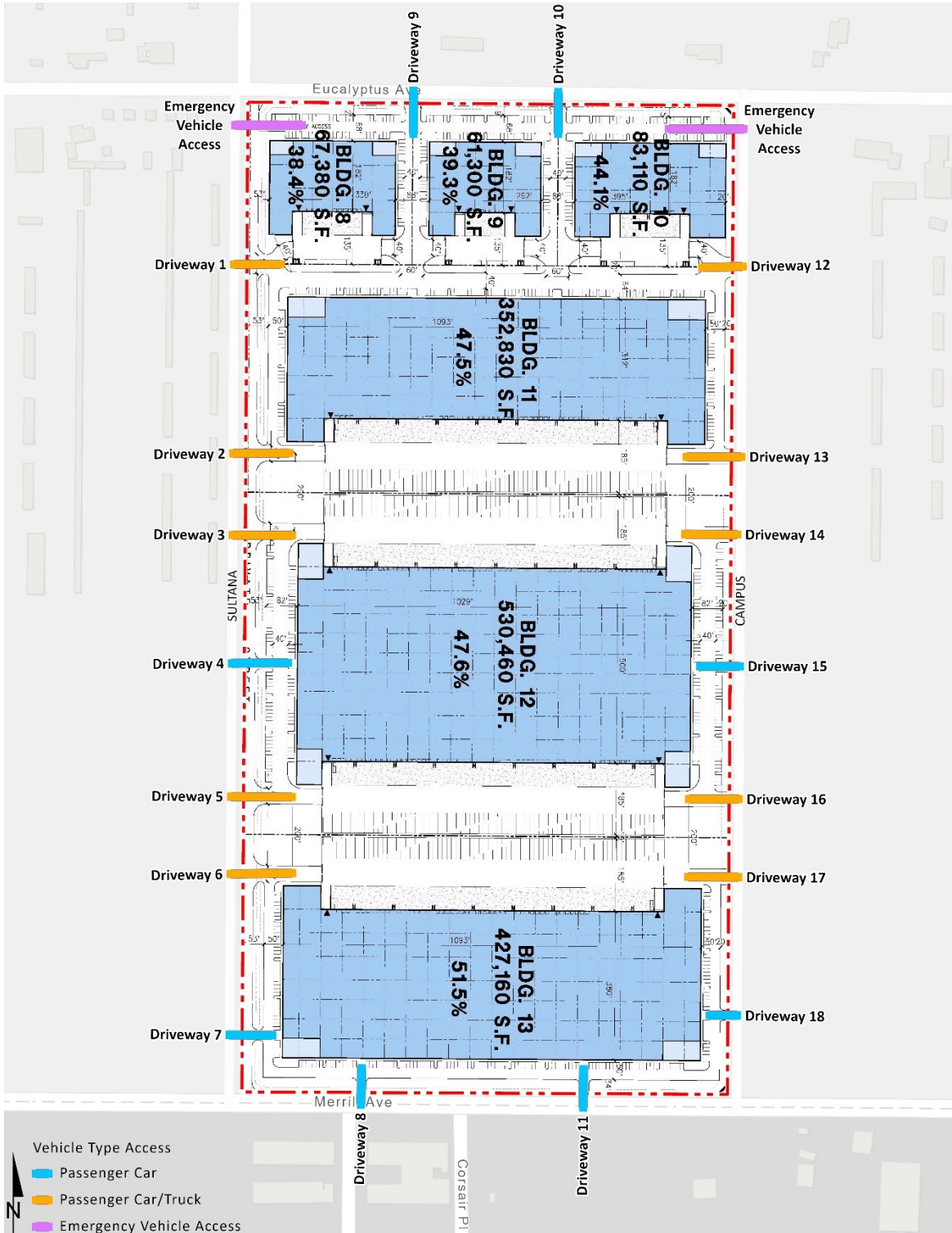
Access to the proposed Project would be provided to Merrill Avenue, Eucalyptus Avenue, Campus Avenue, and Sultana Avenue. Merrill Avenue will serve as the primary travel route for heavy trucks to and from the Project consistent with other projects in the immediate vicinity. Exhibit 3 illustrates the Project with respect to the proposed study area.

**EXHIBIT 1: LOCATION MAP**

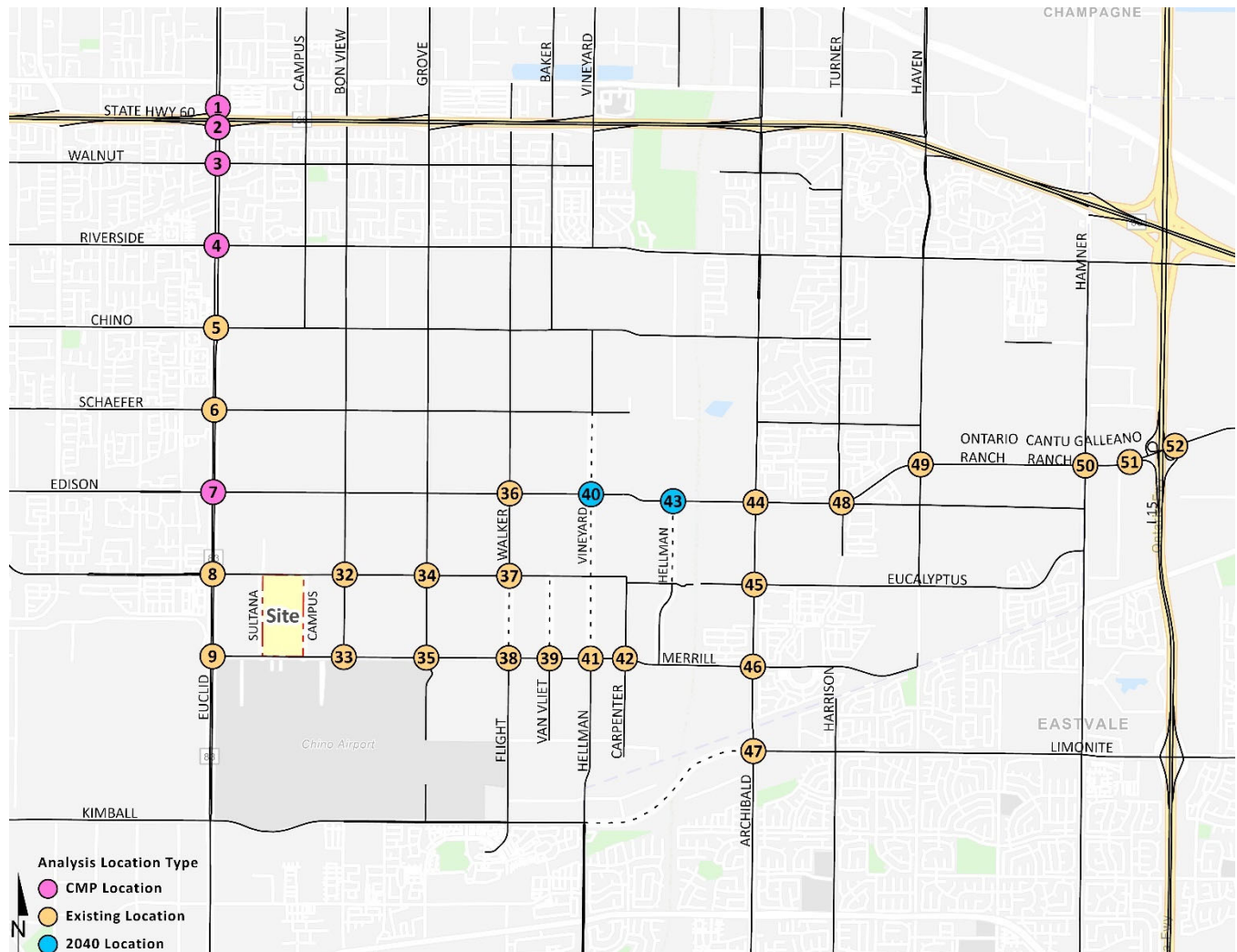




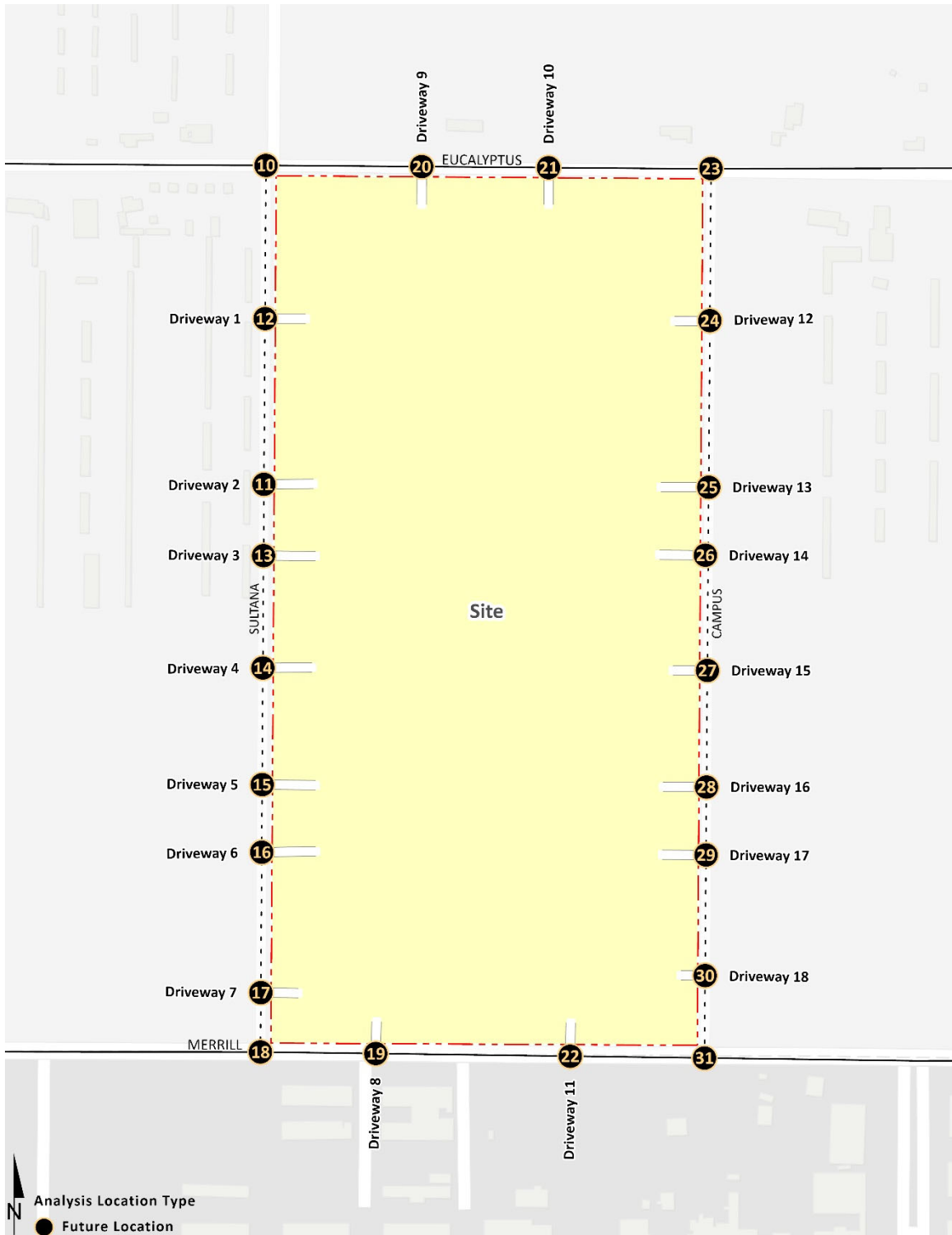
**EXHIBIT 2: PRELIMINARY SITE PLAN**



**EXHIBIT 3: STUDY AREA**







## PROPOSED ANALYSIS SCENARIOS

The following analysis scenarios are proposed based on planned development phasing:

- Existing (2021)
- Existing plus Project
- Opening Year Cumulative (2023) Without Project
- Opening Year Cumulative (2023) With Project
- Horizon Year (2040) Without Project – With Limonite Avenue Extension
- Horizon Year (2040) With Project – With Limonite Avenue Extension

## EXISTING COUNT DATA

Due to the currently ongoing COVID-19 pandemic, schools and businesses within the study area may be closed or operating at less than full capacity. As such, traffic counts collected in 2019, in conjunction with an ambient growth rate, will be utilized to reflect existing 2021 baseline conditions. The ambient growth rate will be 5% per year, compounded annually, for turning movements along major arterials (such as Pine Avenue, Euclid Avenue, Archibald Avenue, Limonite Avenue) and 2% per year, compounded annually, for all other movements. The 5% and 2% growth rates are based on a comparison of historical traffic counts for the study area intersections collected in 2018, 2017, and 2016. Based on this comparison, the annual growth rate for the study area intersections averaged between 2% per year and 5% at turning movements along major arterials. This proposed methodology is consistent with other recent studies in the area.

## AMBIENT GROWTH

Future year traffic forecasts will be based upon a background (ambient) growth of 2% per year, compounded annually. The growth factor for Opening Year Cumulative (2023) traffic conditions will be 4.04% (or  $1.02^2$  years).

## TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development, and is based upon the specific land uses planned for a given project. Trip generation rates for the Project are shown in Table 1 for both passenger car equivalent (PCE) and actual vehicles. The trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their Trip Generation Manual (10<sup>th</sup> Edition, 2017) and the High-Cube Warehouse Trip Generation Study (WSP, January 29, 2019).

**TABLE 1: PROJECT TRIP GENERATION RATES**

Land Use <sup>1</sup>	Units <sup>2</sup>	ITE LU Code	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
<b>Actual Vehicle Trip Generation Rates</b>									
High-Cube Fulfillment Center Warehouse <sup>3</sup>	TSF	--	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks			0.006	0.002	0.008	0.003	0.008	0.011	0.162
5+-Axle Trucks			0.008	0.003	0.011	0.003	0.007	0.010	0.217
High-Cube Cold Storage Warehouse <sup>5</sup>			TSF	157	0.085	0.025	0.110	0.032	0.088
Passenger Cars	0.062	0.018			0.080	0.025	0.067	0.092	1.378
2-Axle Trucks	0.008	0.002			0.010	0.003	0.007	0.010	0.257
3-Axle Trucks	0.003	0.001			0.003	0.001	0.002	0.003	0.082
4+-Axle Trucks	0.012	0.004			0.016	0.004	0.011	0.015	0.403
Business Park <sup>4,5</sup>	TSF	130	0.324	0.076	0.400	0.084	0.316	0.400	3.370
Passenger Cars			0.285	0.067	0.352	0.076	0.284	0.360	2.865
2-Axle Trucks			0.006	0.002	0.008	0.001	0.005	0.007	0.084
3-Axle Trucks			0.008	0.002	0.010	0.002	0.007	0.008	0.105
4+-Axle Trucks			0.024	0.006	0.030	0.005	0.020	0.025	0.316
Warehousing <sup>6</sup>	TSF	150	0.131	0.039	0.170	0.051	0.139	0.190	1.740
Passenger Cars			0.114	0.034	0.148	0.044	0.118	0.162	1.270
2-Axle Trucks			0.003	0.001	0.004	0.001	0.003	0.005	0.078
3-Axle Trucks			0.004	0.001	0.005	0.002	0.004	0.006	0.097
4+-Axle Trucks			0.011	0.003	0.014	0.005	0.013	0.018	0.294
<b>Passenger Car Equivalent (PCE) Trip Generation Rates<sup>5</sup></b>									
High-Cube Fulfillment Center Warehouse <sup>3</sup>	TSF	--	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (PCE = 2.0)			0.012	0.004	0.016	0.006	0.016	0.022	0.324
5+-Axle Trucks (PCE = 3.0)			0.025	0.008	0.033	0.008	0.022	0.030	0.651
High-Cube Cold Storage Warehouse <sup>5</sup>			TSF	157	0.085	0.025	0.110	0.032	0.088
Passenger Cars	0.062	0.018			0.080	0.025	0.067	0.092	1.378
2-Axle Trucks (PCE = 1.5)	0.012	0.004			0.015	0.004	0.010	0.014	0.386
3-Axle Trucks (PCE = 2.0)	0.005	0.002			0.007	0.002	0.004	0.006	0.163
4+-Axle Trucks (PCE = 3.0)	0.037	0.011			0.048	0.012	0.033	0.045	1.209
Business Park <sup>4,5</sup>	TSF	130	0.324	0.076	0.400	0.084	0.316	0.400	3.370
Passenger Cars			0.285	0.067	0.352	0.076	0.284	0.360	2.865
2-Axle Trucks (PCE = 1.5)			0.010	0.002	0.012	0.002	0.008	0.010	0.127
3-Axle Trucks (PCE = 2.0)			0.016	0.004	0.020	0.003	0.013	0.017	0.209
4+-Axle Trucks (PCE = 3.0)			0.073	0.017	0.090	0.016	0.059	0.075	0.949
Warehousing <sup>6</sup>	TSF	150	0.131	0.039	0.170	0.051	0.139	0.190	1.740
Passenger Cars			0.114	0.034	0.148	0.044	0.118	0.162	1.270
2-Axle Trucks (PCE = 1.5)			0.004	0.001	0.006	0.002	0.005	0.007	0.118
3-Axle Trucks (PCE = 2.0)			0.007	0.002	0.009	0.003	0.009	0.012	0.194
4+-Axle Trucks (PCE = 3.0)			0.032	0.010	0.042	0.014	0.039	0.054	0.882

<sup>1</sup> Trip Generation Source: Institute of Transportation Engineers (ITE), *Trip Generation Manual*, Tenth Edition (2017).

<sup>2</sup> TSF = thousand square feet

<sup>3</sup> Vehicle Mix Source: *High Cube Warehouse Trip Generation Study*, WSP, January 29, 2019.

Inbound and outbound split source: *High Cube Warehouse Vehicle Trip Generation Analysis*, October 2016, ITE.

<sup>4</sup> The Specific Plan allows for the Business Park area to be developed with merchant wholesale, professional services, professional office, warehouse/storage, and research and development uses. However, the Business Park (ITE Land Use Code 770) land use has trip generation rates for the peak hours is based on limited data (i.e., one surveyed site). As such, the trip generation rates for ITE Land Use Code 130 has been utilized for the business park portion of the Project.

<sup>5</sup> Vehicle Mix Source: ITE *Trip Generation Handbook Supplement* (2020), Appendix C.

Vehicle Mix Source: Institute of Transportation Engineers (ITE), *Trip Generation Handbook*, Third Edition (September 2017).

Truck Mix Source: South Coast Air Quality Management District (SCAQMD) *Warehouse Truck Trip Study Data Results and Usage* (2014).

Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.

Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

<sup>6</sup> Vehicle Mix Source: ITE *Trip Generation Handbook* (3rd Edition, 2017).

Truck Mix Source: South Coast Air Quality Management District (SCAQMD) *Warehouse Truck Trip Study Data Results and Usage* (2014).

For purposes of this analysis, the following ITE land use codes and vehicle mixes have been utilized:

- High-Cube Fulfillment Center Warehouse has been used to derive site specific trip generation estimates for up to 913,053 square feet of the proposed Project. The ITE Trip Generation Manual (2017) has trip generation rates for high-cube fulfillment center use (ITE land use code 155), however, these rates are unreliable because they are based on limited data (i.e., one to two surveyed sites) and the ITE Trip Generation Manual recommends the use of local data sources where available. As such, the trip-generation statistics published in the High-Cube Warehouse Trip Generation Study (WSP, January 29, 2019) which was commissioned by the Western Riverside Council of Governments (WRCOG) in support of the Transportation Uniform Mitigation Fee (TUMF) update, has been utilized for the high-cube fulfillment center use. The WSP trip generation rates were published in January 2019 and are based on data collected at 11 local high-cube fulfillment center sites. However, the WSP study does not include a split for inbound and outbound vehicles, as such, the inbound and outbound splits per the ITE High-Cube Warehouse Vehicle Trip Generation Analysis (October 2016) have been utilized.
- ITE land use code 150 (Warehousing) has been used to derive site specific trip generation estimates for up to 320,551 square feet of the proposed Project. The vehicle mix has been obtained from the ITE's Trip Generation Manual Supplement (dated February 2020). (17) This study provides the following vehicle mix: AM Peak Hour: 87.0% passenger cars and 13.0% trucks; PM Peak Hour: 85.0% passenger cars and 15.0% trucks; Weekday Daily: 73.0% passenger cars and 27.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.
- ITE land use code 157 (High-Cube Cold Storage Warehouse) has been used to derive site specific trip generation estimates for up to 179,135 square feet. High-cube cold storage warehouses include warehouses characterized by the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. The High-Cube Cold Storage Warehouse vehicle mix (passenger cars versus trucks) has been obtained from the ITE's Trip Generation Manual Supplement (dated February 2020). (17) This study provides the following vehicle mix: AM Peak Hour: 73.0% passenger cars and 27.0% trucks; PM Peak Hour: 77.0% passenger cars and 23.0% trucks; Weekday Daily: 65.0% passenger cars and 35.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 34.7%; 3-Axle = 11.0%; 4+-Axle = 54.3%.
- Because the peak hour trip generation rates collected for the "business park" land use category by the ITE as provided in their Trip Generation Manual, 10<sup>th</sup> Edition, 2017 (ITE land use code 770) are based on limited data (i.e., a single surveyed site) that does not have the same physical or operational characteristics as the range of uses permitted in the Business Park buildings, the trip generation rates for ITE land use code 130 (Industrial Park) have been used to derive site specific

trip generation estimates for up to 227,951 square feet of business park uses proposed for the Project). The vehicle mix has been obtained from the ITE's Trip Generation Manual Supplement (dated February 2020). (17) This study provides the following vehicle mix: AM Peak Hour: 88.0% passenger cars and 12.0% trucks; PM Peak Hour: 90.0% passenger cars and 10.0% trucks; Weekday Daily: 85.0% passenger cars and 15.0% trucks. The truck percentages were further broken down by axle type per the following SCAQMD recommended truck mix: 2-Axle = 16.7%; 3-Axle = 20.7%; 4+-Axle = 62.6%.

Finally, PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+-axles) for the Project. PCEs allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in Appendix B of the San Bernardino County Congestion Management Program (CMP), 2016 Update.

The trip generation summary illustrating daily and peak hour trip generation estimates for the proposed Project in actual vehicles are shown on Table 2, and Table 3 shows the trip generation summary based on PCE. As shown on Table 2, the proposed Project is anticipated to generate a total of 3,624 actual vehicle trip-ends per day with 273 AM peak hour trips and 321 PM peak hour trips. For the purposes of the operations analyses, the PCE trip generation shown in Table 3 will be utilized.

## **TRIP DISTRIBUTION**

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The Existing plus Project and Opening Year Cumulative trip distribution patterns utilize the existing roadway system while the Horizon Year trip distribution patterns assumes future roadway connections based on the City of Ontario General Plan (and those of surrounding agencies).

Exhibit 3 illustrates the truck trip distribution patterns for Existing plus Project, Opening Year Cumulative and Horizon Year conditions. As shown on Exhibit 4, trucks are anticipated to utilize designated truck routes such as Merrill Avenue to Euclid Avenue (SR-83), Ontario Ranch Road, and Limonite Avenue to reach regional State highways such as the SR-71, SR-60, and I-15 Freeways. These travel patterns are not anticipated to change with the addition of new future facilities for Horizon Year traffic conditions. Exhibit 5 illustrates the Existing plus Project and Opening Year Cumulative passenger car trip distribution patterns that are based on a San Bernardino Transportation Analysis Model (SBTAM) select zone run for a zone wholly or partially containing the Project, with modifications to utilize existing roadways.

Exhibit 6 illustrates the passenger car trip distribution patterns for Horizon Year (With Limonite Avenue Extension) traffic conditions. The passenger car trip distribution patterns are based on a SBTAM select zone run.

**TABLE 2: PROJECT TRIP GENERATION SUMMARY (ACTUAL VEHICLES)**

Land Use	Quantity <sup>2</sup> Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Planning Area 1: Business Park	227.951 TSF							
Passenger Cars:		65	15	80	17	65	82	654
2-axle Trucks:		1	0	1	0	1	1	20
3-axle Trucks:		2	0	2	0	1	1	24
4+-axle Trucks:		6	1	7	1	5	6	72
Total Truck:		9	1	10	1	7	8	116
<b>Planning Area 1: Total (Actual Vehicles)</b>		<b>74</b>	<b>16</b>	<b>90</b>	<b>18</b>	<b>72</b>	<b>90</b>	<b>770</b>
Planning Area 2: Fulfillment Center Warehouse (65%)	913.053 TSF							
Passenger Cars:		72	22	94	37	95	132	1,598
2-4 axle Trucks:		6	2	8	3	7	10	148
5+-axle Trucks:		8	2	10	3	7	10	198
Total Truck:		14	4	18	6	14	20	346
<b>Fulfillment Center Warehouse (Actual Vehicles)</b>		<b>86</b>	<b>26</b>	<b>112</b>	<b>43</b>	<b>109</b>	<b>152</b>	<b>1,944</b>
Planning Area 2: High-Cube Cold Storage Warehouse (13%)	179.135 TSF							
Passenger Cars:		11	3	14	4	12	16	248
2-axle Trucks:		1	0	1	0	1	1	46
3-axle Trucks:		0	0	0	0	0	0	16
4+-axle Trucks:		2	1	3	1	2	3	72
Total Truck:		3	1	4	1	3	4	134
<b>High-Cube Cold Storage Warehouse (Actual Vehicles)</b>		<b>14</b>	<b>4</b>	<b>18</b>	<b>5</b>	<b>15</b>	<b>20</b>	<b>382</b>
Planning Area 2: Warehouse (22%)	320.551 TSF							
Passenger Cars:		37	11	48	14	38	52	408
2-axle Trucks:		1	0	1	0	1	1	26
3-axle Trucks:		1	0	1	1	1	2	32
4+-axle Trucks:		3	1	4	2	4	6	94
Total Truck:		4	1	5	2	5	7	120
Warehouse (Actual Vehicles)		41	12	53	16	43	59	528
<b>Planning Area 2: Total (Actual Vehicles)</b>		<b>141</b>	<b>42</b>	<b>183</b>	<b>64</b>	<b>167</b>	<b>231</b>	<b>2,854</b>
Passenger Cars		185	51	236	72	210	282	2,908
Trucks (Actual Vehicles)		30	7	37	10	29	39	716
<b>Total (Actual Vehicles)</b>		<b>215</b>	<b>58</b>	<b>273</b>	<b>82</b>	<b>239</b>	<b>321</b>	<b>3,624</b>

<sup>1</sup> TSF = thousand square feet

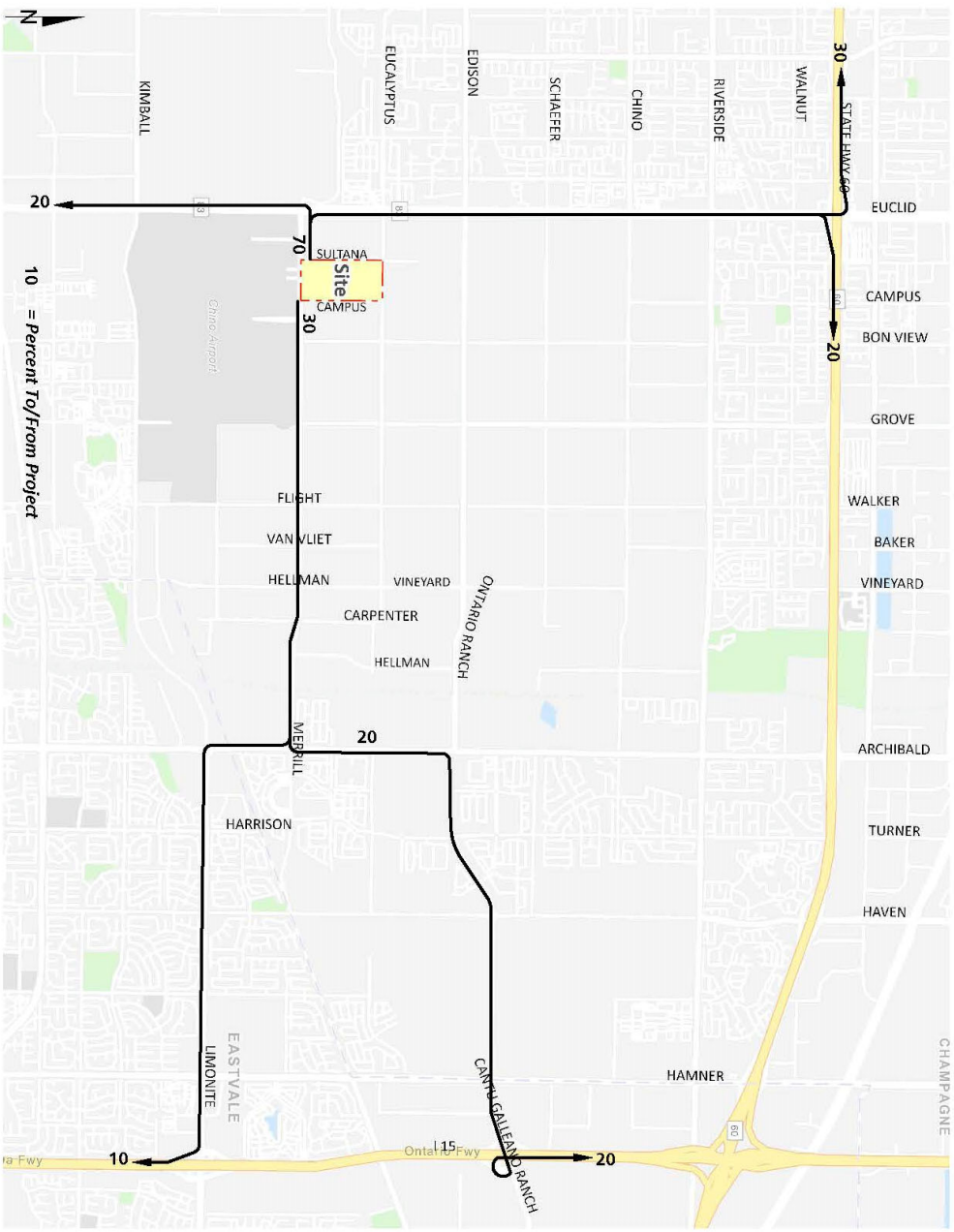


**TABLE 3: PROJECT TRIP GENERATION SUMMARY (PCE)**

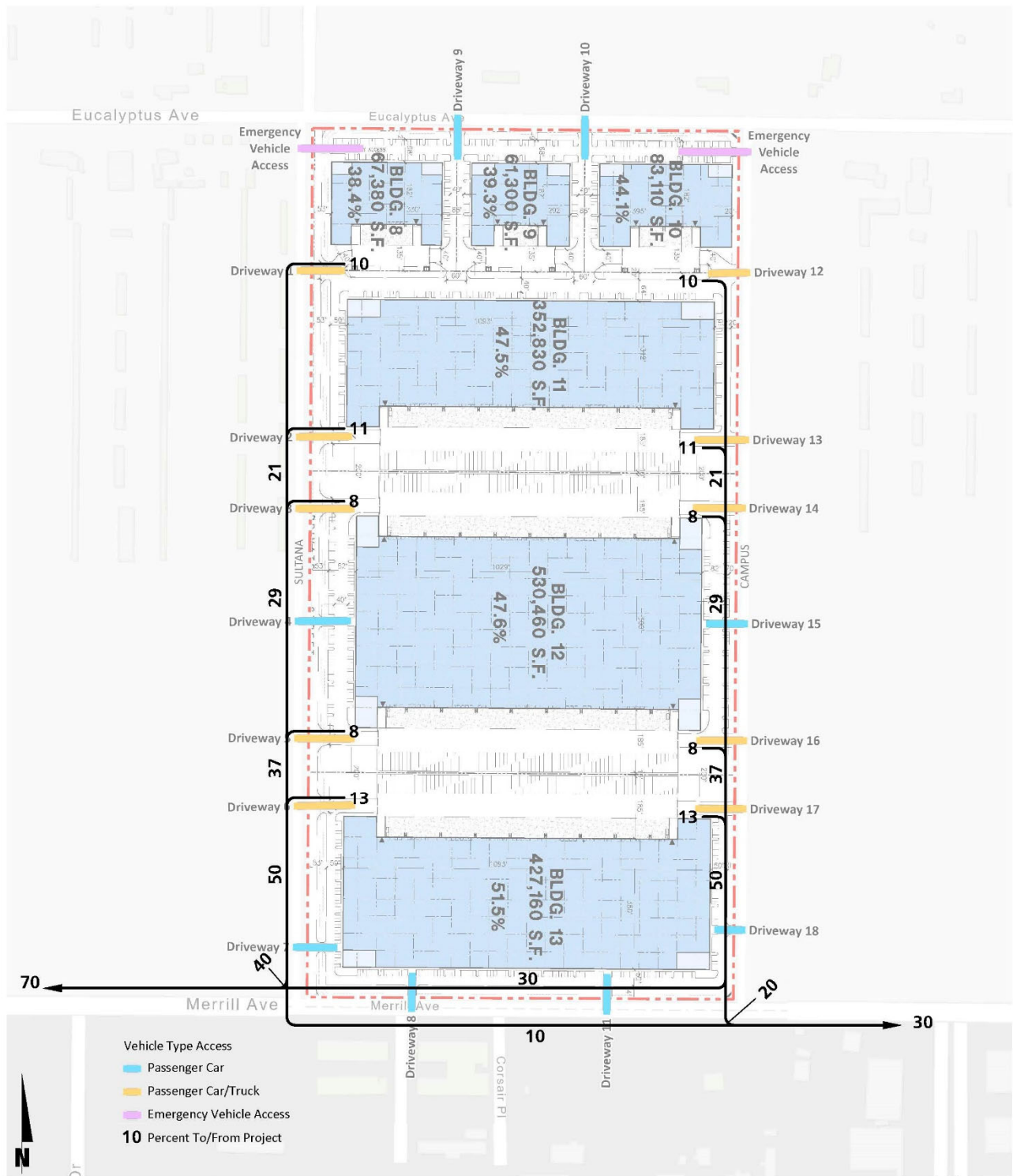
Land Use	Quantity <sup>2</sup> Units <sup>1</sup>	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Planning Area 1: Business Park	227.951 TSF							
Passenger Cars:		65	15	80	17	65	82	654
2-axle Trucks:		2	1	3	0	2	2	30
3-axle Trucks:		4	1	5	1	3	4	48
4+-axle Trucks:		17	4	21	4	14	18	216
Total Truck:		23	6	29	5	19	24	294
<b>Planning Area 1: Total (PCE)</b>		<b>88</b>	<b>21</b>	<b>109</b>	<b>22</b>	<b>84</b>	<b>106</b>	<b>948</b>
Planning Area 2: Fulfillment Center Warehouse (65%)	913.053 TSF							
Passenger Cars:		72	22	94	37	95	132	1,598
2-4 axle Trucks:		11	3	14	6	14	20	296
5+-axle Trucks:		23	7	30	8	20	28	594
Total Truck:		34	10	44	14	34	48	890
<b>Fulfillment Center Warehouse (PCE)</b>		<b>106</b>	<b>32</b>	<b>138</b>	<b>51</b>	<b>129</b>	<b>180</b>	<b>2,488</b>
Planning Area 2: High-Cube Cold Storage Warehouse (13%)	179.135 TSF							
Passenger Cars:		11	3	14	4	12	16	248
2-axle Trucks:		2	1	3	1	2	3	70
3-axle Trucks:		1	0	1	0	1	1	30
4+-axle Trucks:		7	2	9	2	6	8	218
Total Truck:		10	3	13	3	9	12	318
<b>High-Cube Cold Storage Warehouse (PCE)</b>		<b>21</b>	<b>6</b>	<b>27</b>	<b>7</b>	<b>21</b>	<b>28</b>	<b>566</b>
Planning Area 2: Warehouse (22%)	320.551 TSF							
Passenger Cars:		37	11	48	14	38	52	408
2-axle Trucks:		1	0	1	1	2	3	38
3-axle Trucks:		2	1	3	1	3	4	62
4+-axle Trucks:		10	3	13	5	13	18	284
Total Truck:		13	4	17	7	18	25	384
<i>Warehouse (PCE)</i>		50	15	65	21	56	77	792
<b>Planning Area 2: Total (PCE)</b>		<b>177</b>	<b>53</b>	<b>230</b>	<b>79</b>	<b>206</b>	<b>285</b>	<b>3,846</b>
Passenger Cars		185	51	236	72	210	282	2,908
Trucks (PCE)		80	23	103	29	80	109	1,886
<b>Total (PCE)</b>		<b>265</b>	<b>74</b>	<b>339</b>	<b>101</b>	<b>290</b>	<b>391</b>	<b>4,794</b>

<sup>1</sup> TSF = thousand square feet

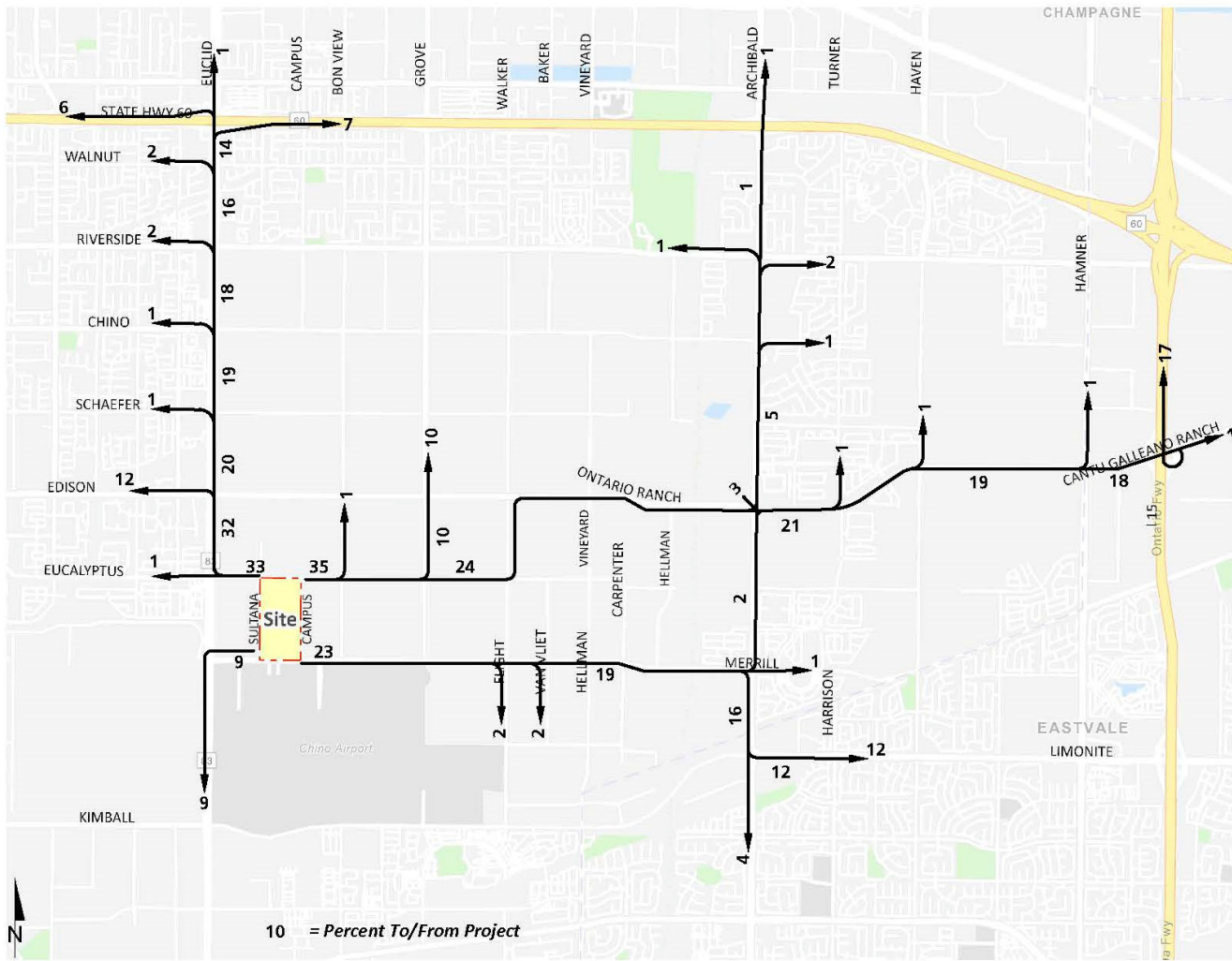
**EXHIBIT 4: PROJECT (TRUCK) TRIP DISTRIBUTION**

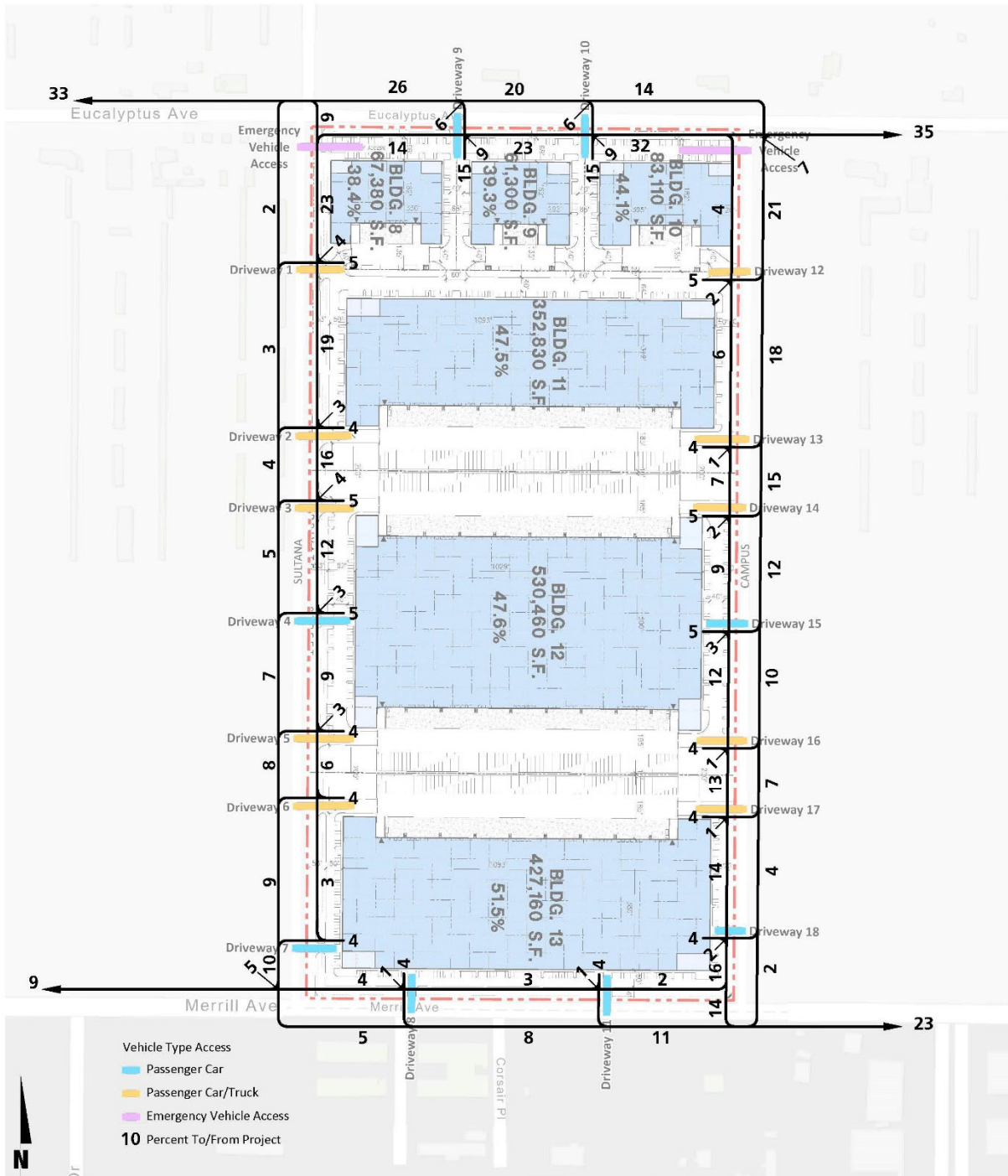




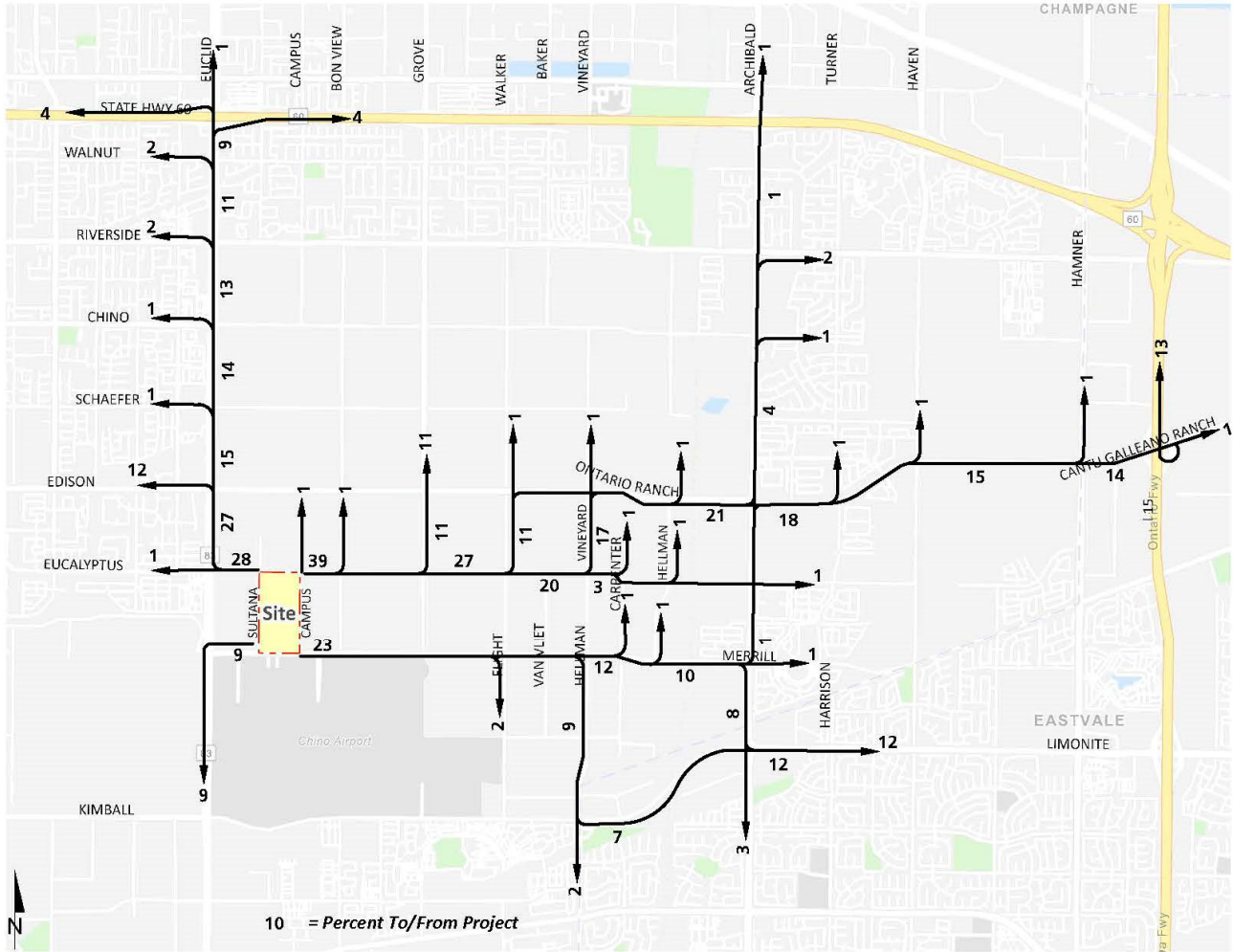


**EXHIBIT 5: PROJECT (PASSENGER CAR-E+P AND OPENING YEAR) TRIP DISTRIBUTION**

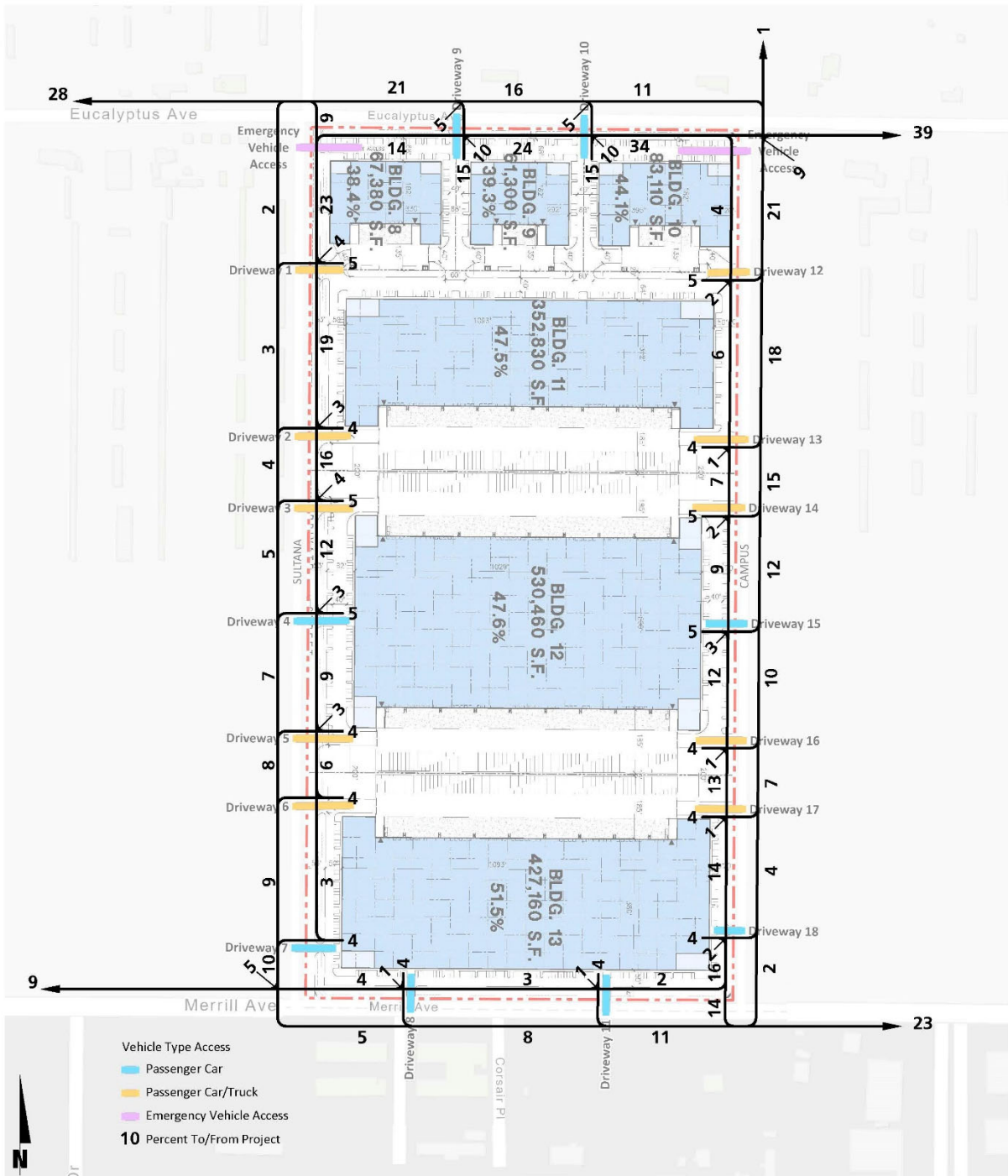




**EXHIBIT 6: PROJECT (PASSENGER CAR-HORIZON YEAR) TRIP DISTRIBUTION**







Mr. Jay Bautista  
City of Ontario  
June 16, 2021  
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## **INTERSECTION ANALYSIS LOCATIONS**

Exhibit 2 depicts the recommended intersection analysis locations, based upon the Project trip generation and trip distribution patterns included as part of this letter. The recommended intersection analysis locations are based on the highest Project traffic contribution presented for either Opening Year Cumulative or Horizon Year scenarios (i.e., 50 peak hour trip criteria).

The San Bernardino County Transportation Authority (SBCTA) Congestion Management Program (CMP) intersections, where applicable, are illustrated on Exhibit 2. The general preparation of the traffic study for this Project will continue to be in conformance with the typical requirements of the San Bernardino County CMP.

## **VEHICLE MILES TRAVELLED (VMT)**

The VMT thresholds and methodology outlined in the City of Ontario's May 2020 VMT guidelines will be utilized to conduct the VMT analysis for the Project. The VMT analysis will be prepared and submitted under separate cover.

## **OPEN ITEMS – CUMULATIVE DEVELOPMENT PROJECTS**

It is requested that the City of Ontario review and provide updated cumulative projects from those shown on Exhibit 7 and listed on Table 4.

If you have any questions, please contact me directly at (949) 861-0177.

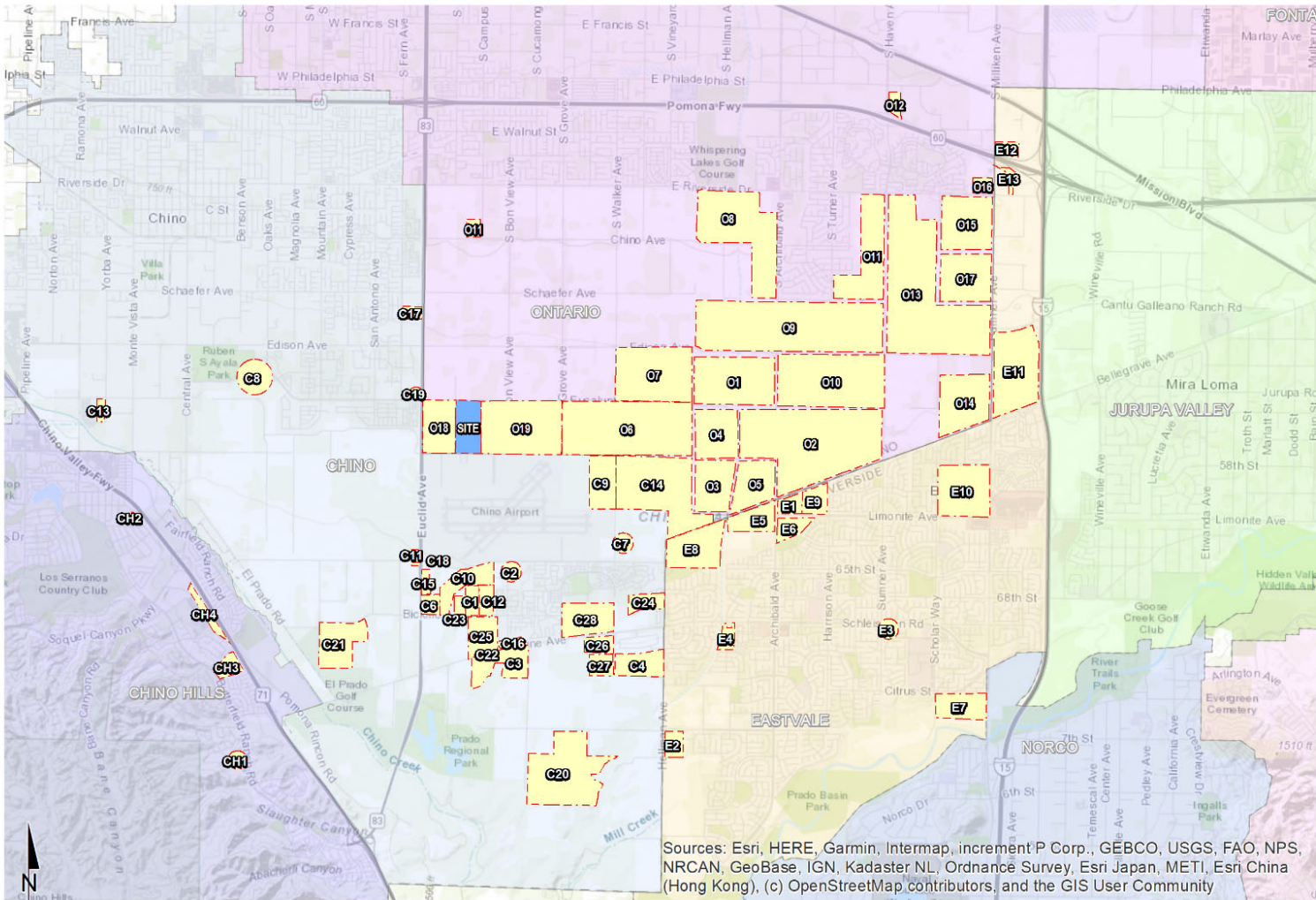
Respectfully submitted,

URBAN CROSSROADS, INC.



Charlene So, PE  
Associate Principal

**EXHIBIT 7: CUMULATIVE DEVELOPMENT LOCATION MAP**



**TABLE 4: CUMULATIVE DEVELOPMENT LAND USE SUMMARY**

#	Project/Location	Land Use <sup>1</sup>	Quantity Units <sup>2</sup>
<b>City of Ontario</b>			
O1	Parkside	SFDR	437 DU
		Multi-Family Attached (Apartments)	1,510 DU
		Shopping Center	115.000 TSF
O2	Subarea 29 & Amendment (40% complete)	SFDR	2,149 DU
		Shopping Center	87.000 TSF
O3	Colony Commerce West	High-Cube Warehouse	2213.360 TSF
		Manufacturing	737.786 TSF
O4	West Ontario Commerce Center SP	High-Cube Warehouse	1976.535 TSF
		Manufacturing	658.845 TSF
		Business Park	115.760 TSF
O5	Colony Commerce East	High-Cube Warehouse	998.680 TSF
		Manufacturing	233.129 TSF
		Warehousing	699.387 TSF
O6	Merrill Commerce Center	High-Cube Fulfillment Warehouse	7014.000 TSF
		Business Park	1441.000 TSF
O6	Ontario Ranch Commerce Center	High-Cube Cold Storage Warehouse	1159.200 TSF
		Warehousing	337.600 TSF
		Business Park	290.200 TSF
O7	Parente Home Ranch SP	SFDR	270 DU
		Condo/Townhouse	1,872 DU
		General Office	462.281 TSF
		Shopping Center	194.278 TSF
O8	Countryside	SFDR	819 DU
	Armstrong Ranch	SFDR	994 DU
O9	The Avenue	SFDR	2,020 DU
		Multi-Family Attached (Apartments)	586 DU
		Shopping Center	250.000 TSF
O10	Grand Park	SFDR	484 DU
		Multi-Family Attached (Apartments)	843 DU
O11	West Haven	SFDR	753 DU
		Shopping Center	87.000 TSF
O12	Haven Gateway	General Light Industrial	42.160 TSF
		High-Cube Warehouse	168.640 TSF
O13	Rich Haven	SFDR	2,732 DU
		Multi-Family Attached (Condo)	1,524 DU
		Shopping Center	317.400 TSF
O14	Esperanza	SFDR	914 DU
		Multi-Family Attached (Apartments)	496 DU
O15	Edenglen	SFDR	310 DU
		Multi-Family Attached (Condo)	274 DU
		Shopping Center	217.520 TSF
		Business Park	550.000 TSF
O16	PDEV10-008 - Dry Food Storage	Mini-Warehouse	17.000 TSF



#	Project/Location	Land Use <sup>1</sup>	Quantity Units <sup>2</sup>
O17	Tuscana Village	SFDR	176 DU
		Shopping Center	26.000 TSF
O18	Ontario Ranch Commerce Center	High-Cube Fulfillment Warehouse	1,447.123 TSF
		Business Park	457.904 TSF
O19	South Ontario Logistics Center	Business Park	1,075.235 TSF
		High-Cube Fulfillment Warehouse	2,819.282 TSF
		High-Cube Cold Storage Warehouse	563.857 TSF
		Warehousing	954.218 TSF
<b>City of Chino</b>			
C1	Bickmore Street Residential (TM 18858) (30% complete)	SFDR	185 DU
C2	TM17574 (80% complete)	Condo/Townhouse	108 DU
C3	Pines Community	SFDR	552 DU
		Public Park	3.0 AC
		Self Storage & RV Storage	120.000 TSF
		Sports Park	41.8 AC
C4	Tract 19980 (Homecoming Phase 4)	Apartments	454 DU
	TTM No. 20166 & 20167	SFDR	148 DU
	Brio & TTM No. 21065 & 20168 (Orchards)	SFDR	239 DU
C5	Farmer Boys	Fast-food w/ Drive-Thru	3.218 TSF
		Shopping Center	2.300 TSF
C6	Euclid & Bickmore Warehouse	Warehousing	205.820 TSF
		General Light Industrial	51.030 TSF
		Business Park	110.620 TSF
C7	Kimball Business Park	Business Park	146.550 TSF
C8	Chaffey College Expansion	Junior/Community College	93.50 AC
	College Park Commercial	Shopping Center	7.50 AC
C9	Chino Parcel Delivery	Parcel Delivery Facility	765.274 TSF
C10	Altitude Business Centre	Warehousing	715.000 TSF
		Light Industrial	255.000 TSF
		Business Park	233.000 TSF
		Self-Storage	110.000 TSF
C11	Majestic Gateway	Specialty Retail	25.000 TSF
		Pharmacy/Drugstore with Drive-Thru	13.000 TSF
		Fast-Food with Drive-Thru	8.600 TSF
C12	Bouma Residential	SFDR	106 DU
		Condo/Townhouse	94 DU
C13	Fairfield Inn & Suites (PL 17-0060 & PL 17-0061)	Hotel	111 RM
C14	Watson Industrial Park (40% complete)	High-Cube Warehouse	3,889.900 TSF
C15	Chino Business Park	General Light Industrial	165.500 TSF
		Business Park	21.500 TSF
C16	Flores Site	Shopping Center	4.000 TSF
		Gas Station w/ convenience store	16 VFP
		Express Car Wash	5.000 TSF

#	Project/Location	Land Use <sup>1</sup>	Quantity Units <sup>2</sup>
C17	Brewart Residential (Stonebrook - TM 18923)	SFDR	127 DU
C18	Archibald's (PL 17-0037)	Fast-Food with Drive-Thru	3,147 TSF
C19	TM 18972 (80% complete)	SFDR	147 DU
C20	Rancho Miramonte	SFDR	691 DU
		Condo/Townhouse	132 DU
		Neighborhood Retail	21,780 TSF
		Church	400 SFAT
C21	Majestic Chino Heritage	High-Cube Fulfillment Warehouse	1982,700 TSF
		High-Cube Cold Storage Warehouse	100,000 TSF
C22	Church	Church	47,979 TSF
		Daycare	190 STU
C23	Appesetche Residential	SFDR	60 DU
		Condo/Townhouse	160 DU
C24	Tract 19951, 19952, 19953, 19935 & 18479	SFDR	151 DU
		Condo/Townhouse	150 DU
C25	Ag. Buffer, Bungalow, Lic. Product, Liberty Deluxe, Lyon 2 & 3	SFDR	474 DU
C26	The Preserve Town Center (Blocks 6 and 7)	Multifamily Housing	549 DU
		Office	16,300 TSF
		Shopping Center	36,800 TSF
		Pharmacy with Drive-Thru	12,900 TSF
		Supermarket	45,000 TSF
		Fast-Food Restaurant with Drive-Thru	6,500 TSF
		Fast Casual Restaurant	13,750 TSF
		Quality Restaurant	13,750 TSF
C27	The Preserve Civic Center	Elementary School	1,200 STU
		Library	10.00 AC
		Community Center	10.00 AC
		Park	8.00 AC
C28	Falloncrest at the Preserve	Multifamily Housing (Low-Rise)	698 DU
		Multifamily Housing (Mid-Rise)	440 DU
		Public Parks	21.60 AC
		General Office	77,597 TSF
		Commercial Retail	77,597 TSF

#	Project/Location	Land Use <sup>1</sup>	Quantity Units <sup>2</sup>
<b>City of Eastvale</b>			
E1	The Merge	Warehousing	336.501 TSF
		Shopping Center	4.750 TSF
		Supermarket	30.000 TSF
		Gas Station w/ convenience store	16 VFP
		Pharmacy/Drugstore with Drive-Thru	14.600 TSF
		Fast-Food with Drive-Thru	6.000 TSF
		Automated Car Wash	4.000 TSF
		Fast-Food Without Drive-Thru	7.750 TSF
		Coffee/Donut Shop With Drive-Thru	2.500 TSF
E2	TR29997	SFDR	122 DU
E3	13-0632 - Sumner Residential (Stratham Homes)	SFDR	129 DU
E4	TR35751	Condo/Townhouse	243 DU
E5	PP23219 (PM35865) (50% complete)	General Light Industrial	738.430 TSF
E6	Eastvale Shopping Center	Free-Standing Discount Superstore	192.000 TSF
		Specialty Retail	9.200 TSF
		Fast-Food Without Drive-Thru	7.200 TSF
		Coffee/Donut Shop w/ Drive Thru	2.000 TSF
		Fast-Food with Drive-Thru	3.500 TSF
		Gas Station w/ convenience store and car wash	16 VFP
E7	Van Leeuwen	SFDR	224 DU
E8	SP00358 - The Ranch at Eastvale	Shopping Center	267.200 TSF
		General Light Industrial	801.500 TSF
		Business Park	1,121.100 TSF
E9	SC Limonite, LLC	SFDR	330 TSF
E10	Leal Master Plan	Lifestyle Center (Commercial)	1,300.000 TSF
		General Commercial	225.000 TSF
		Office	920.000 TSF
		Hotel	450 RM
		High Density Residential	500-660 DU
E11	Eastvale Commerce Center	Shopping Center	650.000 TSF
E12	S. Milliken Warehouse	High-Cube Warehouse	280.000 TSF
E13	15-1508 - Industrial Warehouse	Warehousing	155.000 TSF
<b>City of Chino Hills</b>			
CH1	Vila Borba Specific Plan (TR 16414)	SFDR	172 DU
CH2	Country Club Villas	Condo/Townhouse	46 DU
CH3	The Goddard School	Daycare	10.587 TSF
CH4	Heritage Professional Center	Hospital	55.000 TSF
		Medical Office Building	86.952 TSF
		Hotel	120 RM
		Shopping Center	38.848 TSF
		Restaurant	7.200 TSF

<sup>1</sup> SFDR = Single Family Detached Residential

<sup>2</sup> TSF = Thousand Square Feet; DU = Dwelling Unit; VFP = Vehicle Fueling Position ; AC = Acres; RM = Rooms

**APPENDIX 1.2:**  
**SITE ADJACENT QUEUES**

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Queuing and Blocking Report  
 Horizon Year (2040) With Project - AM Peak Hour With Improvements

08/25/2021

Intersection: 10: Sultana Av. & Eucalyptus Av.

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	TR	L	TR
Maximum Queue (ft)	54	74	117	74	99	53	31
Average Queue (ft)	28	35	39	45	46	16	7
95th Queue (ft)	51	67	83	78	86	43	27
Link Distance (ft)	1565	1565		347	347		374
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			200			200	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 11: Sultana Av. & Driveway 1

Movement	WB
Directions Served	LTR
Maximum Queue (ft)	31
Average Queue (ft)	4
95th Queue (ft)	21
Link Distance (ft)	531
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Sultana Av. & Driveway 2

Movement	WB	SB
Directions Served	LTR	L
Maximum Queue (ft)	31	29
Average Queue (ft)	5	1
95th Queue (ft)	24	9
Link Distance (ft)	540	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Sultana Av. & Driveway 3

Movement	WB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	4
95th Queue (ft)	21
Link Distance (ft)	534
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 14: Sultana Av. & Driveway 4

Movement	WB
Directions Served	LR
Maximum Queue (ft)	32
Average Queue (ft)	4
95th Queue (ft)	21
Link Distance (ft)	419
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 15: Sultana Av. & Driveway 5

Movement	WB
Directions Served	LR
Maximum Queue (ft)	32
Average Queue (ft)	5
95th Queue (ft)	24
Link Distance (ft)	475
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16: Sultana Av. & Driveway 6

Movement	WB
Directions Served	LTR
Maximum Queue (ft)	31
Average Queue (ft)	5
95th Queue (ft)	24
Link Distance (ft)	465
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 17: Sultana Av. & Driveway 7

Movement	WB
Directions Served	LTR
Maximum Queue (ft)	31
Average Queue (ft)	1
95th Queue (ft)	10
Link Distance (ft)	220
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 18: Merrill Av. & Sultana Av.

Movement	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	T	R	L	R
Maximum Queue (ft)	74	114	93	251	264	32	44	44
Average Queue (ft)	36	54	36	126	134	18	12	12
95th Queue (ft)	68	91	70	232	245	39	37	31
Link Distance (ft)		1541	1541	251	251	251	119	119
Upstream Blk Time (%)				0	1			
Queuing Penalty (veh)				1	2			
Storage Bay Dist (ft)	150							
Storage Blk Time (%)								
Queuing Penalty (veh)								



Intersection: 19: Merrill Av. & Driveway 8

Movement	EB	WB	WB	SB
Directions Served	L	T	TR	LR
Maximum Queue (ft)	24	31	32	28
Average Queue (ft)	1	1	1	4
95th Queue (ft)	8	10	10	20
Link Distance (ft)		524	524	417
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	200			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 20: Driveway 9 & Eucalyptus Av.

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	28	31
Average Queue (ft)	2	7
95th Queue (ft)	13	28
Link Distance (ft)		348
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	200	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 21: Driveway 10 & Eucalyptus Av.

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	31	31
Average Queue (ft)	1	6
95th Queue (ft)	10	26
Link Distance (ft)		368
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	200	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 22: Merrill Av. & Driveway 11

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	26	32
Average Queue (ft)	1	2
95th Queue (ft)	9	15
Link Distance (ft)	454	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	200	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 23: Campus Av. & Eucalyptus Av.

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	54	73	74	91	54	31	52
Average Queue (ft)	30	34	39	45	30	7	14
95th Queue (ft)	52	61	65	74	57	27	40
Link Distance (ft)	449	449		1313	1313		373
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200			200			
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 24: Campus Av. & Driveway 12

Movement	EB
Directions Served	LR
Maximum Queue (ft)	56
Average Queue (ft)	8
95th Queue (ft)	33
Link Distance (ft)	617
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Campus Av. & Driveway 13

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	32	31
Average Queue (ft)	3	4
95th Queue (ft)	19	21
Link Distance (ft)	625	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 26: Campus Av. & Driveway 14

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	31	31
Average Queue (ft)	4	1
95th Queue (ft)	22	10
Link Distance (ft)	610	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27: Campus Av. & Driveway 15

Movement	EB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	2
95th Queue (ft)	15
Link Distance (ft)	582
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 28: Campus Av. & Driveway 16

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	31	31
Average Queue (ft)	4	1
95th Queue (ft)	21	10
Link Distance (ft)	676	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 29: Campus Av. & Driveway 17

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	31	31
Average Queue (ft)	2	2
95th Queue (ft)	14	14
Link Distance (ft)	681	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 30: Campus Av. & Driveway 18

Movement	EB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	3
95th Queue (ft)	18
Link Distance (ft)	270
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report  
 Horizon Year (2040) With Project - AM Peak Hour With Improvements

08/25/2021

Intersection: 31: Merrill Av. & Campus Av.

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	TR	L	R
Maximum Queue (ft)	96	97	144	195	206	55	54
Average Queue (ft)	52	37	48	106	90	15	19
95th Queue (ft)	88	78	110	164	163	43	45
Link Distance (ft)		358	358	1312	1312		194
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200					150	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 3

Intersection: 10: Sultana Av. & Eucalyptus Av.

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	TR	L	TR
Maximum Queue (ft)	150	131	94	98	78	76	55
Average Queue (ft)	68	46	23	36	42	41	27
95th Queue (ft)	104	91	60	72	72	81	58
Link Distance (ft)	1565	1565		347	347		374
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			200			200	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 11: Sultana Av. & Driveway 1

Movement	WB
Directions Served	LTR
Maximum Queue (ft)	31
Average Queue (ft)	18
95th Queue (ft)	43
Link Distance (ft)	531
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 12: Sultana Av. & Driveway 2

Movement	WB
Directions Served	LTR
Maximum Queue (ft)	31
Average Queue (ft)	11
95th Queue (ft)	36
Link Distance (ft)	540
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Sultana Av. & Driveway 3

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	31	31
Average Queue (ft)	7	1
95th Queue (ft)	29	10
Link Distance (ft)	534	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Sultana Av. & Driveway 4

Movement	WB
Directions Served	LR
Maximum Queue (ft)	32
Average Queue (ft)	10
95th Queue (ft)	34
Link Distance (ft)	419
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 15: Sultana Av. & Driveway 5

Movement	WB
Directions Served	LR
Maximum Queue (ft)	32
Average Queue (ft)	13
95th Queue (ft)	38
Link Distance (ft)	475
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 16: Sultana Av. & Driveway 6

Movement	WB
Directions Served	LTR
Maximum Queue (ft)	31
Average Queue (ft)	17
95th Queue (ft)	43
Link Distance (ft)	465
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 17: Sultana Av. & Driveway 7

Movement	WB
Directions Served	LTR
Maximum Queue (ft)	31
Average Queue (ft)	6
95th Queue (ft)	26
Link Distance (ft)	220
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 18: Merrill Av. & Sultana Av.

Movement	EB	EB	EB	WB	WB	WB	SB	SB
Directions Served	L	T	T	T	T	R	L	R
Maximum Queue (ft)	53	117	128	199	216	28	74	83
Average Queue (ft)	18	67	60	77	87	9	39	23
95th Queue (ft)	48	100	112	145	166	29	76	48
Link Distance (ft)		1543	1543	251	251	251		118
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	150						200	
Storage Blk Time (%)								
Queuing Penalty (veh)								



Intersection: 19: Merrill Av. & Driveway 8

Movement	SB
Directions Served	LR
Maximum Queue (ft)	45
Average Queue (ft)	13
95th Queue (ft)	36
Link Distance (ft)	417
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 20: Driveway 9 & Eucalyptus Av.

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	31	54
Average Queue (ft)	4	23
95th Queue (ft)	20	49
Link Distance (ft)		348
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	200	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 21: Driveway 10 & Eucalyptus Av.

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	31	53
Average Queue (ft)	1	22
95th Queue (ft)	10	46
Link Distance (ft)		368
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	200	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 22: Merrill Av. & Driveway 11

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	26	32
Average Queue (ft)	1	8
95th Queue (ft)	9	30
Link Distance (ft)		454
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	200	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 23: Campus Av. & Eucalyptus Av.

Movement	EB	EB	WB	WB	WB	NB	NB
Directions Served	T	TR	L	T	T	L	R
Maximum Queue (ft)	118	137	68	112	75	119	98
Average Queue (ft)	65	73	25	45	26	30	37
95th Queue (ft)	107	117	56	84	56	71	66
Link Distance (ft)	449	449		1313	1313		373
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			200			200	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 24: Campus Av. & Driveway 12

Movement	EB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	15
95th Queue (ft)	40
Link Distance (ft)	617
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Campus Av. & Driveway 13

Movement	EB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	14
95th Queue (ft)	40
Link Distance (ft)	625
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 26: Campus Av. & Driveway 14

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	31	31
Average Queue (ft)	16	1
95th Queue (ft)	41	10
Link Distance (ft)	610	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27: Campus Av. & Driveway 15

Movement	EB
Directions Served	LR
Maximum Queue (ft)	32
Average Queue (ft)	10
95th Queue (ft)	35
Link Distance (ft)	582
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 28: Campus Av. & Driveway 16

Movement	EB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	9
95th Queue (ft)	33
Link Distance (ft)	676
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 29: Campus Av. & Driveway 17

Movement	EB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	12
95th Queue (ft)	37
Link Distance (ft)	681
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 30: Campus Av. & Driveway 18

Movement	EB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	8
95th Queue (ft)	30
Link Distance (ft)	270
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report  
 Horizon Year (2040) With Project - PM Peak Hour With Improvements

08/25/2021

Intersection: 31: Merrill Av. & Campus Av.

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	TR	L	R
Maximum Queue (ft)	70	94	137	158	174	78	79
Average Queue (ft)	19	46	58	73	62	39	38
95th Queue (ft)	50	90	101	117	114	73	62
Link Distance (ft)		358	358	1312	1312		194
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200					150	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 0

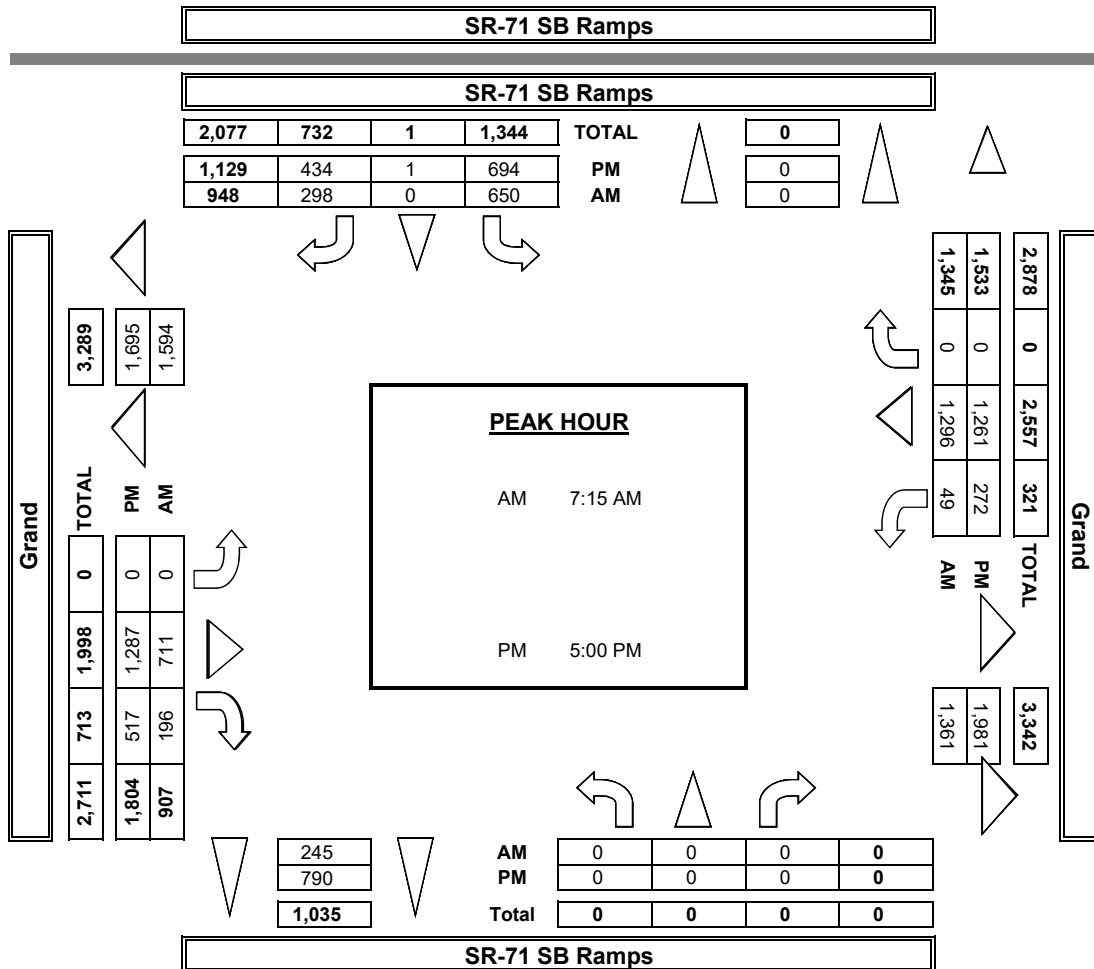
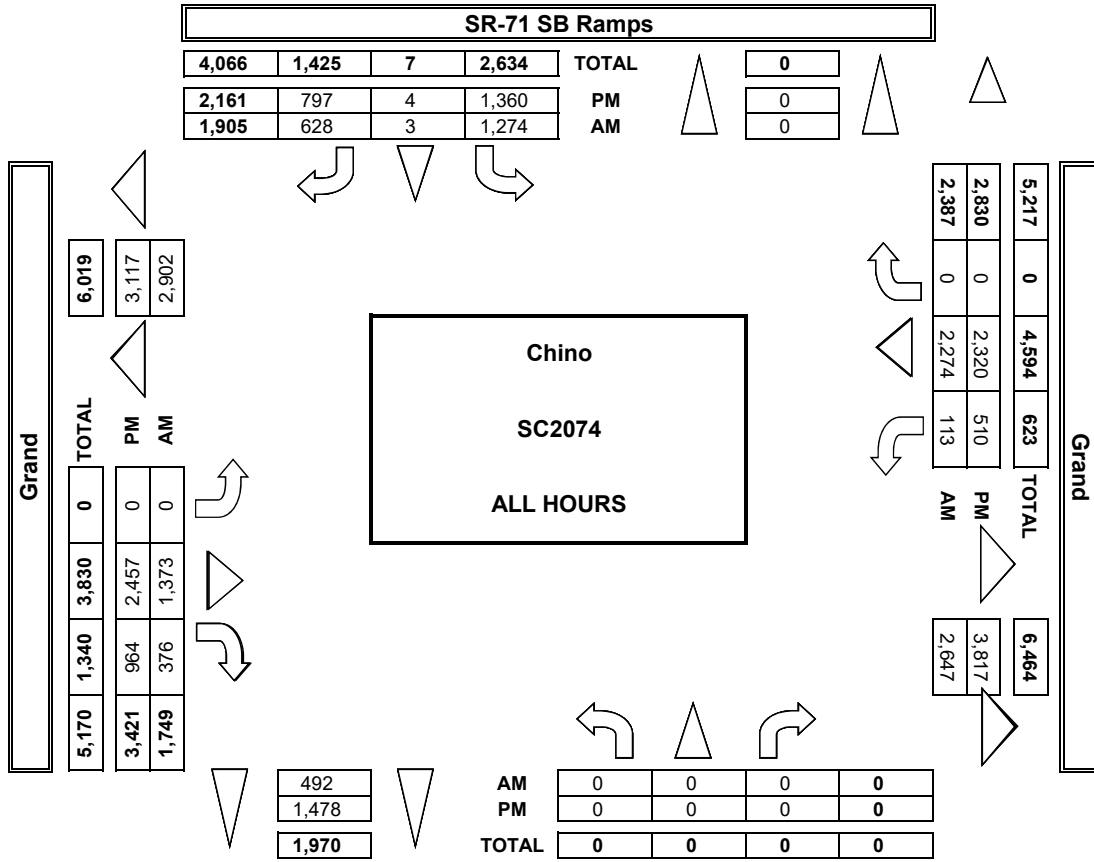
**APPENDIX 3.1:**  
**EXISTING TRAFFIC COUNTS – JANUARY 2019**

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**AimTD LLC**  
TURNING MOVEMENT COUNTS







### INTERSECTION TURNING MOVEMENT COUNTS

DATE: 1/30/19 WEDNESDAY  
 LOCATION: NORTH & SOUTH SR-71 SB Ramps  
 PREPARED BY: Alimtd LLC, tel: 714 253 7888 cs@alimtd.com  
 PROJECT #: SC2074  
 LOCATION #: 1  
 CONTROL: SIGNAL

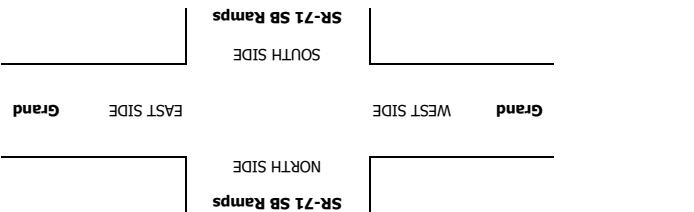
CLASS 4:	4 OR MORE TRUCKS	AM	PM	OTHER	OTHER				
	AXLE	▲	▼	►	◄				
NOTES:									

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL		
	NL	NT	XR	SL	ST	SR	EL	ET	ER	WL	WT	WR	X	X	
	SR-71 SB Ramps			SR-71 SB Ramps			Grand			Grand			Grand		

LANES:	8:00 AM												
	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	116	112	1	3	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	97%	97%	1%	3%	0%	100%	0%	45%	55%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	8:00 AM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	8:00 AM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	8:00 AM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	8:00 AM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	8:00 AM												

LANES:	3:30 PM												
	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	3:30 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	3:30 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	3:30 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	3:30 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	3:30 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	3:30 PM												

LANES:	4:00 PM												
	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	4:00 PM												



LANES:	5:00 PM												
	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	5:00 PM												
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	5:00 PM												

RTOR													
NRR	SRR	ERR	WRR										
0	0	0	0										

INTERSECTION TURNING MOVEMENT COUNTS

DATE: Tue, Jan 29, 19

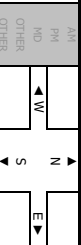
LOCATION: NORTH & SOUTH EAST & WEST.

Chico SR-71 SB Ramps Butterfield Ranch

PREPARED BY: AlmtD LLC Tel: 714 253 7888 c@almtD.com

PROJECT #: SCC056 LOCATION #: SR-71 SB Ramps BUTTERFIELD RANCH CONTROL: SIGNAL

NOTES:



Added U-turns to left turns

Main data table with columns for Northbound, Southbound, Eastbound, Westbound, RTOR, and U-TURNS. Rows include lane counts, volumes, and peak factors for AM and PM periods.

Butterfield Ranch WEST SIDE

Butterfield Ranch EAST SIDE

SR-71 SB Ramps NORTH SIDE

SR-71 SB Ramps SOUTH SIDE

SR-71 SB Ramps SOUTH SIDE

SR-71 SB Ramps NORTH SIDE

Table for AM period with columns for time slots (7:00 AM to 9:45 AM) and counts.

Table for ALL PED AND BIKE with columns for E SIDE, W SIDE, S SIDE, N SIDE, and TOTAL.

Table for PEDESTRIAN CROSSINGS with columns for E SIDE, W SIDE, S SIDE, N SIDE, and TOTAL.

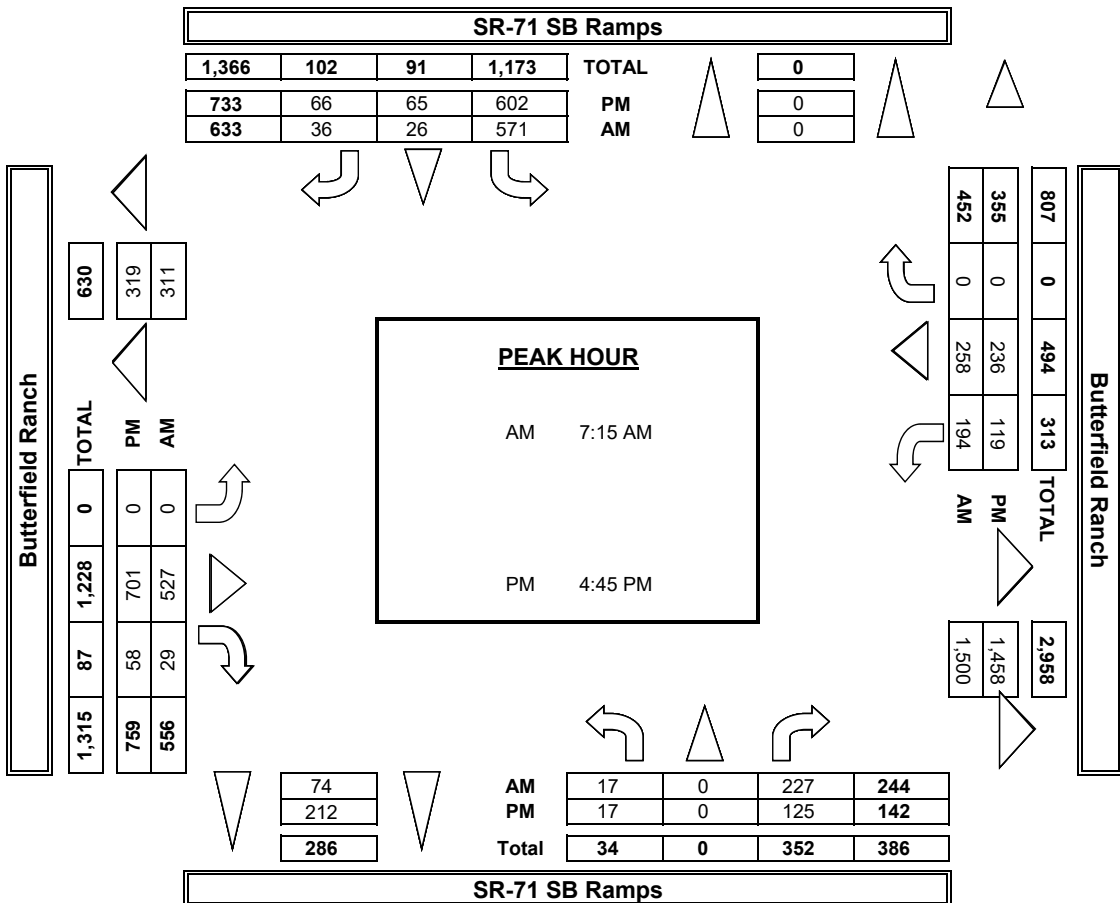
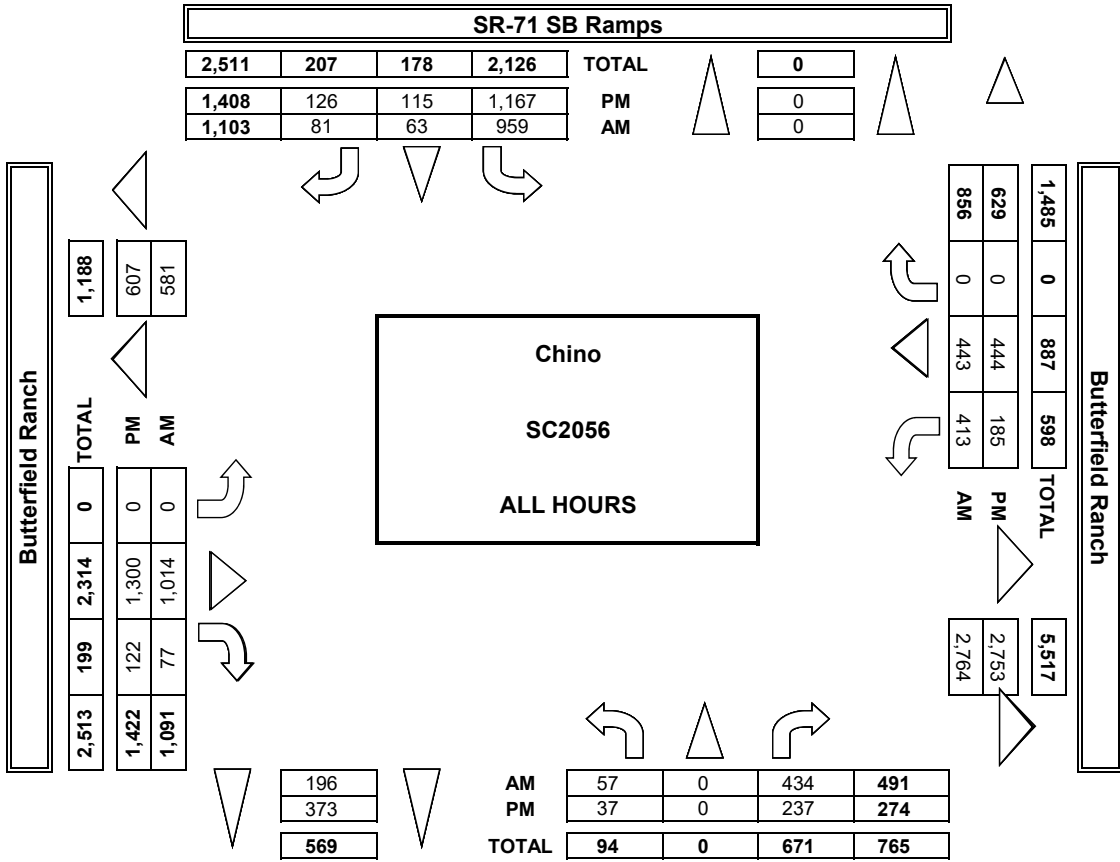
Table for BICYCLE CROSSINGS with columns for ES, WS, SS, NS, and TOTAL.

Table for RTOR (Right Turn on Red) with columns for NRR, SRR, ERR, WRR.

Summary table for RTOR counts: 68, 16, 9, 0.

Summary table for RTOR counts: 57, 26, 12, 0.

**AimTD LLC**  
TURNING MOVEMENT COUNTS









### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtmTD LLC. tel: 714 253 7888 cs@airtmd.com

DATE: 1/29/19  
TUESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST: SR-71 SB Ramps  
Butterfield Ranch

PROJECT #: SC2056  
LOCATION #: 3  
CONTROL: SIGNAL

<b>CLASS 4:</b> 4 OR MORE AXLE TRUCKS	<b>NOTES:</b>	▲	▲	▲	▲
		N	W	S	

NORTHBOUND		SOUTHBOUND			EASTBOUND		WESTBOUND			TOTAL			
SR-71 SB Ramps		SR-71 SB Ramps			Butterfield Ranch		Butterfield Ranch						
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	X	1	1.5	0.5	1	X	2	0	1	2	X	

AM		PM	
7:00 AM	0	0	0
7:15 AM	0	0	0
7:30 AM	0	0	0
7:45 AM	0	0	0
8:00 AM	0	0	0
8:15 AM	0	0	0
8:30 AM	0	0	0
8:45 AM	0	0	0
9:00 AM	0	0	0
9:15 AM	0	0	0
9:30 AM	0	0	0
9:45 AM	0	0	0
<b>VOLUMES</b>	0	0	0
<b>APPROACH %</b>	0%	0%	100%
<b>APP/DEPART</b>	1	/	0
<b>BEGIN PEAK HR</b>	7:15 AM	0	0
<b>VOLUMES</b>	0	0	0
<b>APPROACH %</b>	0%	0%	0%
<b>PEAK HR FACTOR</b>	0.000	0.000	0.000
<b>APP/DEPART</b>	0	0	0
03:00 PM	0	0	0
3:15 PM	0	0	0
3:30 PM	0	0	0
3:45 PM	0	0	0
4:00 PM	0	0	0
4:15 PM	0	0	0
4:30 PM	0	0	0
4:45 PM	0	0	0
5:00 PM	0	0	0
5:15 PM	0	0	0
5:30 PM	0	0	0
5:45 PM	0	0	0
<b>VOLUMES</b>	0	0	0
<b>APPROACH %</b>	0%	0%	0%
<b>APP/DEPART</b>	0	0	0
<b>BEGIN PEAK HR</b>	4:00 PM	0	0
<b>VOLUMES</b>	0	0	0
<b>APPROACH %</b>	0%	0%	0%
<b>PEAK HR FACTOR</b>	0.000	0.000	0.000
<b>APP/DEPART</b>	0	0	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	1	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

**SR-71 SB Ramps**  
NORTH SIDE

Butterfield Ranch WEST SIDE

SOUTH SIDE  
**SR-71 SB Ramps**

EAST SIDE Butterfield Ranch

### INTERSECTION TURNING MOVEMENT COUNTS

Prepared By: Almid LLC Tel: 714 253 7888 c@amid.com

PROJECT #: SC07/4  
LOCATION #: 3  
CONTROL: SIGNAL

DATE: Wed Jan 30, 19  
LOCATION: NORTH & SOUTH  
EAST & WEST: Grand



Add U-Turn to Left Turn

LAVES:	NORTHBOUND							SOUTHBOUND							EASTBOUND							WESTBOUND						
	NL	NT	NR	SL	ST	SR	SR	EL	ET	ER	WL	WT	WR	TOTAL	NR	SB	EB	WB	TTL									

7:00 AM	107	17	14	4	0	208	42	137	45	0	0	220	6	800	0	0	0	0	0
7:15 AM	131	16	12	7	0	175	81	192	65	0	0	252	5	936	0	0	0	0	0
7:30 AM	82	7	11	9	0	164	74	220	37	0	0	231	7	842	0	0	0	0	0
7:45 AM	124	19	17	16	0	158	75	256	21	0	0	167	8	861	0	0	0	0	0
8:00 AM	102	25	18	9	0	122	82	216	42	0	0	181	4	801	0	0	0	0	0
8:15 AM	81	41	24	12	0	128	78	267	41	0	0	192	8	872	0	0	0	0	0
8:30 AM	63	41	34	13	0	105	77	186	43	0	0	169	20	751	0	0	0	0	0
8:45 AM	81	39	30	13	0	124	83	252	34	0	0	142	15	813	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	117	131	107	63	0	1,184	592	1,726	328	0	0	1,554	73	6,576	0	0	0	0	0

NRR	SRR	ERR	WRR
-----	-----	-----	-----

LAVES:	NORTHBOUND							SOUTHBOUND							EASTBOUND							WESTBOUND						
	NL	NT	NR	SL	ST	SR	SR	EL	ET	ER	WL	WT	WR	TOTAL	NR	SB	EB	WB	TTL									

7:00 AM	107	17	14	4	0	208	42	137	45	0	0	220	6	800	0	0	0	0	0
7:15 AM	131	16	12	7	0	175	81	192	65	0	0	252	5	936	0	0	0	0	0
7:30 AM	82	7	11	9	0	164	74	220	37	0	0	231	7	842	0	0	0	0	0
7:45 AM	124	19	17	16	0	158	75	256	21	0	0	167	8	861	0	0	0	0	0
8:00 AM	102	25	18	9	0	122	82	216	42	0	0	181	4	801	0	0	0	0	0
8:15 AM	81	41	24	12	0	128	78	267	41	0	0	192	8	872	0	0	0	0	0
8:30 AM	63	41	34	13	0	105	77	186	43	0	0	169	20	751	0	0	0	0	0
8:45 AM	81	39	30	13	0	124	83	252	34	0	0	142	15	813	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	117	131	107	63	0	1,184	592	1,726	328	0	0	1,554	73	6,576	0	0	0	0	0

117	131	107	63	0	1,184	592	1,726	328	0	0	1,554	73	6,576
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NRR	SRR	ERR	WRR
-----	-----	-----	-----

117	131	107	63	0	1,184	592	1,726	328	0	0	1,554	73	6,576
-----	-----	-----	----	---	-------	-----	-------	-----	---	---	-------	----	-------

NRR	SRR	ERR	WRR
-----	-----	-----	-----

117	131	107	63	0	1,184	592	1,726	328	0	0	1,554	73	6,576
-----	-----	-----	----	---	-------	-----	-------	-----	---	---	-------	----	-------



Grand WEST SIDE SOUTH SIDE EAST SIDE Grand

ES	ALL PED AND BIKE			
	W SIDE	S SIDE	N SIDE	TOTAL

TIME	ALL PED AND BIKE			
	W SIDE	S SIDE	N SIDE	TOTAL

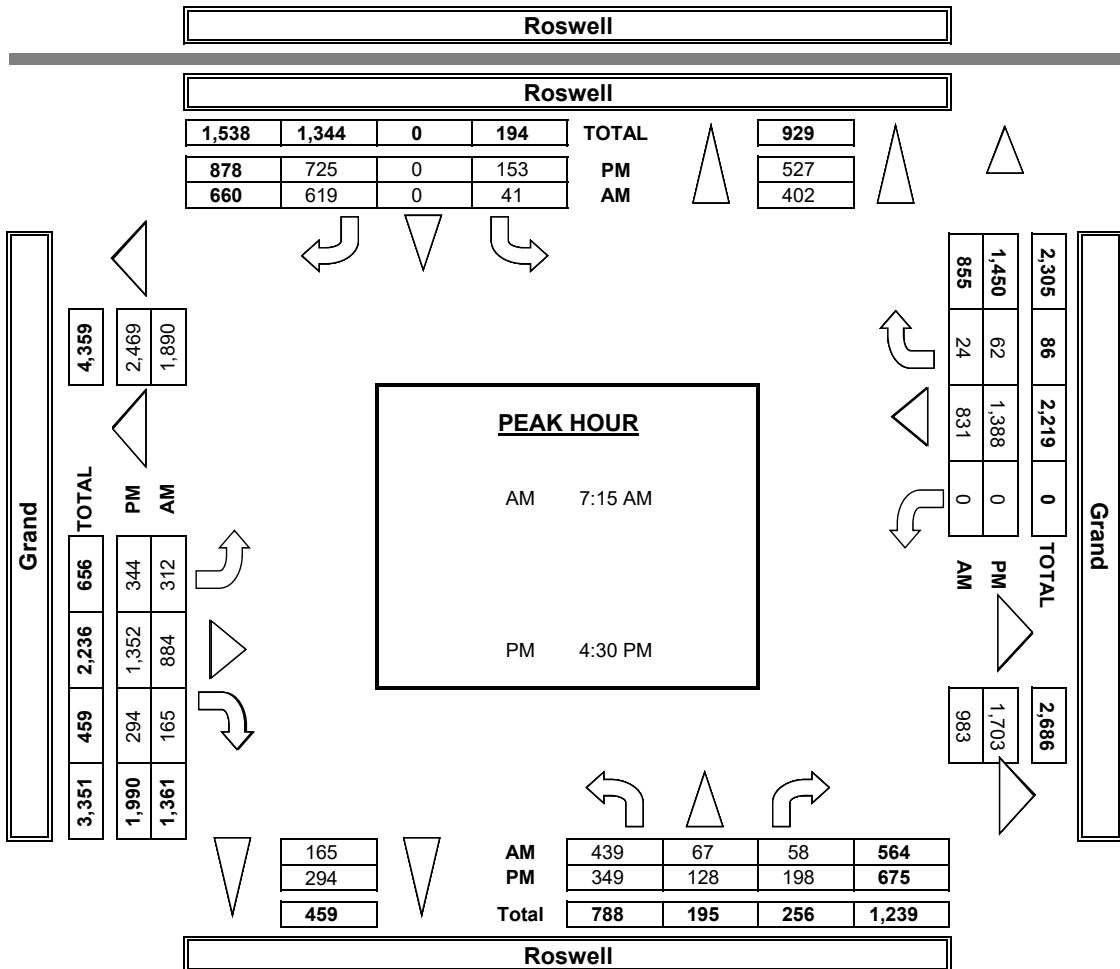
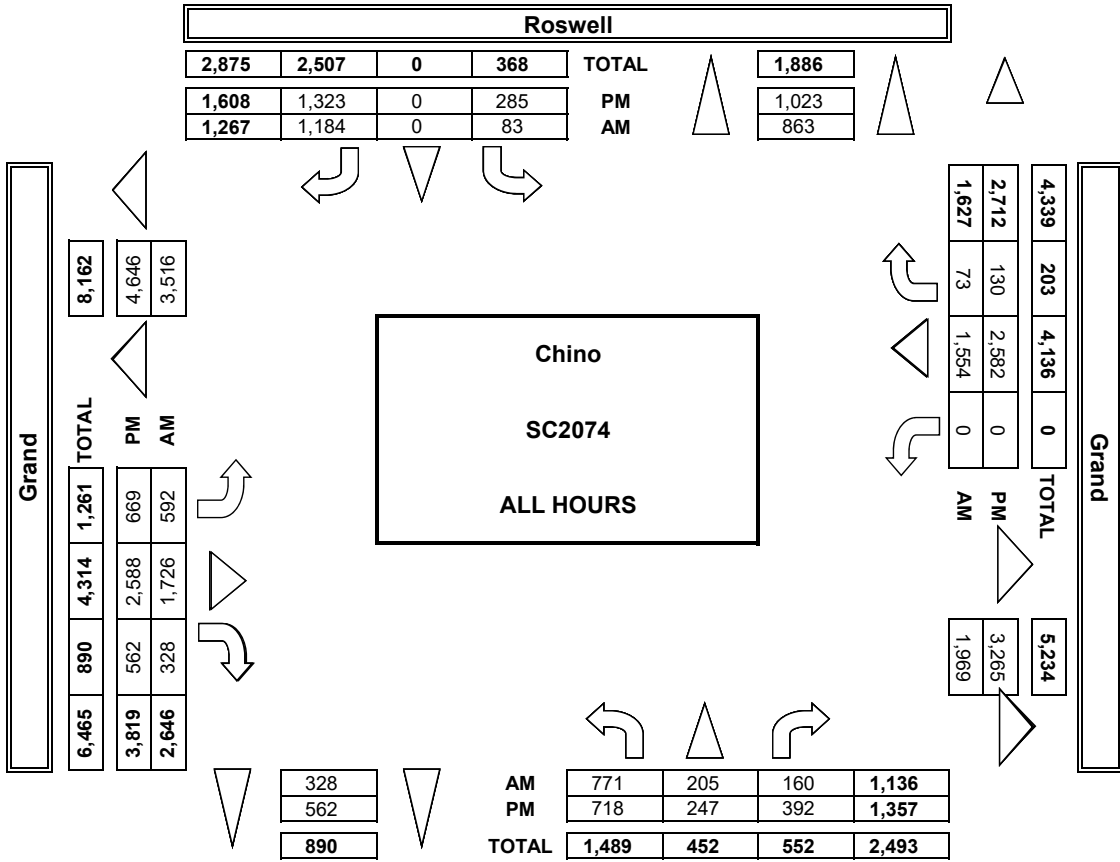
ES	PEDESTRIAN CROSSINGS			
	W SIDE	S SIDE	N SIDE	TOTAL

TIME	PEDESTRIAN CROSSINGS			
	W SIDE	S SIDE	N SIDE	TOTAL

ES	BICYCLE CROSSINGS			
	W SIDE	S SIDE	N SIDE	TOTAL

TIME	BICYCLE CROSSINGS			
	W SIDE	S SIDE	N SIDE	TOTAL

**AimTD LLC**  
TURNING MOVEMENT COUNTS





### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTMD LLC, tel: 714 253 7888 cs@aimtmd.com

PROJECT #: SC2074  
 LOCATION #: 3  
 CONTROL: SIGNAL

DATE: 1/30/19  
 WEDNESDAY

LOCATION: NORTH & SOUTH:  
 EAST & WEST: Roswell  
 Grand

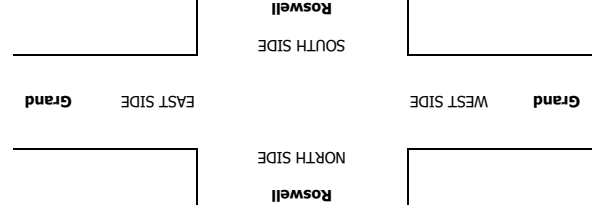
#### NOTES:

CLASS 3:  
 3-AXLE TRUCKS



LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
1.5	0.5	1	1	1	1	2	2	2	1	1	4	4	0

TIME	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	VOL	APP%	DEPART	VOL	APP%	DEPART	VOL	APP%	DEPART	VOL	APP%	DEPART	
7:00 AM	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0
7:15 AM	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0
7:30 AM	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0
7:45 AM	1	0%	0	1	0%	0	1	0%	0	1	0%	0	4
8:00 AM	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0
8:15 AM	1	0%	0	1	0%	0	1	0%	0	1	0%	0	4
8:30 AM	1	0%	0	1	0%	0	1	0%	0	1	0%	0	4
8:45 AM	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0
9:00 AM	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0
9:15 AM	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0
9:30 AM	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0
9:45 AM	3	50%	6	2	33%	5	4	60%	2	6	100%	9	25
BEGIN PEAK HR	7:30 AM			7:30 AM			7:30 AM			7:30 AM			0
VOLUMES	2	40%	5	2	40%	5	4	60%	2	6	100%	9	25
APP/DEPART	17%			17%			20%			20%			13
PEAK HR FACTOR	0.625			0.625			0.250			0.250			0.781
APPROACH %	40%			40%			20%			20%			0
BEGIN PEAK HR	4:00 PM			4:00 PM			4:00 PM			4:00 PM			0
VOLUMES	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0
APP/DEPART	0%			0%			0%			0%			0
PEAK HR FACTOR	0.000			0.000			0.250			0.250			0.542
APPROACH %	0%			0%			100%			100%			0
BEGIN PEAK HR	4:00 PM			4:00 PM			4:00 PM			4:00 PM			0
VOLUMES	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0
APP/DEPART	0%			0%			0%			0%			0
PEAK HR FACTOR	0.000			0.000			0.250			0.250			0.542



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtmTD LLC, tel: 714 253 7888 cs@airtmtd.com

DATE: 1/30/19  
WEDNESDAY  
LOCATION: NORTH & SOUTH:  
EAST & WEST: Roswell

PROJECT #: SC2074  
LOCATION #: 3  
CONTROL: SIGNAL

CLASS 4: AXLE TRUCKS	NOTES:	NORTHBOUND				SOUTHBOUND				EASTBOUND			WESTBOUND			TOTAL
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR			
		1.5	0.5	1	1	X	2	1	3	2	X	4	0			

▲ N  
▶ E

U-TURNS	TTL	RTOR			
		NRR	SRR	ERR	WRR
0	0	0	0	0	0

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1.5	0.5	1	1	X	2	1	3	2	X	4	0	

U-TURNS	TTL	RTOR			
		NRR	SRR	ERR	WRR
0	0	0	0	0	0

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1.5	0.5	1	1	X	2	1	3	2	X	4	0	

U-TURNS	TTL	RTOR			
		NRR	SRR	ERR	WRR
0	0	0	0	0	0

AM													
APPROACH %	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
BEGIN PEAK HR	3	/	1	9	/	4	121	/	119	130	/	139	0
VOLUMES	0%	0%	100%	0%	0%	100%	1%	96%	3%	0%	100%	0%	0
APPROACH %	0%	0%	100%	0%	0%	100%	0.739	95%	5%	0%	100%	0%	145
PEAK HR FACTOR	0.500	/	0.500	0.417	/	0.739	0.830	0.830	0.830	0.830	0.830	0.830	0.863
APPROACH %	2	/	0	5	/	3	65	/	64	73	/	78	0
APPROACH %	0	0	0	0	0	0	0	0	0	0	0	0	0

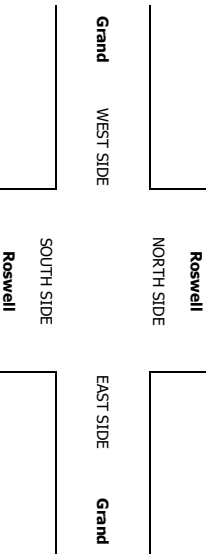
U-TURNS	TTL	RTOR			
		NRR	SRR	ERR	WRR
0	0	3	0	0	0

PM													
APPROACH %	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
BEGIN PEAK HR	3	/	1	9	/	4	121	/	119	130	/	139	0
VOLUMES	0%	0%	100%	0%	0%	100%	1%	96%	3%	0%	100%	0%	0
APPROACH %	0%	0%	100%	0%	0%	100%	0.739	95%	5%	0%	100%	0%	145
PEAK HR FACTOR	0.500	/	0.500	0.417	/	0.739	0.830	0.830	0.830	0.830	0.830	0.830	0.863
APPROACH %	2	/	0	5	/	3	65	/	64	73	/	78	0
APPROACH %	0	0	0	0	0	0	0	0	0	0	0	0	0

U-TURNS	TTL	RTOR			
		NRR	SRR	ERR	WRR
0	0	0	0	0	0

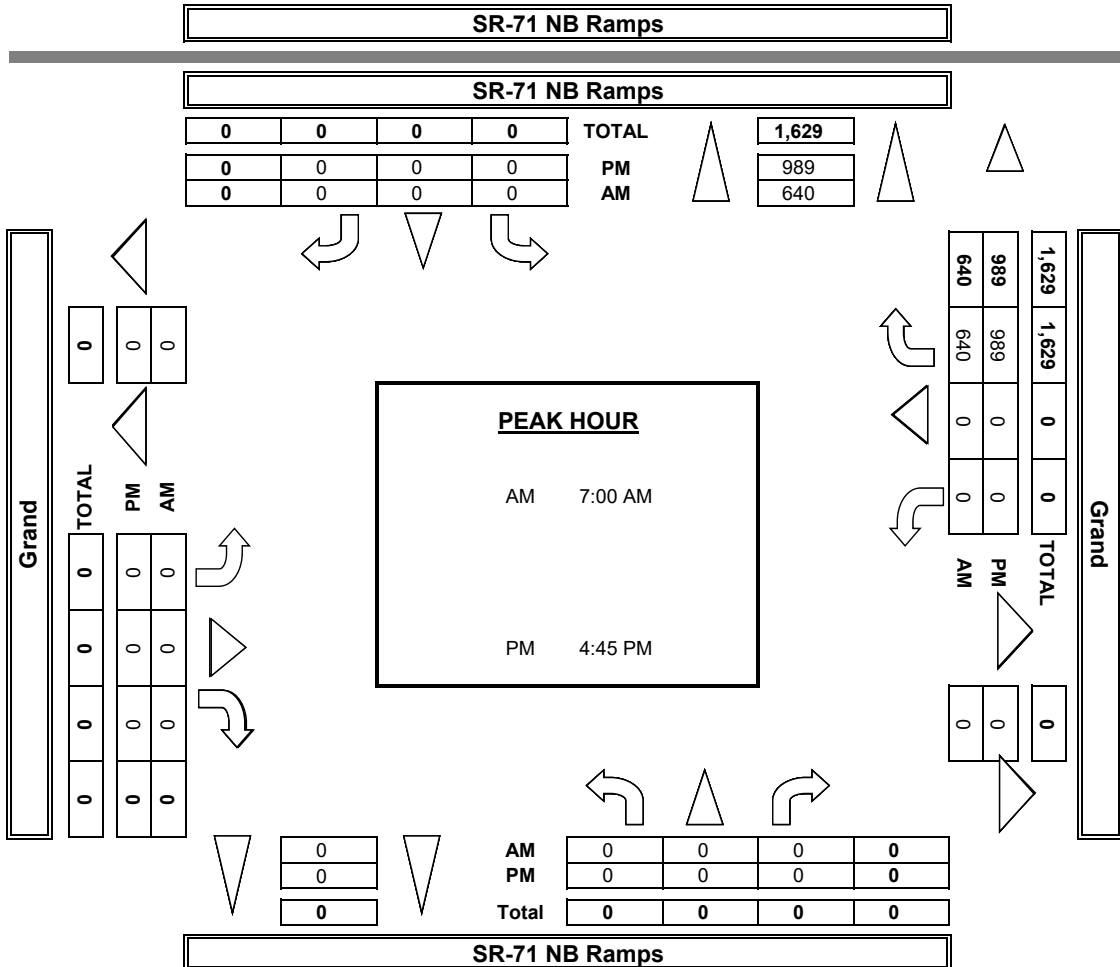
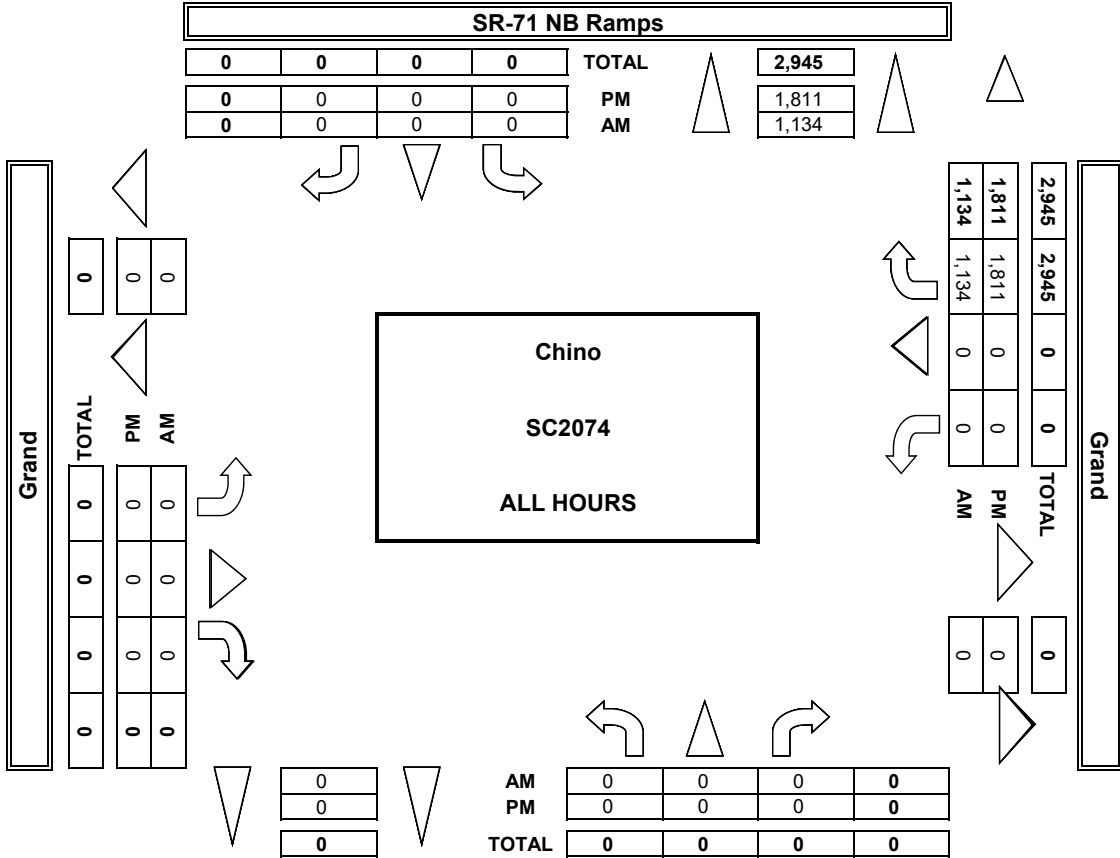
Grand													
APPROACH %	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
BEGIN PEAK HR	3	/	1	9	/	4	121	/	119	130	/	139	0
VOLUMES	0%	0%	100%	0%	0%	100%	1%	96%	3%	0%	100%	0%	0
APPROACH %	0%	0%	100%	0%	0%	100%	0.739	95%	5%	0%	100%	0%	145
PEAK HR FACTOR	0.500	/	0.500	0.417	/	0.739	0.830	0.830	0.830	0.830	0.830	0.830	0.863
APPROACH %	2	/	0	5	/	3	65	/	64	73	/	78	0
APPROACH %	0	0	0	0	0	0	0	0	0	0	0	0	0

U-TURNS	TTL	RTOR			
		NRR	SRR	ERR	WRR
0	0	0	0	0	0





AimTD LLC  
TURNING MOVEMENT COUNTS





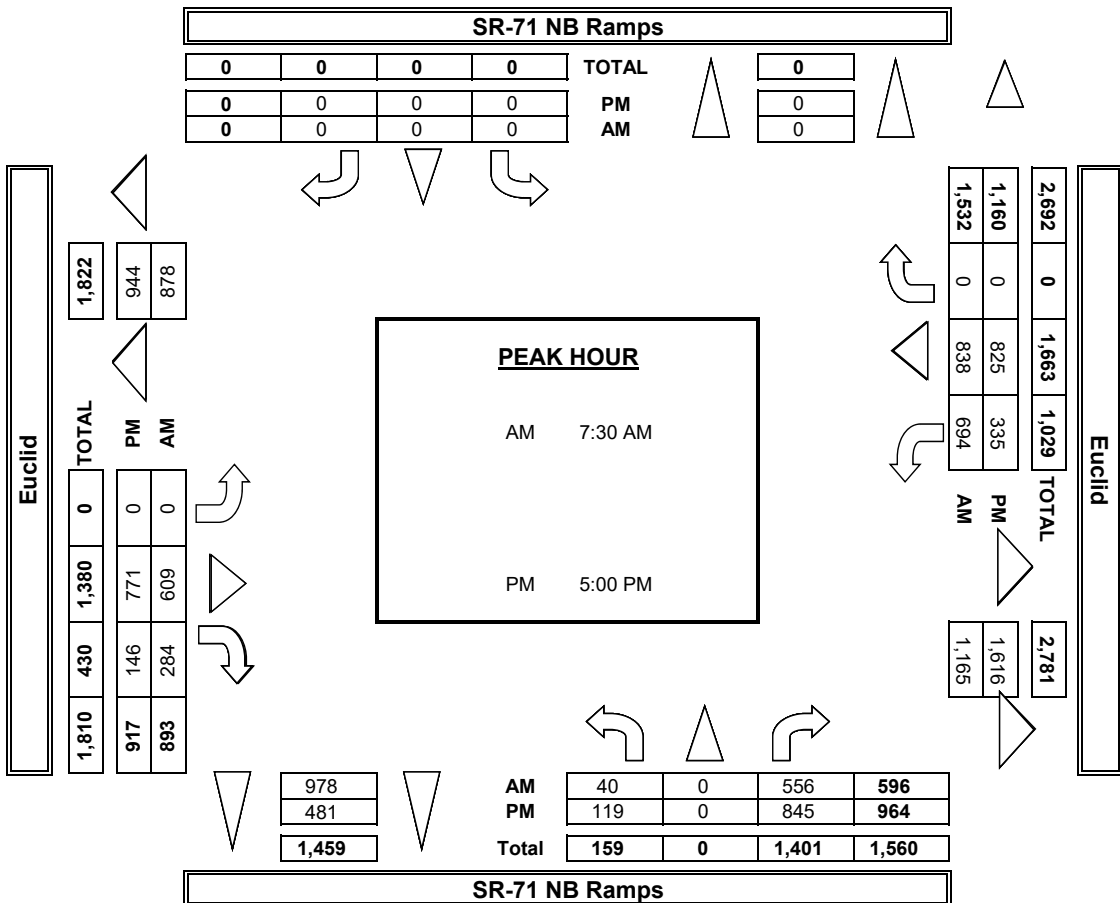
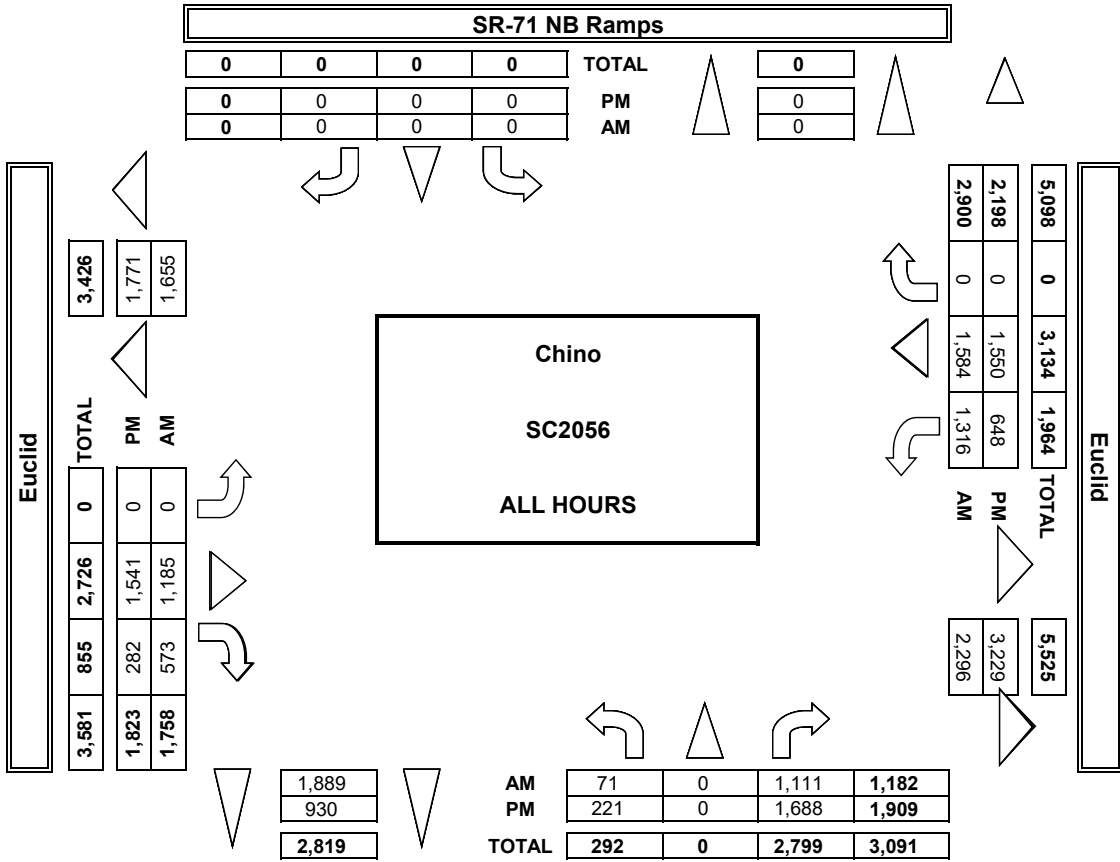








**AimTD LLC**  
TURNING MOVEMENT COUNTS



### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtmD LLC, tel: 714 253 7888 csc@airtmD.com

DATE: 1/22/19  
TUESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST: Euclid

Chino  
SR-71 NB Ramps

PROJECT #: SC2056  
LOCATION #: 6  
CONTROL: SIGNAL

CLASS 2: WORK VEHICLES/ TRUCKS	NOTES:	SR-71 NB Ramps													
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND	
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	
		2	X	1	X	X	X	X	2	1	1	2	X	34	

OTHER	PM		AM	
	W	S	W	S

LANES:	SR-71 NB Ramps														
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL		
7:00 AM	0	0	8	0	0	0	0	7	0	3	16	0	34		
7:15 AM	3	0	15	0	0	0	0	6	1	2	8	0	35		
7:30 AM	0	0	7	0	0	0	0	7	0	10	17	0	41		
7:45 AM	2	0	4	0	0	0	0	7	0	8	10	0	31		
8:00 AM	0	0	0	0	0	0	0	6	2	11	9	0	35		
8:15 AM	3	0	7	0	0	0	0	10	1	4	11	0	36		
8:30 AM	0	0	2	0	0	0	0	9	3	4	7	0	25		
8:45 AM	2	0	3	0	0	0	0	7	2	2	8	0	24		
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		
VOLUMES	10	0	53	0	0	0	0	59	9	44	86	0	261		
APPROACH %	16%	0%	84%	0%	0%	0%	0%	87%	13%	34%	66%	0%	0		
APP/DEPART	63	/	0	/	53	/	68	/	112	130	/	96	0		

U-TURNS									
NB	SB	EB	WB	TTL	NB	SB	EB	WB	TTL
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	TOTAL
X	X	X	X	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

AM																
APP/DEPART	7:30 AM				0.000				0.750				0.872			
	APPROACH %	VOLUMES	PEAK HR FACTOR	APPROACH %	VOLUMES	PEAK HR FACTOR	APPROACH %	VOLUMES	PEAK HR FACTOR	APPROACH %	VOLUMES	PEAK HR FACTOR	APPROACH %	VOLUMES		
03:00 PM	30	0	0	0	0	0	0	36	33	55	80	0	52			
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0			
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0			
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:00 PM	3	0	0	0	0	0	0	0	0	0	0	0	0			
4:15 PM	4	0	13	0	0	0	0	11	1	3	5	0	36			
4:30 PM	1	0	18	0	0	0	0	9	0	1	8	0	40			
4:45 PM	0	0	20	0	0	0	0	8	2	2	4	0	37			
5:00 PM	0	0	7	0	0	0	0	4	0	5	10	0	26			
5:15 PM	0	0	13	0	0	0	0	5	0	3	5	0	18			
5:30 PM	0	0	7	0	0	0	0	4	0	3	4	0	26			
5:45 PM	1	0	2	0	0	0	0	3	0	0	1	0	5			
VOLUMES	9	0	87	0	0	0	0	46	3	19	39	2	15			
APPROACH %	9%	0%	91%	0%	0%	0%	0%	94%	6%	33%	67%	0%	203			
APP/DEPART	96	/	0	/	22	/	49	/	133	58	/	48	0			

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

**SR-71 NB Ramps**

NORTH SIDE

Euclid WEST SIDE

SOUTH SIDE

**SR-71 NB Ramps**

EAST SIDE Euclid



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtmTD LLC, tel: 714 253 7888 cse@airtmd.com

DATE: 1/22/19  
TUESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST:

Chino  
SR-71 NB Ramps  
Euclid

PROJECT #: SC2056  
LOCATION #: 6  
CONTROL: SIGNAL

Table with columns: CLASS 4 (4 OR MORE AXLE TRUCKS), NOTES, and movement arrows (N, S, E, W, etc.)

Table with columns: NORTHBOUND (SR-71 NB Ramps), SOUTHBOUND (SR-71 NB Ramps), EASTBOUND (Euclid), and WESTBOUND (Euclid). Rows include LANE, NL, NT, NR, SL, ST, SR, EL, ET, ER, WL, WT, WR, and TOTAL.

Table for AM period (7:00 AM to 9:45 AM). Columns: LANE, VOLUMES, APPROACH %, APP/D/DEPART, and TOTAL. Includes data for SR-71 NB Ramps and Euclid.

Table for AM U-TURNS and RTOR (NRR, SRR, ERR, WRR) with counts for NB, SB, EB, WB, TTL.

Table for PM period (10:00 PM to 5:45 PM). Columns: LANE, VOLUMES, APPROACH %, APP/D/DEPART, and TOTAL. Includes data for SR-71 NB Ramps and Euclid.

Table for PM U-TURNS and RTOR (NRR, SRR, ERR, WRR) with counts for NB, SB, EB, WB, TTL.

NORTH SIDE SOUTH SIDE

WEST SIDE EAST SIDE

Euclid SR-71 NB Ramps

Euclid SR-71 NB Ramps



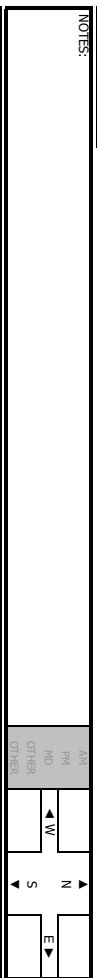
INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AmInd LLC Tel: 714 253 7888 c@amind.com

Project #: SC20/4  
Pipeline

Location #: 5  
Control: SIGNAL

DATE: Wed Jan 30, 19  
LOCATION: NORTH & SOUTH  
EAST & WEST: Grand



☐ Add U-Turns to Left Turns

Main data table with columns for direction (Northbound, Southbound, Eastbound, Westbound), movement (Lanes, Left, Thru, Right), and counts. Includes summary rows for Grand and Pipeline.

U-TURNS table with columns for direction and movement, showing counts for left turns.

R/TOR table with columns for direction and movement, showing counts for right-of-way turns.

Summary table for Grand and Pipeline counts, including totals for each direction.

Summary table for Grand and Pipeline counts, including totals for each direction.



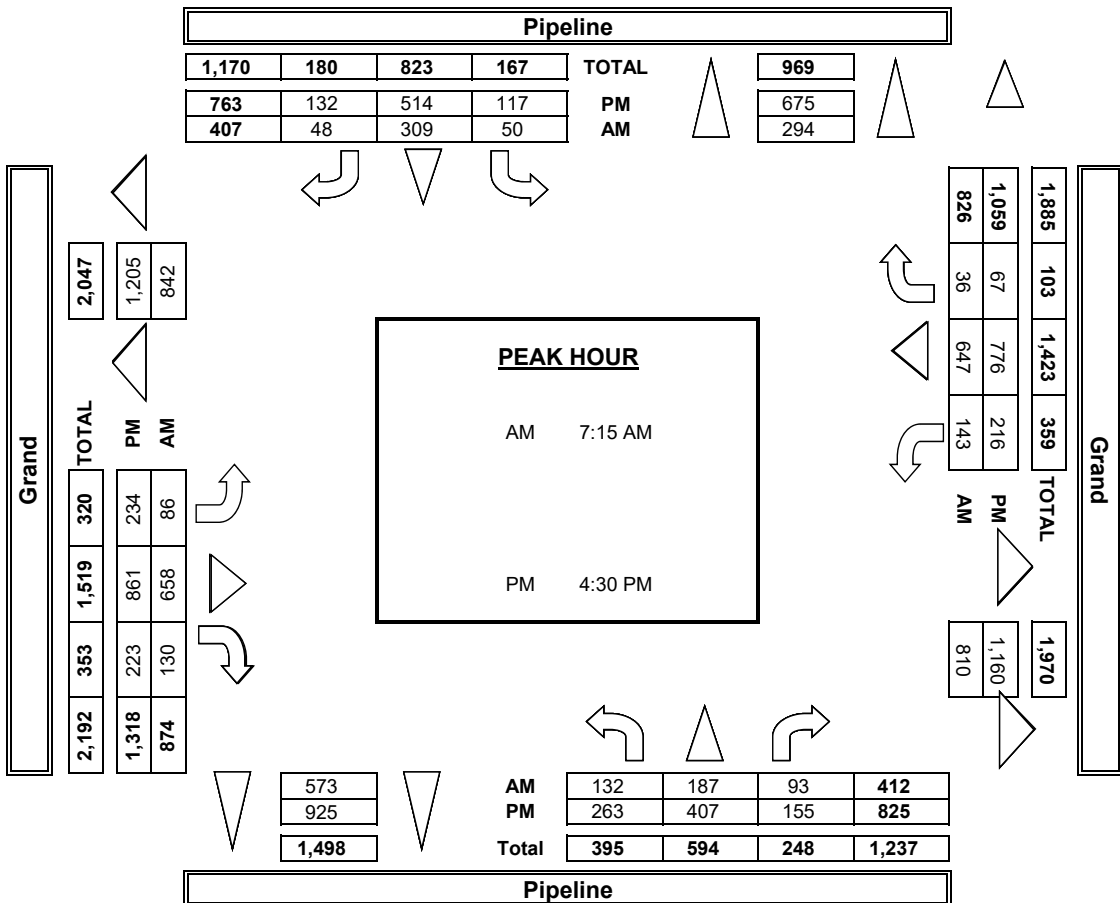
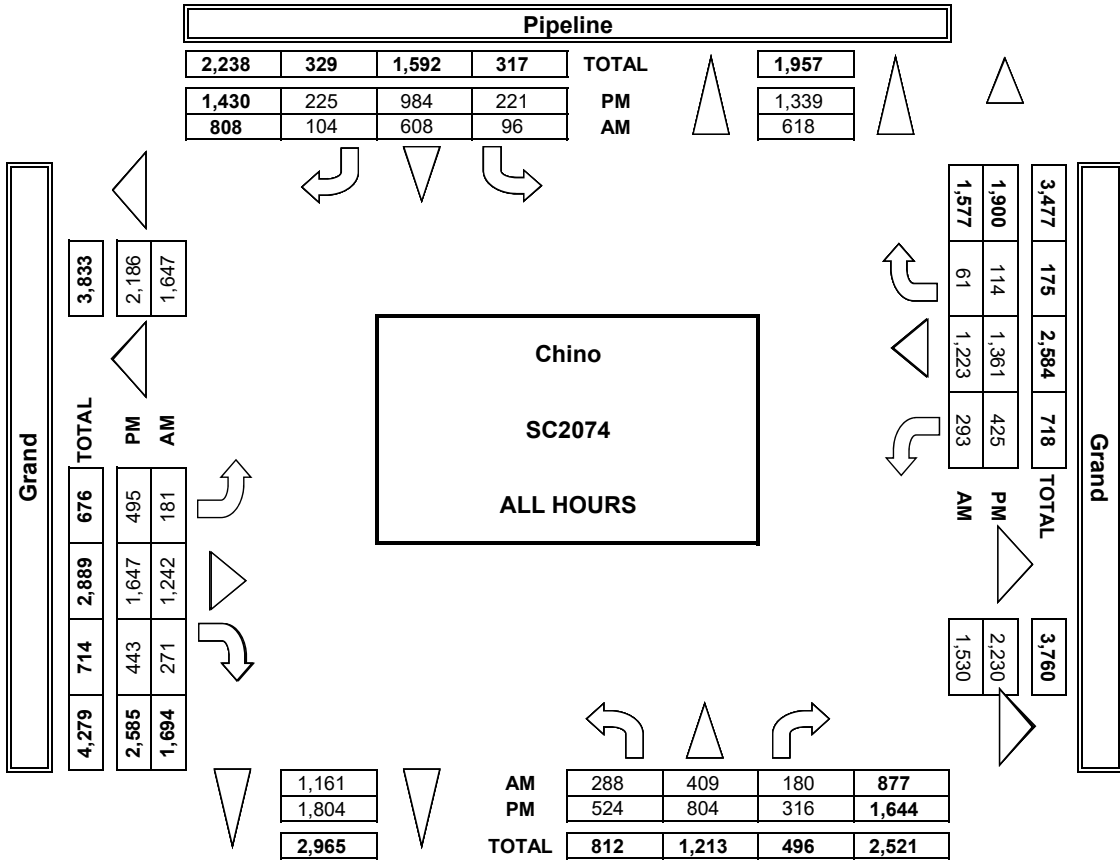
Table with columns for time (AM, PM) and counts for various movements.

Table with columns for direction (E, W, S, N) and counts for various movements.

Table with columns for direction (E, W, S, N) and counts for various movements.

Table with columns for direction (ES, WS, SS, NS) and counts for various movements.

**AimTD LLC**  
TURNING MOVEMENT COUNTS





**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTMD LLC, tel: 714 253 7888 cs@aimtmd.com

DATE: 1/30/19 WEDNESDAY  
 LOCATION: NORTH & WEST: EAST & WEST: Grand Pipeline  
 PROJECT #: SC2074 LOCATION #: 5 CONTROL: SIGNAL

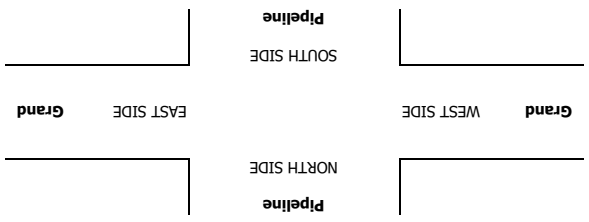
CLASS: 3-AXLE TRUCKS	NOTES:	
	AM	PM
▲	▶	◀
▲	▶	◀

LANES:	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	2	2	1	1	1	1	2	2	1	1	1	1	4	0	0	0	0	0

VOLUMES	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %
53	20%	80%	0%	25%	63%	13%	17%	12%	88%	0%	0%	0%	22	0%	96%	4%	0%

AP/DEPART	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %
0.938	100%	0%	0%	0%	80%	20%	13%	75%	0%	0%	0%	13	0%	93%	7%	0%	0

AP/DEPART	NORTHBOUND				SOUTHBOUND				EAST SIDE				WEST SIDE				
	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %
0.750	100%	0%	0%	0%	50%	50%	0%	100%	0%	50%	50%	0%	0%	0%	0%	0%	0



U-TURNS	NB	SB	EB	WB	TTL
	0	0	0	0	0

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

RTOR	NRR	SRR	ERR	WRR
0	0	0	0	0

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

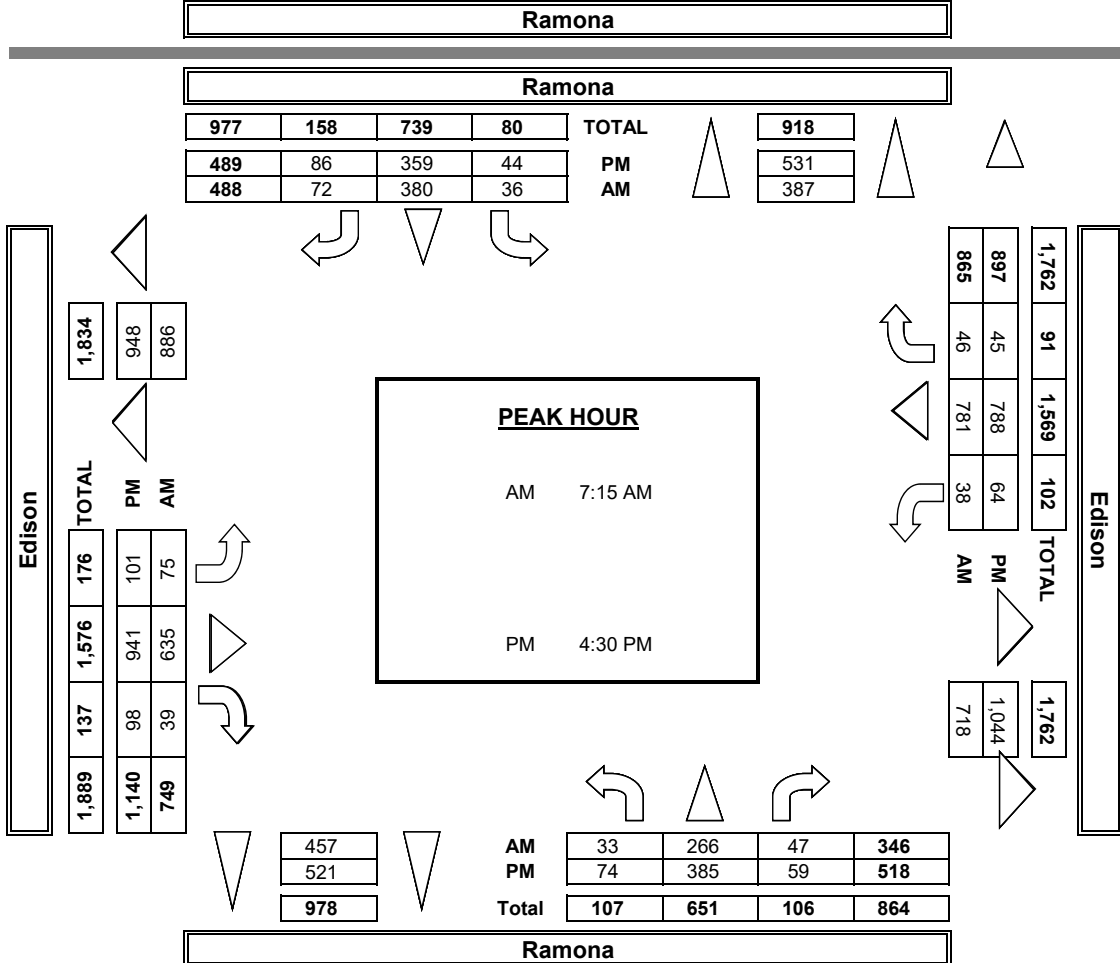
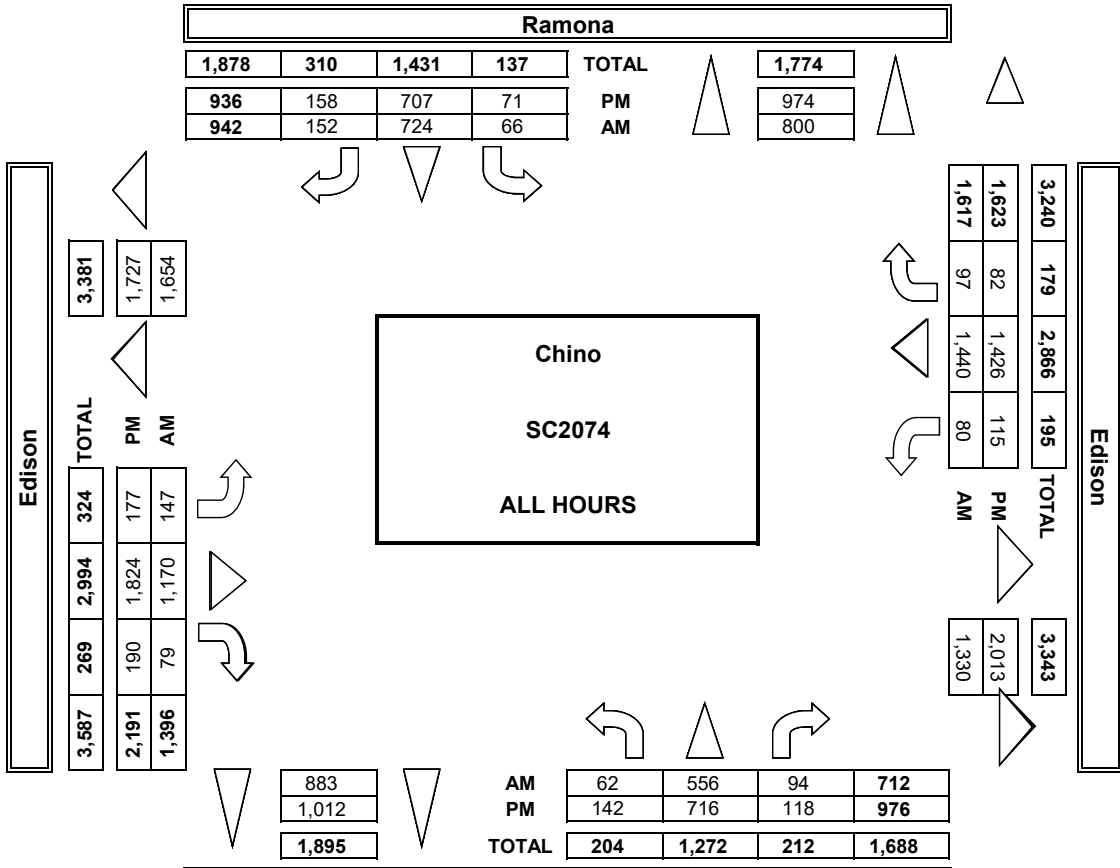
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---





**AimTD LLC**  
TURNING MOVEMENT COUNTS





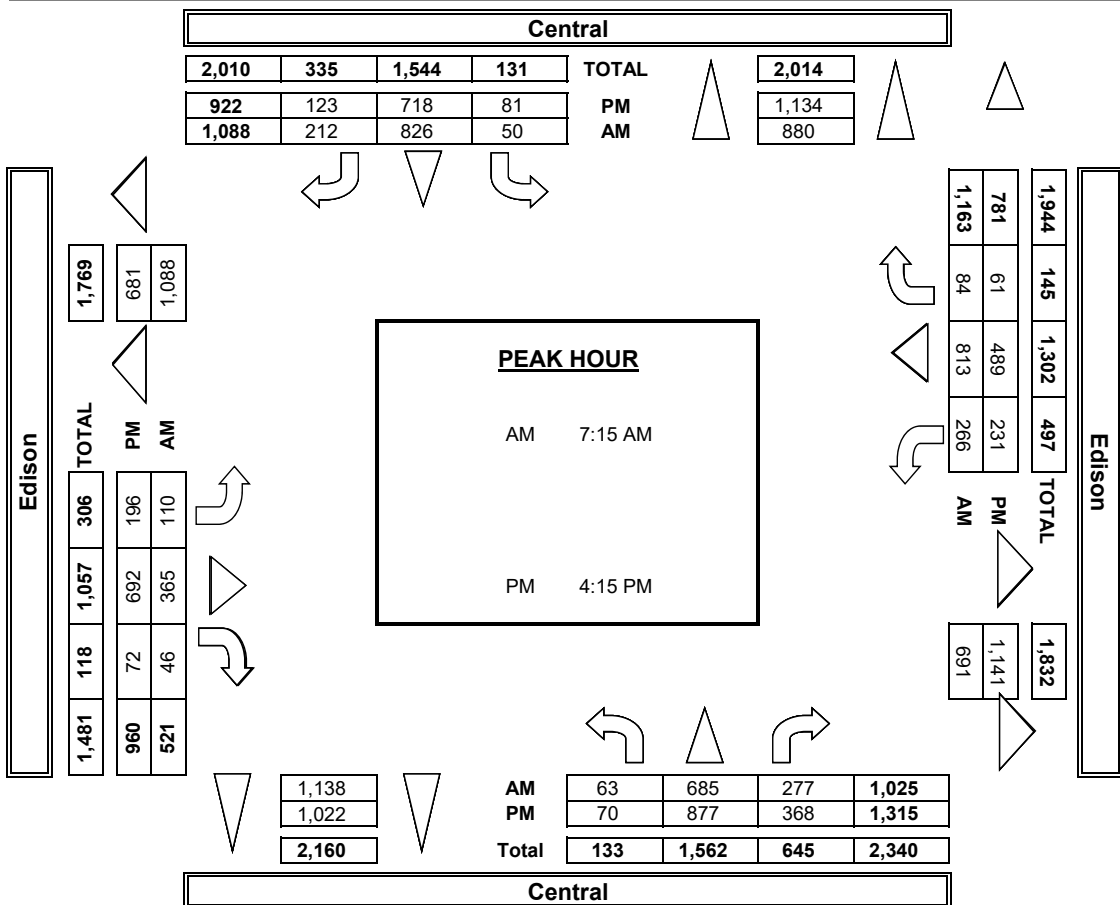
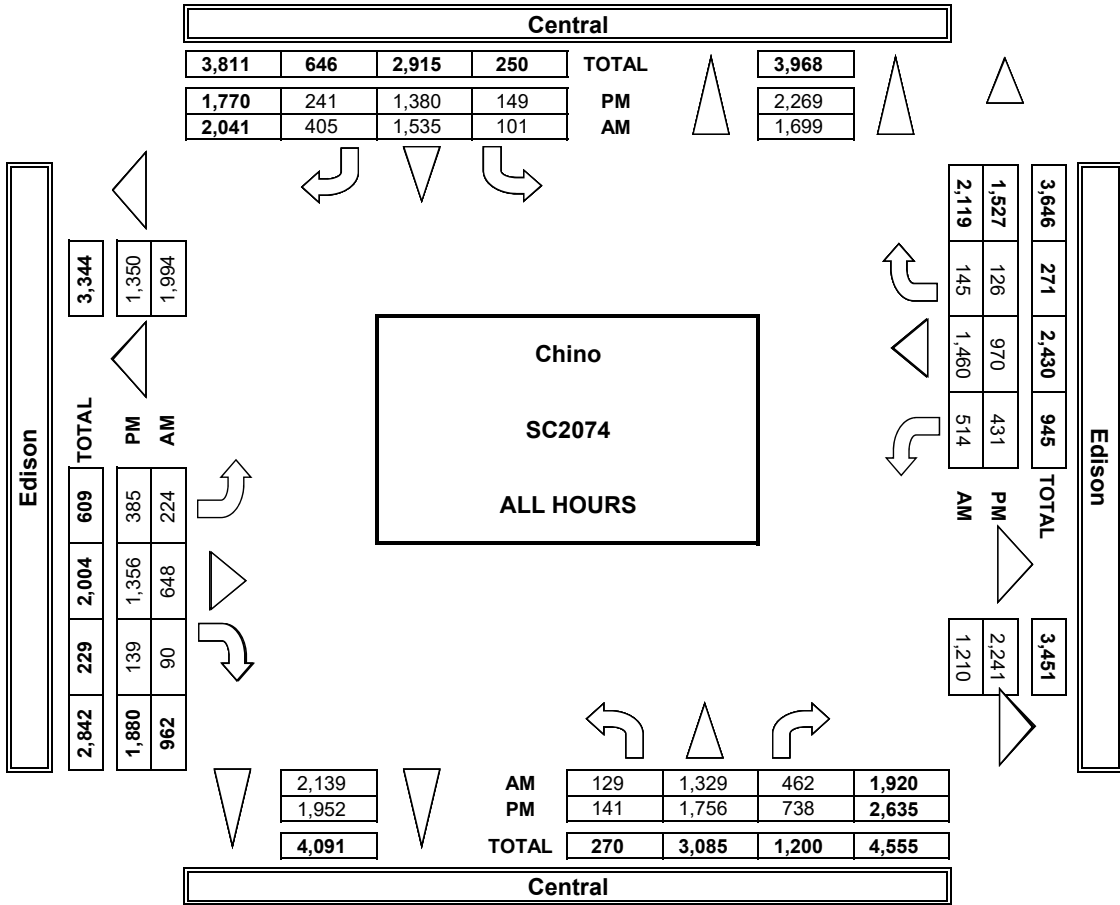








**AimTD LLC**  
TURNING MOVEMENT COUNTS







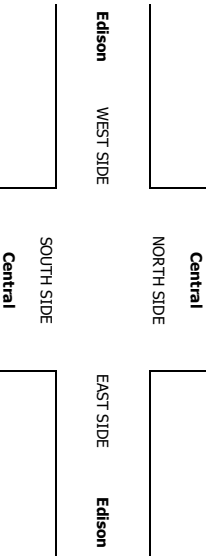
**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AirtTD LLC, Tel: 714 253 7888 [cs@airtd.com](mailto:cs@airtd.com)

DATE: 1/29/19 TUESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Chino Central Edison	PROJECT #: LOCATION #: CONTROL:	SC2074 7 SIGNAL
-----------------------------	---------------------------------------------	----------------------------	---------------------------------------	-----------------------

CLASS 4: AXLE TRUCKS	NOTES:	Central		Edison		Westbound		Other		Signal	
		N	S	N	S	N	S	N	S	N	S

LANES:	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		TOTAL					
	NL	NT	SL	ST	EL	ET	WL	WT						
<b>7:00 AM</b>	0	1	1	1	7	2	2	2	9	0	0	24		
7:15 AM	0	2	3	3	1	5	1	1	5	3	3	28		
7:30 AM	0	1	0	2	3	9	1	2	12	1	1	32		
7:45 AM	1	3	0	1	1	4	0	0	12	0	0	25		
8:00 AM	0	3	1	1	3	7	2	13	13	2	2	34		
8:15 AM	0	2	2	3	0	2	0	2	7	3	3	28		
8:30 AM	1	3	1	2	2	4	1	2	8	1	1	32		
8:45 AM	1	2	0	0	5	3	0	3	18	2	2	36		
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0		
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0		
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0		
<b>VOLUMES</b>	3	17	6	11	10	16	24	40	2	2	14	84	112	239
<b>APPROACH %</b>	12%	65%	23%	30%	27%	43%	36%	61%	3%	13%	76%	11%	11%	103
APPROACH %	8:00 AM		Central		Edison		Edison		Edison		Edison		Edison	
BEGIN PEAK HR	2	10	4	6	3	9	12	20	1	9	46	8	8	130
VOLUMES	13%	63%	25%	33%	17%	50%	36%	61%	3%	14%	73%	13%	13%	0.903
APPROACH %	0.800		0.500		0.825		0.685		0.685		0.685		0.685	
APPROACH %	16	30	30	18	13	33	30	63	57	35	57	35	57	0
APPROACH %	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	2	3	3	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	2	1	5	2	0	1	7	11	1	1	11	2	32
4:30 PM	1	5	0	1	0	1	0	1	12	0	4	4	1	31
4:45 PM	0	4	3	3	0	1	0	1	14	1	4	2	2	34
5:00 PM	1	2	2	2	1	0	1	10	0	0	9	0	0	28
5:15 PM	1	3	1	3	1	1	1	9	1	1	5	2	2	28
5:30 PM	0	2	1	2	0	1	1	8	1	3	3	1	1	19
5:45 PM	1	1	2	1	1	1	1	6	0	2	2	9	9	15
<b>VOLUMES</b>	6	22	13	17	8	4	4	4	47	2	47	9	9	213
<b>APPROACH %</b>	15%	54%	32%	59%	28%	14%	5%	91%	3%	81%	16%	16%	16%	0
APPROACH %	41	35	35	29	14	85	107	58	57	35	57	35	57	0
BEGIN PEAK HR	4:00 PM		Central		Edison		Edison		Edison		Edison		Edison	
VOLUMES	3	14	7	9	5	2	2	44	2	1	28	6	6	123
APPROACH %	13%	58%	29%	56%	31%	13%	4%	92%	4%	3%	80%	17%	17%	0.904
APPROACH %	0.750		0.571		0.800		0.800		0.800		0.800		0.800	
APPROACH %	24	30	22	16	8	48	60	35	33	35	33	35	33	0



U-TURNS						
NB	SB	EB	WB	TTL		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		

RTOR				
NRR	SRR	ERR	WRR	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	

AM						
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		

0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		

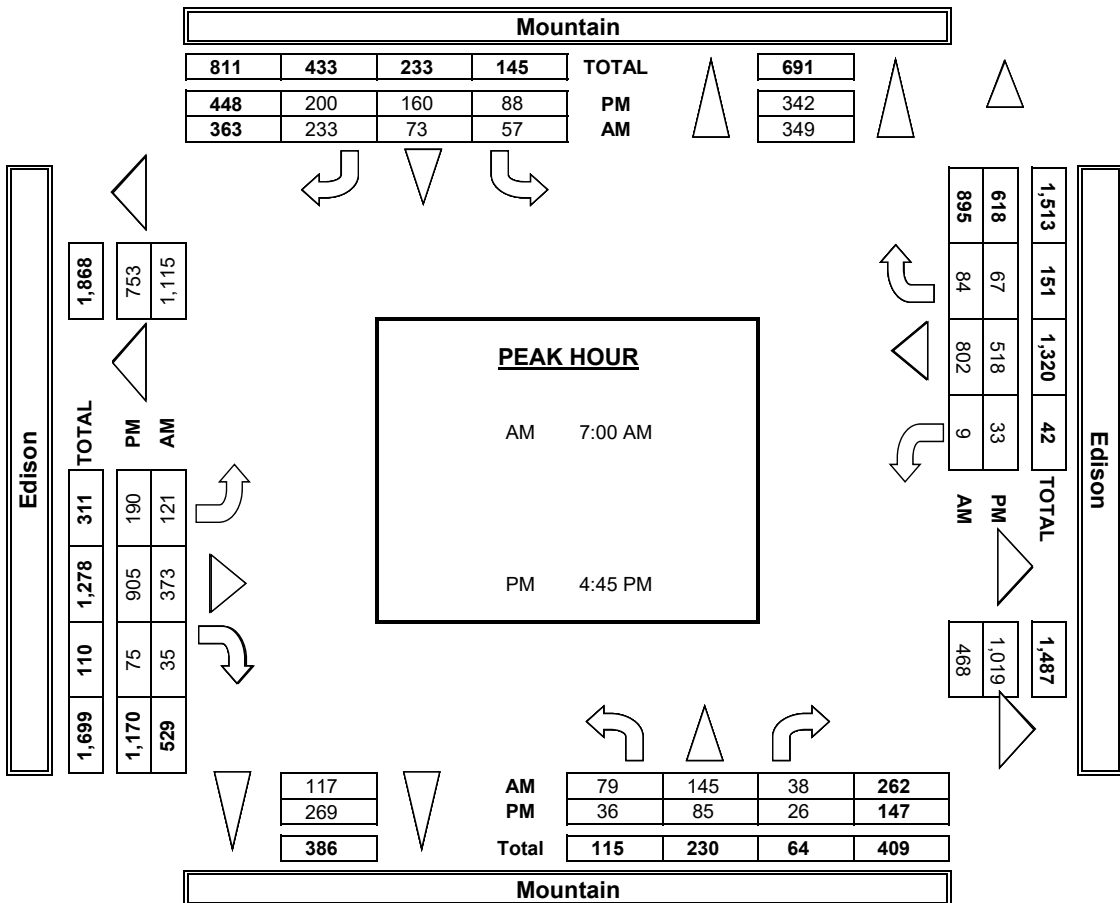
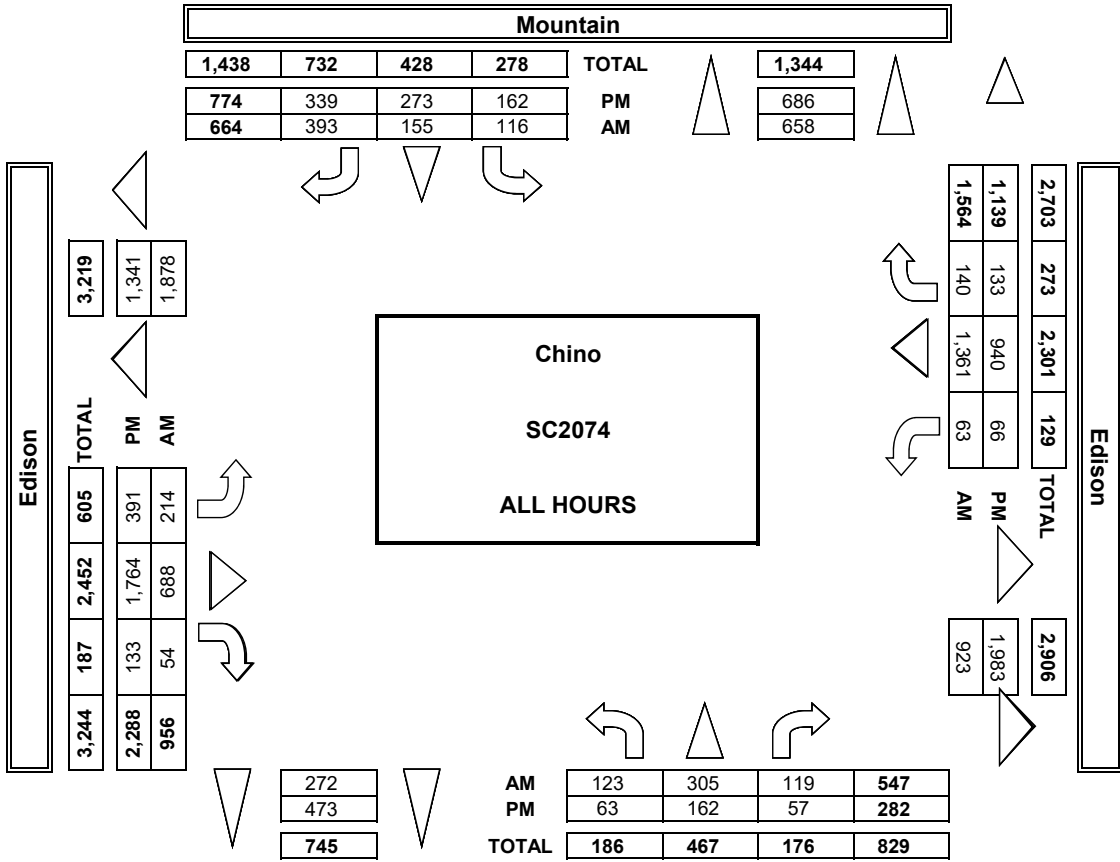
PM						
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		

0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		





**AimTD LLC**  
TURNING MOVEMENT COUNTS



### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtmD LLC, tel: 714 253 7888 cs@airtmD.com

DATE: 1/30/19  
WEDNESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST:

Chino  
Mountain  
Edison

PROJECT #: SC2074  
LOCATION #: 8  
CONTROL: SIGNAL

CLASS 2: WORK VEHICLES/ TRUCKS	NOTES:	MOUNTAIN													
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND	
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	
		1	1	1	1	1	1	1	3	0	1	2	1	23	

LANES:	MOUNTAIN														
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL		
	1	1	1	1	1	1	1	1	3	0	1	2	1	23	

U-TURNS							
NB	SB	EB	WB	TTL			
0	0	0	0	0			

RTOR				
NRR	SRR	ERR	WRR	
0	0	0	0	

AM																
VOLUMES	MOUNTAIN				MOUNTAIN				EDISON				EDISON			
	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %
7:00 AM	1	0	0	3	1	1	2	1	8	0	0	4	3	23		
7:15 AM	0	3	0	3	1	2	2	0	5	0	0	8	0	22		
7:30 AM	0	1	0	1	0	2	1	12	1	0	5	2	25			
7:45 AM	1	1	0	2	0	3	1	3	0	1	7	3	22			
8:00 AM	0	0	0	3	0	2	2	8	1	0	7	0	23			
8:15 AM	1	0	0	3	0	3	1	9	1	0	14	0	32			
8:30 AM	0	0	0	3	0	2	2	0	10	0	10	1	26			
8:45 AM	1	2	0	3	2	2	2	7	0	0	4	0	23			
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0			
<b>TOTAL</b>	<b>4</b>	<b>7</b>	<b>0</b>	<b>19</b>	<b>5</b>	<b>18</b>	<b>8</b>	<b>62</b>	<b>3</b>	<b>2</b>	<b>59</b>	<b>9</b>	<b>196</b>			
<b>APPROACH %</b>	<b>36%</b>	<b>64%</b>	<b>0%</b>	<b>45%</b>	<b>12%</b>	<b>43%</b>	<b>11%</b>	<b>85%</b>	<b>4%</b>	<b>3%</b>	<b>84%</b>	<b>13%</b>	<b>0</b>			
<b>APP/DEPART</b>	<b>11</b>	<b>/</b>	<b>24</b>	<b>42</b>	<b>/</b>	<b>10</b>	<b>73</b>	<b>/</b>	<b>81</b>	<b>70</b>	<b>/</b>	<b>81</b>	<b>0</b>			

U-TURNS							
NB	SB	EB	WB	TTL			
0	0	0	0	0			

RTOR				
NRR	SRR	ERR	WRR	
0	1	0	0	

PM																
VOLUMES	MOUNTAIN				MOUNTAIN				EDISON				EDISON			
	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %
03:00 PM	4	0	0	8	22	0	0	0	41	0	0	37	0	46		
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:00 PM	0	0	0	0	0	0	0	1	5	0	0	0	0	0		
4:15 PM	0	0	0	2	1	0	0	0	8	0	0	10	3	19		
4:30 PM	0	1	0	1	0	3	1	0	7	0	0	3	3	21		
4:45 PM	0	1	1	1	0	3	1	10	3	0	5	0	14			
5:00 PM	0	1	0	1	0	4	1	10	1	0	11	2	31			
5:15 PM	0	2	0	1	0	2	2	13	1	1	11	1	33			
5:30 PM	0	1	1	3	0	1	0	9	2	0	6	0	23			
5:45 PM	0	0	2	0	0	4	1	6	0	0	3	3	21			
<b>TOTAL</b>	<b>0</b>	<b>5</b>	<b>4</b>	<b>30</b>	<b>4</b>	<b>15</b>	<b>9</b>	<b>60</b>	<b>4</b>	<b>4</b>	<b>59</b>	<b>13</b>	<b>182</b>			
<b>APPROACH %</b>	<b>0%</b>	<b>56%</b>	<b>44%</b>	<b>30%</b>	<b>15%</b>	<b>56%</b>	<b>12%</b>	<b>82%</b>	<b>5%</b>	<b>1%</b>	<b>59%</b>	<b>18%</b>	<b>0</b>			
<b>APP/DEPART</b>	<b>9</b>	<b>/</b>	<b>27</b>	<b>27</b>	<b>/</b>	<b>9</b>	<b>73</b>	<b>/</b>	<b>72</b>	<b>73</b>	<b>/</b>	<b>74</b>	<b>0</b>			

U-TURNS							
NB	SB	EB	WB	TTL			
0	0	0	0	0			

RTOR				
NRR	SRR	ERR	WRR	
0	0	0	0	

Mountain  
NORTH SIDE

Edison  
WEST SIDE

Edison  
EAST SIDE

Mountain  
SOUTH SIDE

**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

DATE: 1/30/19 WEDNESDAY  
 LOCATION: NORTH & SOUTH: Chino  
 EAST & WEST: Edison  
 PROJECT #: SC2074  
 LOCATION #: 8  
 CONTROL: SIGNAL

**CLASS 3:**

3-AXLE TRUCKS

**NOTES:**

AM	PM	OTHER	MD	S	N	E
----	----	-------	----	---	---	---

NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		TOTAL	
SL	NR	SL	SR	EL	ER	WL	WR	NB	TTL
1	1	1	1	1	1	1	1	1	1

7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0
<b>VOLUMES</b>	1	1	9	0	0	25	2	29	5
<b>APPROACH %</b>	50%	50%	82%	0%	18%	93%	7%	85%	15%
<b>AP/P/DEPART</b>	2	5	11	2	2	27	34	32	0
<b>BEGIN PEAK HR</b>	7:15 AM								
<b>VOLUMES</b>	0	0	0	0	0	0	0	0	0
<b>APPROACH %</b>	0%	100%	80%	0%	20%	0%	88%	12%	0%
<b>AP/P/DEPART</b>	1	2	10	2	2	16	17	17	0
<b>PEAK HR FACTOR</b>	0.250	0.250	0.500	0.250	0.250	0.667	0.531	0.531	0.647
<b>AP/P/DEPART</b>	1	2	10	2	2	16	17	17	0
<b>BEGIN PEAK HR</b>	3:00 PM								
<b>VOLUMES</b>	0	0	0	0	0	0	0	0	0
<b>APPROACH %</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>AP/P/DEPART</b>	0	0	0	0	0	0	0	0	0
<b>PEAK HR FACTOR</b>	0	0	0	0	0	0	0	0	0

03:00 PM	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
<b>VOLUMES</b>	1	2	4	0	0	1	36	19	5
<b>APPROACH %</b>	33%	67%	100%	0%	0%	3%	97%	79%	21%
<b>AP/P/DEPART</b>	3	8	4	0	0	3	40	24	20
<b>BEGIN PEAK HR</b>	4:00 PM								
<b>VOLUMES</b>	0	0	0	0	0	0	0	0	0
<b>APPROACH %</b>	0%	100%	0%	0%	0%	0%	0%	0%	0%
<b>AP/P/DEPART</b>	0	0	0	0	0	0	0	0	0
<b>PEAK HR FACTOR</b>	0	0	0	0	0	0	0	0	0
<b>AP/P/DEPART</b>	1	5	2	0	0	13	22	13	10
<b>PEAK HR FACTOR</b>	0.250	0.250	0.250	0.250	0.250	0.438	0.438	0.650	0.661



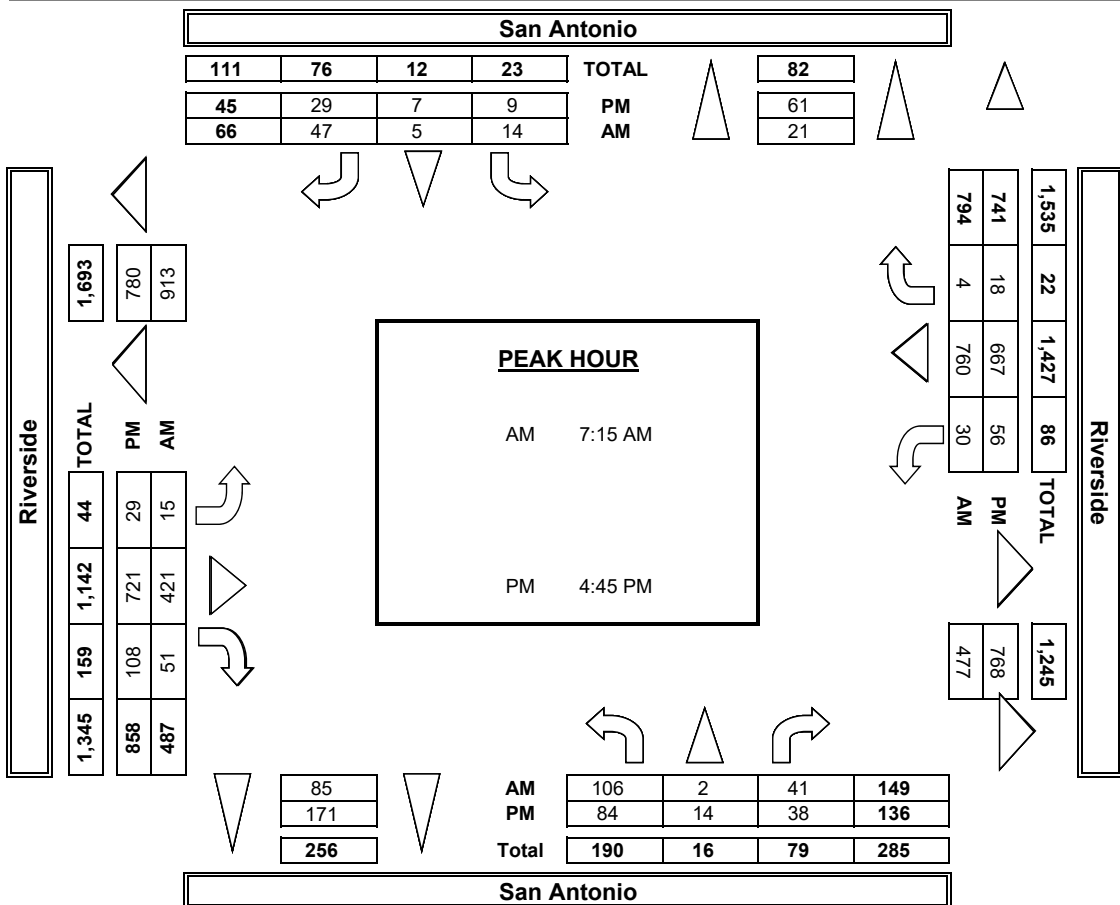
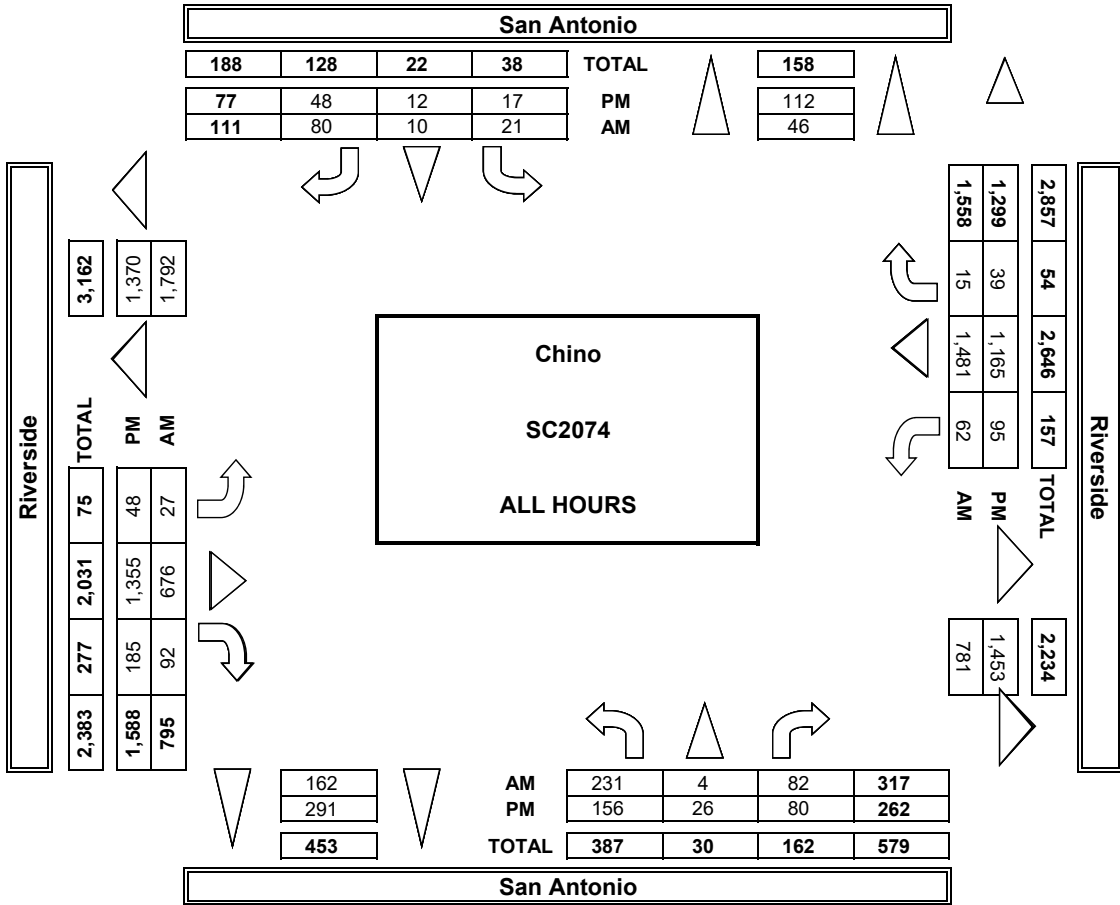
Edison WEST SIDE  
Edison EAST SIDE

Mountain NORTH SIDE  
Mountain SOUTH SIDE





**AimTD LLC**  
TURNING MOVEMENT COUNTS





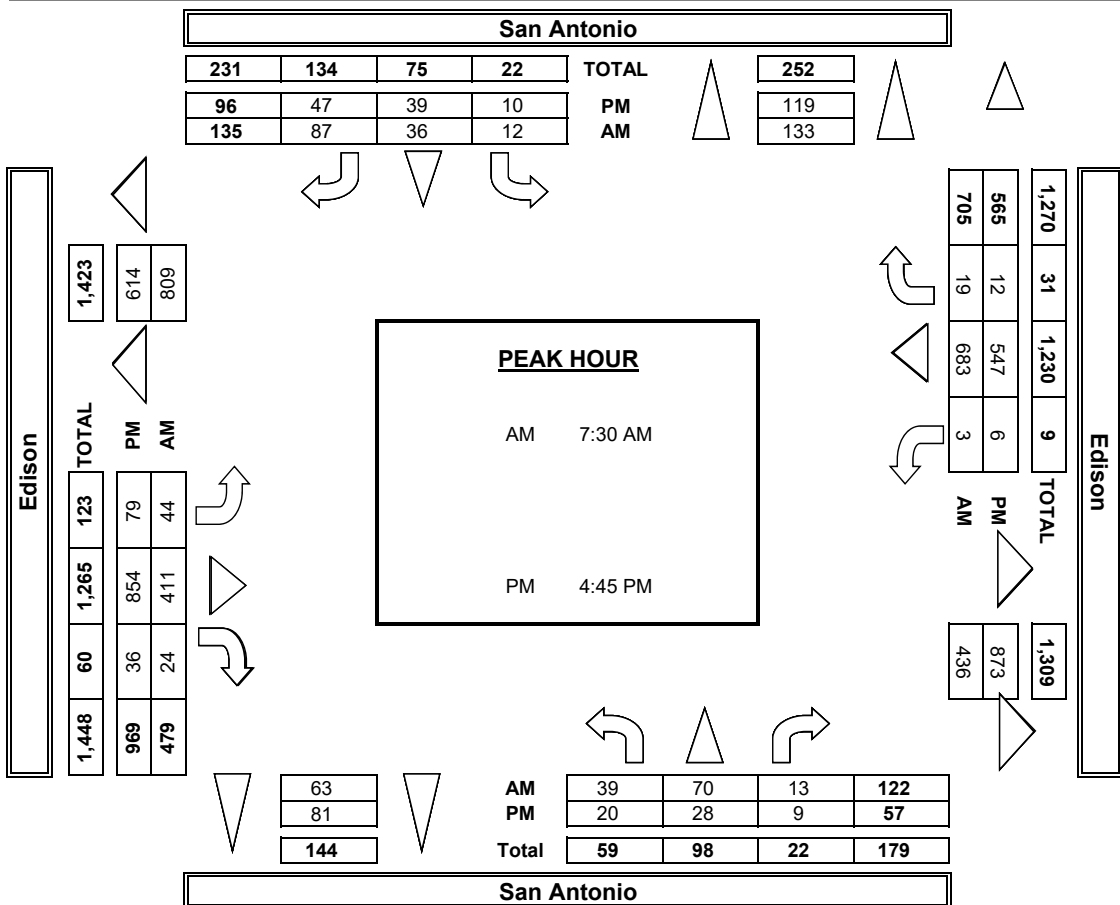
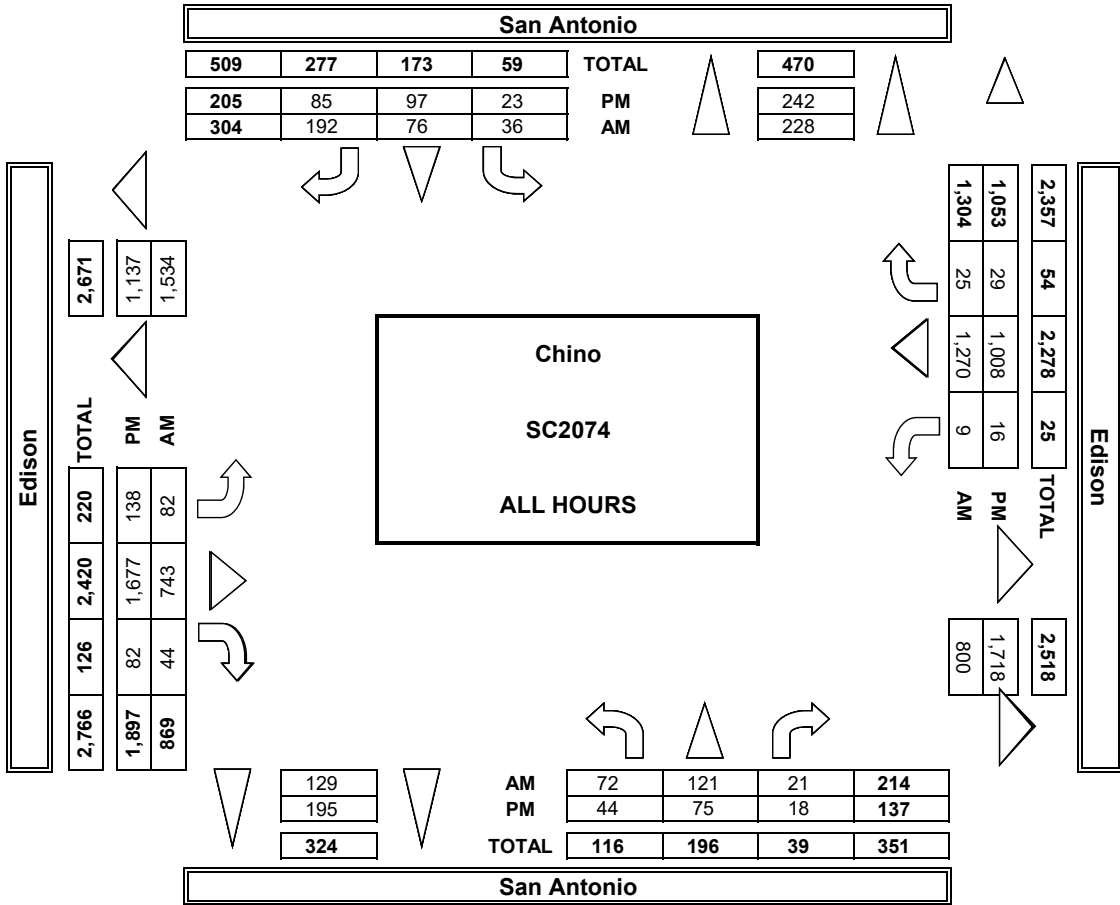








**AimTD LLC**  
TURNING MOVEMENT COUNTS



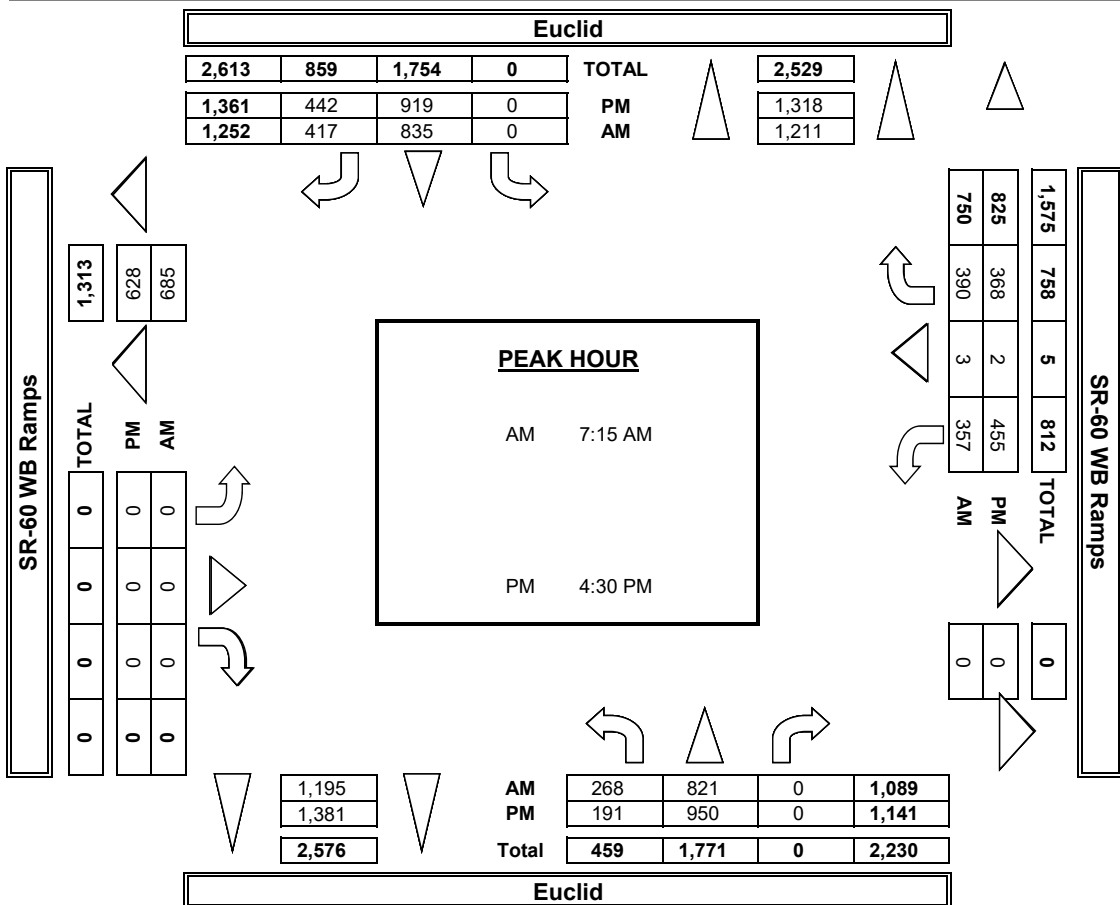
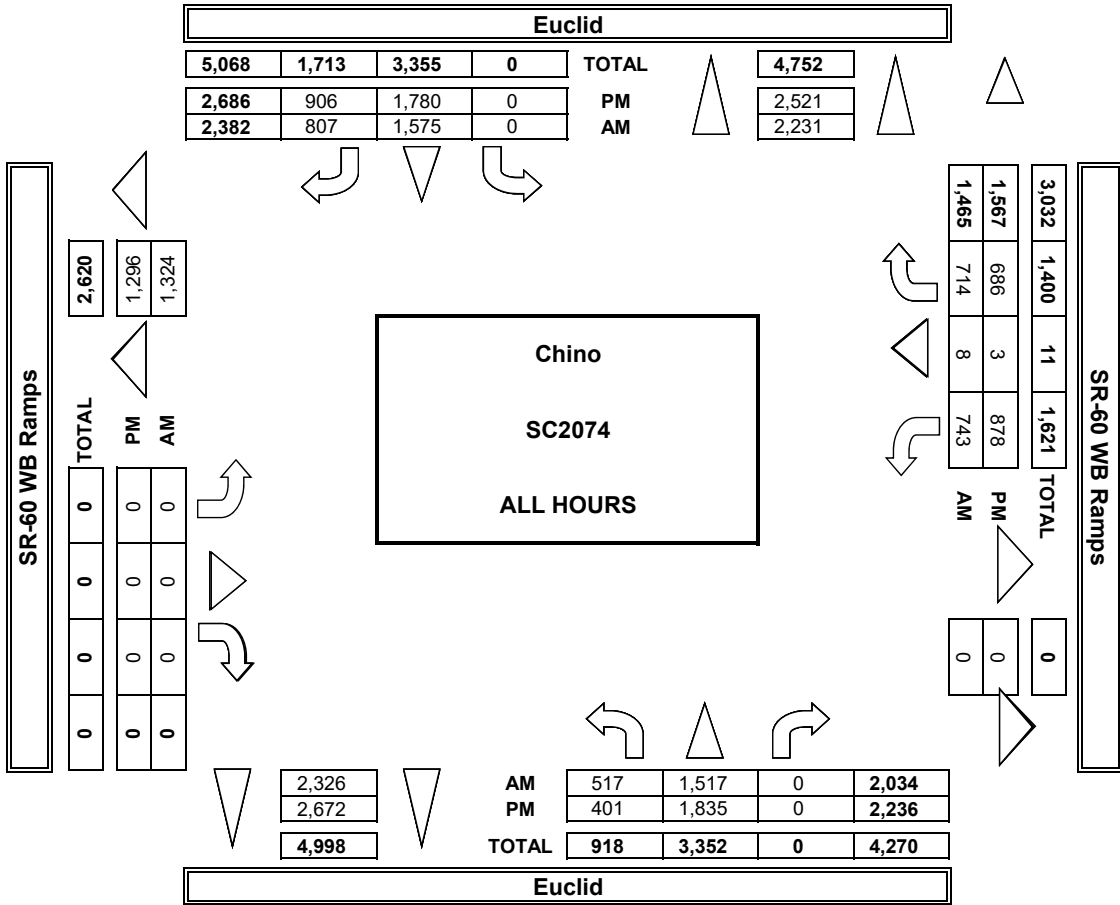








**AimTD LLC**  
TURNING MOVEMENT COUNTS











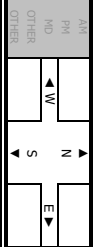
DATE: Wed Jan 30, 19

LOCATION: NORTH & SOUTH: EAST & WEST:

INTERSECTION TURNING MOVEMENT COUNTS
PREPARED BY: AmTid LLC Tel: 714 253 7888 c@amtid.com

PROJECT #: SC0074
LOCATION #: 12
CONTROL: SIGNAL

NOTES:



Added U-turns to left turns

Main data table with columns for Northbound, Southbound, Eastbound, Westbound, and RTOR (Right Turn on Red). Rows include volume percentages, approach percentages, and peak hour factors for AM and PM periods.

AM Volume Data Table: Rows for times 7:00 AM to 9:45 AM, columns for Volumes and Approach %.

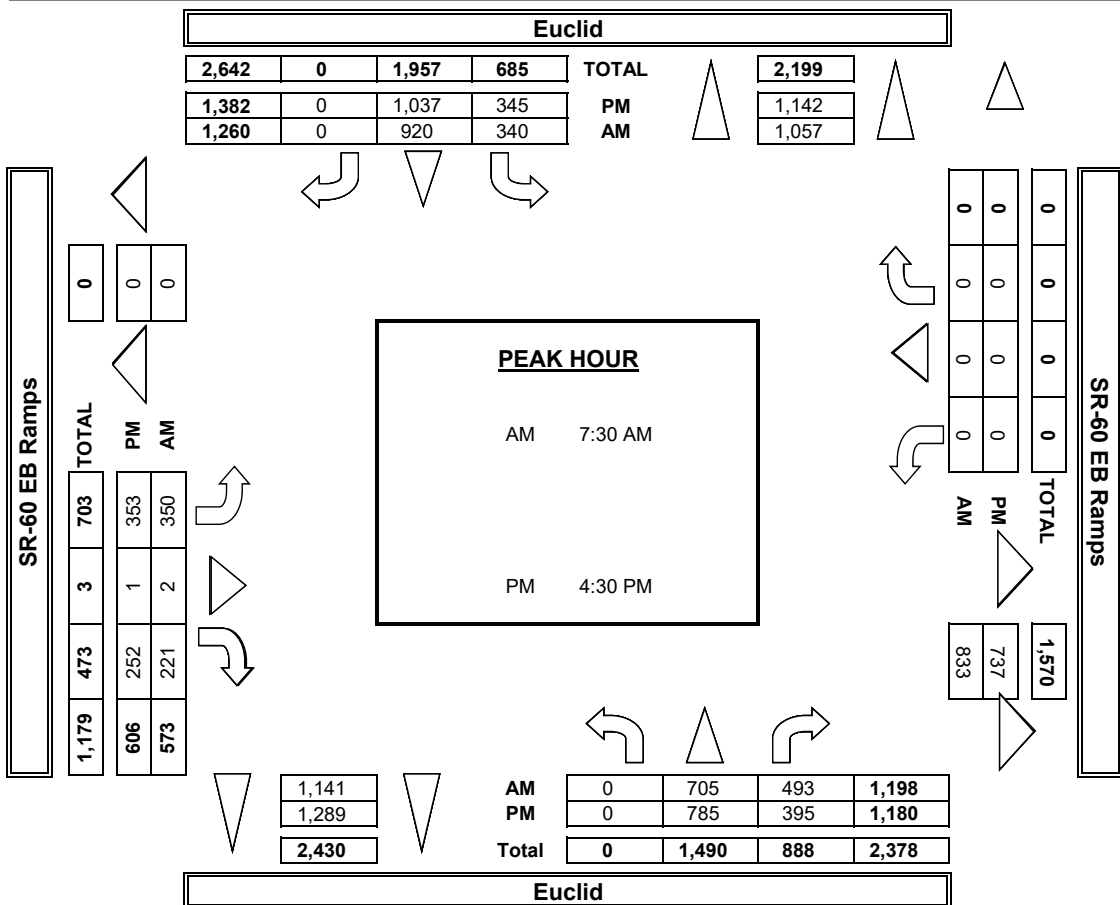
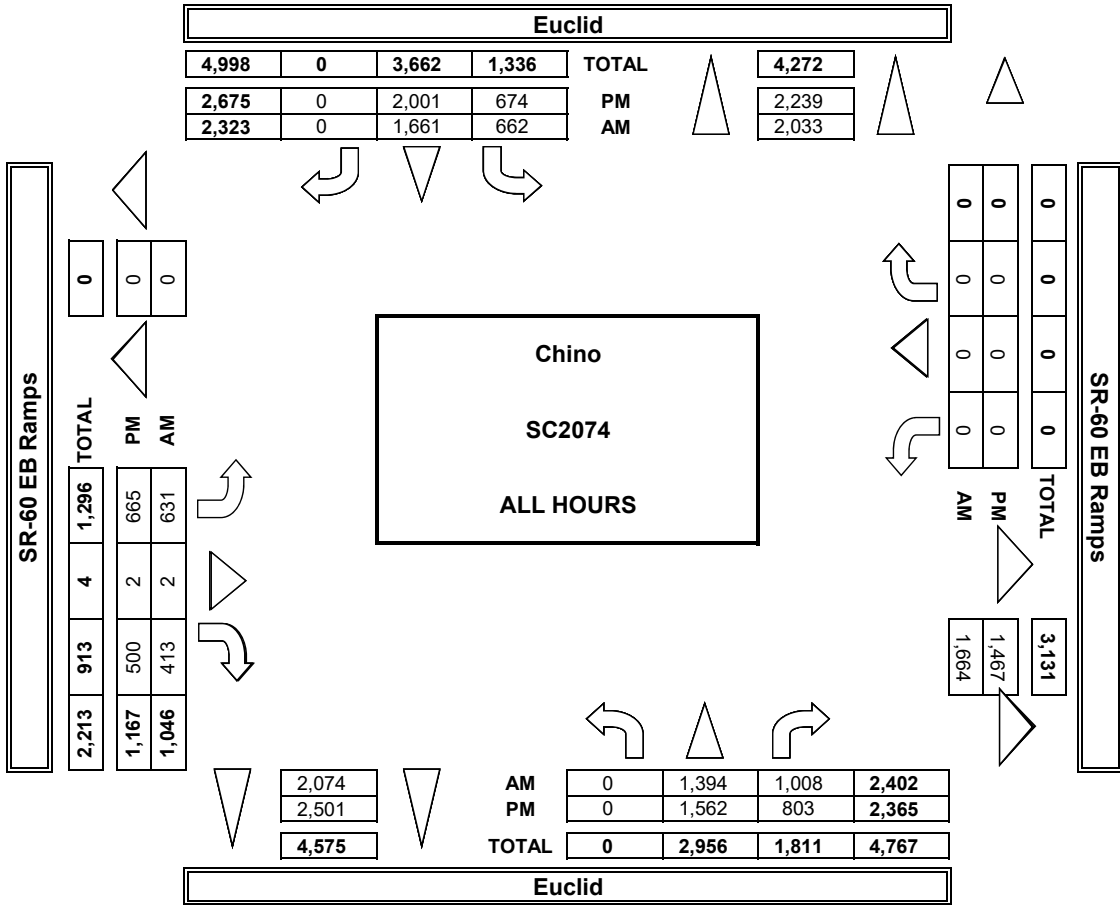
ALL PED AND BIKE Table: Columns for E Side, W Side, S Side, N Side, and Total counts.

PEDESTRIAN CROSSINGS Table: Columns for E Side, W Side, S Side, N Side, and Total counts.

BICYCLE CROSSINGS Table: Columns for ES, WS, SS, NS, and Total counts.

SR-60 EB Ramps WEST SIDE SOUTH SIDE EAST SIDE SR-60 EB Ramps

**AimTD LLC**  
TURNING MOVEMENT COUNTS







### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtmTD LLC, tel: 714 253 7888 cs@airtmtd.com

DATE: 1/30/19  
WEDNESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST: SR-60 EB Ramps

PROJECT #: SC2074  
LOCATION #: 12  
CONTROL: SIGNAL

<b>CLASS 4:</b> 4 OR MORE AXLE TRUCKS	<b>NOTES:</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">▲</td> <td style="text-align: center;">N</td> <td style="text-align: center;">▲</td> </tr> <tr> <td style="text-align: center;">◀</td> <td style="text-align: center;">W</td> <td style="text-align: center;">▶</td> </tr> <tr> <td style="text-align: center;">S</td> <td style="text-align: center;">S</td> <td style="text-align: center;">▶</td> </tr> </table>	▲	N	▲	◀	W	▶	S	S	▶
▲	N	▲									
◀	W	▶									
S	S	▶									

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Euclid	Euclid	Euclid	Euclid	Euclid	Euclid	SR-60 EB Ramps	Euclid	Euclid	Euclid	SR-60 EB Ramps		

7:00 AM	0	4	6	1	15	0	3	0	6	0	0	0	0	35
7:15 AM	0	4	9	1	13	0	3	0	8	0	0	0	0	38
7:30 AM	0	10	13	2	17	0	4	1	5	0	0	0	0	52
7:45 AM	0	4	9	2	21	0	4	0	2	0	0	0	0	42
8:00 AM	0	8	12	1	21	0	3	0	7	0	0	0	0	52
8:15 AM	0	6	16	2	23	0	6	0	4	0	0	0	0	57
8:30 AM	0	8	16	1	30	0	2	0	4	0	0	0	0	61
8:45 AM	0	5	16	3	24	0	4	0	5	0	0	0	0	57
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>VOLUMES</b>	0	49	97	13	164	0	29	1	41	0	0	0	0	394
<b>APPROACH %</b>	0%	34%	66%	7%	93%	0%	41%	1%	58%	0%	0%	0%	0%	0
<b>APP/DEPART</b>	146	/	78	177	/	205	71	/	111	0	/	0	0	0
<b>BEGIN PEAK HR</b>			8:00 AM											227
<b>VOLUMES</b>	0	27	60	7	98	0	15	0	20	0	0	0	0	0
<b>APPROACH %</b>	0%	31%	69%	7%	93%	0%	43%	0%	57%	0%	0%	0%	0%	0
<b>PEAK HR FACTOR</b>			0.906		0.847		0.875		0.000		0.000			0.930
<b>APP/DEPART</b>	87	/	42	105	/	118	35	/	67	0	/	0	0	0

U-TURNS					
NB	SB	EB	WB	TTL	
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	
0	X	0	X	0
0	0	4	0	0
3	0	3	0	0
8	0	1	0	0
2	0	0	0	0
5	0	2	0	0
9	0	1	0	0
6	0	0	0	0
7	0	3	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
40	0	14	0	0

03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	8	23	1	15	0	3	0	4	0	0	0	0	54
4:15 PM	0	8	17	0	15	0	2	0	7	0	0	0	0	49
4:30 PM	0	8	21	3	9	0	4	0	7	0	0	0	0	52
4:45 PM	0	4	8	0	11	0	3	1	2	0	0	0	0	29
5:00 PM	0	1	17	0	12	0	2	0	5	0	0	0	0	37
5:15 PM	0	8	16	0	10	0	2	0	6	0	0	0	0	42
5:30 PM	0	2	11	0	3	0	3	0	1	0	0	0	0	21
5:45 PM	0	2	14	0	9	0	1	0	3	0	0	0	0	29
<b>VOLUMES</b>	0	42	127	4	84	0	20	1	35	0	0	0	0	313
<b>APPROACH %</b>	0%	25%	75%	5%	95%	0%	36%	2%	63%	0%	0%	0%	0%	0
<b>APP/DEPART</b>	169	/	62	88	/	119	56	/	132	0	/	0	0	0
<b>BEGIN PEAK HR</b>			4:00 PM											184
<b>VOLUMES</b>	0	28	69	4	50	0	12	1	20	0	0	0	0	0
<b>APPROACH %</b>	0%	29%	71%	7%	93%	0%	36%	3%	61%	0%	0%	0%	0%	0
<b>PEAK HR FACTOR</b>			0.782		0.844		0.750		0.000		0.000			0.852
<b>APP/DEPART</b>	97	/	40	54	/	70	33	/	74	0	/	0	0	0

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
11	0	1	0	0	0
9	0	2	0	0	0
5	0	0	0	0	0
3	0	0	0	0	0
9	0	0	2	0	0
6	0	0	2	0	0
1	0	1	0	0	0
5	0	2	0	0	0
49	0	10	0	0	0



SR-60 EB Ramps WEST SIDE

SOUTH SIDE Euclid

EAST SIDE SR-60 EB Ramps



INTERSECTION TURNING MOVEMENT COUNTS

Prepared by: AlmtD LLC Tel: 714 253 7888 c@almtD.com

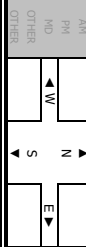
PROJECT #: SC0274  
LOCATION #: 13  
CONTROL: SIGNAL

DATE: Wed Jan 30, 19

LOCATION: NORTH & SOUTH:  
EAST & WEST:  
Euclid  
Walnut

NOTES:

Add U-Turns to Left Turns

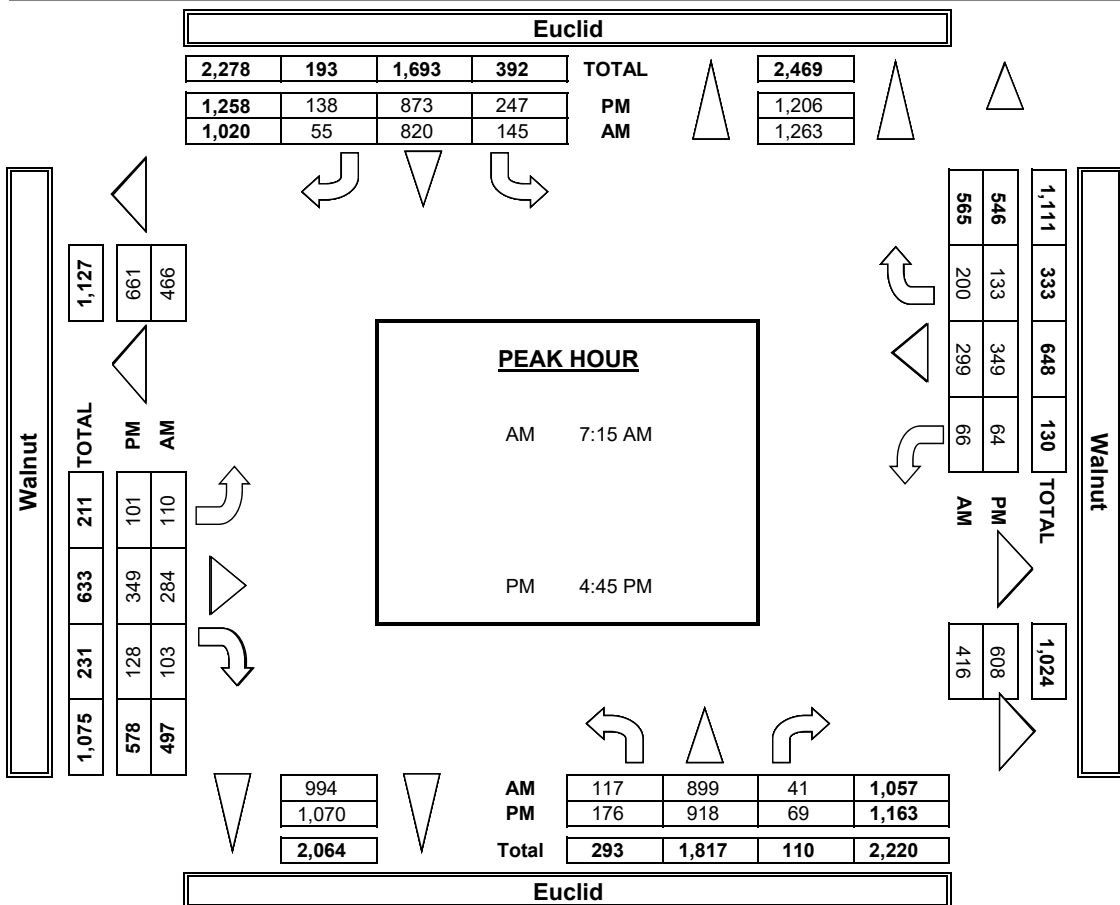
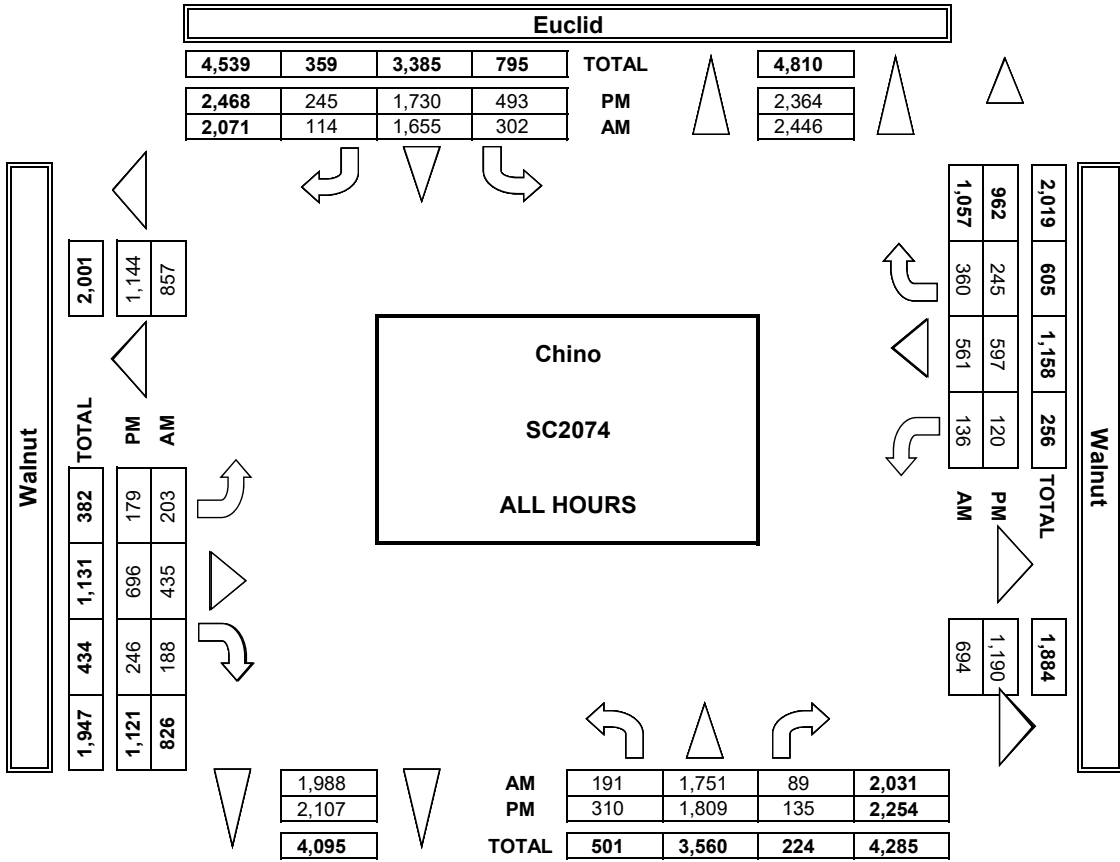


Summary table for signal timing and control parameters including lane counts and flow directions.

Main data table showing turning movement counts for Northbound, Southbound, Eastbound, and Westbound traffic at the intersection of Euclid and Walnut. Columns include direction, lane, movement type, count, and percentage.

Table for Pedestrian and Bicycle Crossings. It includes data for all pedestrian and bicycle movements across the intersection from all directions.

**AimTD LLC**  
TURNING MOVEMENT COUNTS





**INTERSECTION TURNING MOVEMENT COUNTS**

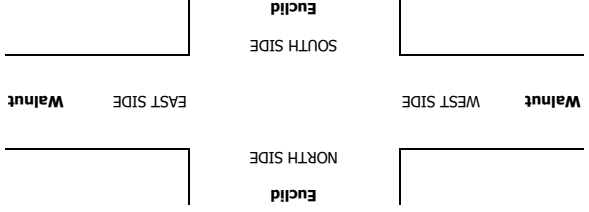
PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

DATE: 1/30/19  
 WEDNESDAY  
 LOCATION: NORTH & SOUTH: Euclid  
 EAST & WEST: Walnut  
 PROJECT #: SC2074  
 LOCATION #: 13  
 CONTROL: SIGNAL

CLASS 3: 3-AXLE TRUCKS	NOTES:		AM		PM		OTHER		S		N		E	

LANES:				NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL							
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
NR	NT	NR	SL	SL	ST	SR	EL	EL	ET	ER	WL	WL	WT	WR	WT	WT	WR	WT	WR	WT	WR	WT	WR	WT	WR	WT	WR

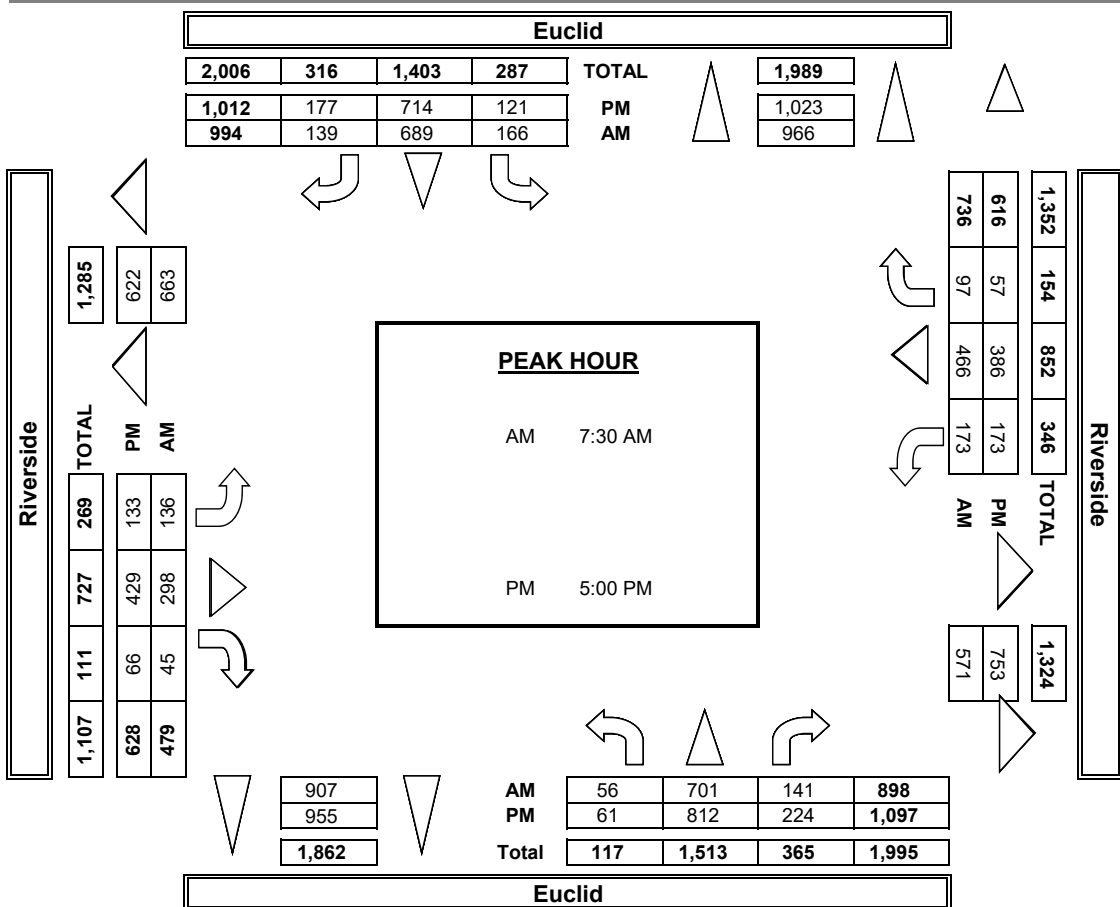
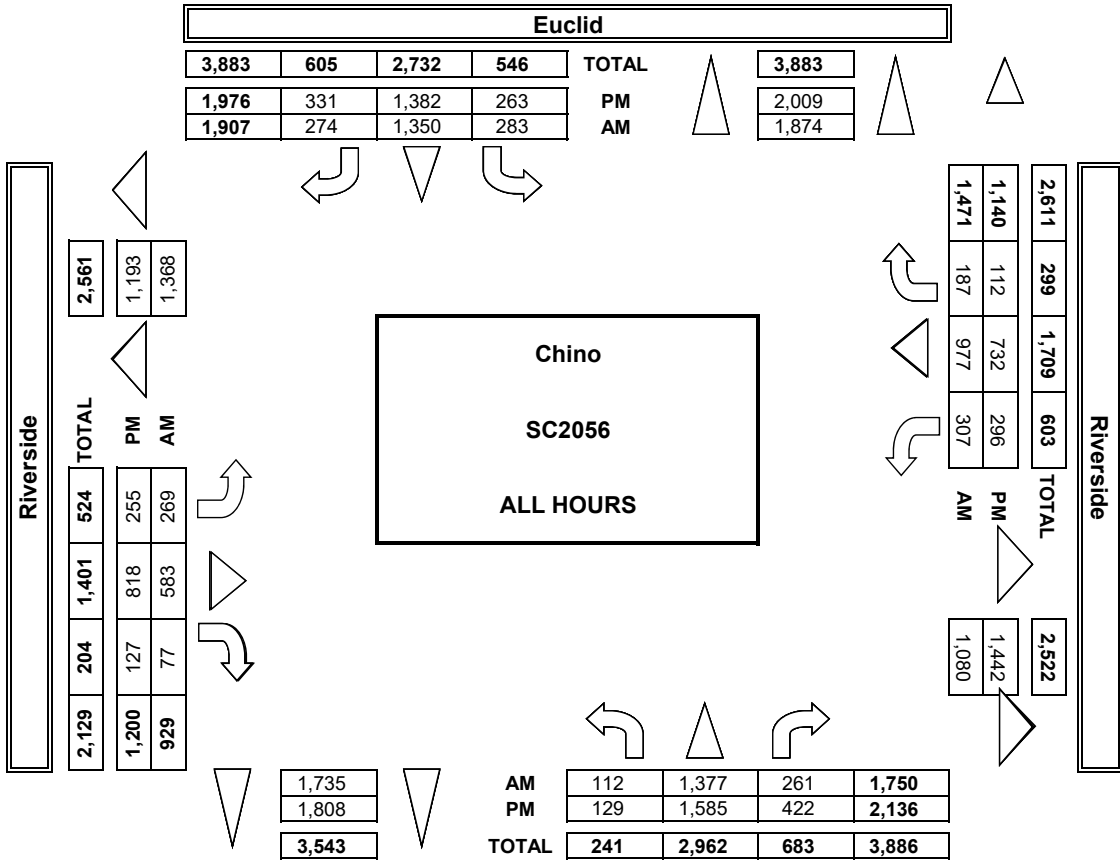
TIME	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	44	44	47	57	54	54	57	57	2	2	2	2	2	2	2	2	108
APPROACH %	0%	98%	2%	2%	95%	4%	4%	9%	50%	50%	50%	50%	50%	50%	50%	50%	50%
BEGIN PEAK HR	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	95%	5%	3%	90%	7%	7%	7%	50%	0%	2%	2%	100%	0%	0%	0%	55
PEAK HR FACTOR	0.525	0.525	0.22	0.29	0.806	0.806	0.29	0.29	0.500	0.500	0.4	0.4	0.250	0.250	0.2	0.859	
BEGIN PEAK HR	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	97%	0%	2%	98%	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	76
BEGIN PEAK HR	3:30 PM	3:30 PM	3:30 PM	3:30 PM	3:30 PM	3:30 PM	3:30 PM	3:30 PM	3:30 PM	3:30 PM	3:30 PM	3:30 PM	3:30 PM	3:30 PM	3:30 PM	3:30 PM	3:30 PM
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	100%	0%	4%	96%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	43
PEAK HR FACTOR	0.708	0.708	0.17	0.25	0.694	0.694	0.25	0.25	0.000	0.000	0.0	0.0	0.250	0.250	0.0	0.717	







**AimTD LLC**  
TURNING MOVEMENT COUNTS





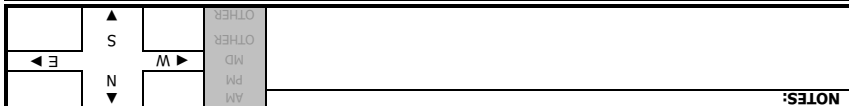


**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com  
 PROJECT #: SC2056 LOCATION #: 11 CONTROL: SIGNAL

DATE: 1/22/19  
 TUESDAY  
 EAST & WEST: Euclid  
 NORTH & SOUTH: Chino

**CLASS 3:**  
 3-AXLE TRUCKS  
**NOTES:**



NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
1	2	1	1	2	1	1	1	1	1	2	0	

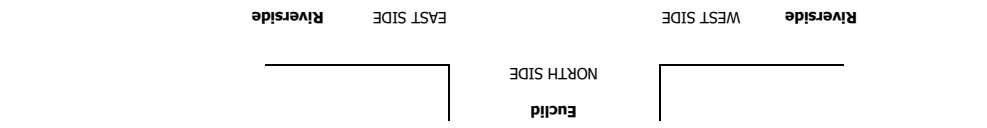
APPROACH %			APPROACH %			APPROACH %			APPROACH %			TOTAL
9%	86%	5%	11%	89%	0%	44%	33%	22%	19%	50%	31%	127
5	48	3	5	41	0	4	3	2	3	8	5	127

BEGIN PEAK HR			BEGIN PEAK HR			BEGIN PEAK HR			BEGIN PEAK HR			
8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	
1	32	3	1	28	3%	3	2	1	0	3	4	78
3%	89%	8%	0%	97%	0%	50%	33%	17%	0%	43%	57%	0.813
APPROACH %			APPROACH %			APPROACH %			APPROACH %			
0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	71%	29%	64
0	27	0	0	22	0	3	1	0	0	5	2	64

APPROACH %			APPROACH %			APPROACH %			APPROACH %			
0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	71%	29%	34
0	12	0	3	14	0	1	1	0	0	3	0	34
0%	100%	0%	18%	82%	0%	50%	50%	0%	0%	100%	0%	0.944
APPROACH %			APPROACH %			APPROACH %			APPROACH %			
0%	100%	0%	0%	85%	0%	0%	75%	25%	0%	50%	50%	0
0	4	0	4	22	0	3	1	0	0	3	0	0

APPROACH %			APPROACH %			APPROACH %			APPROACH %			
0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	71%	29%	34
0	12	0	3	14	0	1	1	0	0	3	0	34
0%	100%	0%	18%	82%	0%	50%	50%	0%	0%	100%	0%	0.944

APPROACH %			APPROACH %			APPROACH %			APPROACH %			
0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	71%	29%	34
0	12	0	3	14	0	1	1	0	0	3	0	34
0%	100%	0%	18%	82%	0%	50%	50%	0%	0%	100%	0%	0.944

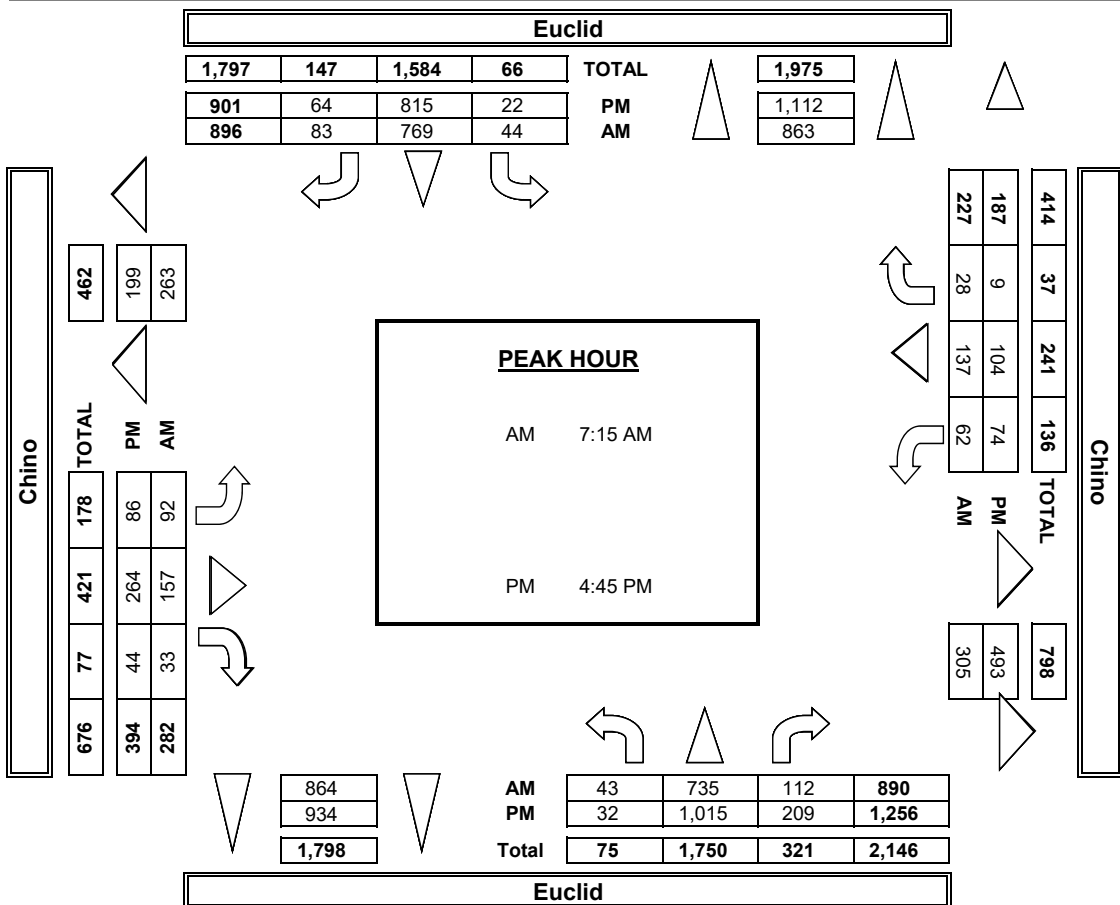
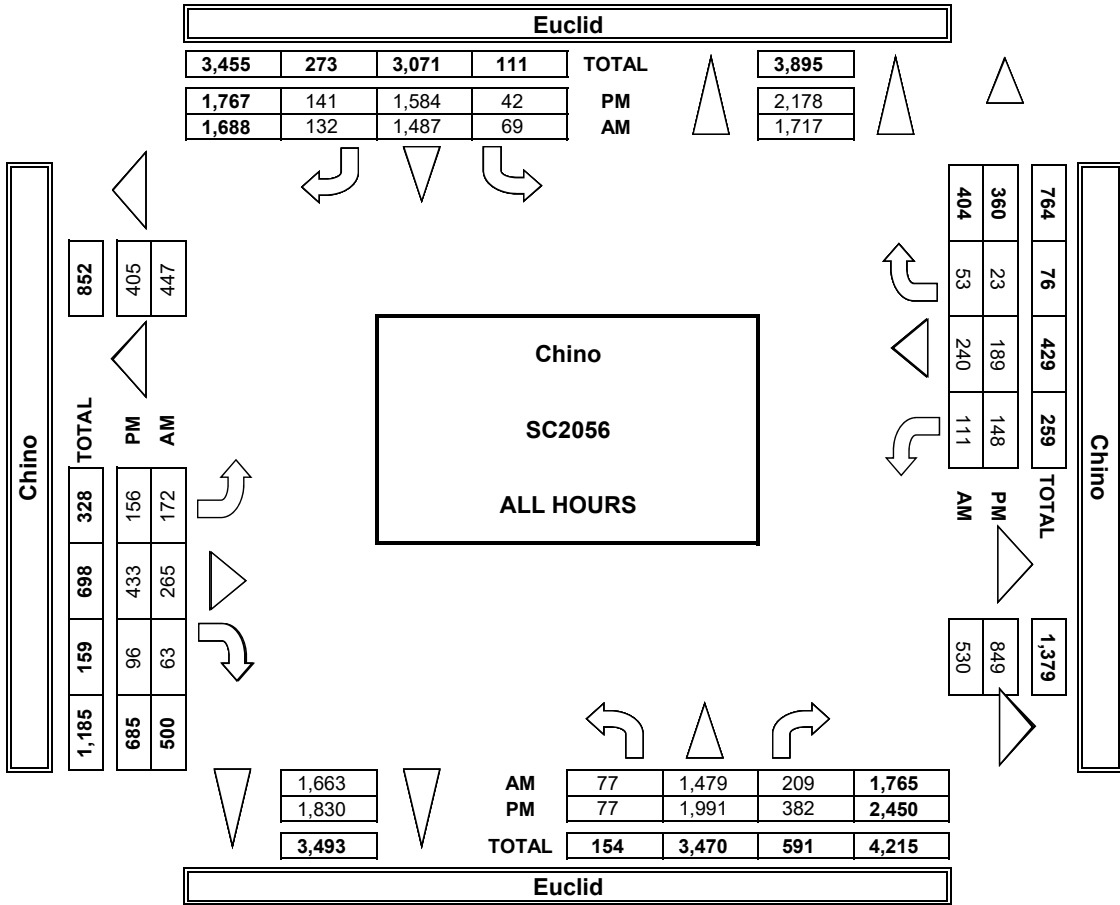


Euclid SOUTH SIDE  
 Euclid NORTH SIDE  
 Riverside WEST SIDE  
 Riverside EAST SIDE





**AimTD LLC**  
TURNING MOVEMENT COUNTS





**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTMD LLC, tel: 714 253 7888 cs@aimtmd.com

PROJECT #: SC2056  
 LOCATION #: 12  
 CONTROL: SIGNAL

DATE: 1/24/19  
 THURSDAY  
 LOCATION: Chino  
 NORTH & SOUTH: Chino  
 EAST & WEST: Chino

**CLASS 3:**

3-AXLE TRUCKS

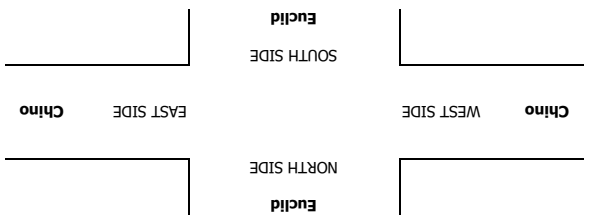
**NOTES:**

AM	PM	OTHER	MD	S
▲	▶	▶	▶	▶
▼	◀	◀	◀	◀

LANES:		NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		TOTAL	
NL	NT	SL	ST	SR	EL	ET	ER	WL	WT	WR	TTL
1	2	1	2	1	1	1	1	0	1	0	

7:00 AM	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	2	0	0	0	0	0	0	0	0	0
7:30 AM	0	5	0	0	0	0	0	0	0	0	0
7:45 AM	0	2	1	1	1	1	1	0	0	0	0
8:00 AM	0	5	1	1	1	1	1	0	0	0	0
8:15 AM	0	3	1	1	1	1	1	0	0	0	0
8:30 AM	0	6	1	1	1	1	1	0	0	0	0
8:45 AM	0	11	1	1	1	1	1	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	1	39	6	5	31	1	2	1	5	7	105
<b>BEGIN PEAK HR</b>	<b>8:00 AM</b>	49	49	37	38	3	11	19	37	37	0
VOLUMES		2%	85%	14%	84%	3%	67%	33%	0%	37%	26%
APPROACH %		2%	85%	14%	84%	3%	67%	33%	0%	37%	26%
APPROACH %		2%	85%	14%	84%	3%	67%	33%	0%	37%	26%
PEAK HR FACTOR		0.604	0.604	0.714	0.714	18	1	8	11	5	0.726
<b>BEGIN PEAK HR</b>	<b>8:00 AM</b>	4	4	3	16	0	0	2	5	4	61
VOLUMES		0%	86%	14%	80%	0%	100%	0%	18%	45%	36%
APPROACH %		0%	86%	14%	80%	0%	100%	0%	18%	45%	36%
APPROACH %		0%	86%	14%	80%	0%	100%	0%	18%	45%	36%
PEAK HR FACTOR		0.750	0.750	0.750	0.750	12	3	6	3	3	0
<b>BEGIN PEAK HR</b>	<b>4:00 PM</b>	1	1	0	12	0	0	2	0	0	33
VOLUMES		0%	94%	6%	100%	0%	0%	67%	0%	0%	0.750
APPROACH %		0%	94%	6%	100%	0%	0%	67%	0%	0%	0.750
APPROACH %		0%	94%	6%	100%	0%	0%	67%	0%	0%	0.750

3:15 PM	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	5	0	0	3	0	0	0	0	0	0
4:30 PM	0	2	0	0	2	0	0	0	0	0	0
4:45 PM	0	4	1	0	3	0	0	2	1	0	11
5:00 PM	0	2	0	0	3	1	0	0	0	1	7
5:15 PM	0	1	1	0	0	0	0	0	0	0	3
5:30 PM	0	7	1	0	2	0	0	0	0	0	10
5:45 PM	0	4	0	0	3	0	0	0	0	0	9
<b>BEGIN PEAK HR</b>	<b>4:00 PM</b>	31	3	1	20	1	5	2	1	1	62
VOLUMES		0%	91%	9%	91%	5%	91%	67%	0%	67%	33%
APPROACH %		0%	91%	9%	91%	5%	91%	67%	0%	67%	33%
APPROACH %		0%	91%	9%	91%	5%	91%	67%	0%	67%	33%
PEAK HR FACTOR		0.750	0.750	0.750	0.750	3	3	6	3	3	0
<b>BEGIN PEAK HR</b>	<b>4:00 PM</b>	1	1	0	12	0	0	2	0	0	33
VOLUMES		0%	94%	6%	100%	0%	0%	67%	0%	0%	0.750
APPROACH %		0%	94%	6%	100%	0%	0%	67%	0%	0%	0.750
APPROACH %		0%	94%	6%	100%	0%	0%	67%	0%	0%	0.750



Chino WEST SIDE Chino EAST SIDE

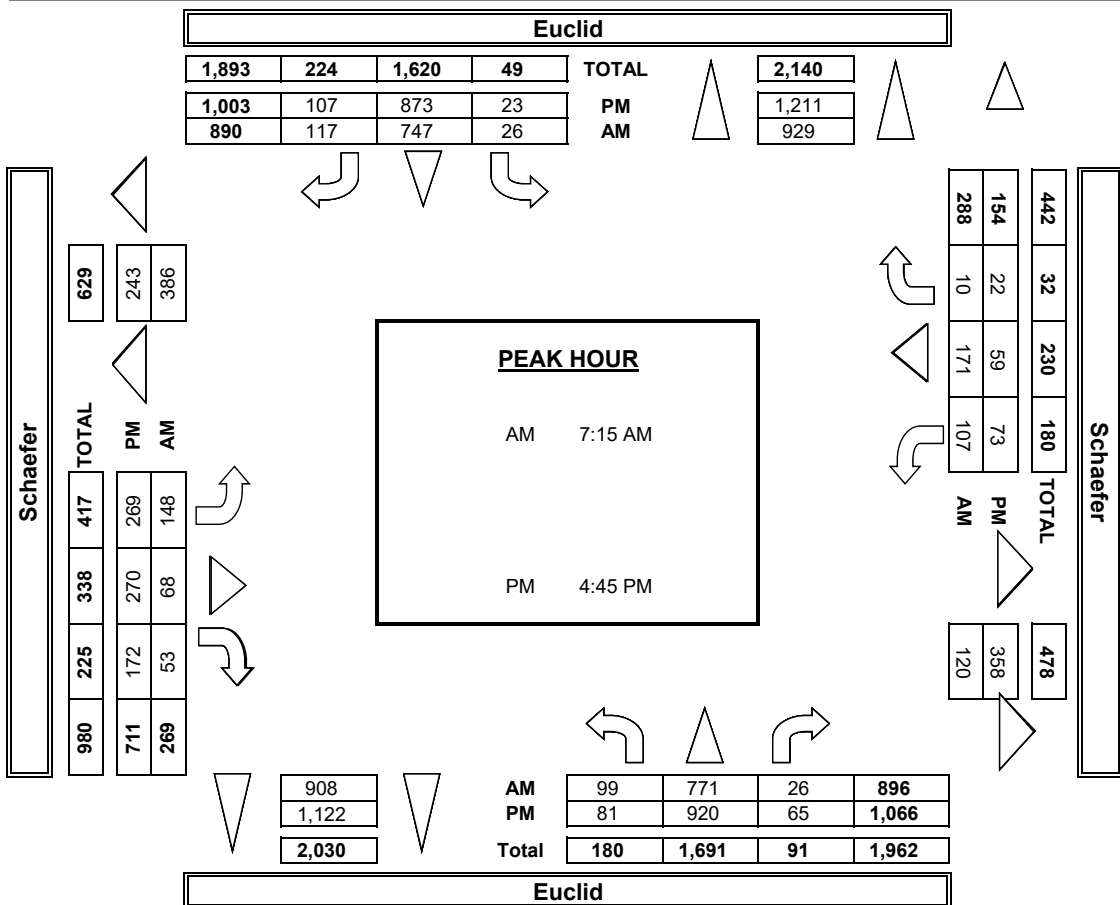
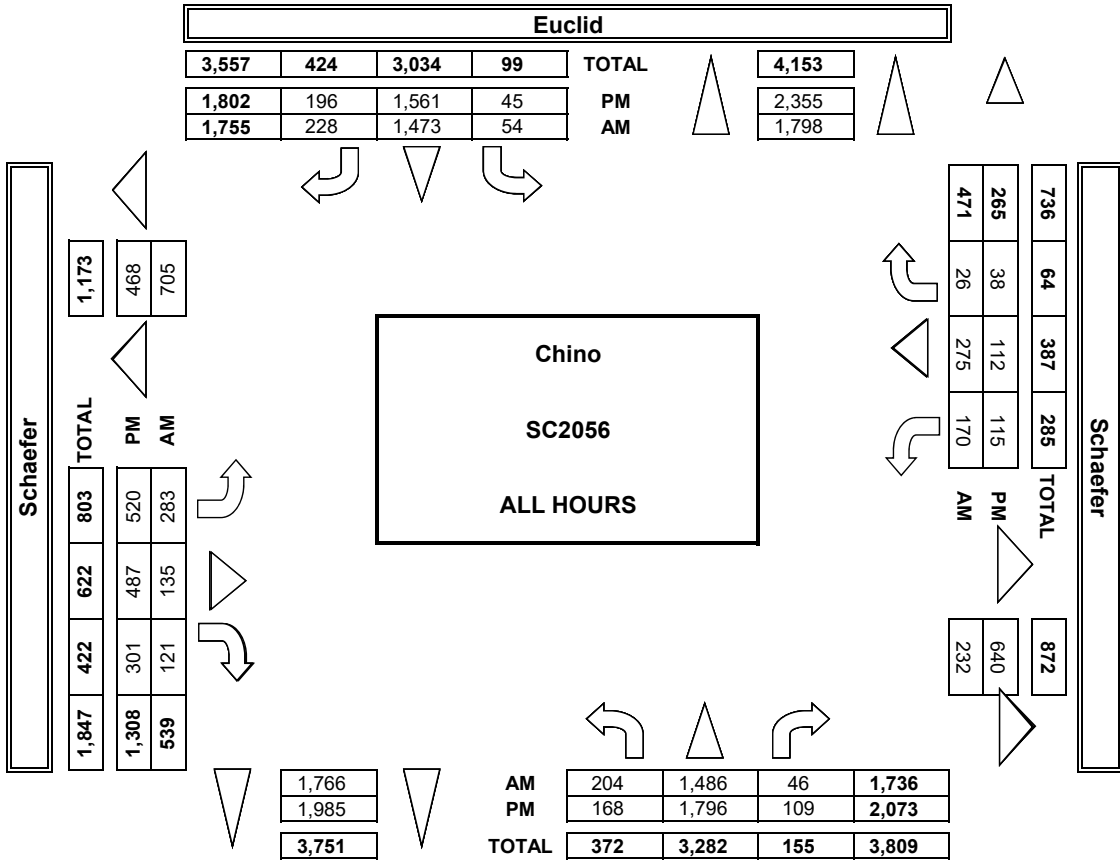
Euclid NORTH SIDE Euclid SOUTH SIDE







**AimTD LLC**  
TURNING MOVEMENT COUNTS





**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

PROJECT #: SC2056  
 LOCATION #: 13  
 CONTROL: SIGNAL

LOCATION: CHINO  
 NORTH & SOUTH: Euclid  
 EAST & WEST: Schaefer

DATE: 1/22/19  
 TUESDAY

**CLASS 3:**

3-AXLE TRUCKS

**NOTES:**

AM	PM	OTHER	OTHER
▲	▶	◀	▼
S	W	E	N

NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		TOTAL	
1	2	1	2	1	1	1	1	1	1
SL	NR	SL	SR	EL	ER	WL	WR	WT	WR

7:00 AM	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	
9:00 AM	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	
VOLUMES	45	1	3	35	0	2	0	1	2	
APPROACH %	4%	94%	2%	8%	92%	50%	0%	67%	11%	
AP/DEPART	48	49	38	43	4	4	4	3	0	
BEGIN PEAK HR	8:00 AM									
VOLUMES	25	1	16	0	0	0	0	1	52	
APPROACH %	7%	89%	94%	0%	0%	0%	0%	67%	17%	
PEAK HR FACTOR	0.636		0.531		0.250		0.375		0.765	
AP/DEPART	28	26	17	21	1	2	6	3	0	

03:00 PM	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	
4:00 PM	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	
VOLUMES	24	4	1	24	4%	92%	4%	29%	43%	
APPROACH %	0%	86%	14%	4%	92%	17%	29%	43%	7%	
AP/DEPART	28	30	26	27	6	7	7	3	0	
BEGIN PEAK HR	4:00 PM									
VOLUMES	0	14	3	0	2	0	2	0	39	
APPROACH %	0%	82%	18%	0%	67%	0%	29%	43%	0.696	
PEAK HR FACTOR	0.850		0.600		0.750		0.438		0	
AP/DEPART	17	19	12	14	3	4	7	2	0	

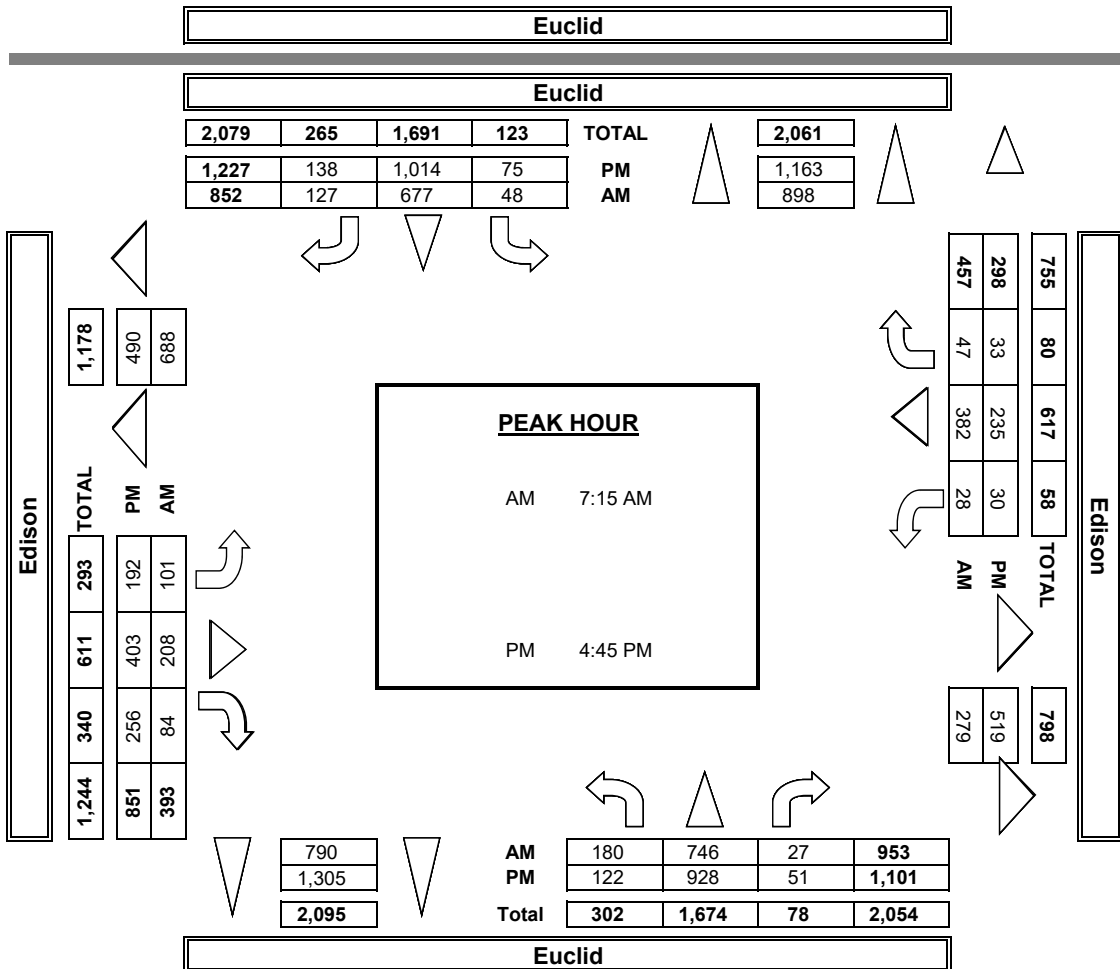
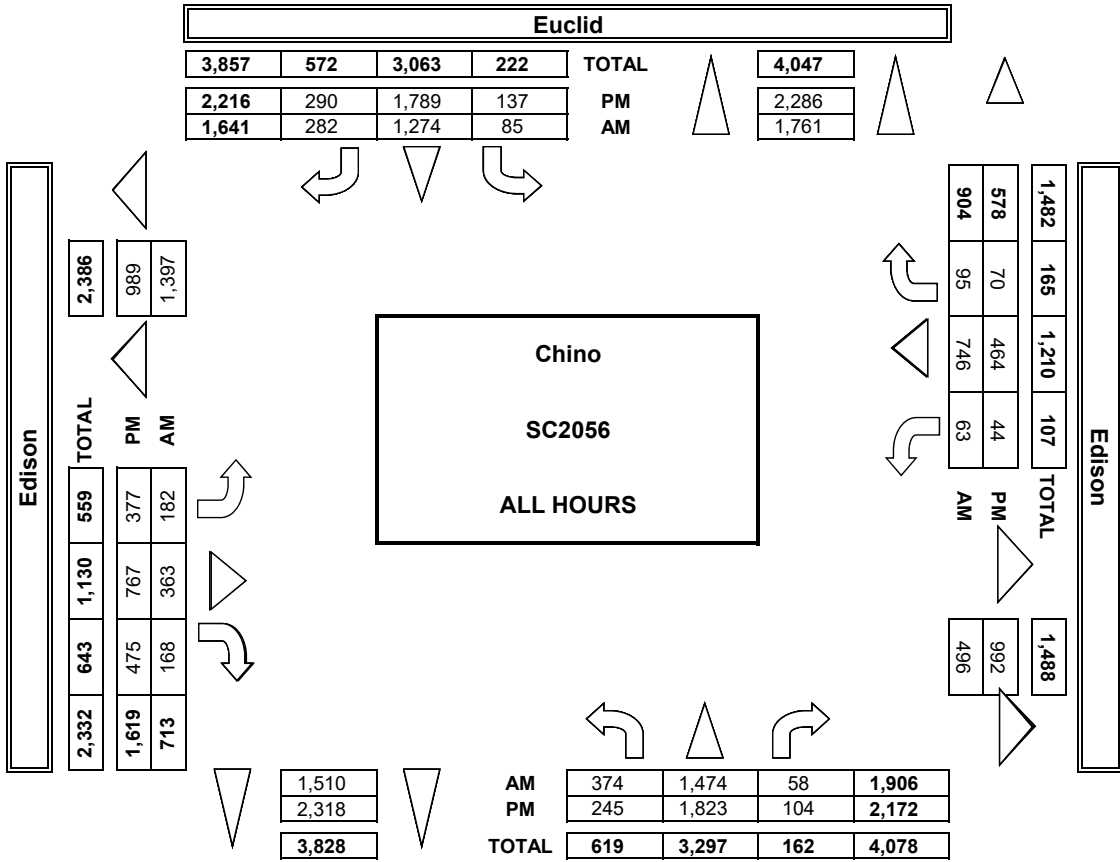
AP/DEPART	17	19	12	14	3	4	7	2	0	
BEGIN PEAK HR	4:00 PM									
VOLUMES	0	14	3	0	2	0	2	0	39	
APPROACH %	0%	82%	18%	0%	67%	0%	29%	43%	0.696	
PEAK HR FACTOR	0.850		0.600		0.750		0.438		0	







**AimTD LLC**  
TURNING MOVEMENT COUNTS





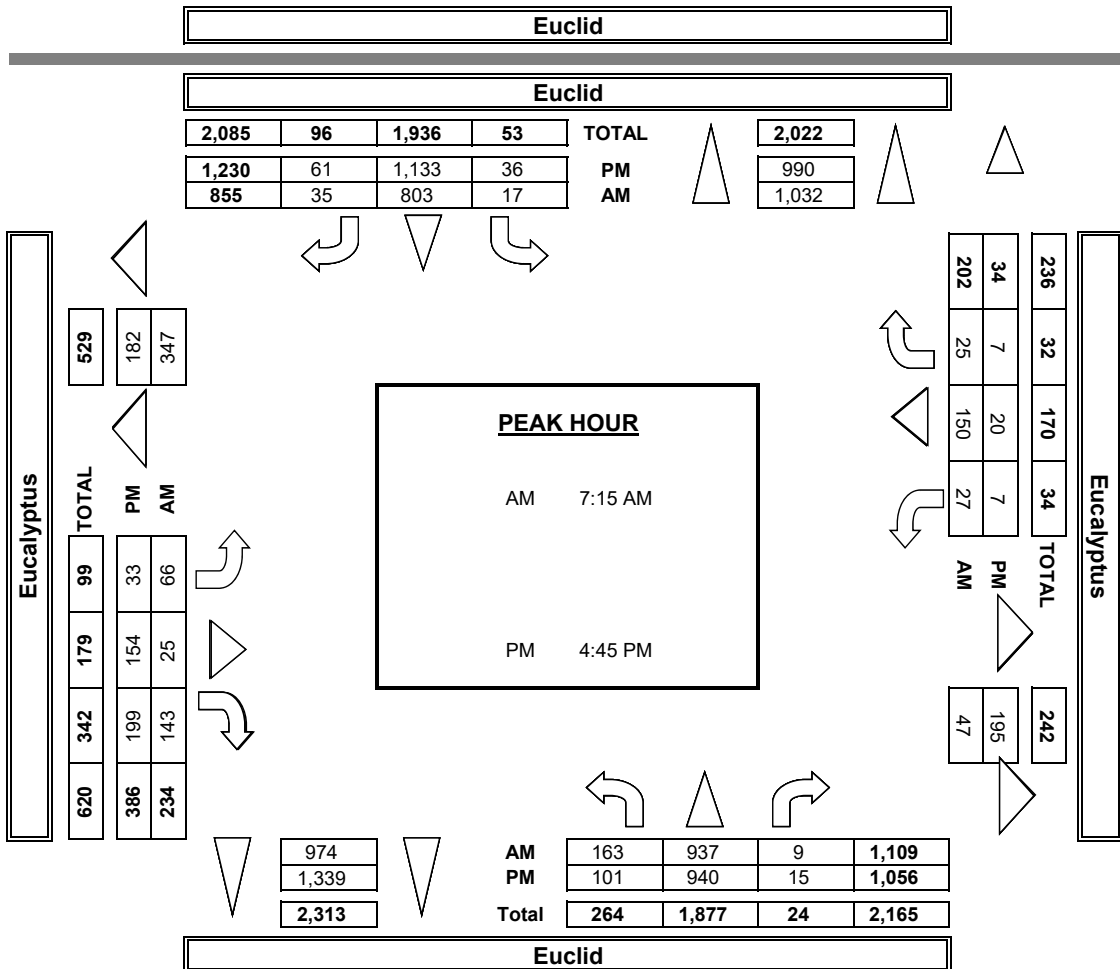
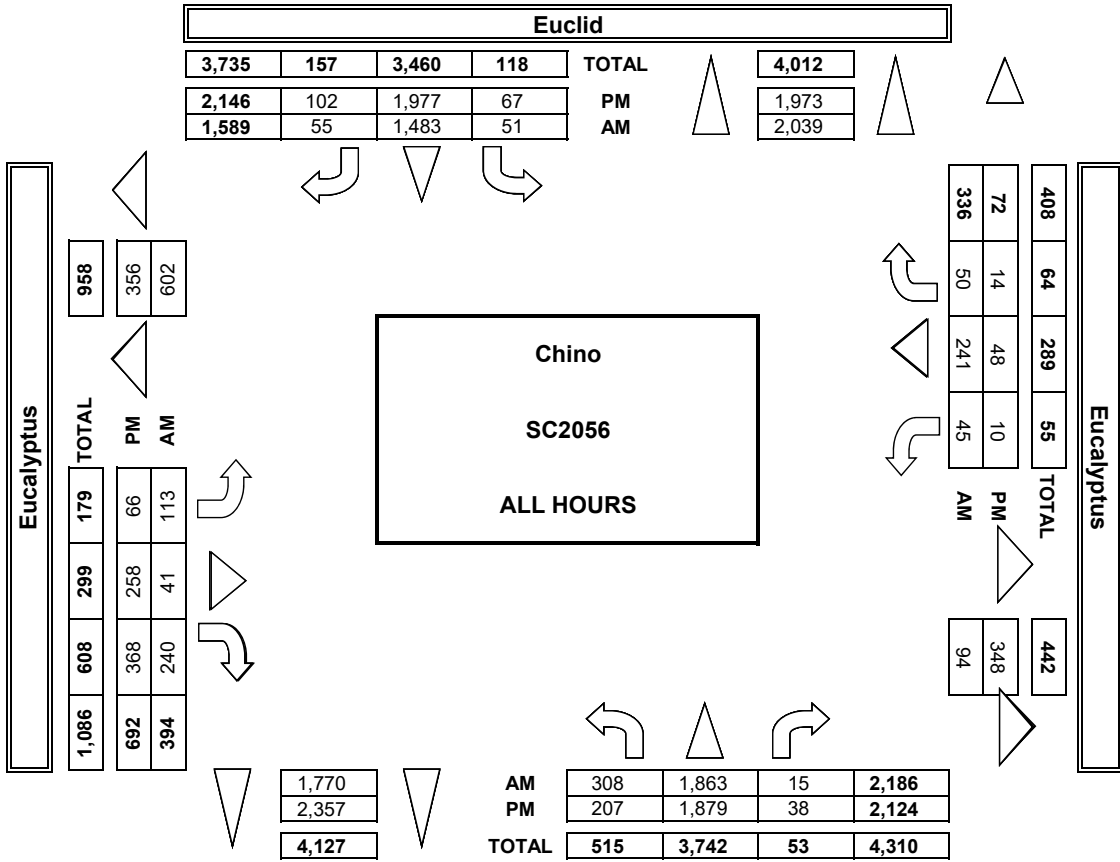








**AimTD LLC**  
TURNING MOVEMENT COUNTS







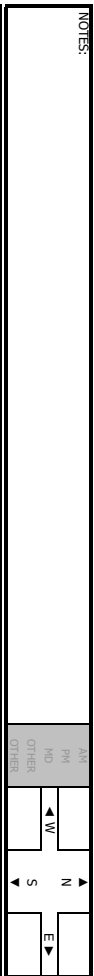


DATE:  
Tue, Jan 22, 19

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

INTERSECTION TURNING MOVEMENT COUNTS  
PREPARED BY: AImTD LLC Tel: 714 253 7888 c@aimtd.com  
China Euclid Facility

PROJECT #:  
SC0256  
LOCATION #:  
16  
CONTROL:  
SIGNAL



Add U-Turns to Left Turns

Table with columns for Northbound, Southbound, Eastbound, and Westbound. Rows include Lanes (NL, NT, NR, SL, ST, SR), Volumes, Approach %, Peak Hr Factor, and App/Dpe/Part. Includes a summary row for Euclid facility.

Table with columns for RTOR (NRR, SR, ERR, WRR) and U-TURNS (NB, SB, EB, WB, TTL). Rows show counts for each movement.

Summary table with columns for RTOR (NRR, SR, ERR, WRR) and U-TURNS (NB, SB, EB, WB, TTL). Rows show totals for Euclid facility.

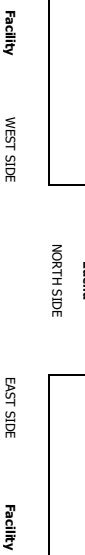


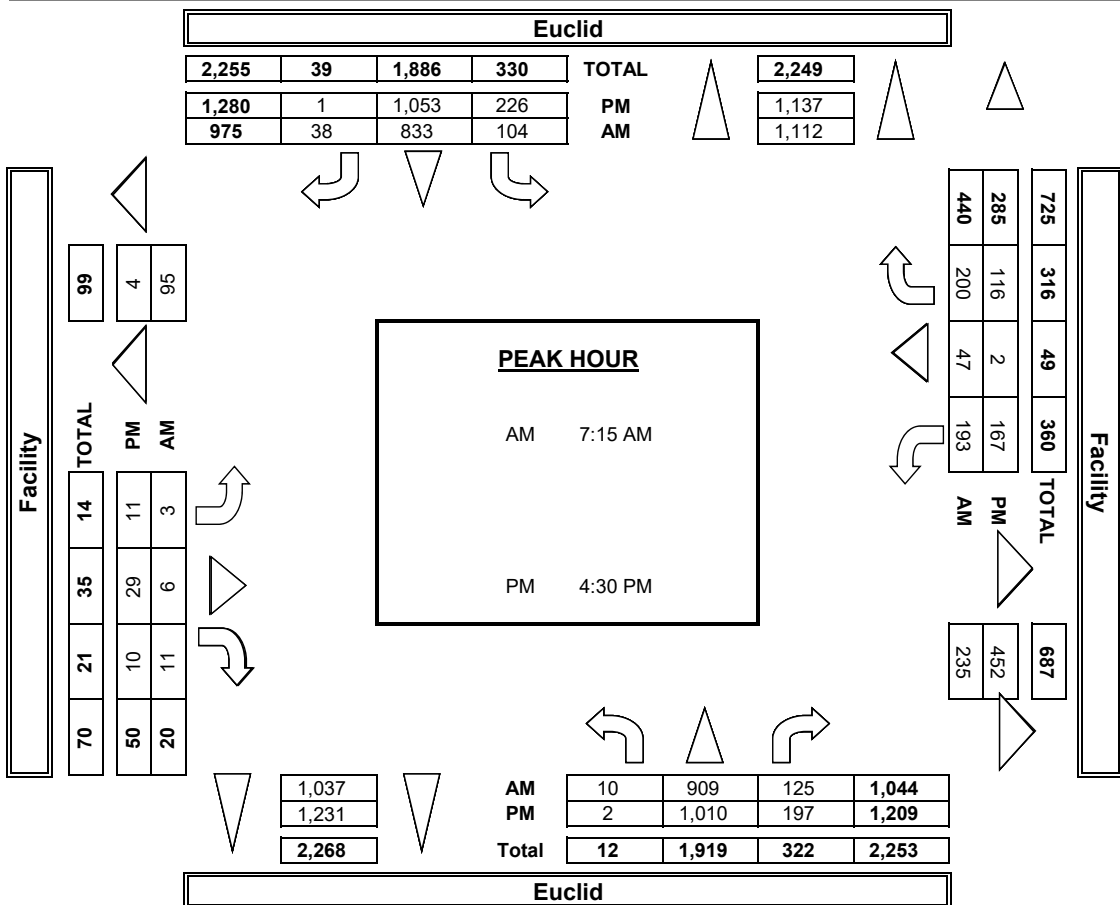
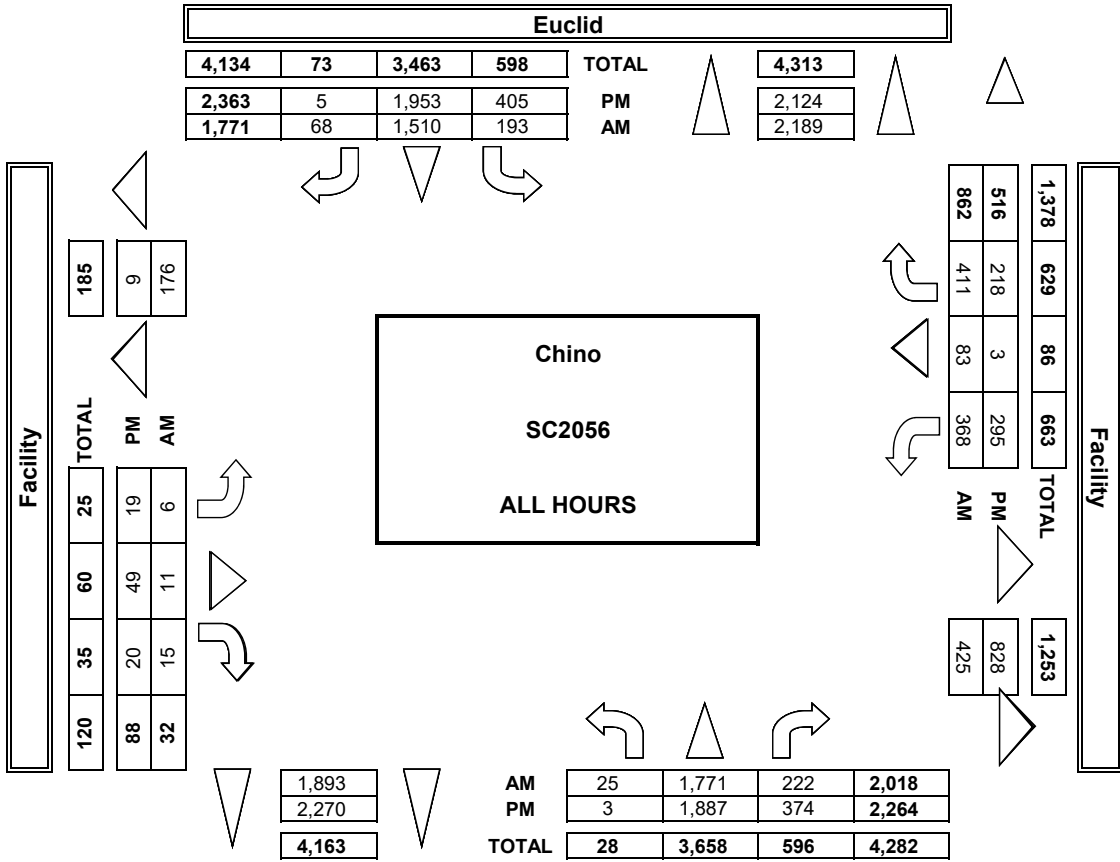
Table with columns for AM and PM. Rows include time slots from 7:00 AM to 5:45 PM and a TOTAL row.

Table with columns for ALL PED AND BIKE. Rows include E SIDE, W SIDE, S SIDE, N SIDE, and TOTAL.

Table with columns for PEDESTRIAN CROSSINGS. Rows include E SIDE, W SIDE, S SIDE, N SIDE, and TOTAL.

Table with columns for BICYCLE CROSSINGS. Rows include ES, WS, SS, NS, and TOTAL.

**AimTD LLC**  
TURNING MOVEMENT COUNTS





**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AirtTD LLC, tel: 714 253 7888 csc@airttd.com

DATE: 1/22/19	LOCATION: NORTH & SOUTH: NORTH & WEST:	Chino Euclid Facility	PROJECT #: SC2056
TUESDAY	CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:	LOCATION #: 16 SIGNAL

CLASS 2: WORK VEHICLES/ TRUCKS	NOTES:								CONTR.: OTHER			
	N	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR

LANES:	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
	Euclid	Euclid	Euclid	Euclid	Euclid	Euclid	Euclid	Euclid	Facility	Facility	Facility	Facility	Facility	Facility	Facility	Facility

U-TURNS					
NB	SB	EB	WB	TTL	

RTOR					
NRR	SRR	ERR	WRR		

		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	2	11	1	1	2	2	0	0	0	1	2	0	0	37
7:15 AM	0	17	1	1	20	0	0	0	0	1	6	0	1	47
7:30 AM	0	7	5	2	17	1	0	0	0	3	4	0	3	42
7:45 AM	0	5	1	3	31	0	1	0	0	1	3	1	2	48
8:00 AM	0	26	4	5	35	0	0	0	0	0	12	0	1	83
8:15 AM	0	17	1	4	37	1	0	0	0	0	1	0	2	63
8:30 AM	0	26	2	2	30	0	2	0	0	1	1	1	5	49
8:45 AM	0	29	0	2	23	0	0	0	0	0	6	0	0	64
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	4	138	15	21	189	2	2	3	0	7	34	2	18	433
APPROACH %	3%	88%	10%	10%	89%	1%	30%	0%	70%	63%	4%	33%		
APP/DEPART	157	/	159	212	/	230	10	/	36	54	/	8	0	
BEGIN PEAK HR			8:00 AM				2		0	1	19	1	10	259
VOLUMES	2	98	7	13	105	1	2	0	0	3	63%	3%	33%	0.780
APPROACH %	2%	92%	7%	11%	88%	1%	67%	0%	0%	0.250	0.577			
PEAK HR FACTOR	0.863			0.708										
APP/DEPART	107	/	110	119	/	125	3	/	20	30	/	4	0	
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	18	5	1	16	0	0	0	0	0	1	0	0	41
4:15 PM	0	31	6	3	14	0	0	0	0	3	3	0	4	61
4:30 PM	0	26	5	0	15	0	0	0	0	1	1	0	2	49
4:45 PM	0	30	2	4	10	0	0	0	0	0	1	0	0	47
5:00 PM	0	18	3	2	14	0	0	0	0	0	2	0	0	39
5:15 PM	0	23	4	1	12	0	0	0	0	0	2	0	2	44
5:30 PM	0	20	2	1	11	0	0	0	0	0	2	0	0	36
5:45 PM	0	10	0	0	10	0	0	0	0	0	3	0	0	23
VOLUMES	0	176	27	12	102	0	0	0	0	15	0	0	8	340
APPROACH %	0%	87%	13%	11%	89%	0%	0%	0%	0%	65%	0%	35%		
APP/DEPART	203	/	184	114	/	117	0	/	39	23	/	0	0	
BEGIN PEAK HR			4:00 PM				8		0	0	6	0	6	198
VOLUMES	0	105	18	8	85	0	0	0	0	0%	50%	0%	50%	0.811
APPROACH %	0%	85%	15%	13%	87%	0%	0%	0%	0.000	0.429				
PEAK HR FACTOR	0.831			0.926										
APP/DEPART	123	/	111	63	/	61	0	/	26	12	/	0	0	

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1	0	0	0	0	0
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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

PROJECT #: SC2056  
 LOCATION #: 16  
 CONTROL: SIGNAL

LOCATION: CHINO  
 EAST & WEST: Euclid  
 Facility

DATE: TUESDAY  
 1/22/19

CLASS: 3-AXLE TRUCKS

NOTES:

CLASS	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Euclid			Euclid			Facility			Facility			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

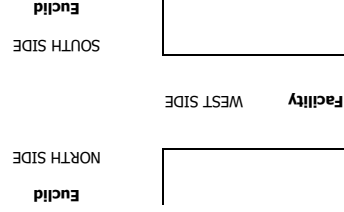
LANES:	1	2	1	1	1	1	0	0	1	0	0	1
U-TURNS	NB	SB	EB	WB	TTL	NRR	SRR	FRR	WRR	0	0	0

APPROACH %	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
	14	19	14	7	2	3	5	14	12	13	14	
BEGIN PEAK HR	14	19	14	7	2	3	5	14	12	13	14	
VOLUMES	2	3	2	1	1	1	1	2	3	4	6	
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

APPROACH %	NORTHBOUND			EASTBOUND			WESTBOUND			TOTAL		
	14	19	14	7	2	3	5	14	12	13	14	
BEGIN PEAK HR	14	19	14	7	2	3	5	14	12	13	14	
VOLUMES	2	3	2	1	1	1	1	2	3	4	6	
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

APPROACH %	NORTHBOUND			EASTBOUND			WESTBOUND			TOTAL		
	14	19	14	7	2	3	5	14	12	13	14	
BEGIN PEAK HR	14	19	14	7	2	3	5	14	12	13	14	
VOLUMES	2	3	2	1	1	1	1	2	3	4	6	
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

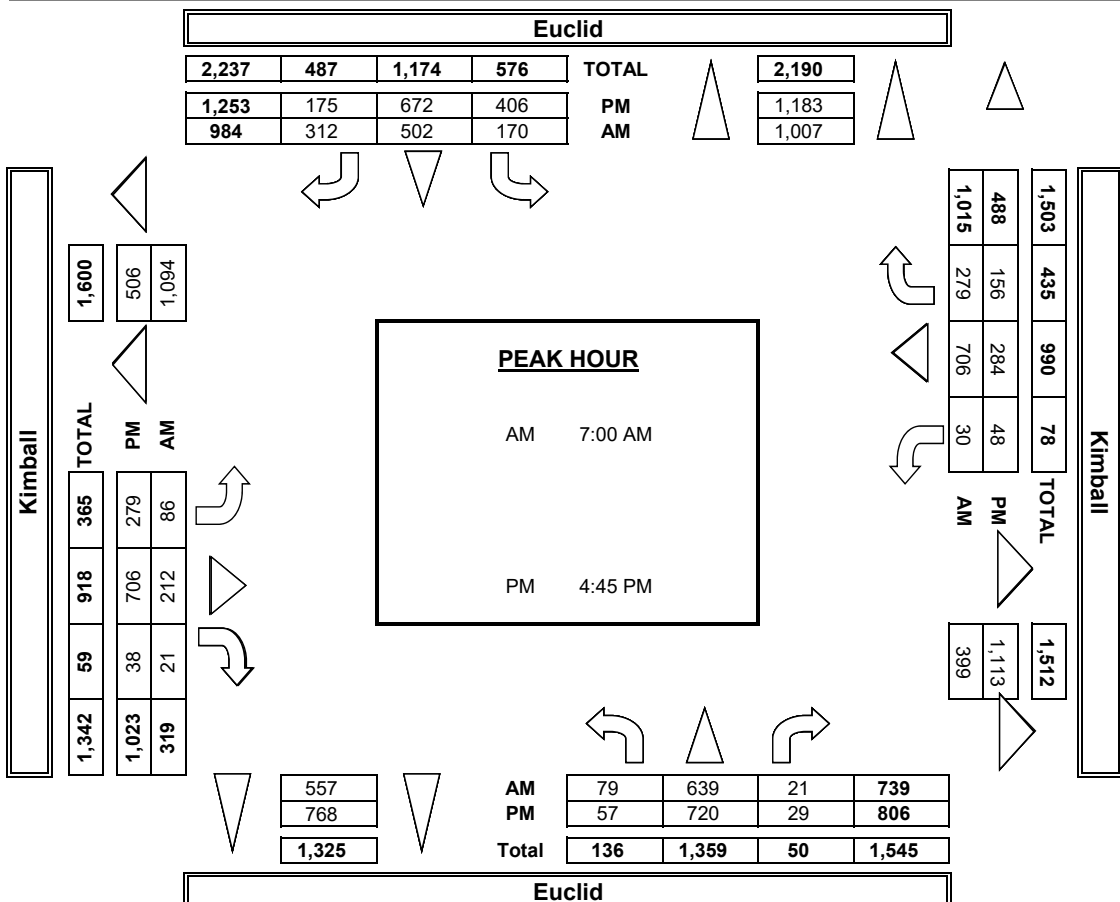
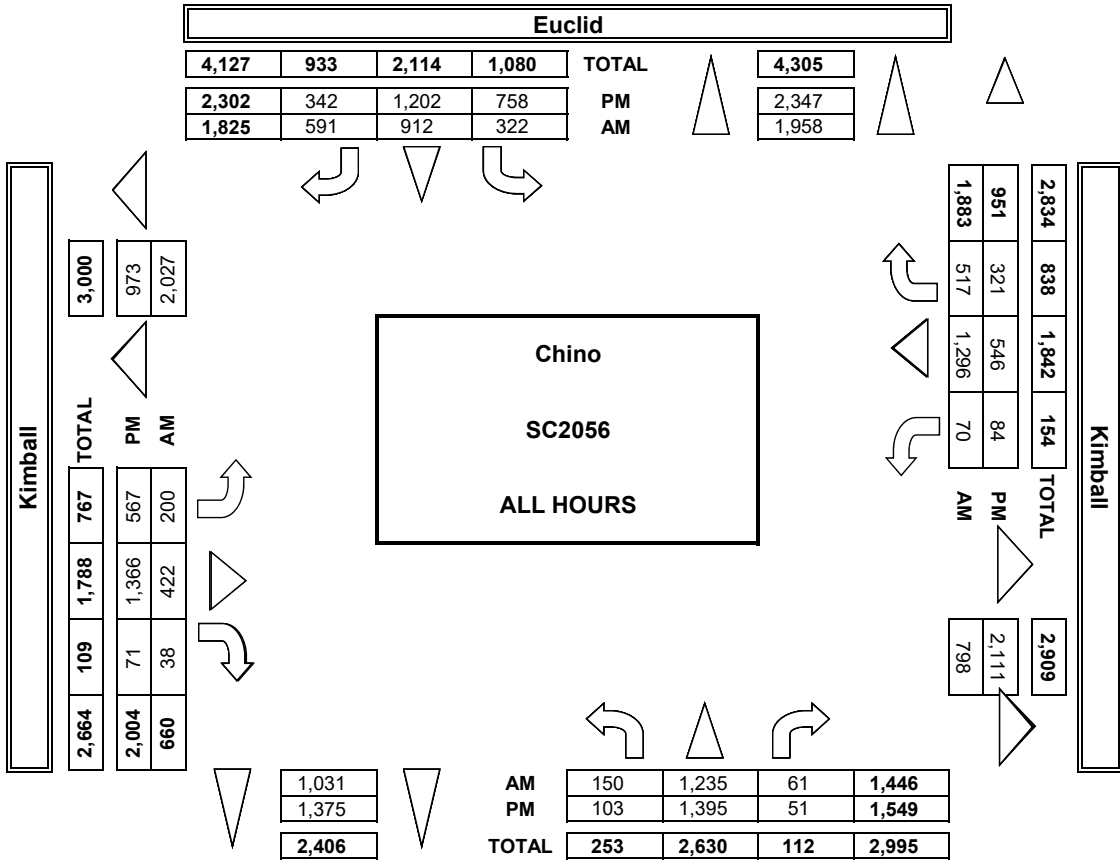
AP/DEPART	5:00 PM	3:15 PM	3:30 PM	4:00 PM	4:15 PM	4:30 PM	4:45 PM	5:00 PM	5:15 PM	5:30 PM	5:45 PM	
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**AimTD LLC**  
TURNING MOVEMENT COUNTS





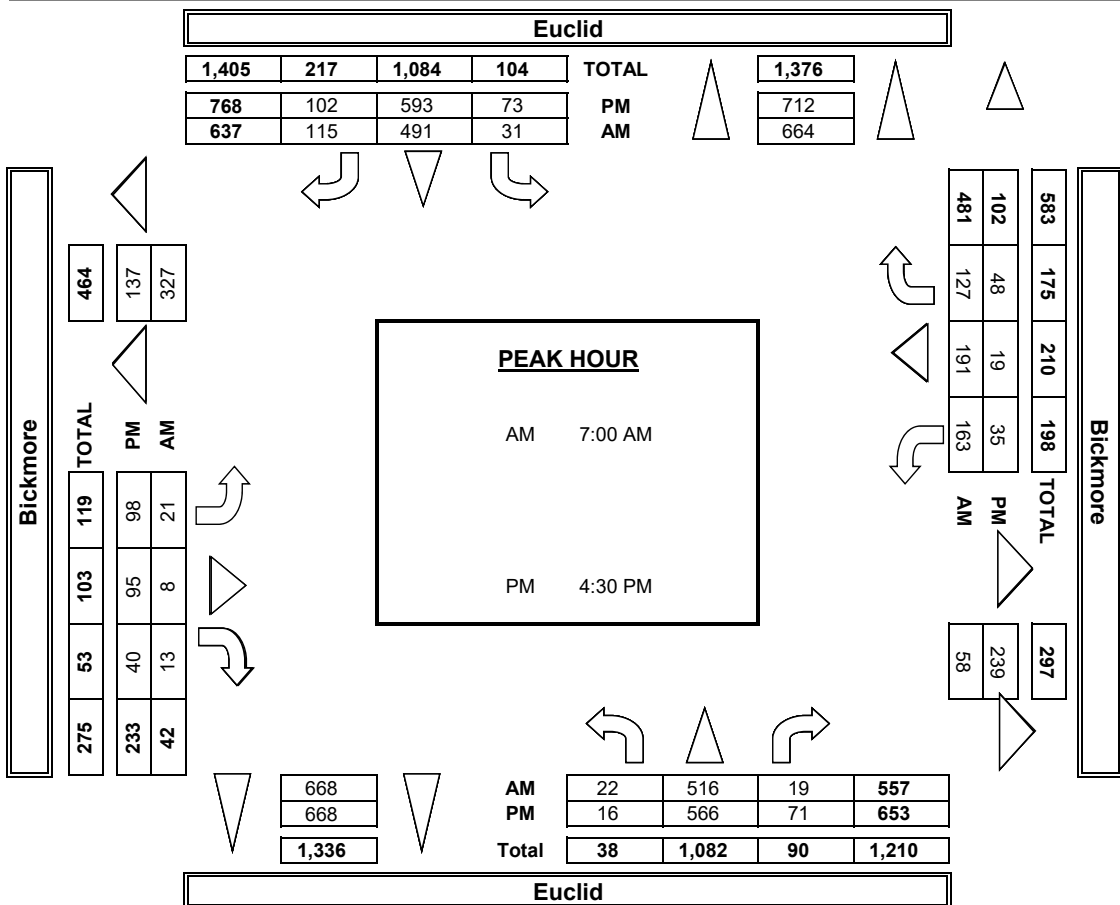
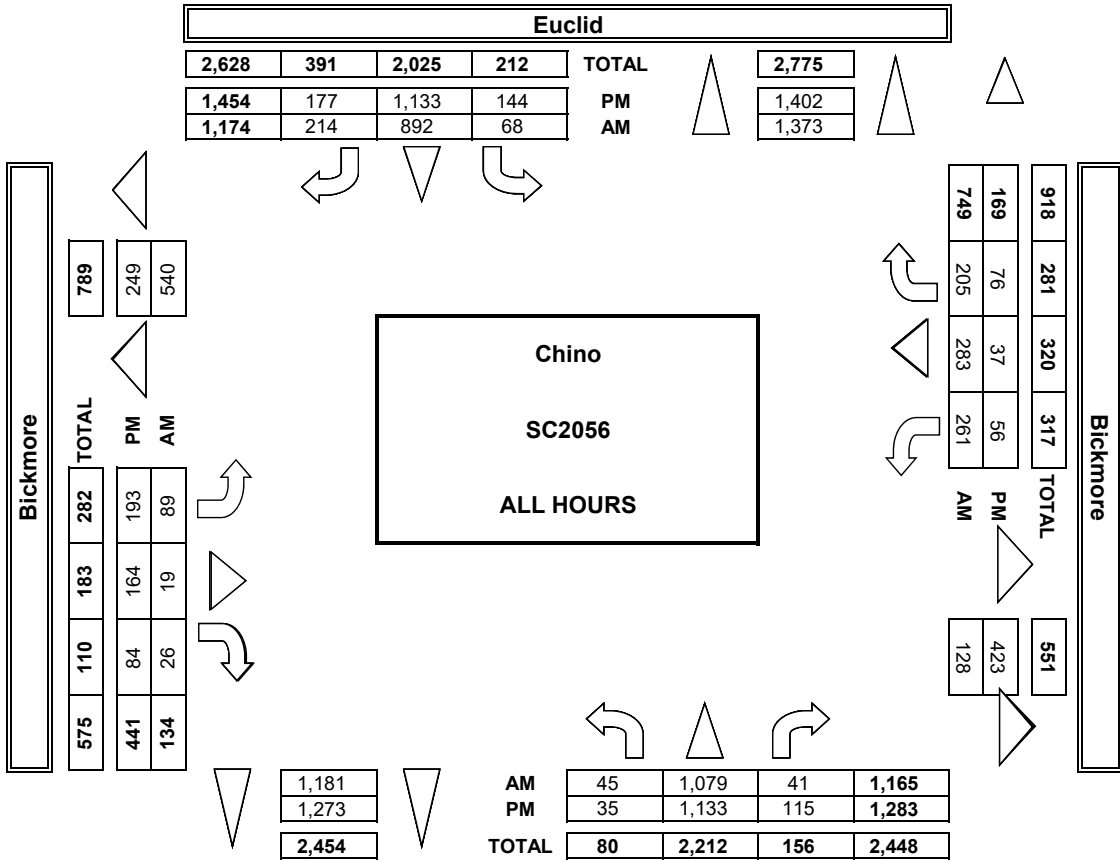








**AimTD LLC**  
TURNING MOVEMENT COUNTS



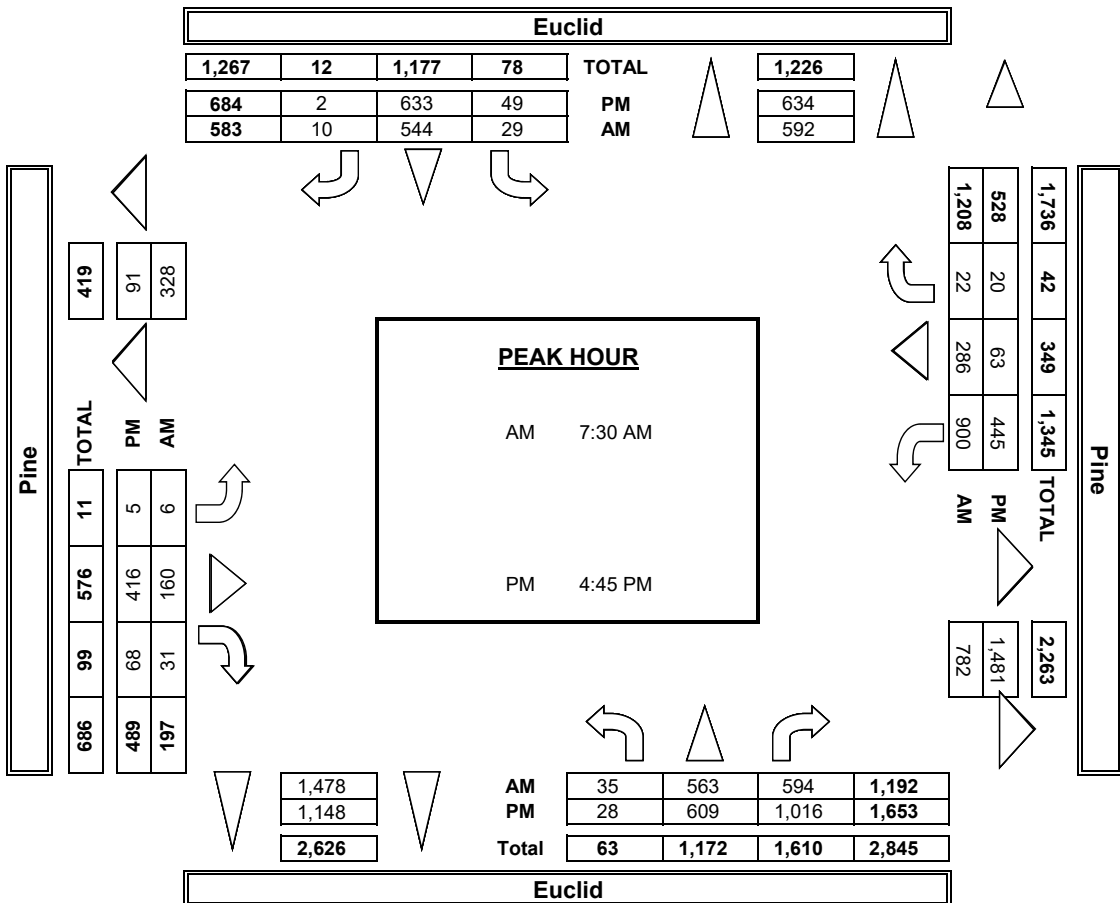
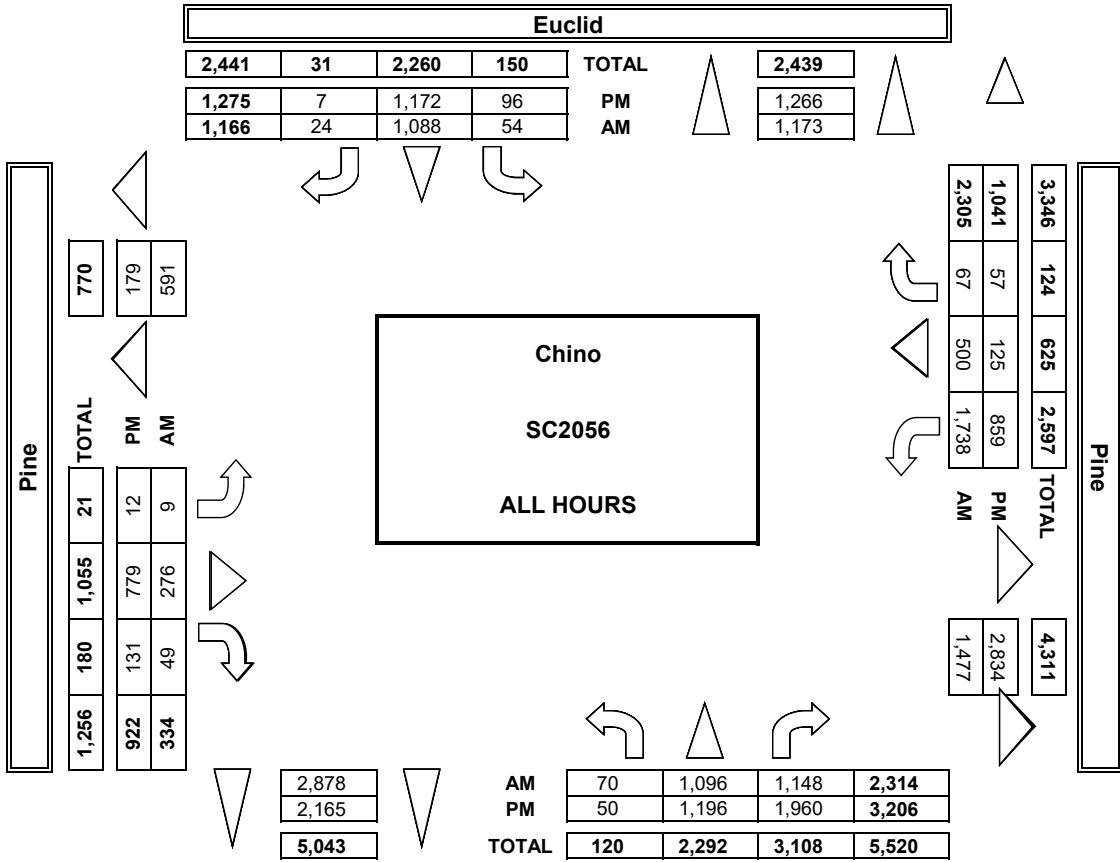








**AimTD LLC**  
TURNING MOVEMENT COUNTS



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtTD LLC, tel: 714 253 7888 cs@airtd.com

**DATE:**  
1/22/19  
**TUESDAY**

**LOCATION:**  
NORTH & SOUTH:  
EAST & WEST: Pine

Chino  
Euclid

**PROJECT #:** SC2056  
**LOCATION #:** 19  
**CONTROL:** SIGNAL

CLASS 2: WORK VEHICLES/ TRUCKS	NOTES:	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
		Lanes:	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL			
		Euclid		Euclid		Pine		Pine		Pine		Pine					
		1	2	1	1.5	0.5	1	1	1	2	1	0					

	VOLUMES	APPROACH %	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		TOTAL		
			Euclid	Pine	Euclid	Pine	Euclid	Pine					
<b>7:00 AM</b>	0	0	4	11	0	14	0	2	1	5	2		
<b>7:15 AM</b>	0	0	8	3	1	12	3	0	4	1	1		
<b>7:30 AM</b>	0	0	3	9	0	16	0	1	1	3	2		
<b>7:45 AM</b>	2	5	5	13	0	11	0	3	2	7	3		
<b>8:00 AM</b>	0	0	5	5	0	14	0	0	3	7	4		
<b>8:15 AM</b>	0	0	4	7	0	11	0	0	2	4	3		
<b>8:30 AM</b>	0	10	10	10	0	11	0	0	3	2	4		
<b>8:45 AM</b>	1	5	4	10	2	15	0	5	3	3	4		
<b>9:00 AM</b>	0	0	0	0	0	9	0	4	0	2	3		
<b>9:15 AM</b>	0	0	0	0	0	0	0	0	0	0	0		
<b>9:30 AM</b>	0	0	0	0	0	0	0	0	0	0	0		
<b>9:45 AM</b>	0	0	0	0	0	0	0	0	0	0	0		
<b>APPROACH %</b>	3%	44%	40%	57%	3%	102%	3%	27%	14%	38%	22%		
<b>APP/DEPART</b>	109	/	50	108	/	155	0	0	92	66	27		
<b>BEGIN PEAK HR</b>	<b>7-45 AM</b>												
<b>VOLUMES</b>	1	24	35	2	51	0	0	16	9	21	14		
<b>APPROACH %</b>	2%	39%	57%	4%	96%	0%	0%	64%	36%	58%	39%		
<b>PEAK HR FACTOR</b>	0.763			0.779		0.781		0.818		0.818		0.825	

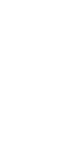
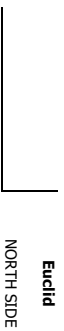
U-TURNS						
NB	SB	EB	WB	TTL		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
1	0	0	0	1		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
1	0	0	0	1		

RTOR				
NRR	SRR	ERR	WRR	
4	0	0	0	0
1	1	0	0	0
5	0	0	0	0
7	0	0	0	0
1	0	0	0	0
0	0	0	0	0
3	0	0	0	0
1	0	0	0	0
1	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
23	1	0	0	0

	VOLUMES	APPROACH %	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		TOTAL		
			Euclid	Pine	Euclid	Pine	Euclid	Pine					
<b>03:00 PM</b>	0	0	0	0	0	0	0	0	0	0	0		
<b>3:15 PM</b>	0	0	0	0	0	0	0	0	0	0	0		
<b>3:30 PM</b>	0	0	0	0	0	0	0	0	0	0	0		
<b>3:45 PM</b>	0	0	0	0	0	0	0	0	0	0	0		
<b>4:00 PM</b>	0	0	0	0	0	0	0	0	0	0	0		
<b>4:15 PM</b>	1	10	17	0	2	0	0	5	1	1	1		
<b>4:30 PM</b>	1	12	8	1	4	0	3	0	5	0	3		
<b>4:45 PM</b>	1	18	7	0	3	0	3	0	1	1	0		
<b>5:00 PM</b>	2	8	4	1	4	0	6	0	4	1	0		
<b>5:15 PM</b>	0	12	2	0	9	0	3	0	3	1	0		
<b>5:30 PM</b>	0	6	2	1	2	0	3	1	2	0	0		
<b>5:45 PM</b>	3	6	3	0	1	0	2	0	1	1	0		
<b>VOLUMES</b>	8	80	51	3	28	0	28	5	21	21	5		
<b>APPROACH %</b>	6%	58%	37%	10%	90%	0%	85%	15%	78%	19%	4%		
<b>APP/DEPART</b>	139	/	81	31	54	0	33	82	27	13	0		
<b>BEGIN PEAK HR</b>	<b>4:00 PM</b>												
<b>VOLUMES</b>	4	48	36	2	13	0	0	17	2	11	3		
<b>APPROACH %</b>	5%	55%	41%	13%	87%	0%	0%	89%	11%	73%	20%		
<b>PEAK HR FACTOR</b>	0.815			0.750		0.792		0.750		0.750		0.901	

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
6	0	0	0	0	0
3	0	0	0	0	0
2	0	0	0	0	0
0	0	0	0	0	0
2	0	0	0	0	0
0	0	0	0	0	0
2	0	0	0	0	0
3	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
16	0	0	0	0	0





**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimtD LLC, tel: 714 253 7888 csa@aimtd.com  
 PROJECT #: SC2056  
 LOCATION #: 19  
 CONTROL: SIGNAL

DATE: TUESDAY 1/22/19

LOCATION: EAST & WEST: Pine  
 NORTH & SOUTH: Euclid  
 China

**NOTES:**

CLASS 3: TRUCKS

AM			PM		
▲	▼	←	▲	▼	←
AM	PM	OTHER	AM	PM	OTHER

WESTBOUND			EASTBOUND			SOUTHBOUND			NORTHBOUND		
TOTAL	WR	WT	ER	ET	EL	SR	SL	ST	NR	NT	NL

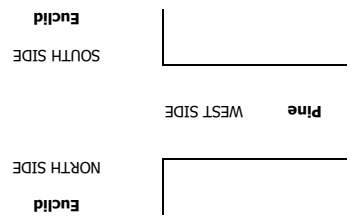
**U-TURNS**

NB	SB	EB	WB	TTL
----	----	----	----	-----

**RTOR**

NRR	SRR	ERR	WRR
-----	-----	-----	-----

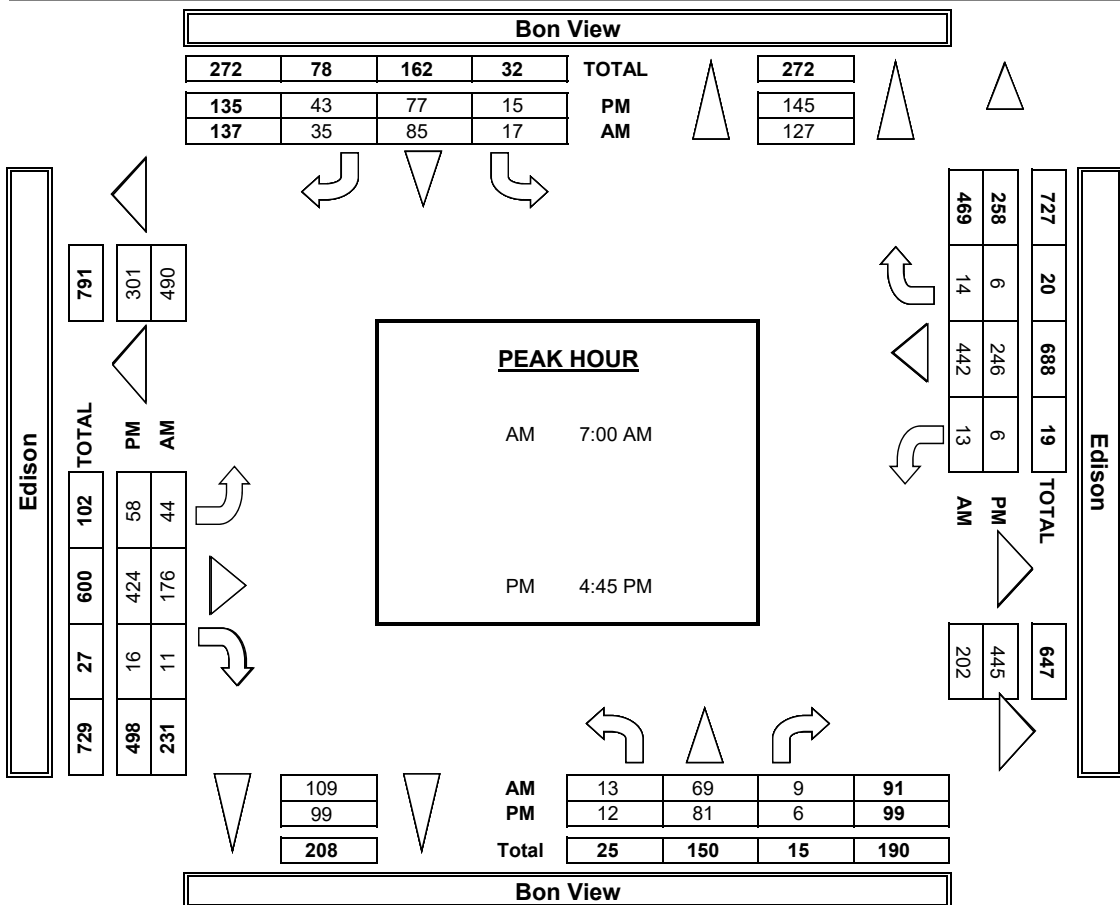
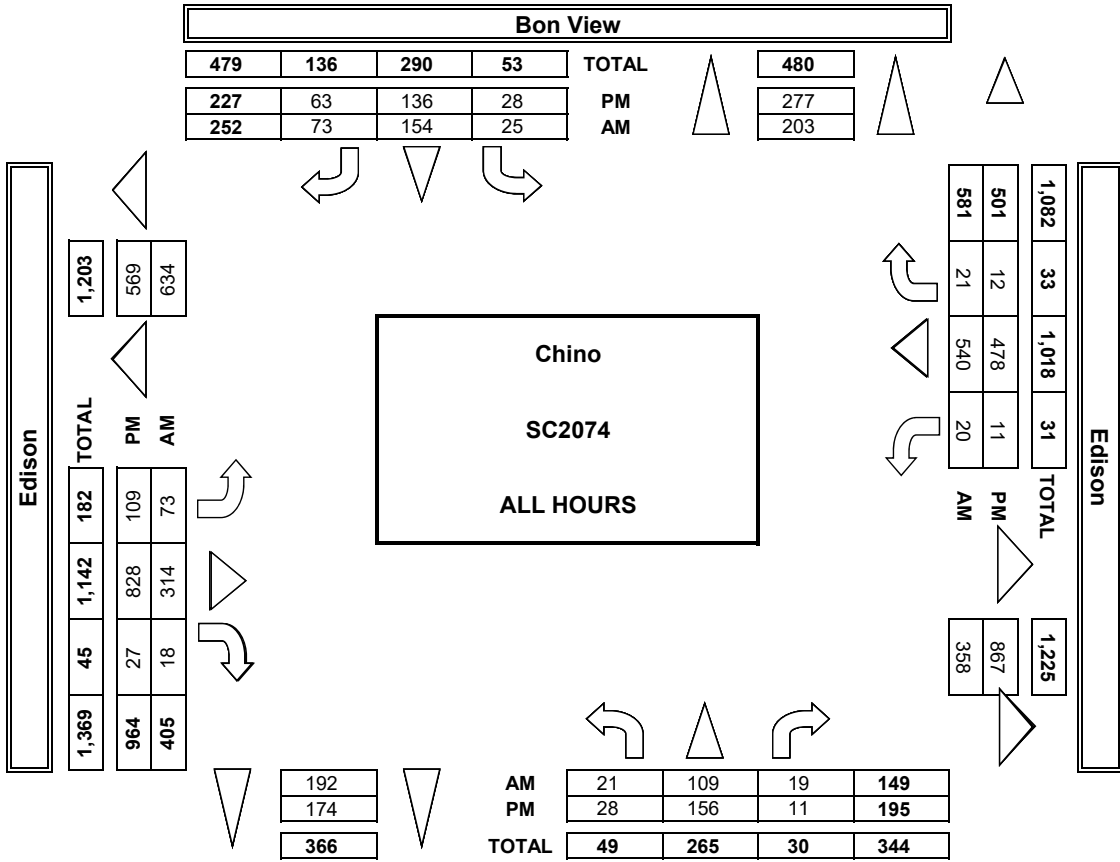
		7:00 AM			7:15 AM			7:30 AM			7:45 AM			8:00 AM			8:15 AM			8:30 AM			8:45 AM			9:00 AM			9:15 AM			9:30 AM			9:45 AM		
APPROACH %	BEGIN PEAK HR	APPROACH %			APPROACH %			APPROACH %			APPROACH %			APPROACH %			APPROACH %			APPROACH %			APPROACH %			APPROACH %			APPROACH %			APPROACH %			APPROACH %		
		20	7:00 AM	8	10	14	18	22	13	17	21	25	29	33	37	41	45	49	53	57	61	65	69	73	77	81	85	89	93	97	100						
AP/P/DEPART	PEAK HR FACTOR	20	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10						
VOLUMES	VOLUMES	2	8	8	2	14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2						
AP/P/DEPART	PEAK HR FACTOR	10	4	4	2	11	8	15	13	17	21	25	29	33	37	41	45	49	53	57	61	65	69	73	77	81	85	89	93	97	100						
VOLUMES	VOLUMES	2	8	8	2	11	8	15	13	17	21	25	29	33	37	41	45	49	53	57	61	65	69	73	77	81	85	89	93	97	100						
AP/P/DEPART	PEAK HR FACTOR	10	4	4	2	11	8	15	13	17	21	25	29	33	37	41	45	49	53	57	61	65	69	73	77	81	85	89	93	97	100						
VOLUMES	VOLUMES	2	8	8	2	11	8	15	13	17	21	25	29	33	37	41	45	49	53	57	61	65	69	73	77	81	85	89	93	97	100						
AP/P/DEPART	PEAK HR FACTOR	20	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10						
VOLUMES	VOLUMES	2	8	8	2	10	10	15	13	17	21	25	29	33	37	41	45	49	53	57	61	65	69	73	77	81	85	89	93	97	100						
AP/P/DEPART	PEAK HR FACTOR	20	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10						
VOLUMES	VOLUMES	2	8	8	2	10	10	15	13	17	21	25	29	33	37	41	45	49	53	57	61	65	69	73	77	81	85	89	93	97	100						
AP/P/DEPART	PEAK HR FACTOR	20	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10						
VOLUMES	VOLUMES	2	8	8	2	10	10	15	13	17	21	25	29	33	37	41	45	49	53	57	61	65	69	73	77	81	85	89	93	97	100						
AP/P/DEPART	PEAK HR FACTOR	20	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10						
VOLUMES	VOLUMES	2	8	8	2	10	10	15	13	17	21	25	29	33	37	41	45	49	53	57	61	65	69	73	77	81	85	89	93	97	100						
AP/P/DEPART	PEAK HR FACTOR	20	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10						
VOLUMES	VOLUMES	2	8	8	2	10	10	15	13	17	21	25	29	33	37	41	45	49	53	57	61	65	69	73	77	81	85	89	93	97	100						
AP/P/DEPART	PEAK HR FACTOR	20	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10						
VOLUMES	VOLUMES	2	8	8	2	10	10	15	13	17	21	25	29	33	37	41	45	49	53	57	61	65	69	73	77	81	85	89	93	97	100						







**AimTD LLC**  
TURNING MOVEMENT COUNTS









INTERSECTION TURNING MOVEMENT COUNTS  
PREPARED BY: AlmtD LLC Tel: 714 253 7888 c@almtD.com

SC074  
24  
STOP ALL

PROJECT #:  
LOCATION #:  
CONTROL:

DATE:  
Wed Jan 30, 19  
LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

Chino  
Bon View  
Eucalyptus

NOTES: Table with columns for movement types (THRU, LEFT, RIGHT, etc.) and counts.

Added U-turns to Left Turns

Main data table with columns for AM, PM, and AP/DEPART periods. Rows include VOLUMES, APPROACH %, PEAK HR FACTOR, and BEGIN PEAK HR for both Northbound and Southbound directions.

RTOR table showing counts for Northbound Right Turn, Opposing Right Turn, and Opposing Left Turn movements.

U-TURNS table showing counts for Northbound and Southbound U-turn movements.



AM (Morning) table with columns for time intervals from 7:00 AM to 9:45 AM and rows for E, S, W, N sides.

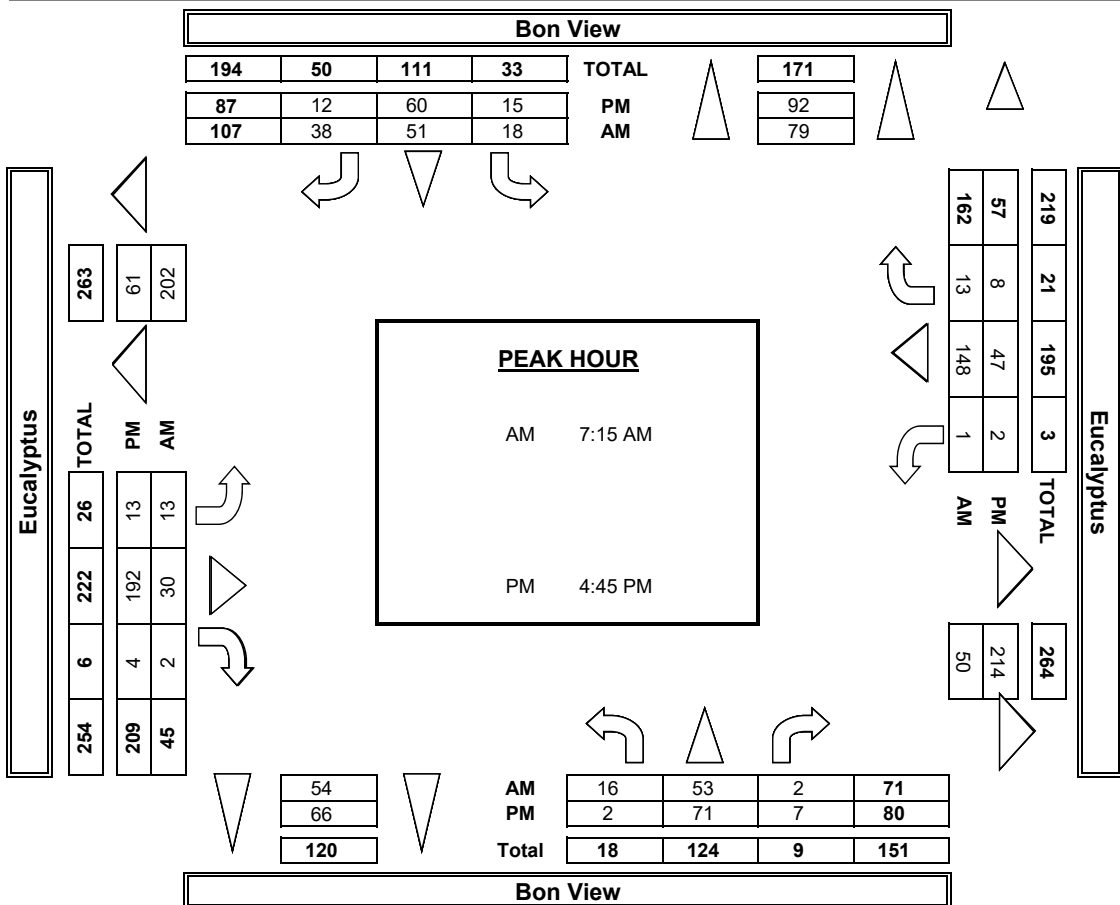
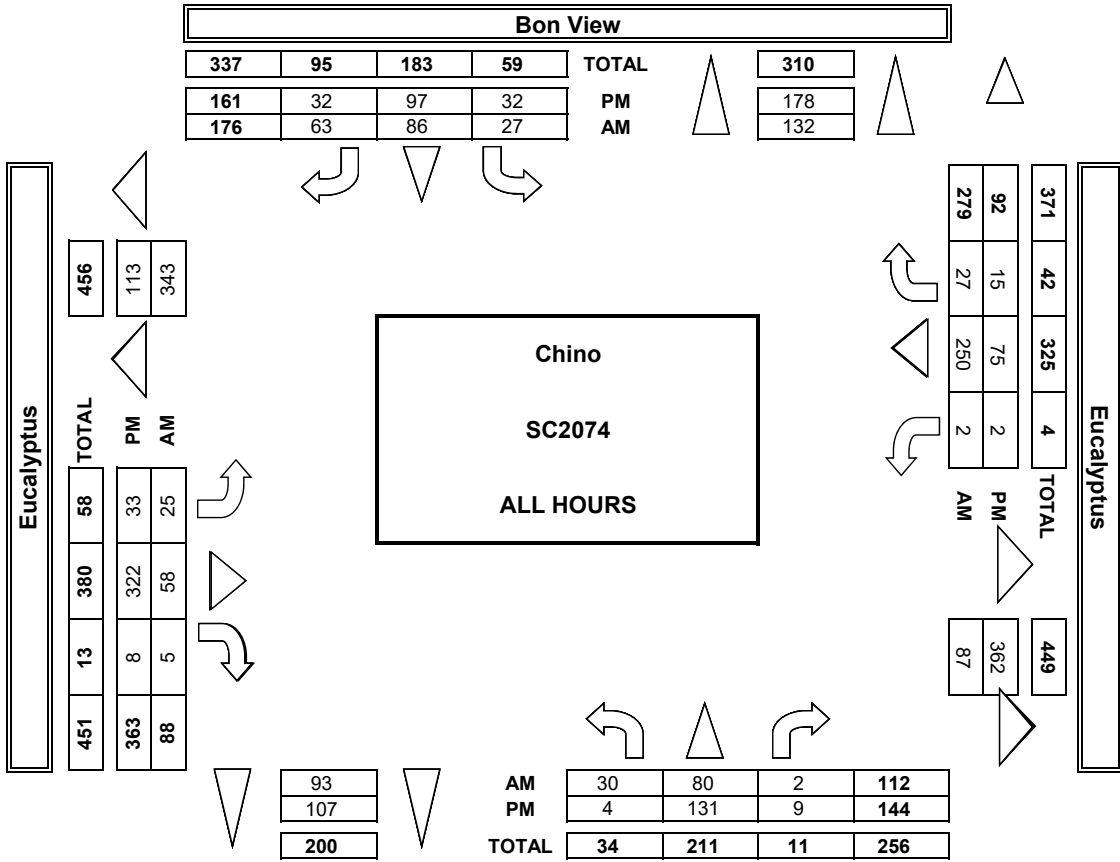
ALL PED AND BIKE table with columns for E, W, S, N sides and a TOTAL row.

PEDESTRIAN CROSSINGS table with columns for E, W, S, N sides and a TOTAL row.

BICYCLE CROSSINGS table with columns for ES, WS, SS, NS sides and a TOTAL row.



**AimTD LLC**  
TURNING MOVEMENT COUNTS



### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirmTD LLC, tel: 714 253 7888 cs@airmtd.com

PROJECT #: SC2074

DATE: 1/30/19  
WEDNESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST: EucaIyptus

Chino  
Bon View

LOCATION #: 24  
CONTRL: STOP ALL

CLASS 2: WORK VEHICLES/ TRUCKS	NOTES:		BON VIEW				EUCAIYPTUS				WEST BOUND				TOTAL		
			NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	WV	WR	
LANES:		0	1	1	0	1	1	0	1	0	0	1	1	0	0	0	2

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	Bon View	Bon View	Bon View	Bon View	Bon View	Bon View	Bon View	Bon View	Bon View	Bon View	Bon View	Bon View	Bon View	Bon View	Bon View	Bon View	
<b>7:00 AM</b>	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
7:15 AM	1	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0	4
7:30 AM	0	1	0	2	1	1	1	0	1	0	0	1	1	1	0	0	7
7:45 AM	0	0	0	0	0	1	1	0	1	0	0	1	1	0	0	3	3
8:00 AM	0	0	1	1	0	0	4	0	2	0	0	1	1	0	0	9	9
8:15 AM	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	0	3
8:30 AM	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	2	2	1	4	2	7	1	6	0	0	0	0	0	0	33
<b>VOLUMES</b>	1	2	1	4	2	7	7	1	1	6	0	0	8	8	1	1	33
<b>APPROACH %</b>	25%	50%	25%	31%	15%	54%	14%	86%	0%	89%	11%	11%	11%	11%	0	0	0
<b>BEGIN PEAK HR</b>	1	1	1	3	1	6	1	4	0	0	0	5	5	0	0	0	23
<b>VOLUMES</b>	33%	33%	33%	30%	10%	60%	20%	80%	0%	0%	0%	100%	100%	0%	0%	0	23
<b>APPROACH %</b>	0.750	0.750	0.750	0.500	0.500	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.639
<b>APP/DEPART</b>	3	3	2	10	1	5	8	5	5	8	5	5	12	12	0	0	0
<b>3:15 PM</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	3	3
4:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	9	9
4:30 PM	0	1	0	1	0	0	0	0	2	0	1	1	0	0	0	5	5
4:45 PM	0	0	0	0	1	0	0	0	3	0	0	0	1	0	1	5	5
5:00 PM	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	4	4
5:15 PM	0	2	1	0	0	0	0	0	1	0	0	0	0	0	0	5	5
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	3	3
5:45 PM	0	2	0	0	0	0	0	0	0	0	0	1	2	0	0	3	3
<b>VOLUMES</b>	0	8	1	4	0	0	0	0	14	0	0	4	4	2	2	37	37
<b>APPROACH %</b>	0%	89%	11%	38%	63%	0%	0%	100%	0%	67%	33%	33%	33%	33%	0	0	0
<b>APP/DEPART</b>	9	2	10	8	3	5	5	18	6	6	6	4	4	0	0	0	0
<b>BEGIN PEAK HR</b>	0	2	0	2	4	0	0	0	0	0	0	2	2	1	1	24	24
<b>VOLUMES</b>	0%	100%	0%	33%	67%	0%	0%	100%	0%	67%	67%	67%	67%	33%	33%	0	0
<b>APPROACH %</b>	0.500	0.500	0.500	0.500	0.500	0.464	0.464	0.464	0.464	0.464	0.464	0.464	0.464	0.464	0.464	0.467	0.667
<b>APP/DEPART</b>	2	2	3	6	4	13	15	3	3	3	3	2	2	1	1	0	0

#### U-TURNS

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

#### RTOR

NRR	SRR	ERR	WRR
X	X	X	X

#### U-TURNS

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

#### RTOR

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

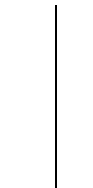
#### Bon View



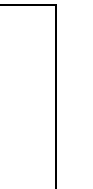
#### EucaIyptus



#### WEST SIDE



#### EAST SIDE



#### NORTH SIDE



#### SOUTH SIDE

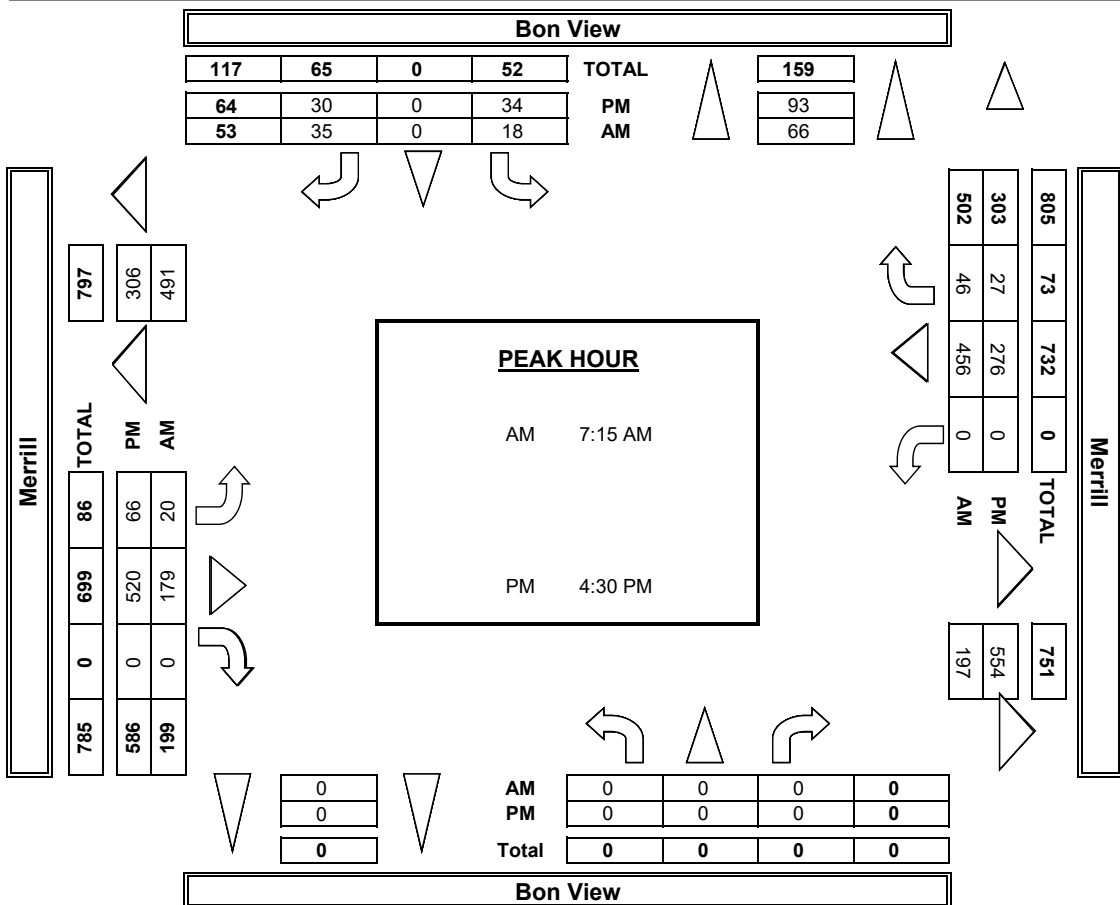
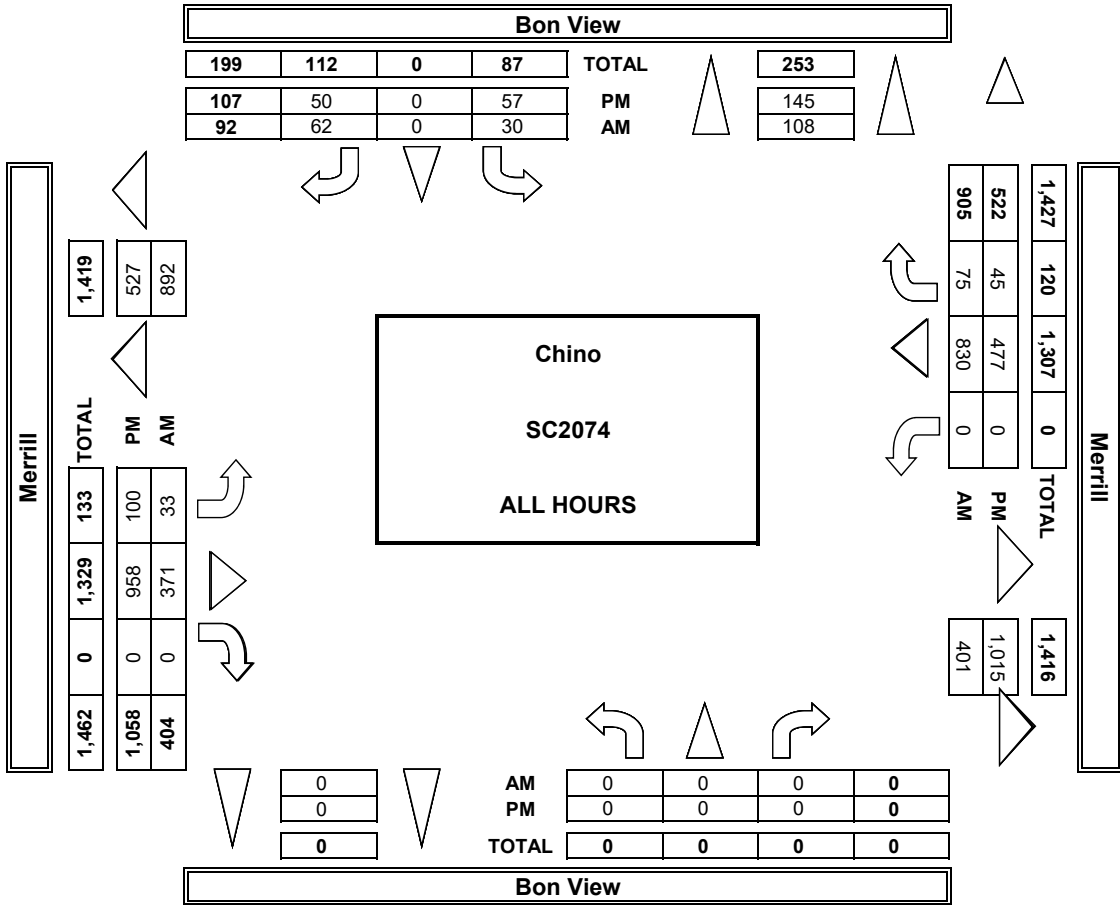








**AimTD LLC**  
TURNING MOVEMENT COUNTS



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: Aired LLC, tel: 714 253 7888 [cs@aired.com](mailto:cs@aired.com)

DATE: 1/30/19  
WEDNESDAY

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

Chino  
Bon View  
Merrill

PROJECT #: SC2074  
LOCATION #: 25  
CONTROL: STOP S

CLASS 2: WORK VEHICLES/ TRUCKS	NOTES:	NORTHBOUND														SOUTHBOUND														EASTBOUND														WESTBOUND													
		Bon View				Bon View				Merrill				Merrill				Merrill				Merrill				Merrill																															
		LN	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	LN	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	LN	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	LN	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL				
		Bon View														Merrill														Merrill														Merrill													
LANES:		X														X														X														X													

CLASS 2: WORK VEHICLES/ TRUCKS	NOTES:	NORTHBOUND														SOUTHBOUND														EASTBOUND														WESTBOUND													
		Bon View				Bon View				Merrill				Merrill				Merrill				Merrill																																			
		LN	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	LN	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	LN	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	LN	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL				
LANES:		X														X														X														X													

	NORTHBOUND														SOUTHBOUND														EASTBOUND														WESTBOUND													
	Bon View				Bon View				Merrill				Merrill				Merrill				Merrill																																			
BEGIN PEAK HR	7:45 AM														0														0														0													
VOLUMES	0														0														0														0													
APPROACH %	0%														0%														0%														0%													
PEAK HR FACTOR	0.000														0.250														0.813														0.558													
APPROACH %	0%														0%														0%														0%													
APPROACH %	0%														0%														0%														0%													
APPROACH %	0%														0%														0%														0%													
APPROACH %	0%														0%														0%														0%													
BEGIN PEAK HR	4:00 PM														0														0														0													
VOLUMES	0														0														0														0													
APPROACH %	0%														0%														0%														0%													
PEAK HR FACTOR	0.000														1.000														0.825														0.708													
APPROACH %	0%														0%														0%														0%													
APPROACH %	0%														0%														0%														0%													
APPROACH %	0%														0%														0%														0%													
BEGIN PEAK HR	03:00 PM														0														0														0													
VOLUMES	0														0														0														0													
APPROACH %	0%														0%														0%														0%													
PEAK HR FACTOR	0														0														0														0													
APPROACH %	0%														0%														0%														0%													

### U-TURNS

	NB	SB	EB	WB	TTL
NORTHBOUND	0	0	0	0	0
SOUTHBOUND	0	0	0	0	0
EASTBOUND	0	0	0	0	0
WESTBOUND	0	0	0	0	0
TOTAL	0	0	0	0	0

### RTOR

	NRR	SRR	ERR	WRR
NORTHBOUND	X	X	X	X
SOUTHBOUND				
EASTBOUND				
WESTBOUND				
TOTAL	X	X	X	X

	NB	SB	EB	WB	TTL
NORTHBOUND	0	0	0	0	0
SOUTHBOUND	0	0	0	0	0
EASTBOUND	0	0	0	0	0
WESTBOUND	0	0	0	0	0
TOTAL	0	0	0	0	0

	NRR	SRR	ERR	WRR
NORTHBOUND	0	0	0	0
SOUTHBOUND	0	0	0	0
EASTBOUND	0	0	0	0
WESTBOUND	0	0	0	0
TOTAL	0	0	0	0

	NB	SB	EB	WB	TTL
NORTHBOUND	0	0	0	0	0
SOUTHBOUND	0	0	0	0	0
EASTBOUND	0	0	0	0	0
WESTBOUND	0	0	0	0	0
TOTAL	0	0	0	0	0

	NRR	SRR	ERR	WRR
NORTHBOUND	0	0	0	0
SOUTHBOUND	0	0	0	0
EASTBOUND	0	0	0	0
WESTBOUND	0	0	0	0
TOTAL	0	0	0	0



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC, tel: 714 253 7888 csa@aimtd.com

DATE: 1/30/19 WEDNESDAY LOCATION: NORTH & SOUTH: Chino EAST & WEST: Bon View PROJECT #: SC2074 LOCATION #: 25 CONTROL: STOP S

CLASS 3:

TRUCKS

3-AXLE

NOTES:



Table with columns for Lanes (NL, NT, NR, SL, ST, SR, EL, ET, ER, WL, WT, WR, TOTAL) and rows for Northbound, Southbound, Eastbound, and Westbound directions.

Table showing U-TURNS counts for NB, SB, EB, WB, and TTL directions.

Main data table for PM (Peak) period. Columns include time slots (7:00 AM to 5:45 PM), VOLUMES, APPROACH %, BEGIN PEAK HR, and PEAK HR FACTOR. Rows are organized by direction (Northbound, Southbound, Eastbound, Westbound).

Main data table for AM (Afternoon) period. Columns include time slots (7:15 AM to 9:45 AM), VOLUMES, APPROACH %, BEGIN PEAK HR, and PEAK HR FACTOR. Rows are organized by direction (Northbound, Southbound, Eastbound, Westbound).



Summary table for PM period with columns for direction and total volume.

Summary table for AM period with columns for direction and total volume.

Summary table for U-TURNS with columns for direction and total volume.

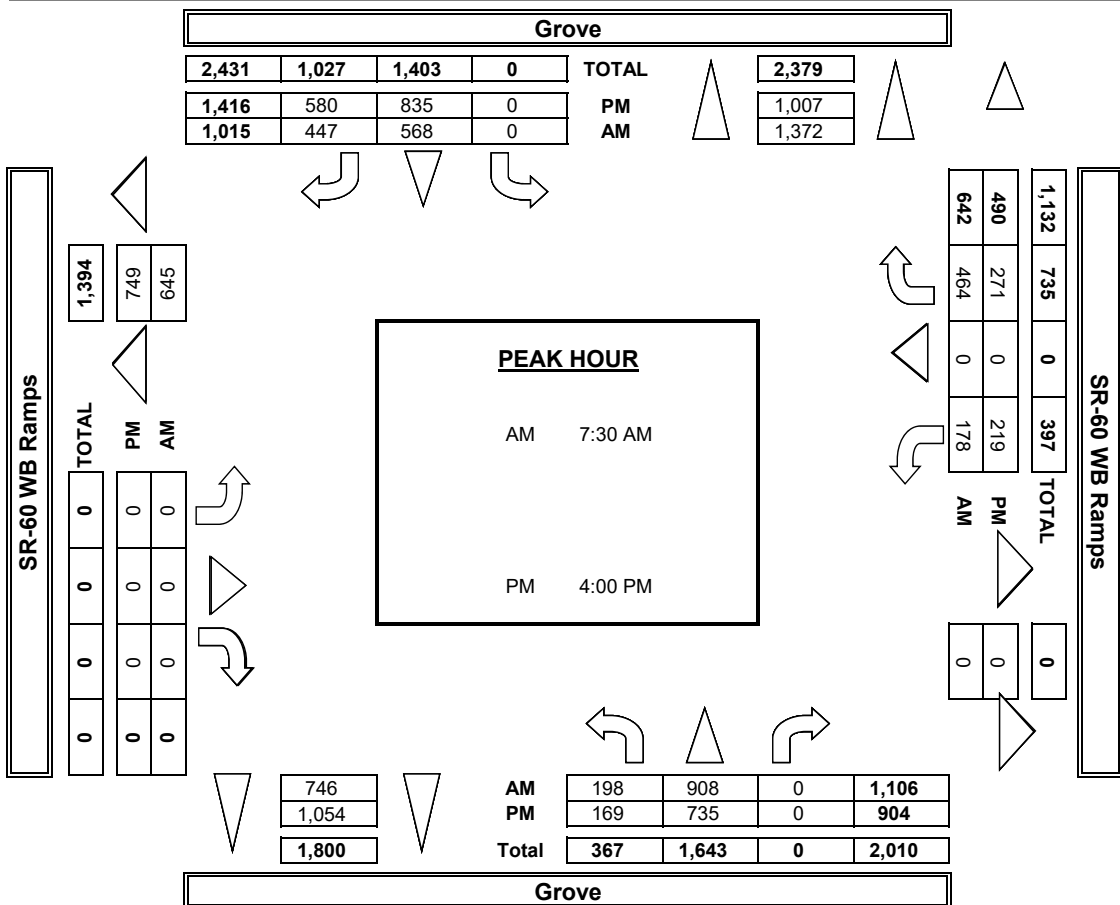
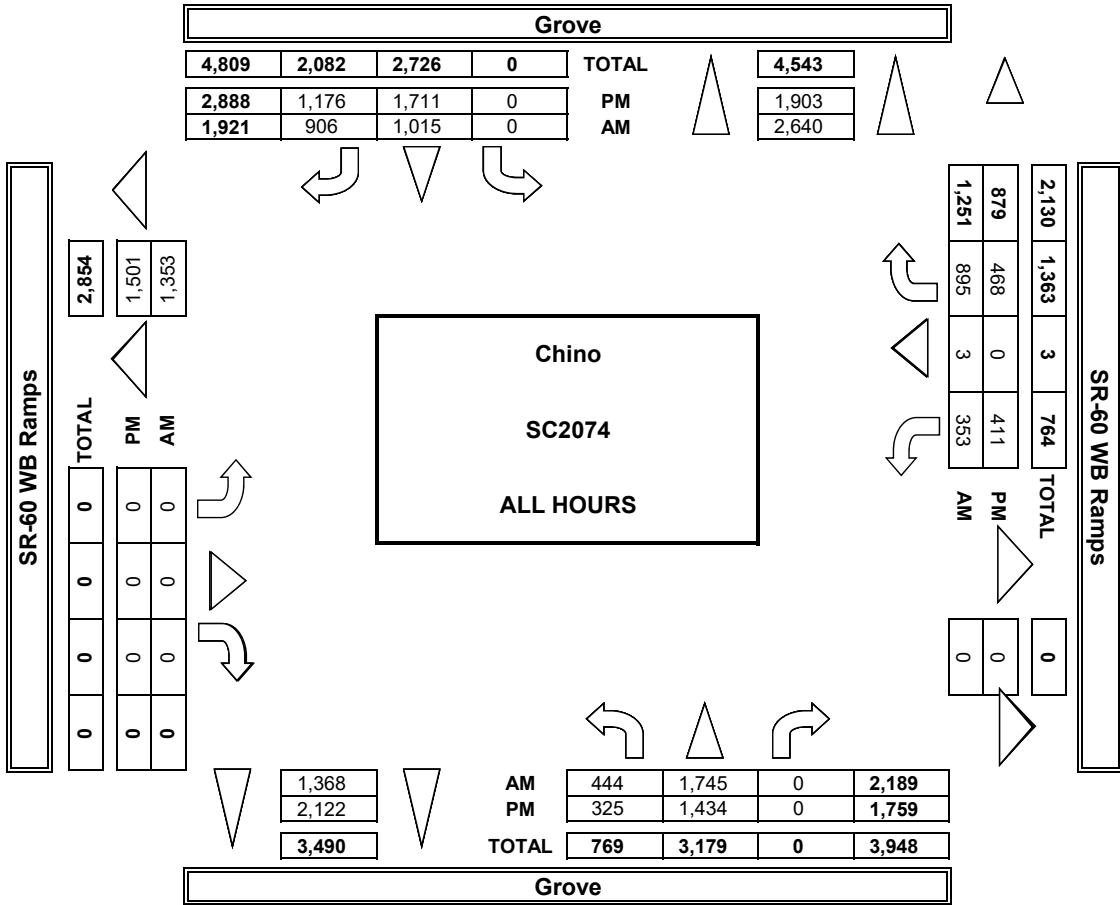
Summary table for RTOR (Right Turn Overlap Ratio) with columns for direction and total volume.







**AimTD LLC**  
TURNING MOVEMENT COUNTS



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtTD LLC, tel: 714 253 7888 [cs@airttd.com](mailto:cs@airttd.com)

DATE: 1/30/19  
WEDNESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST: SR-60 WB Ramps

Chino  
Grove

PROJECT #: SC2074  
LOCATION #: 26  
CONTROL: SIGNAL

CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:		N	T	R	NR	S	L	SL	T	ST	SR	E	L	ET	X	ER	X	WL	0.5	WT	0.5	WR	1	TOTAL
		LANES:	NL	NT	NR	NR	SL	SL	ST	ST	SR	EL	EL	ET	ET	ER	ER	WL	WL	WT	WT	WR	WR	TOTAL	

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	Grove				Grove				SR-60 WB Ramps				SR-60 WB Ramps					
	1	2	X	1	2	2	1	1	X	2	X	1	1	X	2	0.5	0.5	1
<b>7:00 AM</b>	6	13	0	0	0	13	18	0	0	4	0	0	7	61				
7:15 AM	6	11	0	0	14	12	0	0	3	0	0	11	57					
7:30 AM	2	12	0	0	9	17	0	0	2	0	0	14	56					
7:45 AM	2	13	0	0	13	18	0	0	2	0	0	11	59					
8:00 AM	4	15	0	0	19	16	0	0	0	0	0	16	70					
8:15 AM	1	10	0	0	16	17	0	0	5	0	0	19	68					
8:30 AM	5	11	0	0	13	12	0	0	5	0	0	10	56					
8:45 AM	1	13	0	0	14	17	0	0	5	0	0	9	59					
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0					
<b>VOLUMES</b>	27	98	0	0	111	127	0	0	26	0	0	97	486					
<b>APPROACH %</b>	22%	78%	0%	0%	47%	53%	0%	0%	21%	0%	0%	79%						
<b>APPROACH %</b>	125	/	195	0	238	/	137	0	0	0	/	154	0					

U-TURNS									
NB	SB	EB	WB	TTL	NB	SB	EB	WB	TTL
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	
0	5	0	0	1
X	0	0	0	1
0	8	0	0	2
0	5	0	0	3
0	4	0	0	3
0	7	0	0	1
0	9	0	0	2
0	5	0	0	5
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	48	0	0	20

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	Grove				Grove				SR-60 WB Ramps				SR-60 WB Ramps					
	1	2	X	1	2	2	1	1	X	2	X	1	1	X	2	0.5	0.5	1
<b>7:00 AM</b>	0	0	0	0	0	0	0	0	0	0	0	0	0					
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0					
8:00 PM	2	15	0	0	8	8	0	0	4	0	0	5	42					
8:15 PM	3	17	0	0	7	6	0	0	3	0	0	11	46					
8:30 PM	0	19	0	0	0	3	0	0	1	0	0	38	4					
8:45 PM	2	17	0	0	8	6	0	0	6	0	0	4	43					
9:00 PM	1	13	0	0	5	8	0	0	2	0	0	12	41					
9:15 PM	0	12	0	0	9	3	0	0	1	0	0	3	28					
9:30 PM	2	12	0	0	6	5	0	0	4	0	0	4	33					
9:45 PM	0	10	0	0	6	6	1	0	3	0	0	3	23					
<b>VOLUMES</b>	10	115	0	0	55	40	0	0	24	0	0	50	294					
<b>APPROACH %</b>	8%	92%	0%	0%	56%	42%	0%	0%	32%	0%	0%	68%						
<b>APPROACH %</b>	125	/	165	0	95	/	79	0	0	/	74	50	0					

U-TURNS									
NB	SB	EB	WB	TTL	NB	SB	EB	WB	TTL
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	2	0	0	4
0	1	0	0	4
0	2	0	0	2
0	3	0	0	7
0	2	0	0	2
0	0	0	0	0
0	0	0	0	3
0	0	0	0	3
0	12	0	0	34

SR-60 WB Ramps      WEST SIDE

Grove

NORTH SIDE

EAST SIDE      SR-60 WB Ramps

Grove

SOUTH SIDE

### INTERSECTION TURNING MOVEMENT COUNTS

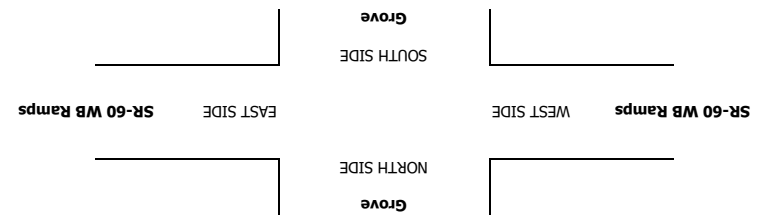
DATE: 1/30/19 WEDNESDAY  
 LOCATION: CHINO  
 EAST & WEST: SR-60 WB Ramps  
 PREPARED BY: AImTD LLC, tel: 714 253 7888 cs@aimtd.com  
 PROJECT #: SC2074  
 LOCATION #: 26  
 CONTROL: SIGNAL

<b>CLASS 3:</b> TRUCKS	<b>NOTES:</b>											

<b>LANES:</b>	1	2	X	X	X	X	X	X	X	X	X	X	X
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	1	2	X	X	X	X	X	X	X	0.5	0.5	1	

7:00 AM	1	1	1	1	1	2	2	2	2	2	2	2	8	
7:15 AM	2	1	0	3	3	3	3	3	3	3	3	3	11	
7:30 AM	0	1	0	1	1	5	5	5	5	5	5	5	13	
7:45 AM	1	2	0	3	3	3	3	3	3	3	3	3	8	
8:00 AM	1	0	0	4	4	4	4	4	4	4	4	4	10	
8:15 AM	1	0	0	4	4	4	4	4	4	4	4	4	10	
8:30 AM	1	4	0	4	4	4	4	4	4	4	4	4	14	
8:45 AM	1	3	0	4	4	2	2	2	2	2	2	2	15	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
VOLUMES	8	12	0	24	24	14	14	14	14	15	15	16	89	
APPROACH %	40%	60%	0%	63%	37%	0%	0%	0%	0%	48%	0%	52%	0	
AP/DEPART	20	28	0	38	39	0	0	0	0	31	22	0	0	
BEGIN PEAK HR	8:00 AM													
VOLUMES	4	7	0	16	20%	4	0	0	0	5	13	49	0	
APPROACH %	36%	64%	0%	80%	0.833	20%	0%	0%	0%	28%	0%	72%	0.817	
AP/DEPART	11	20	0	20	21	0	0	0	0	18	8	0	0	
PEAK HR FACTOR	0.550			0.833						0.900				

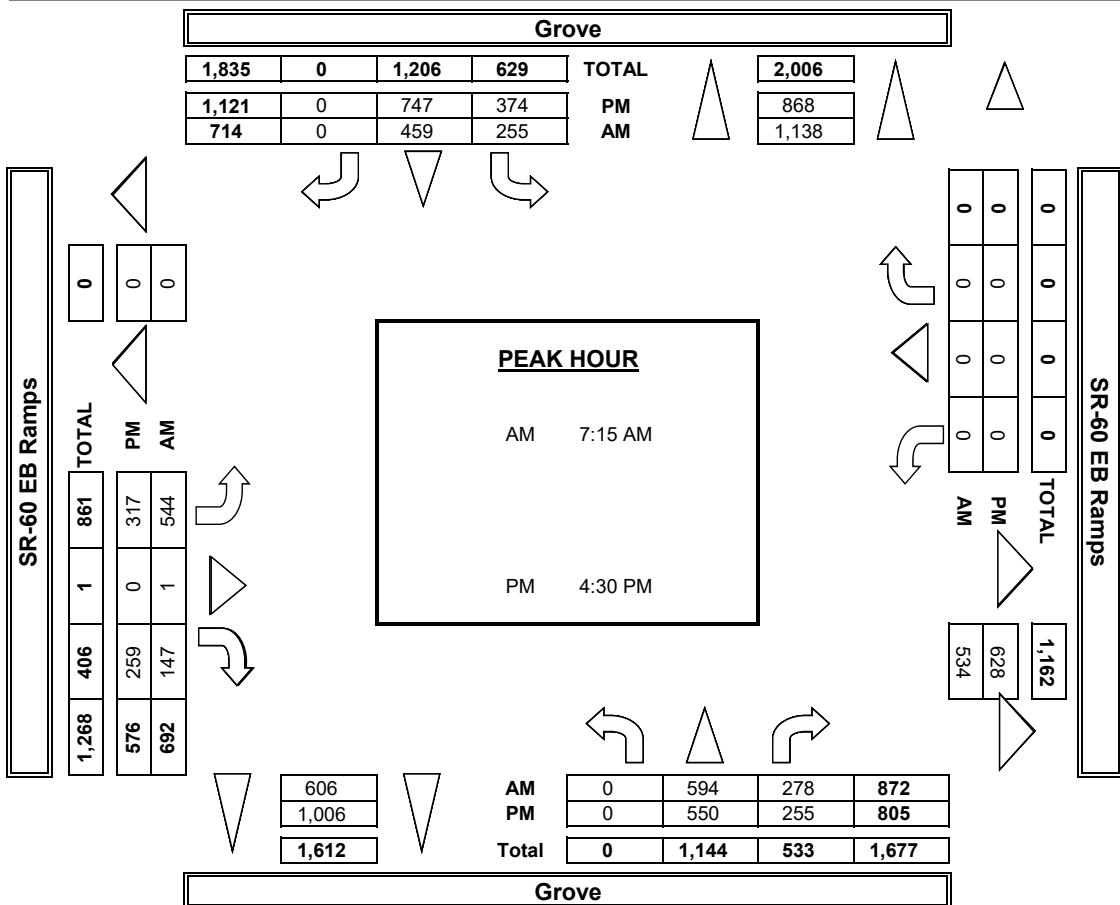
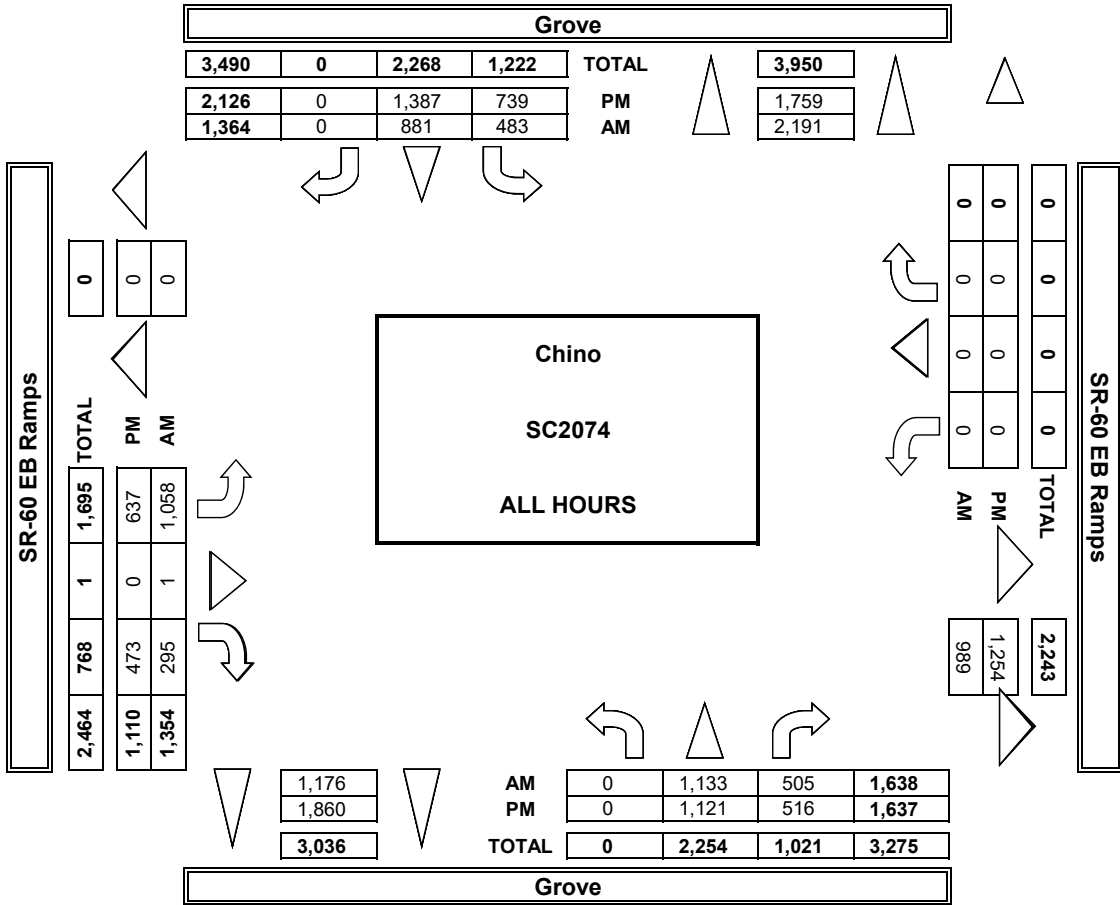
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 PM	3	2	0	1	1	1	1	1	1	1	1	1	9	
4:15 PM	1	3	0	1	1	1	1	1	1	1	1	1	8	
4:30 PM	1	1	0	2	2	2	2	2	2	3	3	3	7	
4:45 PM	0	4	0	3	3	3	3	3	3	1	1	1	10	
5:00 PM	0	1	0	0	0	0	0	0	0	1	1	1	2	
5:15 PM	0	0	0	0	0	0	0	0	0	1	1	1	7	
5:30 PM	1	2	0	1	1	1	1	1	1	0	0	0	10	
5:45 PM	0	1	0	0	0	0	0	0	0	1	1	1	5	
VOLUMES	7	14	0	21	21	3	3	3	3	6	7	7	58	
APPROACH %	33%	67%	0%	88%	13%	0%	0%	0%	0%	46%	0%	54%	0	
AP/DEPART	21	21	0	24	27	0	0	0	0	13	10	0	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	5	10	0	7	22%	2	0	0	0	3	30%	7	34	
APPROACH %	33%	67%	0%	78%	0.750	22%	0%	0%	0%	30%	0.833	70%	0.850	
AP/DEPART	15	17	0	9	10	0	0	0	0	10	0	0	0	
PEAK HR FACTOR	0.750			0.750						0.000				







**AimTD LLC**  
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtmTD LLC, tel: 714 253 7888 cs@airtmtd.com

PROJECT #: SC2074  
LOCATION #: 27  
CONTROL: SIGNAL

DATE: 1/30/19  
WEDNESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST:

Chino Grove  
SR-60 EB Ramps

Table with columns: CLASS 2: (2-AXLE WORK VEHICLES/ TRUCKS), NOTES, and a set of directional movement indicators (N, S, W, E, etc.)

Main data table with columns: LANE, APPROACH %, VOLUMES, PEAK HR FACTOR, and a grid of turning movement counts (NL, NT, NR, SL, ST, SR, EL, ET, ER, WL, WT, WR, TOTAL) for Northbound, Southbound, Eastbound, and Westbound directions.

U-TURNS table with columns: NB, SB, EB, WB, TTL

RTOR table with columns: NRR, SRR, ERR, WRR

U-TURNS table (AM period)

RTOR table (AM period)

U-TURNS table (PM period)

RTOR table (PM period)

Grove NORTH SIDE

Grove EAST SIDE

SR-60 EB Ramps WEST SIDE

SR-60 EB Ramps

Grove SOUTH SIDE

**INTERSECTION TURNING MOVEMENT COUNTS**

DATE: 1/30/19  
 WEDNESDAY  
 LOCATION: CHINO  
 EAST & WEST: GROVE  
 SR-60 EB Ramps  
 PREPARED BY: AImTD LLC, tel: 714 253 7888 cs@aimtd.com  
 PROJECT #: SC2074  
 LOCATION #: 27  
 CONTROL: SIGNAL

CLASS:	3-AXLE TRUCKS	NOTES:																	
		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
		SL	NR	NT	NL	SR	ST	SR	ST	EL	ET	ER	EL	ET	ER	WL	WT	WR	TL
AM	PM	OTHER	MD	S	N	E	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲

LANES:	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	SL	NR	NT	NL	SR	ST	SR	ST	EL	ET	ER	EL	ET	ER	WL	WT	WR	TL
	APPROACH %	0%	26%	74%	0%	36%	64%	0%	56%	0%	44%	0%	0%	0%	0%	0%	0%	0%
VOLUMES	0	10	29	0	14	25	0	10	0	8	0	0	0	0	0	0	0	0
BEGIN PEAK HR	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM
APPROACH %	0%	22%	78%	0%	43%	57%	0%	78%	0%	22%	0%	0%	0%	0%	0%	0%	0%	0%
VOLUMES	0	4	14	0	9	12	0	7	0	2	0	0	0	0	0	0	0	0
BEGIN PEAK HR	03:00 PM	03:00 PM	03:00 PM	03:00 PM	03:00 PM	03:00 PM	03:00 PM	03:00 PM	03:00 PM	03:00 PM	03:00 PM	03:00 PM	03:00 PM	03:00 PM	03:00 PM	03:00 PM	03:00 PM	03:00 PM
APPROACH %	0%	48%	52%	0%	44%	56%	0%	48%	0%	52%	0%	0%	0%	0%	0%	0%	0%	0%
VOLUMES	0	11	12	0	12	15	0	10	0	11	0	0	0	0	0	0	0	0
BEGIN PEAK HR	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM
APPROACH %	0%	60%	40%	0%	50%	50%	0%	46%	0%	54%	0%	0%	0%	0%	0%	0%	0%	0%
VOLUMES	0	9	6	0	5	5	0	6	0	7	0	0	0	0	0	0	0	0
BEGIN PEAK HR	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM
APPROACH %	0%	48%	52%	0%	44%	56%	0%	48%	0%	52%	0%	0%	0%	0%	0%	0%	0%	0%
VOLUMES	0	11	12	0	12	15	0	10	0	11	0	0	0	0	0	0	0	0
BEGIN PEAK HR	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM
APPROACH %	0%	60%	40%	0%	50%	50%	0%	46%	0%	54%	0%	0%	0%	0%	0%	0%	0%	0%
VOLUMES	0	9	6	0	5	5	0	6	0	7	0	0	0	0	0	0	0	0
BEGIN PEAK HR	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM
APPROACH %	0%	60%	40%	0%	50%	50%	0%	46%	0%	54%	0%	0%	0%	0%	0%	0%	0%	0%
VOLUMES	0	9	6	0	5	5	0	6	0	7	0	0	0	0	0	0	0	0
BEGIN PEAK HR	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM
APPROACH %	0%	60%	40%	0%	50%	50%	0%	46%	0%	54%	0%	0%	0%	0%	0%	0%	0%	0%
VOLUMES	0	9	6	0	5	5	0	6	0	7	0	0	0	0	0	0	0	0
BEGIN PEAK HR	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM
APPROACH %	0%	60%	40%	0%	50%	50%	0%	46%	0%	54%	0%	0%	0%	0%	0%	0%	0%	0%
VOLUMES	0	9	6	0	5	5	0	6	0	7	0	0	0	0	0	0	0	0
BEGIN PEAK HR	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM
APPROACH %	0%	60%	40%	0%	50%	50%	0%	46%	0%	54%	0%	0%	0%	0%	0%	0%	0%	0%
VOLUMES	0	9	6	0	5	5	0	6	0	7	0	0	0	0	0	0	0	0
BEGIN PEAK HR	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM



1	0	2	0
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2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

3	0	2	0
---	---	---	---

5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

NRR	SRR	ERR	WRR
-----	-----	-----	-----

NB	SB	EB	WB	TTL
----	----	----	----	-----

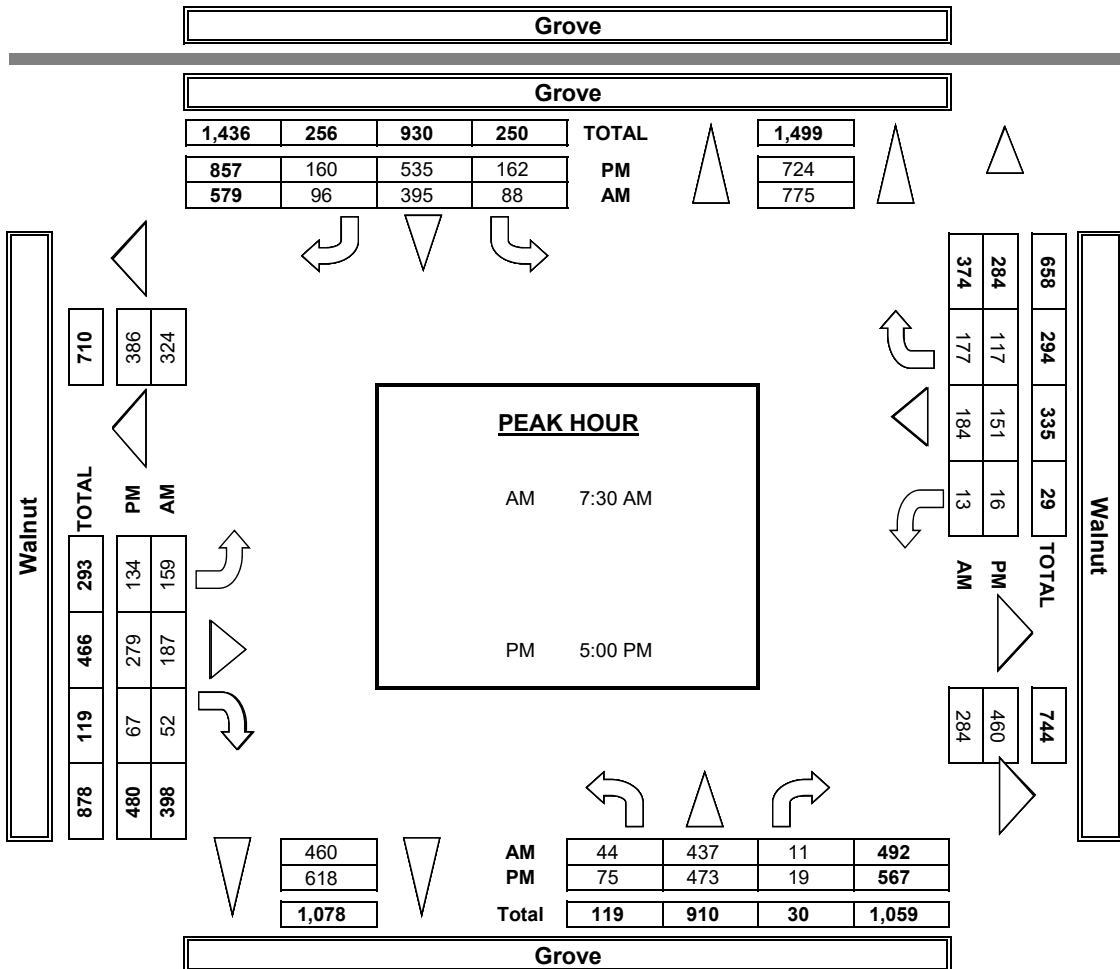
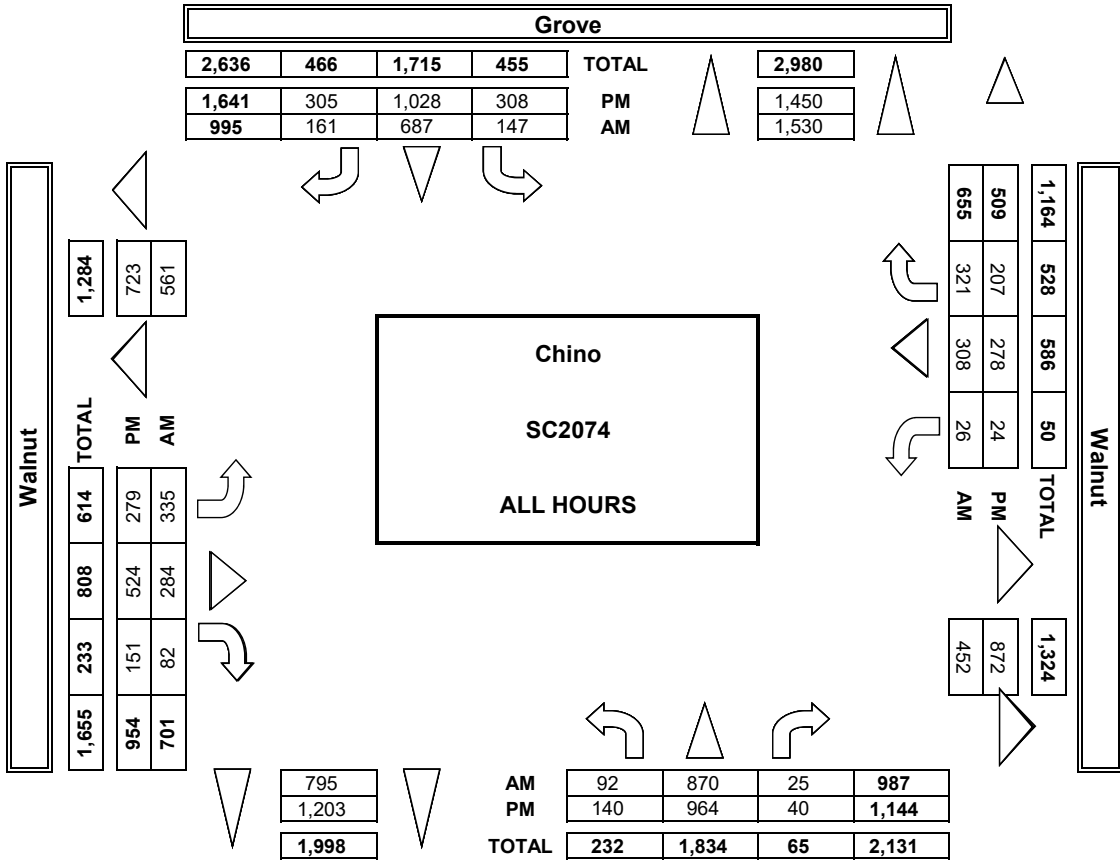
RTOR
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U-TURNS
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**AimTD LLC**  
TURNING MOVEMENT COUNTS





### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AImTD LLC, tel: 714 253 7888 csa@aimtd.com

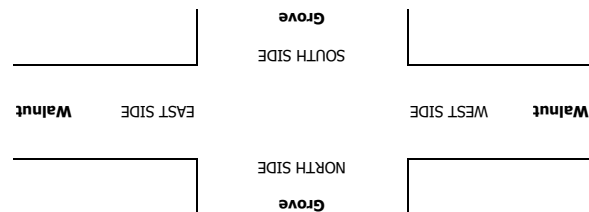
DATE: 1/30/19  
 WEDNESDAY  
 LOCATION: CHINO  
 NORTH & WEST: GROVE  
 EAST & WEST: WALNUT

PROJECT #: SC2074  
 LOCATION #: 28  
 CONTROL: SIGNAL

<b>CLASS 3:</b>	TRUCKS	
<b>NOTES:</b>		
AM PM MD OTHER	N S E W	▲ ▼ ▶ ◀

LANES:	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	Z	NR	SL	ST	Z	SR	EL	ET	Z	ER	WL	WT	Z	WR	
	1	2	0	1	3	0	1	1	1	1	1	1	1	1	2	0	

TIME	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	Z	NR	SL	ST	Z	SR	EL	ET	Z	ER	WL	WT	Z	WR	
7:00 AM	1	6	0	1	3	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	2	0	2	3	0	1	1	1	1	0	0	0	0	0	0	
7:30 AM	0	2	0	2	3	0	8	8	1	1	0	0	0	0	0	0	
7:45 AM	0	1	0	1	0	0	3	0	0	0	0	0	0	1	0	0	
8:00 AM	0	7	0	7	0	0	5	0	0	0	0	0	0	0	0	0	
8:15 AM	0	6	0	6	0	0	4	0	1	1	0	0	0	0	0	0	
8:30 AM	0	4	0	4	0	0	2	0	0	0	0	0	0	0	0	0	
8:45 AM	1	9	0	9	0	0	3	0	1	1	0	0	0	0	0	0	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
VOLUMES	37	37	0	37	1	31	3	34	2	3	0	3	1	1	1	80	
APPROACH %	5%	95%	0%	3%	89%	9%	40%	60%	0%	0%	0%	0%	100%	0%	0%	0	
AP/DEPART	39	39	0	35	0	0	0	0	1	1	0	0	0	0	0	0	
BEGIN PEAK HR	8:00 AM																
VOLUMES	1	26	0	4%	14	88%	13%	2	50%	0%	1	50%	0%	0%	0%	45	
APPROACH %	0%	96%	0%	0.675	0.800	0.800	0.800	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.804	
AP/DEPART	27	27	0	16	15	2	2	15	0	0	0	0	0	0	0	0	
BEGIN PEAK HR	3:00 PM																
VOLUMES	2	22	0	8%	14	100%	0%	4	25%	0%	3	75%	0%	1	0	54	
APPROACH %	92%	0%	0%	100%	0%	0%	75%	100%	0%	100%	0%	100%	0%	0%	0%	0	
AP/DEPART	24	23	0	25	28	4	0	28	0	0	0	0	0	0	0	0	
BEGIN PEAK HR	5:00 PM																
VOLUMES	2	12	0	0%	14	100%	0%	0	0%	0%	2	100%	0%	0	0	30	
APPROACH %	14%	86%	0%	0.500	0.700	0.700	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.682		
AP/DEPART	14	12	0	14	16	2	0	16	0	0	0	0	0	0	0	0	

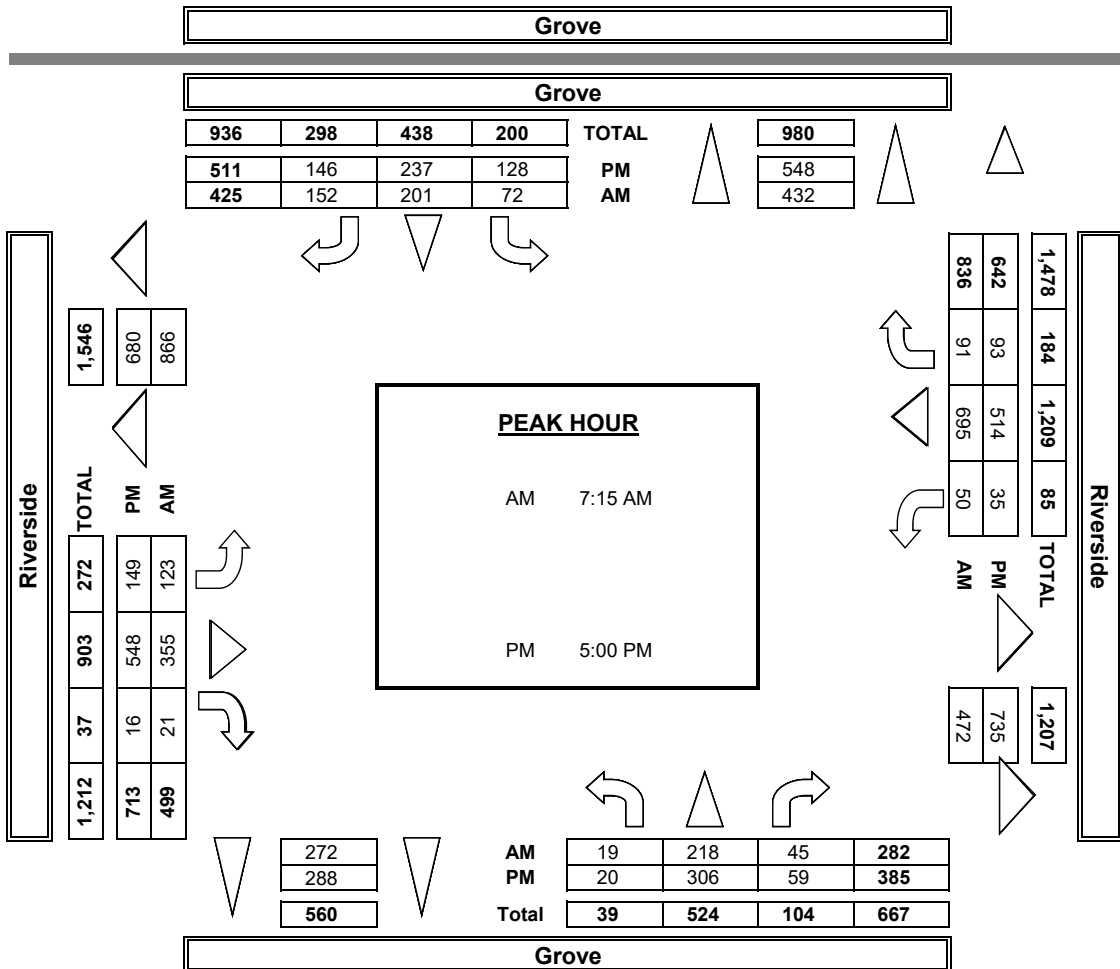
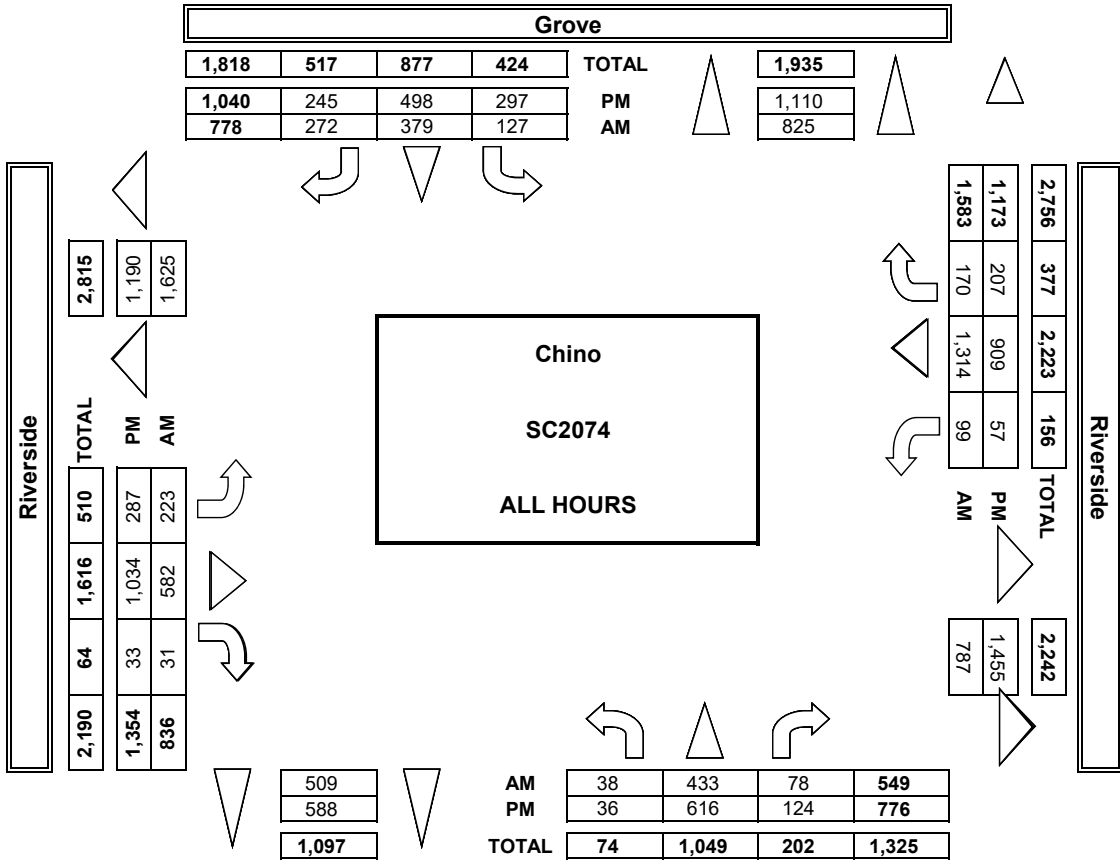








**AimTD LLC**  
TURNING MOVEMENT COUNTS





**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimtD LLC, tel: 714 253 7888 cs@aimtd.com

DATE: 1/30/19  
 WEDNESDAY  
 LOCATION: CHINO  
 NORTH & SOUTH: GROVE  
 EAST & WEST: RIVERSIDE

PROJECT #: SC2074  
 LOCATION #: 29  
 CONTROL: SIGNAL

CLASS 3: 3-AXLE TRUCKS	NOTES:											
	AM PM MD OTHER S N E W											

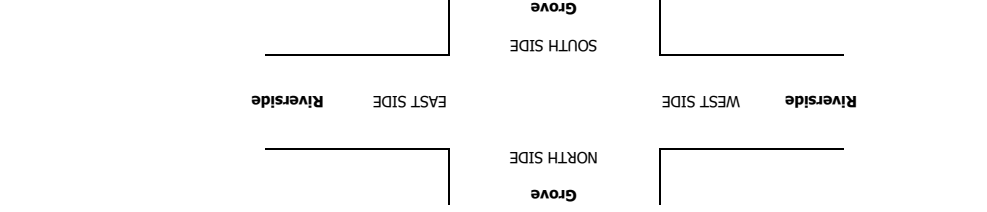
LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	0	1	1	1	1	1	1	1	2	0

VOLUMES	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	
83	4%	96%	0%	12%	85%	3%	50%	21%	29%	14%	43%	

AP/DEPART	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	
53	5%	19%	0%	6%	15%	0%	50%	17%	33%	20%	60%	

AP/DEPART	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND		
	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	
0.779	0%	0.714	0%	0.667	0%	0.750	0%	0.417	0%	0.500	0%	

AP/DEPART	NORTHBOUND			SOUTHBOUND			EAST SIDE			WEST SIDE		
	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	
59	0%	20%	5%	19%	65%	15%	57%	43%	0%	100%	0%	



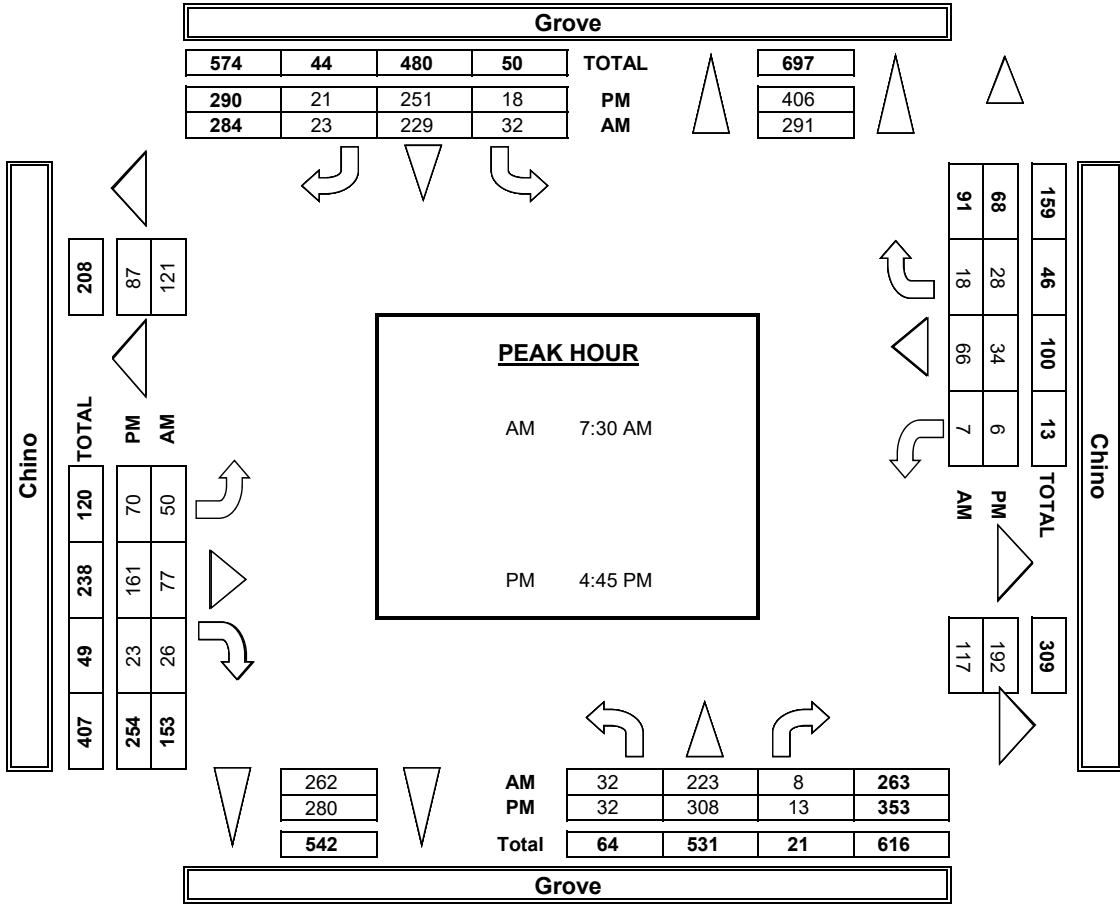
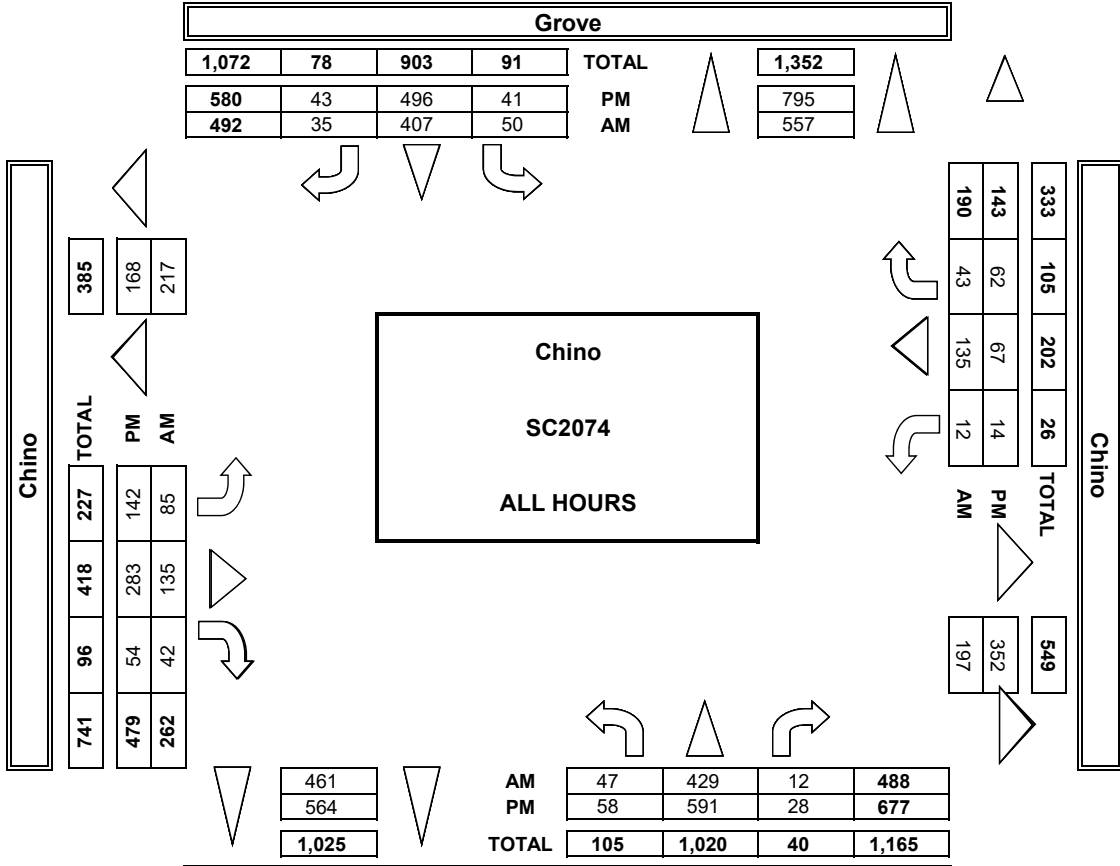
AP/DEPART	NORTH SIDE			SOUTH SIDE		
	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %
32	0%	100%	0%	60%	40%	0%

AP/DEPART	NORTH SIDE			SOUTH SIDE		
	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %	APPROACH %
0	0%	0%	0%	0%	0%	0%





**AimTD LLC**  
TURNING MOVEMENT COUNTS







**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTMD LLC, tel: 714 253 7888 cs@aimtmd.com

PROJECT #: SC2074  
 LOCATION #: 30  
 CONTROL: STOP N/S

DATE: 1/30/19  
 WEDNESDAY  
 EAST & WEST:  
 Grove  
 Chino

**NOTES:**



NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL			
LN	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	NB	SB	EB	WB	TTL			
0	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0			

**U-TURNS**

NB	SB	EB	WB	TTL
0	0	0	0	0

**RTOR**

NRR	SRR	ERR	WRR
X	X	X	X

APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	LN	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	NB	SB	EB	WB	
10%	86%	5%	27%	73%	0%	67%	33%	0%	11%	22%	67%	69	0	0	0	0	
BEGIN PEAK HR	8:00 AM																0
VOLUMES	18	1	1	9	24	0	0	0	4	2	0	0	1	2	6	6	
APPROACH %	13%	13%	6%	22%	78%	0%	0%	0%	100%	0%	0%	0%	17%	33%	50%	44	
PEAK HR FACTOR	0.667				0.563				0.500				0.786				
BEGIN PEAK HR	5:00 PM																0
VOLUMES	1	1	1	2	13	0	0	0	1	4	0	0	0	0	0	0	
APPROACH %	5%	90%	5%	13%	87%	0%	0%	0%	20%	80%	0%	0%	0%	0%	100%	41	
PEAK HR FACTOR	0.393				0.400				0.500				0.688				

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtmTD LLC. tel: 714 253 7888 [cs@airtmtd.com](mailto:cs@airtmtd.com)

DATE: 1/30/19  
WEDNESDAY

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

Chino  
Grove  
Chino

PROJECT #: SC2074  
LOCATION #: 30  
CONTROL: STOP N/S

CLASS 4: AXLE TRUCKS	NOTES:	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		▲	▶	E		
		Gene	Gene	Gene	Gene	Chino	Chino	Chino	Chino	N	S			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
		0	1	0	0	1	0	0	1	0	0	1	0	0

U-TURNS					
NB	SB	EB	WB	TTL	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	

RTOR				
NRR	SRR	ERR	WRR	
0	0	0	0	
X	X	X	X	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	

AM															
LINES:	NORTHBOUND					SOUTHBOUND					EASTBOUND		WESTBOUND		TOTAL
	Gene	Gene	Gene	Gene	Gene	Gene	Gene	Gene	Gene	Chino	Chino	Chino	Chino		
7:00 AM	0	6	0	0	0	0	1	0	0	0	0	1	0	1	6
7:15 AM	0	9	0	1	3	0	0	0	0	0	0	0	0	0	3
7:30 AM	0	9	1	1	0	4	0	0	1	0	0	1	0	0	16
7:45 AM	1	7	0	1	8	0	0	0	0	0	0	1	1	1	18
8:00 AM	0	7	0	0	8	0	0	0	0	0	0	0	0	0	19
8:15 AM	0	6	1	1	7	1	1	1	1	1	0	1	1	0	15
8:30 AM	0	8	1	1	5	0	0	2	0	0	0	0	0	1	19
8:45 AM	0	6	0	1	8	2	1	1	0	0	0	2	1	0	18
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	1	58	3	3	5	44	3	2	3	1	2	2	5	14	141
APPROACH %	2%	94%	5%	10%	85%	6%	33%	50%	17%	10%	24%	67%			0
APP/DEPART	62	/	74	52	/	47	6	/	/	11	21	/	9		0
BEGIN PEAK HR															
VOLUMES	0	27	2	3	28	3	2	2	0	0	1	3	2	73	
APPROACH %	0%	93%	7%	9%	82%	9%	50%	50%	0%	17%	50%	33%	33%	0.869	
PEAK HR FACTOR															
APP/DEPART	29	/	31	34	/	29	4	/	7	6	6	0	0	0	
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	5	1	3	6	0	0	2	1	0	0	0	2	20	
4:30 PM	0	4	0	1	7	0	0	1	1	0	1	1	0	15	
4:45 PM	0	4	0	1	10	0	0	1	0	0	0	0	0	16	
5:00 PM	0	2	1	2	7	0	0	0	0	0	0	0	1	13	
5:15 PM	1	5	0	1	4	0	0	1	0	0	0	0	0	11	
5:30 PM	0	3	1	1	7	0	0	0	0	0	1	0	2	17	
5:45 PM	1	1	0	1	4	0	0	0	0	0	0	0	0	9	
VOLUMES	2	26	5	10	49	0	1	5	1	2	2	1	6	108	
APPROACH %	6%	79%	15%	17%	83%	0%	14%	71%	14%	22%	11%	67%		0	
APP/DEPART	33	/	33	59	/	52	7	/	20	9	9	/	3	0	
BEGIN PEAK HR															
VOLUMES	0	15	2	7	30	0	0	4	1	1	1	1	3	64	
APPROACH %	0%	88%	12%	19%	81%	0%	0%	80%	20%	20%	20%	60%		0.800	
PEAK HR FACTOR															
APP/DEPART	17	/	18	37	/	32	5	/	13	5	5	/	1	0	

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

Grove  
NORTH SIDE

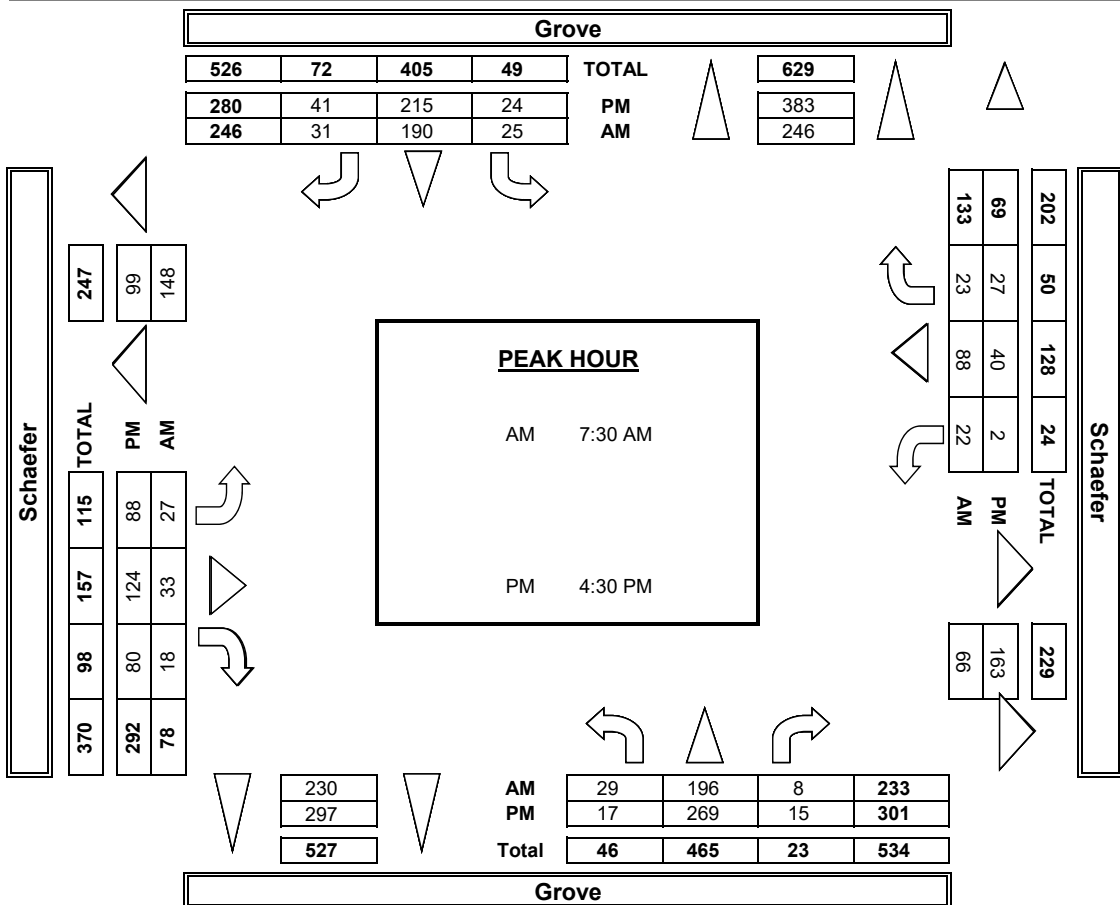
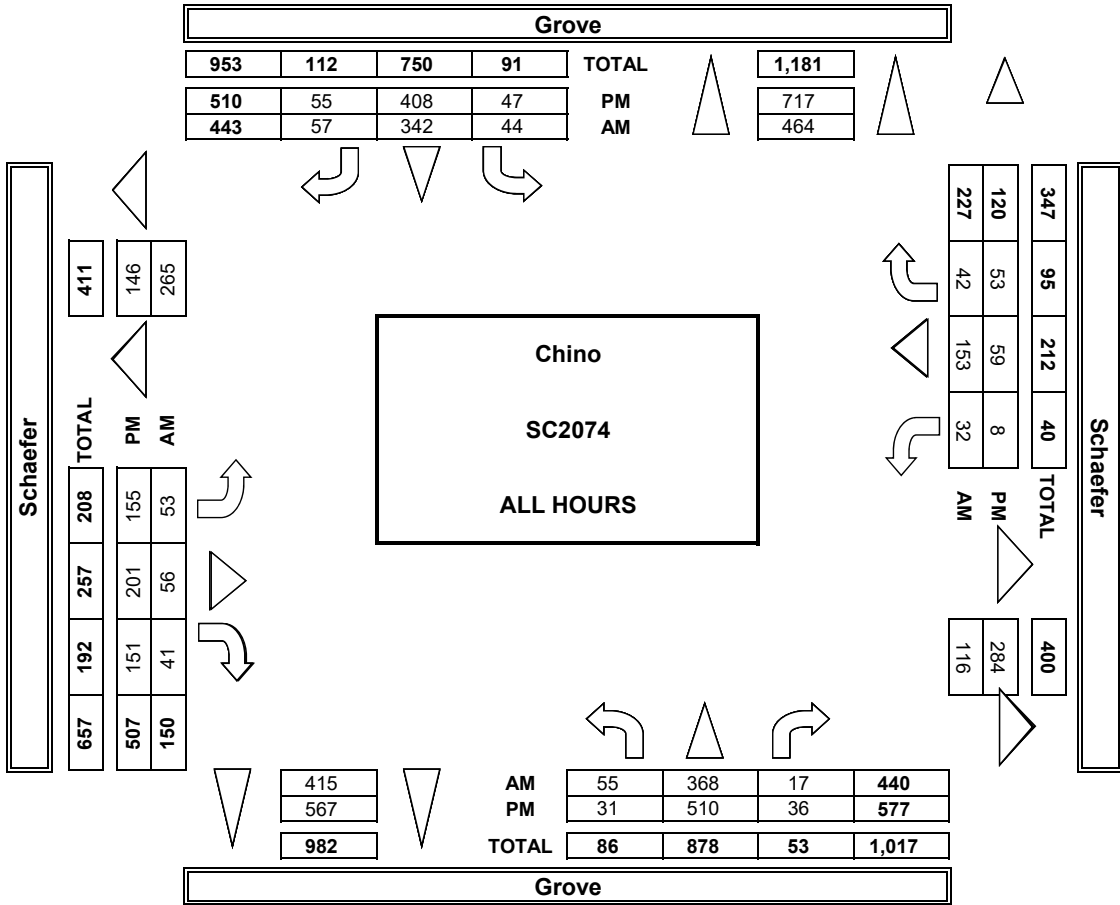
Chino  
WEST SIDE

Grove  
EAST SIDE

Chino  
SOUTH SIDE



**AimTD LLC**  
TURNING MOVEMENT COUNTS



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtmD LLC, tel: 714 253 7888 [cs@airtmD.com](mailto:cs@airtmD.com)

DATE: 1/30/19  
WEDNESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST: Chino Grove  
Schaefer

PROJECT #: SC2074  
LOCATION #: 31  
CONTROL: STOP ALL

<b>CLASS 2:</b> 2-AXLE WORK VEHICLES/ TRUCKS	<b>NOTES:</b>							NB PM	NB PM	WB PM	WB PM	WB PM	WB PM	WB PM	WB PM		
								M/D	M/D	M/D	M/D	M/D	M/D	M/D	M/D	M/D	M/D
							OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER

LANES:	NORTHBOUND				SOUTHBOUND				EASTBOUND			WESTBOUND			TOTAL			
	Grove		Grove		Grove		Schaefer		Schaefer			Schaefer						
	NL	NT	NR	NR	SL	ST	SR	SR	EL	ET	ER	ER	WL	WT		WR	WR	
7:00 AM	0	1	1	1	0	9	0	0	0	1	1	0	0	2	1	1	2	17
7:15 AM	0	3	0	0	0	3	2	2	0	0	0	2	0	2	0	2	18	
7:30 AM	0	0	0	0	0	8	0	1	1	1	1	0	0	2	0	2	14	
7:45 AM	0	2	0	0	0	6	0	0	0	0	0	0	0	0	0	0	8	
8:00 AM	1	3	0	0	1	1	0	2	0	0	0	0	0	6	6	2	32	
8:15 AM	0	3	1	1	1	2	1	1	3	1	0	0	0	1	1	1	14	
8:30 AM	0	4	0	1	1	2	0	0	1	1	1	0	0	1	1	0	10	
8:45 AM	0	3	1	0	1	7	0	0	0	0	0	0	0	0	0	0	17	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	1	19	3	3	3	41	3	3	7	6	6	6	19	12	10	10	130	
APPROACH %	4%	83%	13%	13%	6%	87%	6%	66%	37%	32%	32%	46%	29%	24%			0	
APP/DEPART	23	/	37	47	7	/	66	19	/	11	41	/	16				0	
BEGIN PEAK HR		13	2	2	12	1	6	3	3	3	16	9	4	73			0	
VOLUMES		13	81%	13%	75%	6%	50%	25%	25%	55%	31%	14%	0.570				0	
APPROACH %	6%	81%	13%	13%	75%	6%	50%	25%	25%	55%	31%	14%	0.570				0	
PEAK HR FACTOR		1.000			0.571		0.750			0.302								0
APP/DEPART	16	/	24	16	/	31	12	/	7	29	/	11	0				0	
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 PM	0	6	1	2	4	0	0	1	1	2	0	1	1	1	1	1	18	
4:15 PM	1	3	5	2	2	7	2	1	1	2	3	0	0	0	0	0	20	
4:30 PM	0	10	1	1	2	1	2	0	0	0	0	2	2	3	3	3	30	
4:45 PM	2	3	3	3	5	2	0	2	2	2	0	2	1	1	1	1	19	
5:00 PM	0	6	1	1	0	0	3	1	4	2	0	0	1	1	1	1	16	
5:15 PM	0	5	4	2	2	3	0	0	4	1	1	2	0	2	0	0	21	
5:30 PM	0	9	2	2	0	1	1	1	2	2	0	1	1	1	1	1	16	
5:45 PM	0	2	2	2	0	3	0	0	1	1	1	0	0	0	0	0	9	
VOLUMES	3	44	18	10	24	6	5	15	7	7	8	8	8	149			0	
APPROACH %	5%	68%	28%	25%	60%	15%	19%	56%	26%	6%	47%	47%		0			0	
APP/DEPART	65	/	57	40	/	32	27	/	43	17	/	17	0				0	
BEGIN PEAK HR		22	10	7	17	3	3	6	5	0	5	6	87				0	
VOLUMES		22	63%	29%	26%	63%	11%	21%	43%	36%	45%	55%	0.725				0	
APPROACH %	9%	63%	29%	26%	63%	11%	21%	43%	36%	45%	55%	0.725					0	
PEAK HR FACTOR		0.795		0.614		0.614		0.583		0.550								0
APP/DEPART	35	/	31	27	/	22	14	/	23	11	/	11	0				0	

Grove

Grove

Schaefer WEST SIDE

Schaefer EAST SIDE

Grove SOUTH SIDE

Grove SOUTH SIDE

U-TURNS							
NB	SB	EB	WB	TTL	NB	SB	TTL
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

RTOR							
NRR	SRR	ERR	WRR	NRR	SRR	ERR	WRR
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

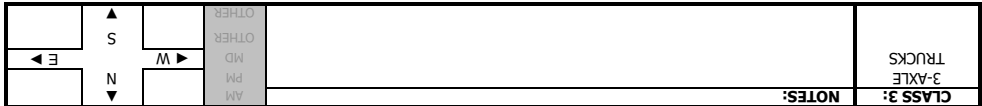
INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AImTD LLC, tel: 714 253 7888 cs@aimtd.com

DATE: 1/30/19  
LOCATION: NORTH & WEST: Chino  
EAST & WEST: Schaefer  
Grove

PROJECT #: SC2074  
LOCATION #: 31  
CONTROL: STOP ALL

CLASS 3: TRUCKS



U-TURNS			
	NB	SB	TTL
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0

RTOR			
	NRR	SRR	TTL
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0

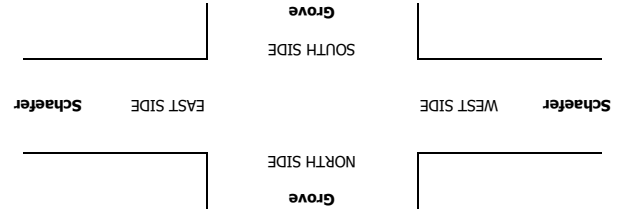
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0

0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---

LAMES:	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		TOTAL	
	NL	NT	SL	SR	EL	ET	ER	WL		WT
7:00 AM	1	0	0	0	1	1	1	0	1	1
7:15 AM	1	0	0	0	1	1	1	0	1	1
7:30 AM	1	0	0	0	1	1	1	0	1	1
7:45 AM	0	2	1	1	0	1	0	2	0	6
8:00 AM	0	4	0	0	0	1	0	0	0	6
8:15 AM	0	1	0	0	0	1	0	0	0	6
8:30 AM	0	1	0	0	0	1	0	0	0	2
8:45 AM	0	2	1	1	0	3	0	0	0	10
9:00 AM	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0
VOLUMES	13	2	10	2	5	2	2	4	1	45
APPROACH %	0%	87%	13%	25%	63%	13%	71%	29%	57%	14%
BEGIN PEAK HR	8:00 AM									
VOLUMES	8	1	4	5	10%	4	0	0	1	24
APPROACH %	0%	89%	11%	40%	50%	10%	100%	0%	0%	100%
PEAK HR FACTOR	0.563		0.625		0.333		0.250		0.600	
AP/D/DEPART	15 / 19		12 / 8		7 / 6		1		0	
BEGIN PEAK HR	5:00 PM									
VOLUMES	6	2	2	2	2	2	4	0	4	30
APPROACH %	0%	83%	17%	25%	25%	50%	67%	0%	0%	100%
AP/D/DEPART	12 / 18		8 / 6		3 / 3		2 / 4		0 / 4	
BEGIN PEAK HR	3:00 PM									
VOLUMES	6	2	0	0	1	1	2	0	2	18
APPROACH %	0%	75%	0%	0%	20%	80%	67%	33%	100%	0.750
AP/D/DEPART	8 / 10		5 / 1		3 / 3		2 / 3		0 / 4	
BEGIN PEAK HR	5:00 PM									
VOLUMES	0	2	0	0	1	1	2	0	0	5
APPROACH %	0%	100%	0%	0%	50%	50%	67%	0%	0%	100%
AP/D/DEPART	0 / 4		0 / 6		0 / 3		0 / 4		0 / 0	

PM

AM



### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtmTD LLC, tel: 714 253 7888 csc@airtmtd.com

DATE: 1/30/19  
WEDNESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST: Schaefer

PROJECT #: SC2074  
LOCATION #: 31  
CONTROL: STOP ALL

CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:										AM <input type="checkbox"/> PM <input type="checkbox"/> MD <input type="checkbox"/> OTHER <input type="checkbox"/> OTHER			▲	N	▶	E	▶

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Grove			Grove			Schaefer			Schaefer			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	1	0	0	1	0	0	1	0	0	1	0	

7:00 AM	0	0	0	0	3	0	1	2	1	0	0	0	4
7:15 AM	0	6	0	1	3	0	0	0	0	0	0	0	3
7:30 AM	0	1	0	0	5	0	2	0	0	0	3	2	13
7:45 AM	0	3	0	1	6	2	2	0	0	0	1	1	17
8:00 AM	0	4	0	1	4	1	0	1	0	1	1	3	16
8:15 AM	0	2	0	2	6	0	1	3	0	0	0	0	14
8:30 AM	0	7	0	1	4	2	2	1	0	1	1	1	19
8:45 AM	2	3	0	1	5	1	1	0	1	1	0	2	17
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	2	26	0	7	36	6	9	7	2	2	6	6	120
APPROACH %	7%	93%	0%	14%	73%	12%	50%	39%	11%	8%	24%	68%	
APPROACH FACTOR	28	/	52	49	/	40	18	/	14	25	/	14	0
APPROACH %	2	16	0	5	19	4	4	5	1	2	2	6	66
APPROACH %	11%	89%	0%	18%	68%	14%	40%	50%	10%	20%	20%	60%	0.868
PEAK HR FACTOR	0.643	/	0.643	0.778	/	0.778	0.625	/	0.625	0.500	/	0.500	
APPROACH %	18	/	26	28	/	22	10	/	10	10	/	8	0

U-TURNS									
NB	SB	EB	WB	TTL	NB	SB	EB	WB	TTL
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0

RTOR							
NRR	SRR	ERR	WRR	NRR	SRR	ERR	WRR
0	0	0	0	0	0	0	0
X	X	X	X	X	X	X	X
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	5	2	5	4	0	0	0	0	0	1	0	17
4:15 PM	0	3	1	2	3	0	1	1	0	0	0	0	11
4:30 PM	0	0	0	2	0	1	0	2	0	0	0	1	6
4:45 PM	0	0	1	3	0	2	1	2	1	0	0	1	11
5:00 PM	0	2	0	3	1	1	1	1	0	0	0	0	9
5:15 PM	0	3	0	4	0	1	0	1	0	0	1	1	11
5:30 PM	0	2	0	2	2	2	0	0	1	0	0	1	8
5:45 PM	0	4	1	2	2	1	0	0	0	0	0	0	10
VOLUMES	0	19	5	23	12	6	3	7	2	2	2	4	83
APPROACH %	0%	79%	21%	56%	29%	15%	25%	58%	17%	0%	33%	67%	
APPROACH FACTOR	24	/	26	41	/	14	12	/	35	6	/	8	0
APPROACH %	0	8	4	12	7	3	2	5	1	0	1	2	45
APPROACH %	0%	67%	33%	55%	32%	14%	25%	63%	13%	0%	33%	67%	0.662
PEAK HR FACTOR	0.429	/	0.429	0.611	/	0.611	0.500	/	0.500	0.750	/	0.750	
APPROACH %	12	/	12	22	/	8	8	/	21	3	/	4	0

0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0

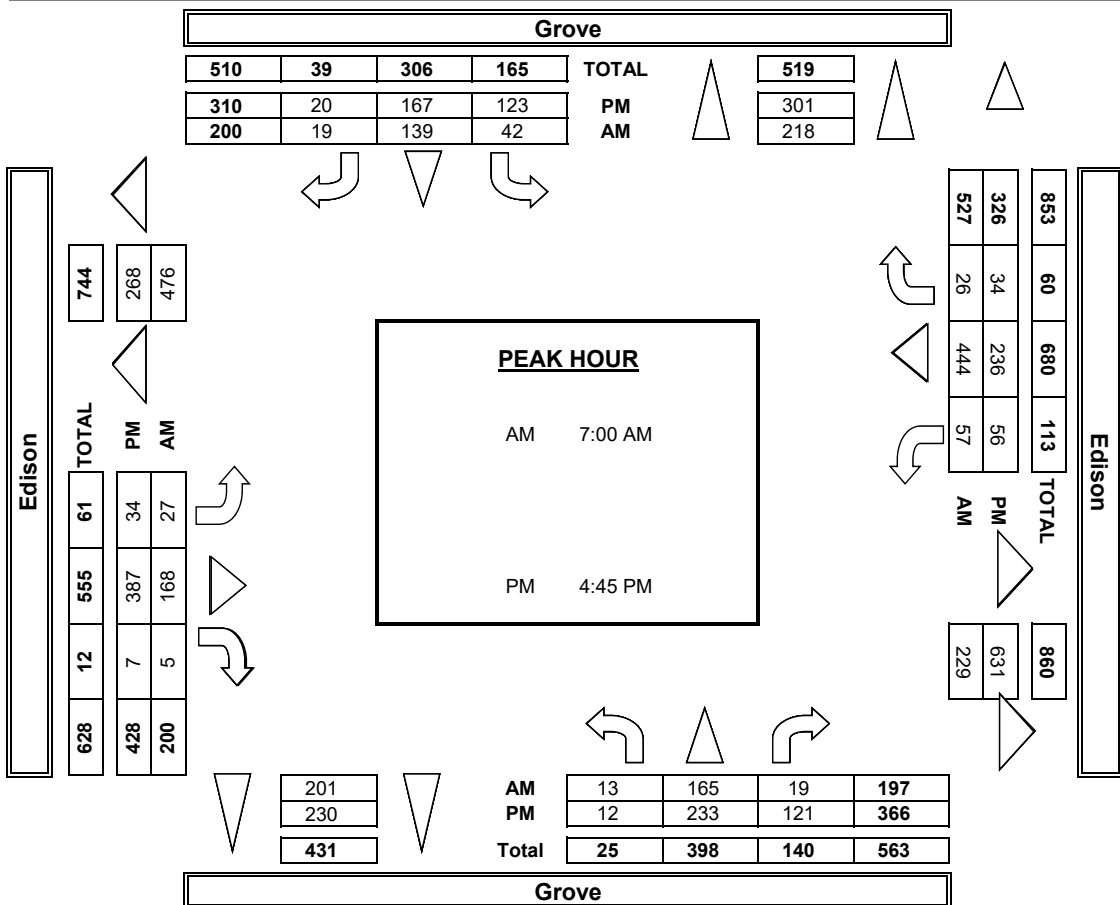
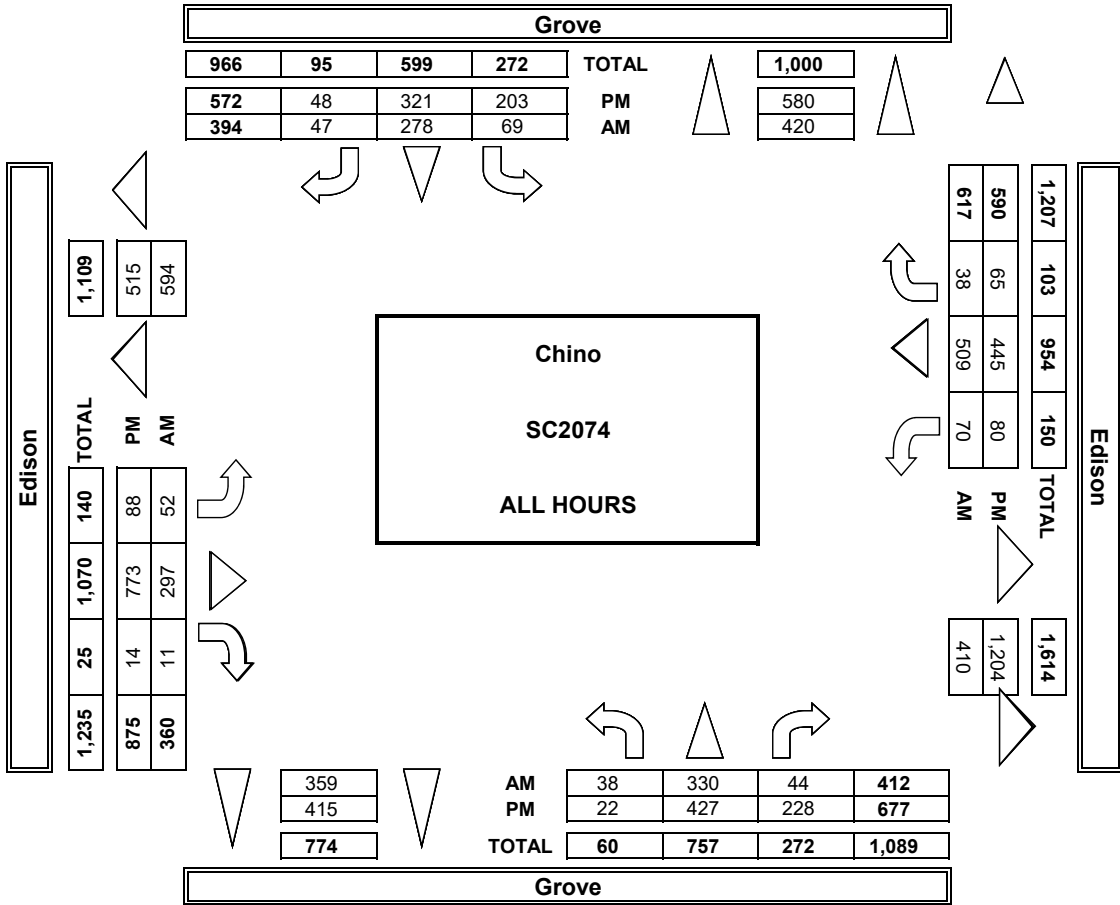
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0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0







**AimTD LLC**  
TURNING MOVEMENT COUNTS



### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtTD LLC, tel: 714 253 7888 [cs@airttd.com](mailto:cs@airttd.com)

DATE: 1/30/19	PROJECT #: SC2074
WEDNESDAY	LOCATION #: 32
LOCATION: NORTH & SOUTH: EAST & WEST: Edison	CONTROL: STOP ALL

CLASS 2: WORK VEHICLES/ TRUCKS	NOTES:	Grove														
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND					
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	▲	▼	↔
		0	1	0	0	1	0	1	1	0	0	1	0	N	S	E

LANES:	Grove												Edison			TOTAL
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR			
	0	1	0	0	1	0	1	1	0	0	1	0	0			

U-TURNS									
NB	SB	EB	WB	TTL	NB	SB	EB	WB	TTL
0	0	0	0	0	0	0	0	0	0

RTOR							
NRR	SRR	ERR	WRR	NRR	SRR	ERR	WRR
0	0	0	0	X	X	X	X

AM															
VOLUMES	3	12	5	13	46	6	3	36	3	4	32	2	165		
APPROACH %	15%	60%	25%	20%	71%	9%	7%	86%	7%	11%	84%	5%	0		
APPROACH %	20	/	17	65	/	53	42	/	54	38	/	41	0		
APPROACH %	20	/	17	65	/	53	42	/	54	38	/	41	0		
BEGIN PEAK HR	7:15 AM														
VOLUMES	2	4	2	9	32	3	1	19	2	4	21	1	100		
APPROACH %	25%	50%	25%	20%	73%	7%	5%	86%	9%	15%	81%	4%	0.735		
PEAK HR FACTOR	0.667	/	/	0.579	/	/	0.688	/	0.688	0.542	/	0.26	0		

NB	SB	EB	WB	TTL	NB	SB	EB	WB	TTL
0	0	0	0	0	0	0	0	0	0

NRR	SRR	ERR	WRR	NRR	SRR	ERR	WRR
0	0	0	0	0	0	0	0

PM															
VOLUMES	1	35	10	10	18	5	13	37	0	7	27	10	173		
APPROACH %	2%	76%	22%	30%	55%	15%	26%	74%	0%	16%	61%	23%	0		
APPROACH %	46	/	58	33	/	25	50	/	57	44	/	33	0		
APPROACH %	46	/	58	33	/	25	50	/	57	44	/	33	0		
BEGIN PEAK HR	4:00 PM														
VOLUMES	1	20	7	7	13	3	7	22	0	2	14	5	101		
APPROACH %	4%	71%	25%	30%	57%	13%	24%	76%	0%	10%	67%	24%	0.871		
PEAK HR FACTOR	0.700	/	/	0.719	/	/	0.906	/	0.906	0.477	/	0.18	0		
APPROACH %	28	/	32	23	/	15	29	/	36	21	/	18	0		

NB	SB	EB	WB	TTL	NB	SB	EB	WB	TTL
0	0	0	0	0	0	0	0	0	0

NRR	SRR	ERR	WRR	NRR	SRR	ERR	WRR
0	0	0	0	0	0	0	0



**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

DATE: 1/30/19  
 WEDNESDAY  
 LOCATION: NORTH & SOUTH:  
 EAST & WEST:  
 Chino  
 Grove  
 Edison

PROJECT #: SC2074  
 LOCATION #: 32  
 CONTROL: STOP ALL

CLASS 3: 3-AXLE TRUCKS	NOTES:		AM PM OTHER MD OTHER	N S	E W
	▲				

LANES:		NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		TOTAL	
NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
0	1	0	0	1	0	0	0	0	0	1	0

7:00 AM	1	1	1	2	0	0	0	3	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	6	4	1	9	1	4	10	2	5	3	45
APPROACH %	0%	60%	40%	9%	82%	9%	29%	71%	20%	50%	30%
AP/DEPART	10	13	11	11	11	14	15	10	6	0	0
BEGIN PEAK HR	7:30 AM										
VOLUMES	0	2	2	5	14	3	30	7	14	2	28
APPROACH %	0%	50%	50%	14%	71%	14%	30%	70%	14%	57%	29%
AP/DEPART	4	7	7	7	6	10	10	7	5	0	0
PEAK HR FACTOR	0.500			0.583		0.417		0.583		0.778	

03:00 PM	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	8	4	2	3	0	9	4	4	2	36
APPROACH %	0%	67%	33%	40%	60%	0%	31%	69%	0%	67%	33%
AP/DEPART	12	14	5	3	13	15	6	4	0	4	0
BEGIN PEAK HR	4:00 PM										
VOLUMES	0	4	1	1	1	0	0	0	0	0	0
APPROACH %	0%	50%	50%	14%	86%	0%	14%	86%	0%	75%	25%
AP/DEPART	8	0.333	6	2	1	7	11	4	0	0.333	3
PEAK HR FACTOR	0.333			0.500		0.583		0.333		0.525	



0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0	0	0
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NRR	SRR	FRR	WRR
X	X	X	X

**RTOR**

0	0	0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0	0	0
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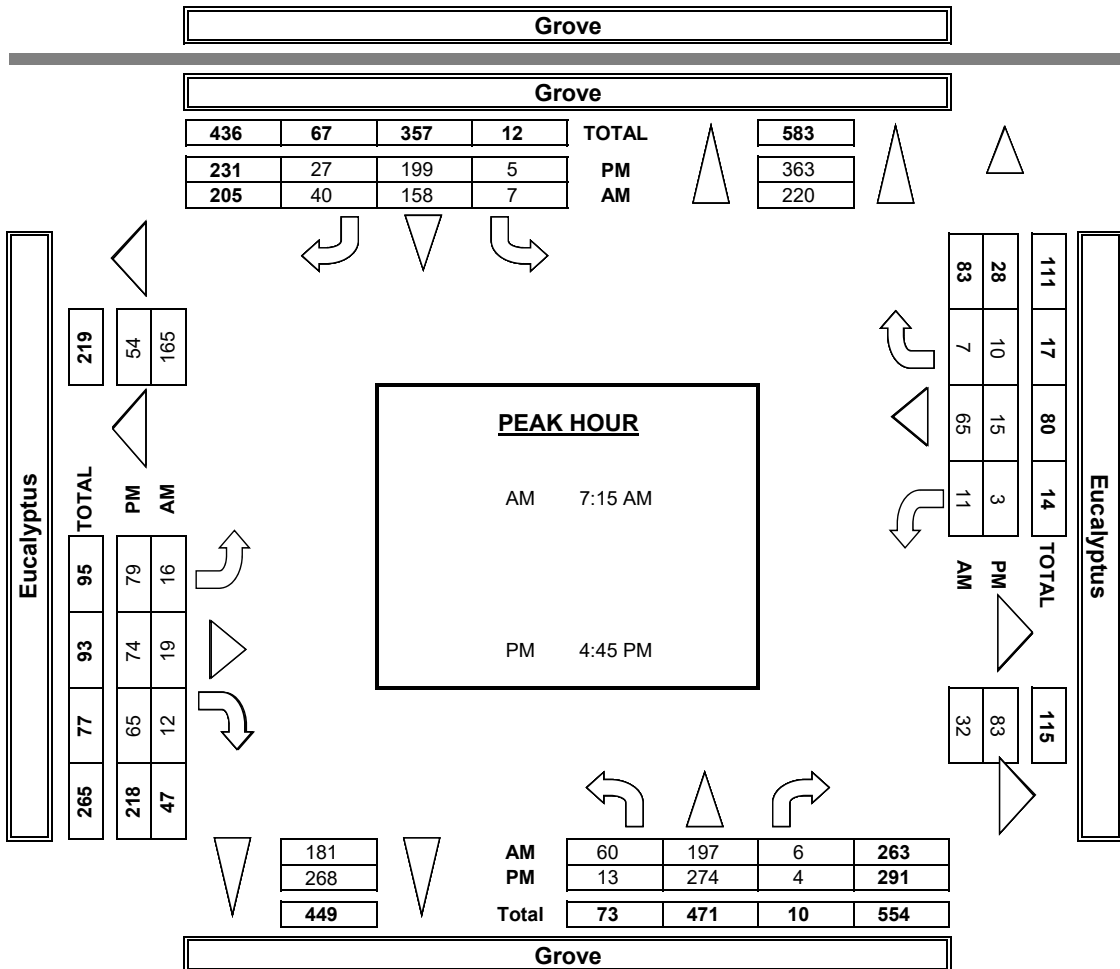
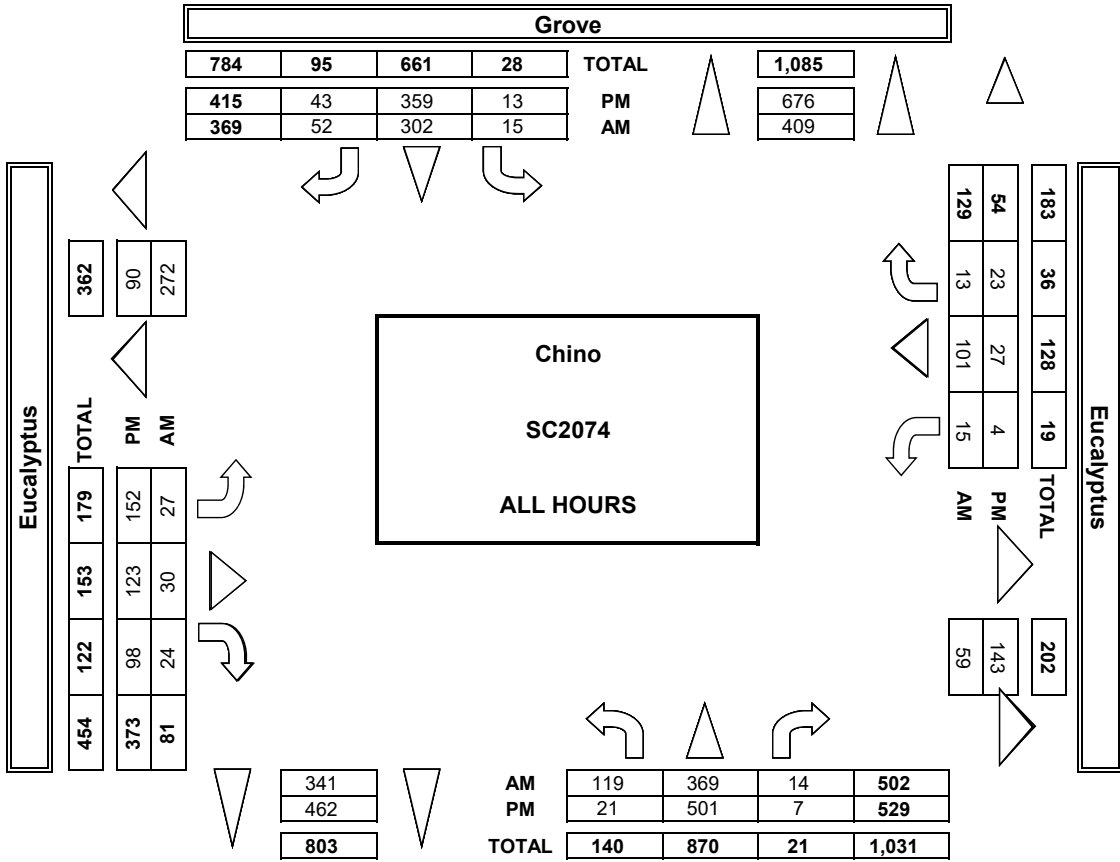
NB	SB	EB	WB	TTL
0	0	0	0	0

**U-TURNS**





**AimTD LLC**  
TURNING MOVEMENT COUNTS





**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTMD LLC, tel: 714 253 7888 cs@aimtmd.com

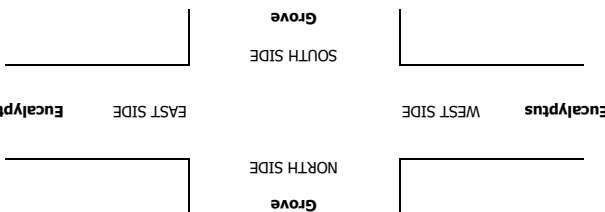
DATE: 1/30/19 WEDNESDAY  
 LOCATION: NORTH & SOUTH: China  
 EAST & WEST: Eucalyptus Grove  
 PROJECT #: SC2074  
 LOCATION #: 33  
 CONTROL: STOP E/W

CLASS: 3-AXLE TRUCKS	NOTES:											
	AM	PM	MD	OTHER	▲	S	▶	W	▶	N	▶	E

LANES:	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND						
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	
	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0

APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0%	40%	60%	25%	25%	50%	25%	11%	89%	0%	25%	92%	8%	56	23	2	0	0
BEGIN PEAK HR	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM
VOLUMES	0	4	6	3	6	3	1	8	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	40%	60%	25%	25%	50%	25%	11%	89% <td>0%</td> <td>25%</td> <td>92%</td> <td>8%</td> <td>56</td> <td>23</td> <td>2</td> <td>0</td> <td>0</td>	0%	25%	92%	8%	56	23	2	0	0
PEAK HR FACTOR	0.400	0.400	0.400	0.917	0.917	0.917	0.583	0.583	0.417	0.417	0.417	0.417	0.818	0.818	0.818	0.818	0.818	0.818

APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0%	100%	100%	33%	33%	0%	67%	40%	60%	0%	0%	0%	3	0	0	0	0	0
BEGIN PEAK HR	3:45 PM	3:45 PM	3:45 PM	3:45 PM	3:45 PM	3:45 PM	3:45 PM	3:45 PM	3:45 PM	3:45 PM	3:45 PM	3:45 PM	3:45 PM	3:45 PM	3:45 PM	3:45 PM	3:45 PM	3:45 PM
VOLUMES	0	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	100% <td>100% <td>33% <td>33% <td>0% <td>67% <td>40% <td>60% <td>0% <td>0% <td>0% <td>3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </td></td></td></td></td></td></td></td></td></td>	100% <td>33% <td>33% <td>0% <td>67% <td>40% <td>60% <td>0% <td>0% <td>0% <td>3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </td></td></td></td></td></td></td></td></td>	33% <td>33% <td>0% <td>67% <td>40% <td>60% <td>0% <td>0% <td>0% <td>3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </td></td></td></td></td></td></td></td>	33% <td>0% <td>67% <td>40% <td>60% <td>0% <td>0% <td>0% <td>3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </td></td></td></td></td></td></td>	0% <td>67% <td>40% <td>60% <td>0% <td>0% <td>0% <td>3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </td></td></td></td></td></td>	67% <td>40% <td>60% <td>0% <td>0% <td>0% <td>3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </td></td></td></td></td>	40% <td>60% <td>0% <td>0% <td>0% <td>3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </td></td></td></td>	60% <td>0% <td>0% <td>0% <td>3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </td></td></td>	0% <td>0% <td>0% <td>3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </td></td>	0% <td>0% <td>3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </td>	0% <td>3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td>	3	0	0	0	0	0
PEAK HR FACTOR	0.250	0.250	0.250	0.250	0.250	0.250	0.417	0.417	0.417	0.250	0.250	0.250	0.393	0.393	0.393	0.393	0.393	0.393







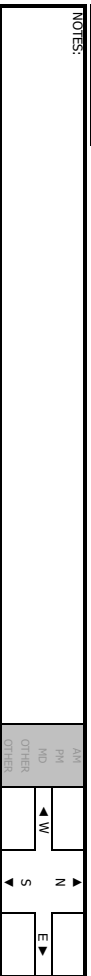
**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AlmtD LLC Tel: 714 253 7888 c@almtD.com

PROJECT #: SC0274  
 LOCATION #: 35  
 CONTROL: STOP ALL

DATE: Wed Jan 30, 19  
 LOCATION: NORTH & SOUTH:  
 EAST & WEST:

Chino  
 Grove  
 Merrill



Add U-Turns to Left Turns

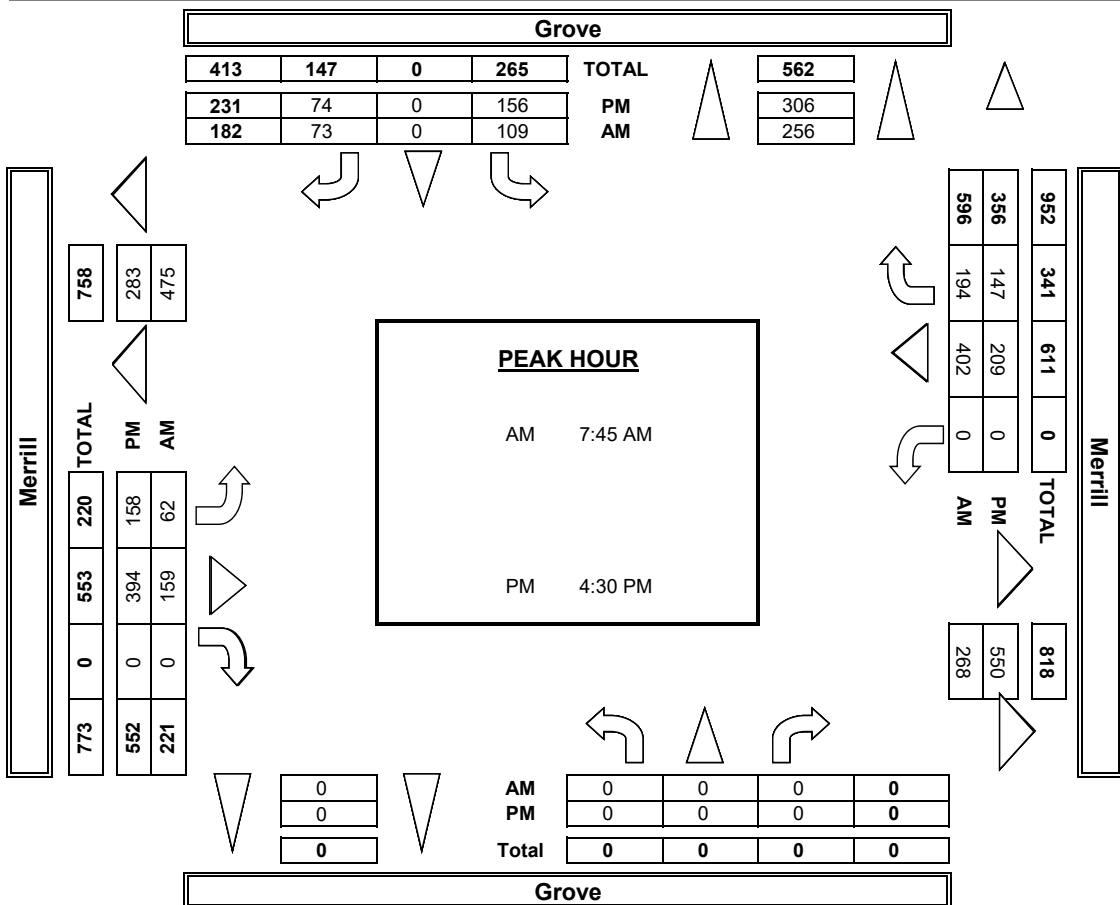
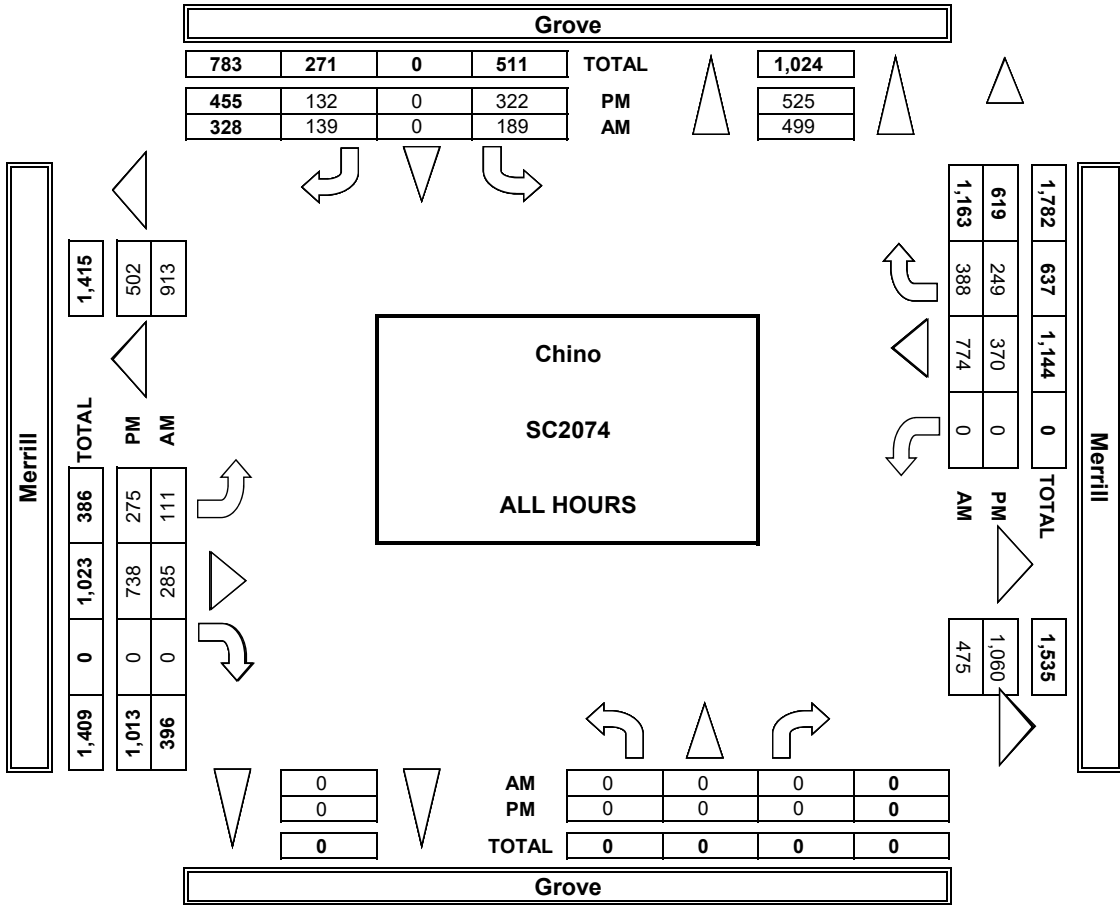
LANES:	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				U-TURNS				RTOR			
	NR	SR	LR	RR	SL	SR	SL	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

LANES:	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				U-TURNS				RTOR			
	NR	SR	LR	RR	SL	SR	SL	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



LANES:	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				U-TURNS				RTOR			
	NR	SR	LR	RR	SL	SR	SL	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**AimTD LLC**  
TURNING MOVEMENT COUNTS





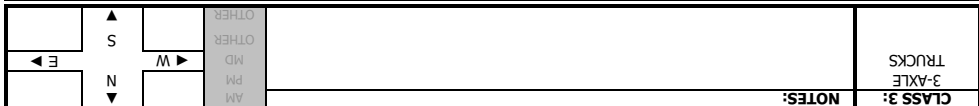
**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

DATE: 1/30/19  
 WEDNESDAY  
 LOCATION: NORTH & SOUTH: China  
 EAST & WEST: Merrill  
 PROJECT #: SC2074  
 LOCATION #: 35  
 CONTROL: STOP ALL

**CLASS 3:**  
 3-AXLE TRUCKS

**NOTES:**

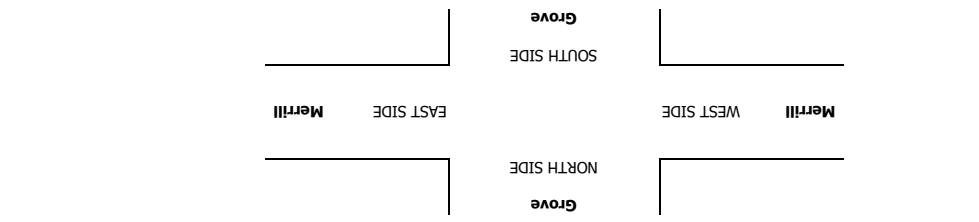


LANES:	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL			
	X	X	X	0	X	0	0	0	0	0	0	0	0			

APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
	0%	0%	0%	0%	63%	0%	38%	47%	53%	0%	14%	0%	14%			
BEGIN PEAK HR	0	0	0	0	0	0	0	0	0	0	0	0	0			
VOLUMES	0	0	0	0	5	0	3	7	8	0	0	0	0			
APPROACH %	0%	0%	0%	0%	63% <td>0% <td>38% <td>47% <td>53% <td>0% <td>14% <td>0% <td>14% </td></td></td></td></td></td></td></td>	0% <td>38% <td>47% <td>53% <td>0% <td>14% <td>0% <td>14% </td></td></td></td></td></td></td>	38% <td>47% <td>53% <td>0% <td>14% <td>0% <td>14% </td></td></td></td></td></td>	47% <td>53% <td>0% <td>14% <td>0% <td>14% </td></td></td></td></td>	53% <td>0% <td>14% <td>0% <td>14% </td></td></td></td>	0% <td>14% <td>0% <td>14% </td></td></td>	14% <td>0% <td>14% </td></td>	0% <td>14% </td>	14%			
PEAK HR FACTOR	0.000	0.000	0.000	0.000	0.417	0.000	0.417	0.464	0.563	0.000	0.563	0.000	0.482			

APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
	0%	0%	0%	0%	100%	0%	20%	80%	0%	0%	0%	0%	0%			
BEGIN PEAK HR	0	0	0	0	1	0	0	0	0	0	0	0	0			
VOLUMES	0	0	0	0	1	0	0	0	0	0	0	0	0			
APPROACH %	0% <td>0% <td>0% <td>0% <td>100% <td>0% <td>20% <td>80% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td></td></td></td></td>	0% <td>0% <td>0% <td>100% <td>0% <td>20% <td>80% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td></td></td></td>	0% <td>0% <td>100% <td>0% <td>20% <td>80% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td></td></td>	0% <td>100% <td>0% <td>20% <td>80% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td></td>	100% <td>0% <td>20% <td>80% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td>	0% <td>20% <td>80% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td>	20% <td>80% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td>	80% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td>	0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td>	0% <td>0% <td>0% <td>0% </td></td></td>	0% <td>0% <td>0% </td></td>	0% <td>0% </td>	0%			
PEAK HR FACTOR	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.583	0.000	0.000	0.000	0.000	0.625			

APPROACH %	NORTH SIDE				EAST SIDE				WEST SIDE				SOUTH SIDE			
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
BEGIN PEAK HR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
APPROACH %	0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td></td></td></td></td></td></td>	0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td></td></td></td></td></td>	0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td></td></td></td></td>	0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td></td></td></td>	0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td></td></td>	0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td></td>	0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td>	0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td>	0% <td>0% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td>	0% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td>	0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td>	0% <td>0% <td>0% <td>0% </td></td></td>	0% <td>0% <td>0% </td></td>	0% <td>0% </td>	0%	
PEAK HR FACTOR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	



APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
	0%	0%	0%	0%	63%	0%	38%	47%	53%	0%	14%	0%	14%			
BEGIN PEAK HR	0	0	0	0	0	0	0	0	0	0	0	0	0			
VOLUMES	0	0	0	0	5	0	3	7	8	0	0	0	0			
APPROACH %	0% <td>0% <td>0% <td>0% <td>63% <td>0% <td>38% <td>47% <td>53% <td>0% <td>14% <td>0% <td>14% </td></td></td></td></td></td></td></td></td></td></td></td>	0% <td>0% <td>0% <td>63% <td>0% <td>38% <td>47% <td>53% <td>0% <td>14% <td>0% <td>14% </td></td></td></td></td></td></td></td></td></td></td>	0% <td>0% <td>63% <td>0% <td>38% <td>47% <td>53% <td>0% <td>14% <td>0% <td>14% </td></td></td></td></td></td></td></td></td></td>	0% <td>63% <td>0% <td>38% <td>47% <td>53% <td>0% <td>14% <td>0% <td>14% </td></td></td></td></td></td></td></td></td>	63% <td>0% <td>38% <td>47% <td>53% <td>0% <td>14% <td>0% <td>14% </td></td></td></td></td></td></td></td>	0% <td>38% <td>47% <td>53% <td>0% <td>14% <td>0% <td>14% </td></td></td></td></td></td></td>	38% <td>47% <td>53% <td>0% <td>14% <td>0% <td>14% </td></td></td></td></td></td>	47% <td>53% <td>0% <td>14% <td>0% <td>14% </td></td></td></td></td>	53% <td>0% <td>14% <td>0% <td>14% </td></td></td></td>	0% <td>14% <td>0% <td>14% </td></td></td>	14% <td>0% <td>14% </td></td>	0% <td>14% </td>	14%			
PEAK HR FACTOR	0.000	0.000	0.000	0.000	0.417	0.000	0.417	0.464	0.563	0.000	0.563	0.000	0.482			

APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
	0%	0%	0%	0%	100%	0%	20%	80%	0%	0%	0%	0%	0%			
BEGIN PEAK HR	0	0	0	0	1	0	0	0	0	0	0	0	0			
VOLUMES	0	0	0	0	1	0	0	0	0	0	0	0	0			
APPROACH %	0% <td>0% <td>0% <td>0% <td>100% <td>0% <td>20% <td>80% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td></td></td></td></td>	0% <td>0% <td>0% <td>100% <td>0% <td>20% <td>80% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td></td></td></td>	0% <td>0% <td>100% <td>0% <td>20% <td>80% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td></td></td>	0% <td>100% <td>0% <td>20% <td>80% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td></td>	100% <td>0% <td>20% <td>80% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td></td>	0% <td>20% <td>80% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td></td>	20% <td>80% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td></td>	80% <td>0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td></td>	0% <td>0% <td>0% <td>0% <td>0% </td></td></td></td>	0% <td>0% <td>0% <td>0% </td></td></td>	0% <td>0% <td>0% </td></td>	0% <td>0% </td>	0%			
PEAK HR FACTOR	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.583	0.000	0.000	0.000	0.000	0.625			

### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtmD LLC, tel: 714 253 7888 cs@airtmD.com

DATE: 1/30/19  
WEDNESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST:

Chino  
Grove  
Merrill

PROJECT #: SC2074  
LOCATION #: 35  
CONTROL: STOP ALL

<b>CLASS 4:</b> 4 OR MORE AXLE TRUCKS	<b>NOTES:</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">▲</td> <td style="text-align: center;">N</td> <td style="text-align: center;">▶</td> </tr> <tr> <td style="text-align: center;">◀</td> <td style="text-align: center;">W</td> <td style="text-align: center;">S</td> </tr> <tr> <td style="text-align: center;">▼</td> <td style="text-align: center;">OTHER</td> <td style="text-align: center;">▶</td> </tr> </table>	▲	N	▶	◀	W	S	▼	OTHER	▶
▲	N	▶									
◀	W	S									
▼	OTHER	▶									

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Gene	Gene	Gene	Gene	Gene	Gene	Merrill	Merrill	Merrill	Merrill	Merrill		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

7:00 AM	0	0	0	4	0	0	0	0	0	0	1	0	13
7:15 AM	0	0	0	0	0	1	1	3	0	0	7	0	16
7:30 AM	0	0	0	1	0	0	0	3	0	0	1	2	7
7:45 AM	0	0	0	3	0	2	0	5	0	0	7	0	17
8:00 AM	0	0	0	3	0	1	0	4	0	0	5	2	15
8:15 AM	0	0	0	4	0	0	0	3	0	0	4	0	11
8:30 AM	0	0	0	2	0	0	3	5	0	0	11	2	23
8:45 AM	0	0	0	1	0	0	2	2	0	0	4	2	12
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	18	0	7	6	31	0	0	40	12	114
APPROACH %	0%	0%	0%	72%	0%	28%	16%	84%	0%	0%	77%	23%	
APPROACH	0	0	0	25	0	0	37	49	0	0	52	47	0

APPROACH %	0%	0%	0%	18	0	0	25	0	0	0	0	0	0
APPROACH	0	0	0	15	0	0	20	29	0	0	31	30	0
BEGIN PEAK HR	7:45 AM	0	12	0	0	3	3	17	0	0	27	4	66
VOLUMES	0%	0%	80%	0%	0%	20%	15%	85%	0%	0%	87%	13%	0.717
APPROACH %	0.000	0.000	0.750	0.000	0.000	0.625	0.625	0.596	0.596	0.596	0.596	0.596	
APPROACH	0	0	7	0	0	0	0	0	0	0	0	0	0

03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	2	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	2	0	1	0	5	0	0	5	2	15
4:30 PM	0	0	0	0	0	0	2	3	0	0	2	1	10
4:45 PM	0	0	0	0	0	0	0	4	0	0	2	0	6
5:00 PM	0	0	0	2	0	0	1	4	0	0	2	0	11
5:15 PM	0	0	0	0	0	1	0	8	0	0	6	4	19
5:30 PM	0	0	0	0	0	0	1	4	0	0	1	0	6
5:45 PM	0	0	0	0	0	0	2	2	0	0	0	0	4
VOLUMES	0	0	0	6	0	3	6	37	0	0	22	8	82
APPROACH %	0%	0%	0%	67%	0%	33%	14%	86%	0%	0%	73%	27%	
APPROACH	0	0	0	9	0	0	43	43	0	0	30	25	0
BEGIN PEAK HR	4:30 PM	0	2	0	2	2	2	23	0	0	13	5	47
VOLUMES	0%	0%	50%	0%	50%	89%	92%	0%	0%	0%	72%	28%	0.618
APPROACH %	0.000	0.000	0.333	0.000	0.333	0.781	0.781	0.781	0.781	0.781	0.450	0.288	
APPROACH	0	0	7	0	4	25	25	25	25	18	15	15	0

Grove  
NORTH SIDE

Merrill  
WEST SIDE

Grove  
SOUTH SIDE

Merrill  
EAST SIDE

U-TURNS						
NB	SB	EB	WB	TTL		

0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		

RTOR				
NRR	SRR	ERR	WRR	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0 0 0 0 0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0 0 0 0 0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: Almid LLC, Tel: 714 253 7888 c@amid.com

SC07/4

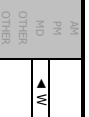
DATE: Wed, Jan 30, 19

LOCATION: NORTH & SOUTH; EAST & WEST;

Chino Walker Edison

PROJECT #: 36; LOCATION #: CONTROL:

STOP N/S



Add U-Turns to Left Turns

RTOR

NOTES:

Table with columns for direction (NORTHBOUND, SOUTHBOUND, EASTBOUND, WESTBOUND) and movement (NL, NT, NR, SL, ST, SR, EL, ET, ER, WL, WT, WR, TOTAL).

Table with columns for movement (NB, SB, EB, WB, TTL) and count.

Table with columns for movement (NRR, SRR, ERR, WRR) and count.

Main data table showing traffic counts and percentages for various time periods (7:00 AM to 9:45 AM) and directions (Northbound, Southbound, Eastbound, Westbound).

Summary table for RTOR and other metrics.

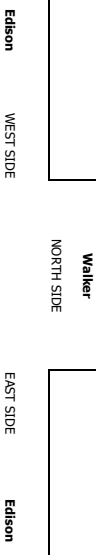


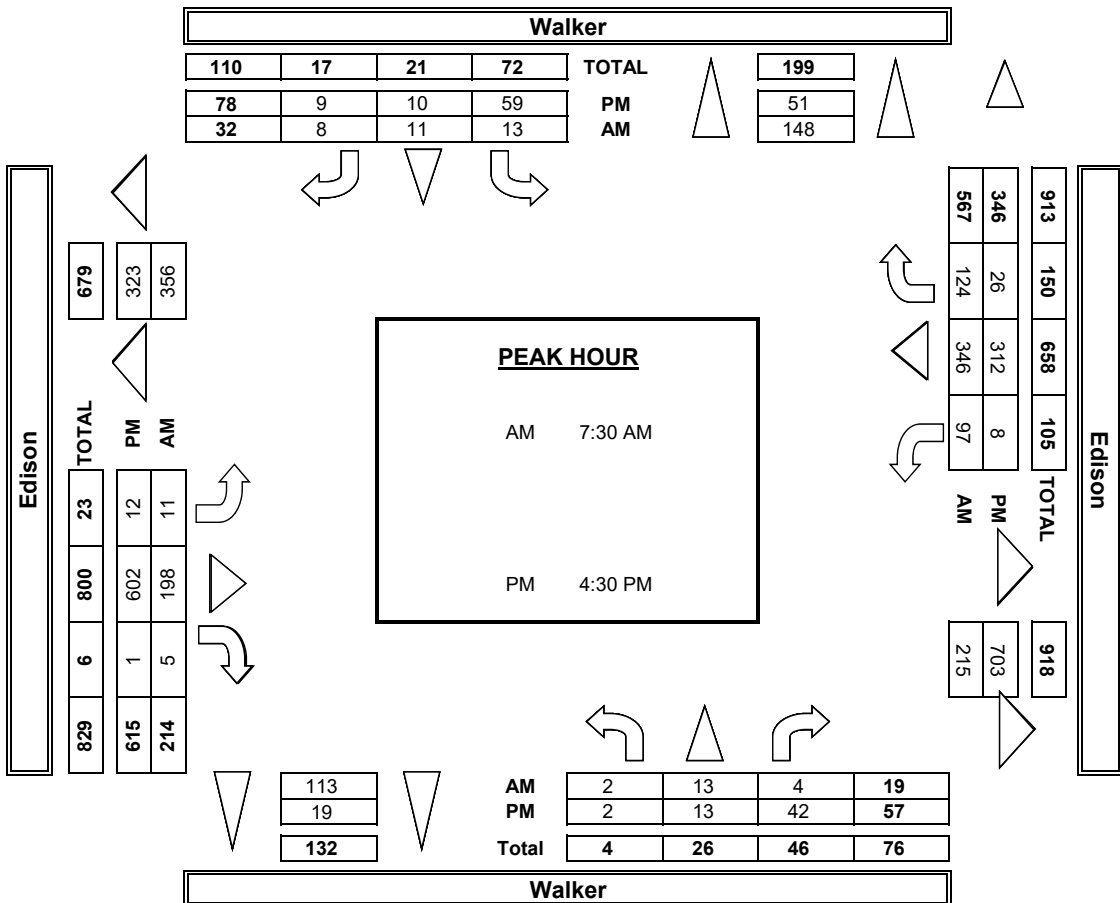
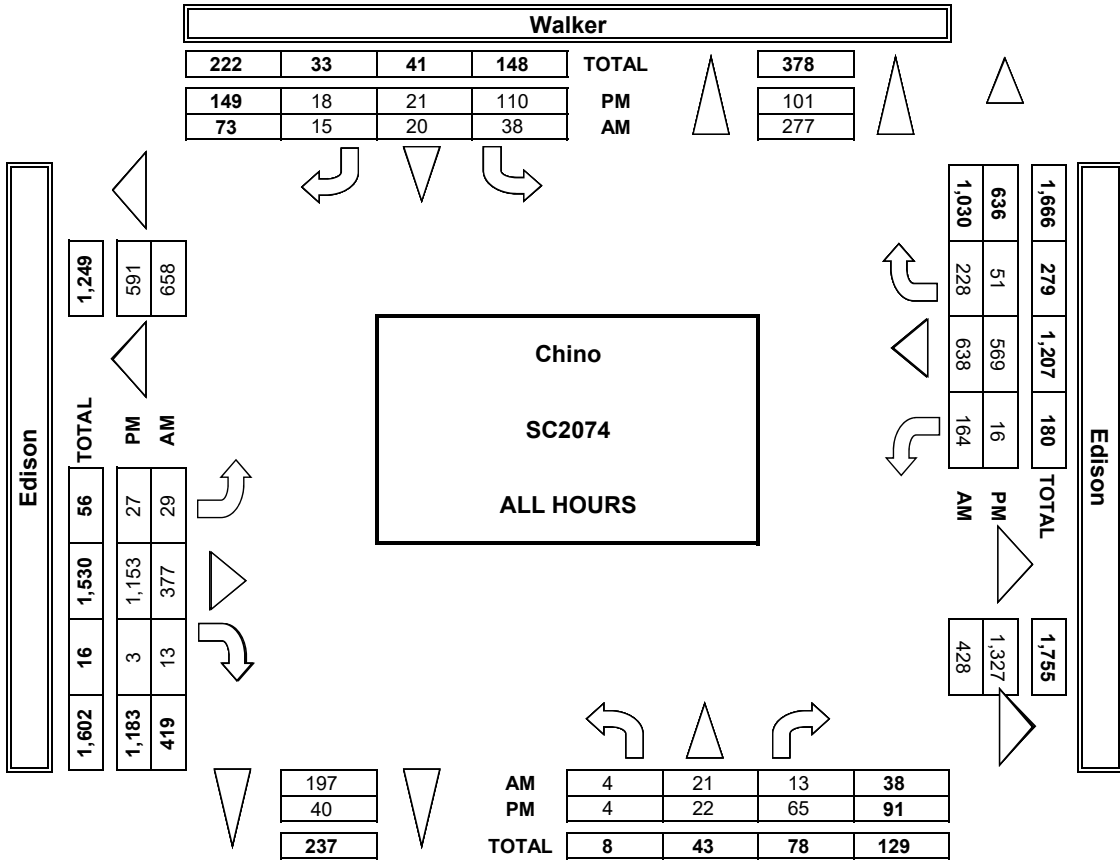
Table for AM direction showing traffic counts and percentages by time interval.

Table for ALL PED AND BIKE direction showing traffic counts and percentages by time interval.

Table for PEDESTRIAN CROSSINGS direction showing traffic counts and percentages by time interval.

Table for BICYCLE CROSSINGS direction showing traffic counts and percentages by time interval.

**AimTD LLC**  
TURNING MOVEMENT COUNTS







**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

DATE: 1/30/19 WEDNESDAY  
 LOCATION: NORTH & SOUTH: Chino  
 EAST & WEST: Walker  
 PROJECT #: SC2074  
 LOCATION #: 36  
 CONTROL: STOP N/S

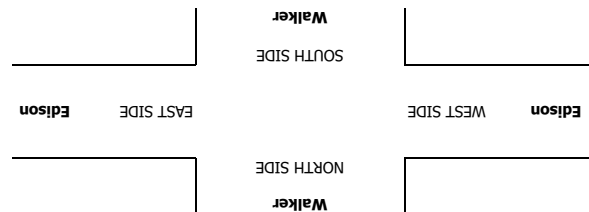
CLASS 3: 3-AXLE TRUCKS	NOTES:		AM	OTHER	OTHER
	▲	▶	▶	▶	▶
▼	◀	◀	◀	◀	◀

LANES:	Walker				Edison				TOTAL	
	NL	NT	NR	SL	ST	SR	EL	ET		ER
	0	1	1	0	0	1	0	0	0	0

VOLUMES	Walker				Edison				TOTAL	
	4	5	6	7	8	9	10	11		12
7:00 AM	1	1	1	0	0	2	2	2	0	4
7:15 AM	1	1	1	0	0	2	2	2	0	6
7:30 AM	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	8:00 AM				8:00 AM					
VOLUMES	0	2	1	0	0	2	1	1	0	3
APPROACH %	0%	67%	33%	0%	0%	40%	20%	9%	1%	9%
PEAK HR FACTOR	0.375				0.417				0.554	
APP/DEPART	11				9				0	

VOLUMES	Walker				Edison				TOTAL	
	1	2	3	4	5	6	7	8		
10:00 AM	1	1	1	0	0	0	0	0	3	
10:15 AM	1	1	1	0	0	0	0	0	3	
10:30 AM	0	0	0	0	0	0	0	0	0	
10:45 AM	0	0	0	0	0	0	0	0	0	
11:00 AM	0	0	0	0	0	0	0	0	0	
11:15 AM	0	0	0	0	0	0	0	0	0	
11:30 AM	0	0	0	0	0	0	0	0	0	
11:45 AM	0	0	0	0	0	0	0	0	0	
12:00 PM	0	0	0	0	0	0	0	0	0	
BEGIN PEAK HR	11				19					
VOLUMES	4	1	2	0	0	3	1	1	9	
APPROACH %	80%	20%	22%	0%	0%	33%	5%	5%	18%	
PEAK HR FACTOR	0.375				0.429				0.554	
APP/DEPART	11				17				0	

VOLUMES	Walker				Edison				TOTAL	
	1	2	3	4	5	6	7	8		
1:00 PM	0	0	0	0	0	0	0	0	0	
1:15 PM	0	0	0	0	0	0	0	0	0	
1:30 PM	0	0	0	0	0	0	0	0	0	
1:45 PM	0	0	0	0	0	0	0	0	0	
2:00 PM	0	0	0	0	0	0	0	0	0	
2:15 PM	0	0	0	0	0	0	0	0	0	
2:30 PM	0	0	0	0	0	0	0	0	0	
2:45 PM	0	0	0	0	0	0	0	0	0	
3:00 PM	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	
4:00 PM	0	0	0	0	0	0	0	0	0	
4:15 PM	1	1	1	0	0	0	0	0	3	
4:30 PM	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	
BEGIN PEAK HR	4:00 PM				4:00 PM					
VOLUMES	2	0	1	0	0	1	1	2	4	
APPROACH %	67%	0%	33%	0%	0%	25%	25%	50%	25%	
PEAK HR FACTOR	0.375				0.667				0.594	
APP/DEPART	5				10				0	



0	0	0	0
---	---	---	---

0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---

0	0	0	0
---	---	---	---

0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---

NRR	SRR	FRR	WRR
X	X	X	X

0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---

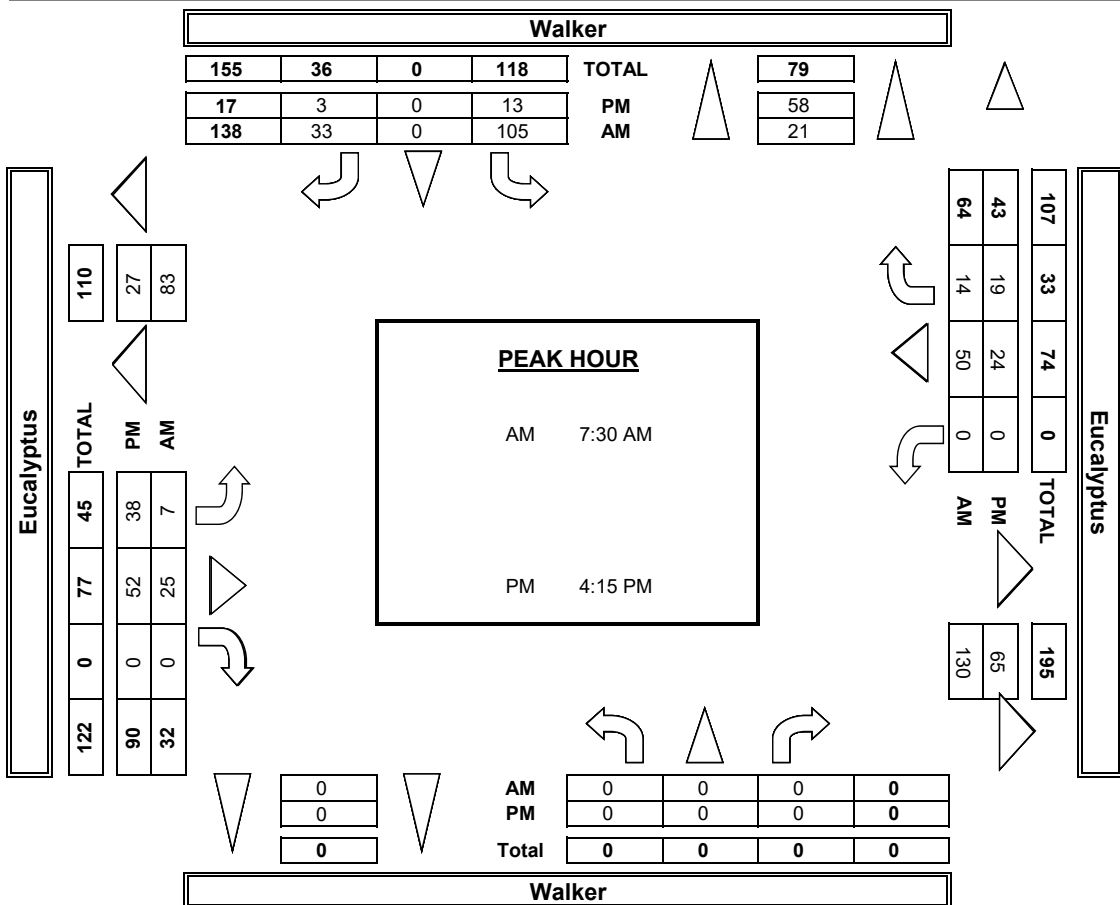
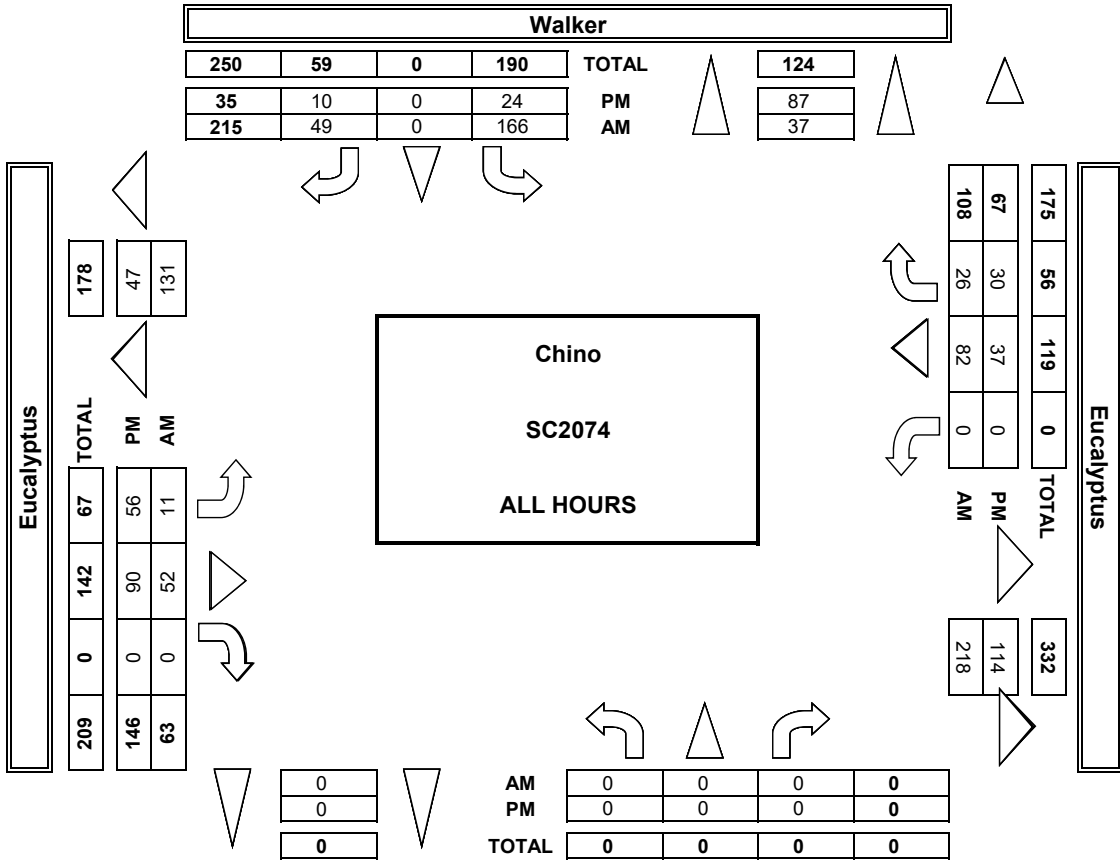
0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---

NB	SB	EB	WB	TTL
0	0	0	0	0





**AimTD LLC**  
TURNING MOVEMENT COUNTS



**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AirtMD LLC, tel: 714 253 7888 cs@airtmd.com

DATE: 1/30/19  
WEDNESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST:

Chino  
Walker  
EucaLYptus

PROJECT #: SC2074  
LOCATION #: 37  
CONTROL: STOP S

CLASS 2: WORK VEHICLES/ TRUCKS	NOTES:											<input type="checkbox"/> PM <input type="checkbox"/> MD <input type="checkbox"/> OTHER <input type="checkbox"/> OTHER	<input type="checkbox"/> N <input type="checkbox"/> S <input type="checkbox"/> E <input type="checkbox"/> W

LANES:	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL				

7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	3	0	0	0	0	0	2	0	0	0	0	0	0	5
7:30 AM	0	0	0	4	0	0	0	1	1	1	0	0	1	1	0	0	8
7:45 AM	0	0	0	3	0	0	2	0	0	1	0	0	1	1	2	0	9
8:00 AM	0	0	0	2	0	0	0	1	2	0	0	0	0	0	1	0	6
8:15 AM	0	0	0	3	0	0	2	0	0	0	0	1	1	1	1	0	7
8:30 AM	0	0	0	2	0	1	0	1	0	2	0	2	1	1	1	0	8
8:45 AM	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	3
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	18	0	1	5	2	2	9	9	0	0	5	8	47	
APPROACH %	0%	0%	0%	78%	0%	22%	18%	82%	0%	38%	62%	0%	0%	62%	10	0	
APPROACH	0	0	0	10	0	0	23	11	7	11	27	13	7	11	10	0	
APPROACH %	0%	0%	0%	100%	0%	0%	23%	18%	0%	38%	62%	0%	0%	62%	100%	0%	
BEGIN PEAK HR	7:30 AM	0	10	0	0	5	1	5	0	0	0	0	0	4	5	30	
VOLUMES	0	0	0	67%	0%	33%	17%	83%	0%	0%	0%	0%	0%	44%	56%	0.8333	
APPROACH %	0%	0%	0%	0.000	0.750	0.750	0.500	0.500	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.6888	
APPROACH	0	0	6	15	0	0	6	15	9	9	9	9	9	9	9	0	
APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	0%	60%	40%	0	
APPROACH	0	0	5	2	0	0	7	6	5	5	3	3	3	3	3	0	
APPROACH %	0%	0%	0%	100%	0%	0%	43%	57%	0%	60%	40%	0%	0%	40%	40%	0	
BEGIN PEAK HR	4:15 PM	0	1	0	0	0	3	4	0	0	2	1	1	1	1	11	
VOLUMES	0	0	0	100%	0%	0%	43%	57%	0%	0%	67%	33%	33%	33%	33%	11	
APPROACH %	0%	0%	0%	0.000	0.250	0.250	0.583	0.583	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.6888	
APPROACH	0	0	4	1	0	0	7	5	3	3	2	2	2	2	2	0	
APPROACH %	0%	0%	0%	100%	0%	0%	43%	57%	0%	0%	67%	33%	33%	33%	33%	0	

**U-TURNS**

NB	SB	EB	WB	TTL
----	----	----	----	-----

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

**RTOR**

NRR	SRR	ERR	WRR
-----	-----	-----	-----

0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

**PM**

NB	SB	EB	WB	TTL
----	----	----	----	-----

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

EucaLYptus WEST SIDE

Walker NORTH SIDE

EucaLYptus EAST SIDE

Walker SOUTH SIDE

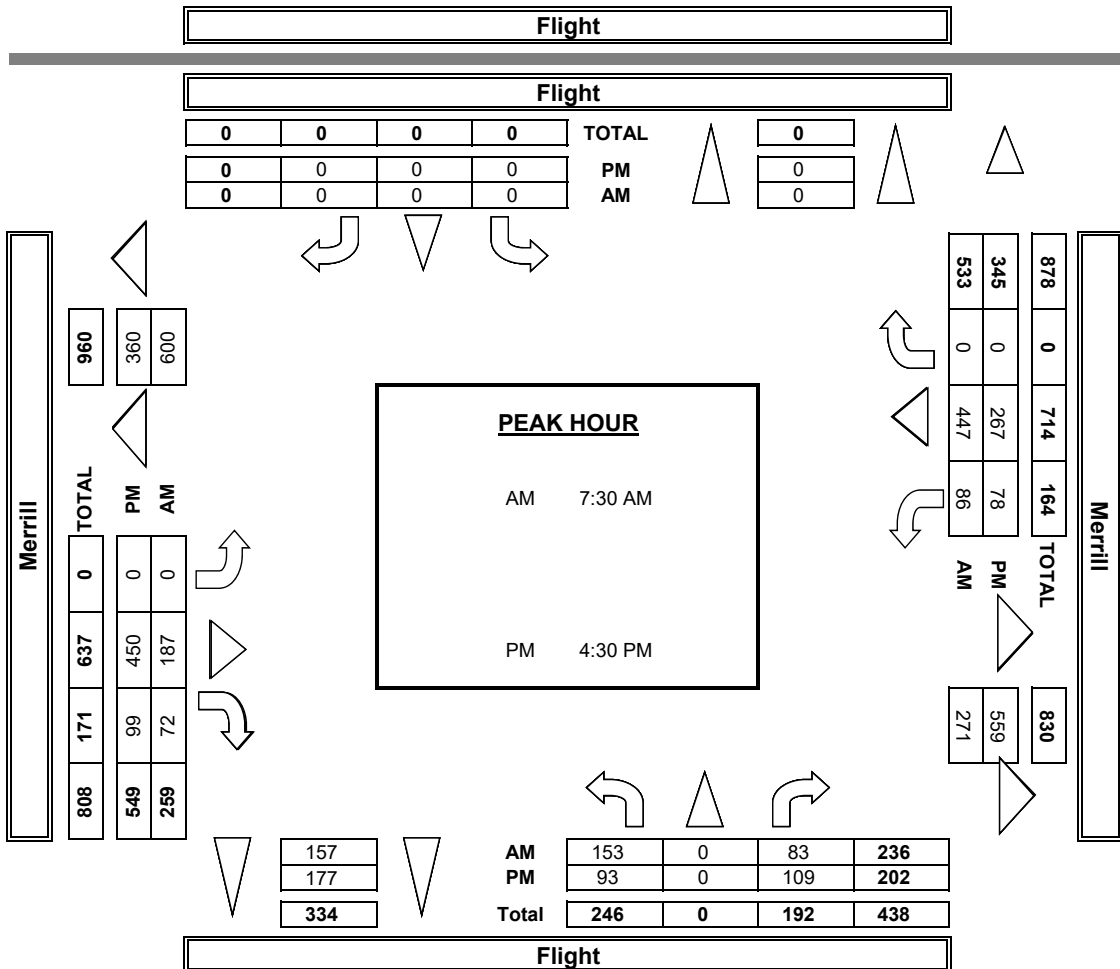
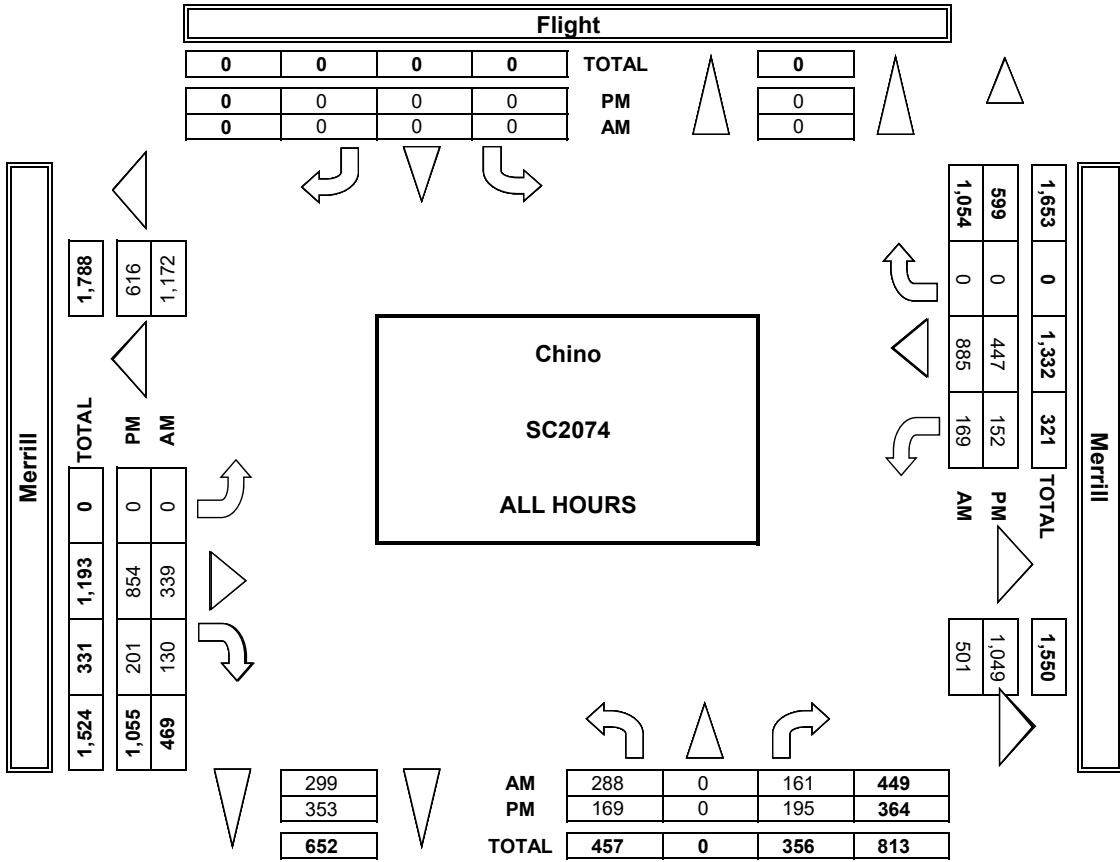








**AimTD LLC**  
TURNING MOVEMENT COUNTS



### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtTD LLC, tel: 714 253 7888 csc@airttd.com

DATE: 1/30/19  
WEDNESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST: Merrill

Chino  
Flight  
Merrill

PROJECT #: SC2074  
LOCATION #: 38  
CONTROL: STOP N

<b>CLASS 2:</b> WORK VEHICLES/ TRUCKS	<b>NOTES:</b>																																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> </tr> <tr> <td style="text-align: center;">▲</td> <td style="text-align: center;">N</td> <td style="text-align: center;">▶</td> <td style="text-align: center;">W</td> <td style="text-align: center;">▶</td> <td style="text-align: center;">S</td> <td style="text-align: center;">▶</td> <td style="text-align: center;">E</td> <td style="text-align: center;">▶</td> <td style="text-align: center;">W</td> <td style="text-align: center;">▶</td> <td style="text-align: center;">S</td> </tr> </table>																							▲	N	▶	W	▶	S	▶	E	▶	W	▶	S
▲	N	▶	W	▶	S	▶	E	▶	W	▶	S																							

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	Flight	Flight	Flight	Flight	Flight	Flight	Flight	Flight	Merrill	Merrill	Merrill	Merrill	Merrill	Merrill			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TL	TR			
<b>7:00 AM</b>	2	0	4	0	0	0	0	6	1	2	4	0	0	19			
7:15 AM	1	0	3	0	0	0	0	1	2	1	2	0	0	10			
7:30 AM	0	0	1	0	0	0	0	7	2	1	2	0	0	13			
7:45 AM	3	0	2	0	0	0	0	4	1	0	5	0	0	15			
8:00 AM	1	0	0	0	0	0	0	5	2	3	1	0	0	11			
8:15 AM	0	0	3	0	0	0	0	5	1	3	7	0	0	20			
8:30 AM	1	0	2	0	0	0	0	4	3	2	4	0	0	16			
8:45 AM	2	0	1	0	0	0	0	2	0	4	3	0	0	12			
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
<b>VOLUMES</b>	10	0	16	0	0	0	0	34	12	16	28	0	0	116			
<b>APPROACH %</b>	38%	0%	62%	0%	0%	0%	0%	74%	26%	36%	64%	0%	0%				
<b>APP/DEPART</b>	26	/	0	/	28	/	46	/	50	44	/	38	/	0			
<b>BEGIN PEAK HR</b>	7-7:45 AM																
<b>VOLUMES</b>	5	0	7	0	0	0	0	18	7	8	17	0	0	62			
<b>APPROACH %</b>	42%	0%	58%	0%	0%	0%	0%	72%	28%	32%	68%	0%	0%				
<b>PEAK HR FACTOR</b>	0.600																
<b>APP/DEPART</b>	12	/	0	/	15	/	25	/	25	25	/	22	/	0			
<b>03:00 PM</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:00 PM	1	0	1	0	0	0	0	2	0	0	1	0	0	5			
4:15 PM	1	0	0	0	0	0	0	5	1	2	1	0	0	10			
4:30 PM	4	0	0	0	0	0	0	4	1	0	2	0	0	11			
4:45 PM	1	0	0	0	0	0	0	7	1	1	4	0	0	14			
5:00 PM	2	0	4	0	0	0	0	2	1	0	1	0	0	10			
5:15 PM	2	0	2	0	0	0	0	4	2	0	2	0	0	12			
5:30 PM	1	0	2	0	0	0	0	4	0	1	1	0	0	9			
5:45 PM	0	0	3	0	0	0	0	2	1	0	2	0	0	8			
<b>VOLUMES</b>	12	0	12	0	0	0	0	30	7	4	14	0	0	79			
<b>APPROACH %</b>	50%	0%	50%	0%	0%	0%	0%	81%	19%	22%	78%	0%	0%				
<b>APP/DEPART</b>	24	/	0	/	11	/	37	/	42	18	/	26	/	0			
<b>BEGIN PEAK HR</b>	4:30 PM																
<b>VOLUMES</b>	9	0	6	0	0	0	0	17	5	1	9	0	0	47			
<b>APPROACH %</b>	60%	0%	40%	0%	0%	0%	0%	77%	23%	10%	90%	0%	0%				
<b>PEAK HR FACTOR</b>	0.625																
<b>APP/DEPART</b>	15	/	0	/	6	/	22	/	23	10	/	18	/	0			

Flight  
NORTH SIDE

Flight  
EAST SIDE

Merrill  
WEST SIDE

Merrill  
SOUTH SIDE

U-TURNS					
NB	SB	EB	WB	TTL	
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	
0	0	0	0	0
X	X	X	X	X
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0 0 0 0 0 0

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0 0 0 0 0 0

**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimtD LLC, tel: 714 253 7888 cs@aimtd.com

DATE: 1/30/19  
 WEDNESDAY  
 LOCATION: NORTH & SOUTH:  
 EAST & WEST: Merrill  
 PROJECT #: SC2074  
 LOCATION #: 38  
 CONTROL: STOP N

**CLASS 3:**  
 3-AXLE  
 TRUCKS

**NOTES:**



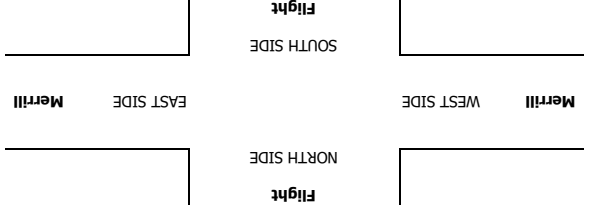
AM

LANES:		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	
7:00 AM	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	93%	93%	0%	16	0
7:00 AM	BEGIN PEAK HR	3	0	0	0	0	0	0	0	0	1	1	0	13	31
7:00 AM	VOLUMES	3	0	0	0	0	0	0	0	0	1	1	0	13	31
7:00 AM	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	7%	7%	0%	14	0
7:00 AM	BEGIN PEAK HR	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	13	9
7:00 AM	VOLUMES	2	0	0	0	0	0	0	0	0	0	0	0	10	19
7:00 AM	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	14%	86%	0%	8	0
7:00 AM	PEAK HR FACTOR	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.583	0%	7	0
7:00 AM	APP/DEPART	2	0	0	0	0	0	0	0	0	1	1	0	10	0

PM

LANES:		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	
3:15 PM	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	93%	93%	0%	16	0
3:15 PM	BEGIN PEAK HR	3	0	0	0	0	0	0	0	0	1	1	0	13	31
3:15 PM	VOLUMES	3	0	0	0	0	0	0	0	0	1	1	0	13	31
3:15 PM	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	7%	7%	0%	14	0
3:15 PM	BEGIN PEAK HR	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	13	9
3:15 PM	VOLUMES	2	0	0	0	0	0	0	0	0	0	0	0	10	19
3:15 PM	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	14%	86%	0%	8	0
3:15 PM	PEAK HR FACTOR	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.583	0%	7	0
3:15 PM	APP/DEPART	2	0	0	0	0	0	0	0	0	1	1	0	10	0

Flight



Flight



LANES:		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	
4:45 PM	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	93%	93%	0%	16	0
4:45 PM	BEGIN PEAK HR	3	0	0	0	0	0	0	0	0	1	1	0	13	31
4:45 PM	VOLUMES	3	0	0	0	0	0	0	0	0	1	1	0	13	31
4:45 PM	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	7%	7%	0%	14	0
4:45 PM	BEGIN PEAK HR	0	0	0	0	0	0	0	0	0	0	0	0	13	9
4:45 PM	VOLUMES	2	0	0	0	0	0	0	0	0	0	0	0	10	19
4:45 PM	APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	14%	100%	0%	8	0
4:45 PM	PEAK HR FACTOR	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0%	0%	7	0
4:45 PM	APP/DEPART	5	0	0	0	0	0	0	0	0	0	0	0	12	19
4:45 PM	PEAK HR FACTOR	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0%	0%	7	0
4:45 PM	APP/DEPART	5	0	0	0	0	0	0	0	0	0	0	0	12	19

3.1-189

**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AirtD LLC, tel: 714 253 7888 cs@airtd.com

DATE: 1/30/19  
WEDNESDAY  
LOCATION: NORTH & SOUTH:  
EAST & WEST: Merrill

Chino  
Flight  
Merrill

PROJECT #: SC2074  
LOCATION #: 38  
CONTROL: STOP N

CLASS 4: AXLE TRUCKS	NOTES:	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		Merrill		Merrill		TOTAL
		Flight	Flight	Flight	Flight	Merrill	Merrill	Merrill	Merrill	N	S	E		
4 OR MORE AXLE TRUCKS														

LANES:	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NR	SL	ST	SR	SR	EL	ET	ER	ER	WL	WT	WR	WR	
7:00 AM	0	0	1	1	0	0	0	0	0	0	5	2	3	6	0	17	
7:15 AM	0	0	3	3	0	0	0	0	0	1	2	4	8	0	18		
7:30 AM	1	0	3	3	0	0	0	0	0	4	0	2	2	0	10		
7:45 AM	1	0	0	0	0	0	0	0	0	2	4	1	5	0	13		
8:00 AM	2	0	0	0	0	0	0	0	0	6	3	1	5	0	17		
8:15 AM	0	0	0	0	0	0	0	0	0	6	2	1	6	0	15		
8:30 AM	1	0	1	1	0	0	0	0	0	6	2	2	8	0	20		
8:45 AM	2	0	3	3	0	0	0	0	0	3	1	1	5	0	15		
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
VOLUMES	7	0	11	11	0	0	0	0	0	33	16	13	45	0	125		
APPROACH %	39%	0%	61%	61%	0%	0%	0%	0%	0%	67%	33%	22%	78%	0%	0%		
APP/DEPART	18	/	0	0	/	29	0	0	0	49	/	44	58	/	52		
BEGIN PEAK HR	8:00 AM															0	
VOLUMES	5	0	4	4	0	0	0	0	0	21	8	5	24	0	67		
APPROACH %	56%	0%	44%	44%	0%	0%	0%	0%	0%	72%	28%	17%	83%	0%	0%		
PEAK HR FACTOR	0.450				0.000					0.806		0.25	0.725		0.838		
APP/DEPART	9	/	0	0	/	13	0	0	0	29	/	25	29	/	29		
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:00 PM	3	0	1	1	0	0	0	0	0	7	0	0	2	0	13		
4:15 PM	0	0	1	1	0	0	0	0	0	2	3	1	3	0	10		
4:30 PM	0	0	0	0	0	0	0	0	0	3	1	0	4	0	8		
4:45 PM	0	0	0	0	0	0	0	0	0	8	0	2	3	0	13		
5:00 PM	0	0	0	0	0	0	0	0	0	5	0	0	4	0	9		
5:15 PM	1	0	0	0	0	0	0	0	0	8	1	0	8	0	18		
5:30 PM	1	0	0	0	0	0	0	0	0	4	1	1	0	0	6		
5:45 PM	0	0	2	2	0	0	0	0	0	1	1	0	1	0	5		
VOLUMES	5	0	4	4	0	0	0	0	0	38	6	4	25	0	82		
APPROACH %	56%	0%	44%	44%	0%	0%	0%	0%	0%	86%	14%	14%	86%	0%	0%		
APP/DEPART	9	/	0	0	/	10	0	0	0	44	/	42	29	/	30		
BEGIN PEAK HR	4:30 PM														0		
VOLUMES	1	0	0	0	0	0	0	0	0	24	2	2	19	0	48		
APPROACH %	100%	0%	0%	0%	0%	0%	0%	0%	0%	92%	8%	10%	90%	0%	0%		
PEAK HR FACTOR	0.250				0.000					0.722		0.656			0.667		
APP/DEPART	1	/	0	0	/	4	0	0	0	26	/	24	21	/	20		

Flight

NORTH SIDE

Merrill

Merrill

WEST SIDE

EAST SIDE

Merrill

Flight

SOUTH SIDE

**U-TURNS**

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

**RTOR**

NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

**U-TURNS**

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0 0 0 0 0

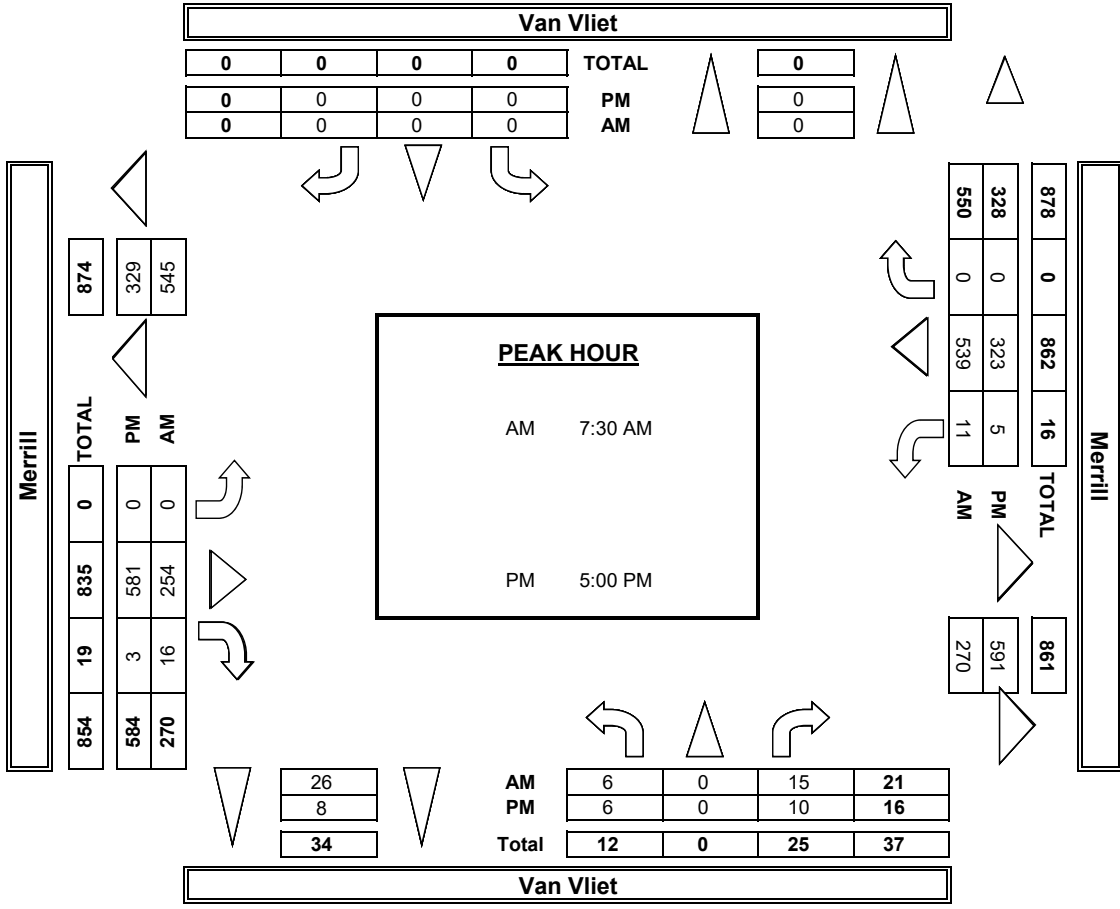
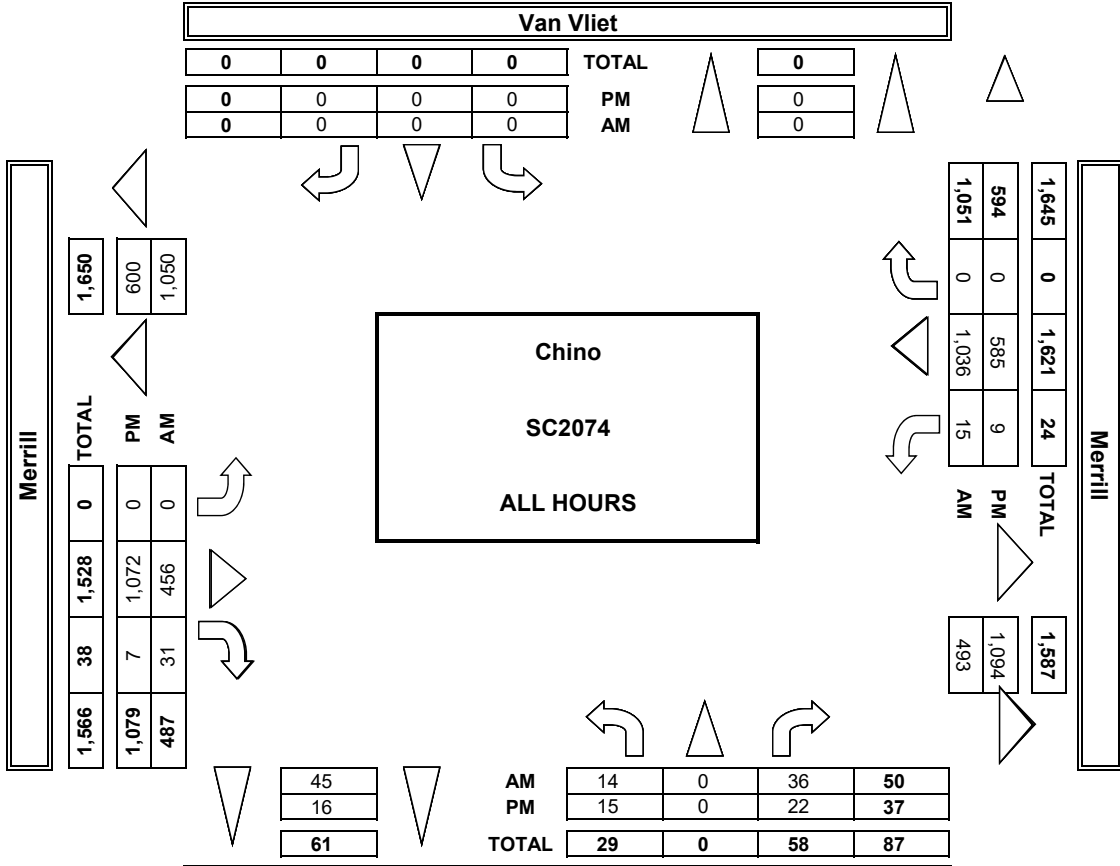
**U-TURNS**

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0 0 0 0 0



**AimTD LLC**  
TURNING MOVEMENT COUNTS











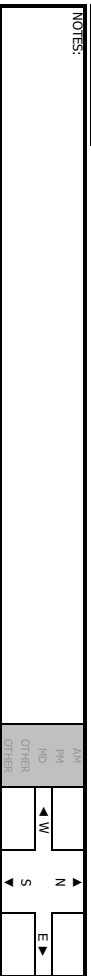
### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AlmTD LLC Tel: 714 253 7888 c@almtd.com

PROJECT #: SC02/4  
 LOCATION #: 43  
 CONTROL: STOP N/S

DATE: Wed Jan 30, 19  
 LOCATION: NORTH & SOUTH:  
 EAST & WEST:

Chino  
 Vineyard  
 Merrill



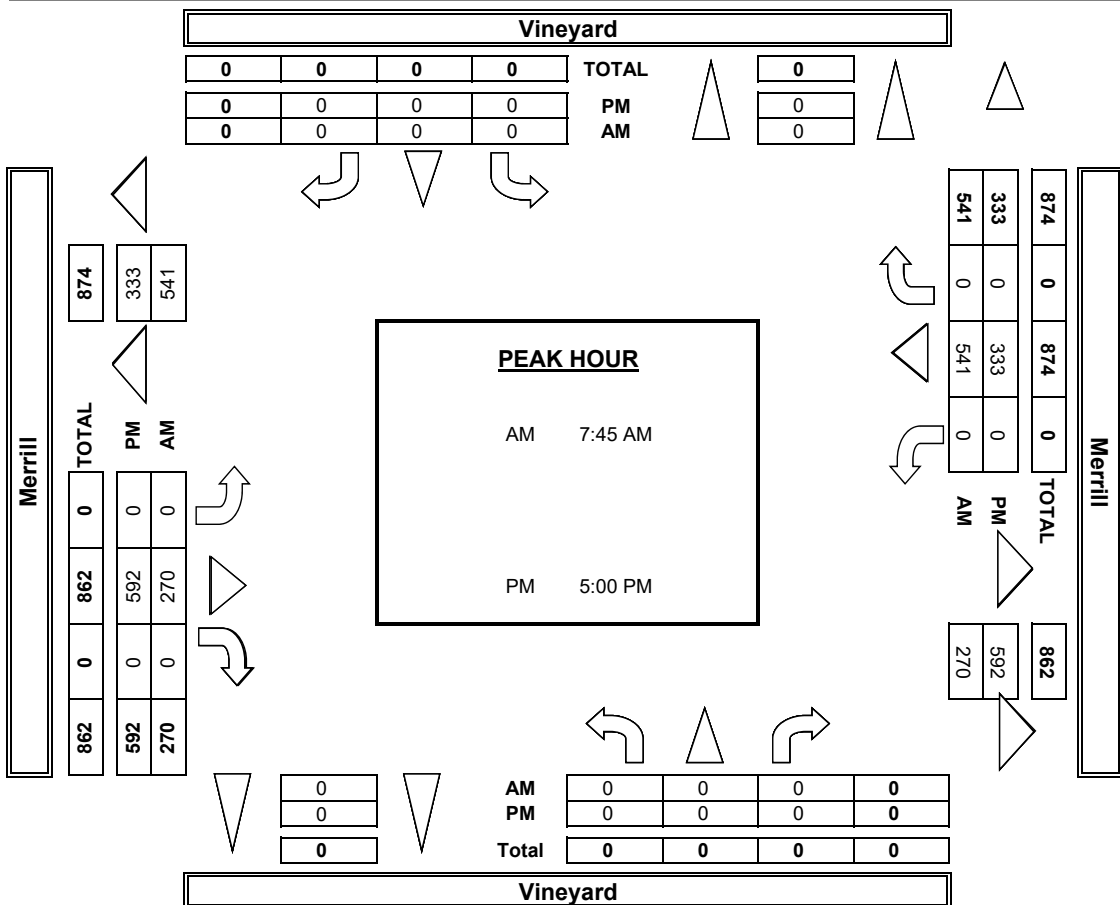
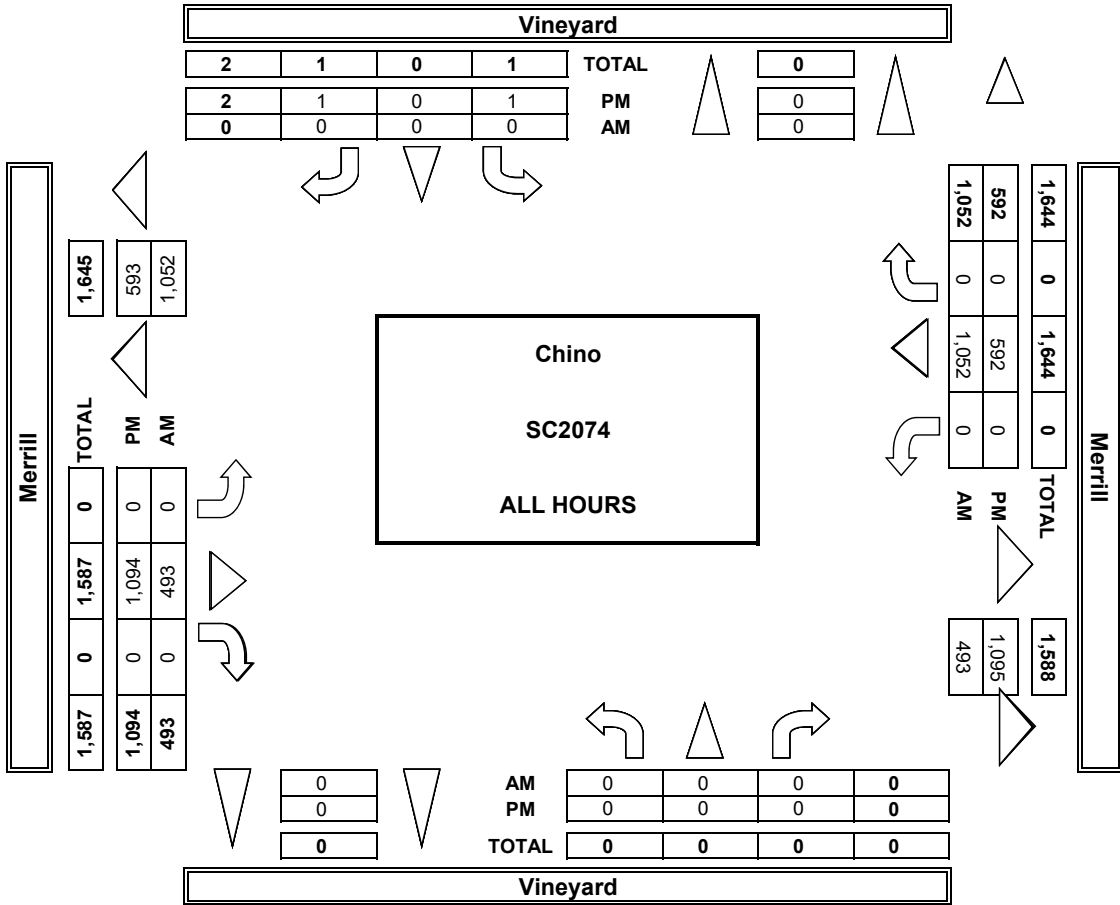
LAVES:	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				U-TURNS				RTOR			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

LAVES:	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				U-TURNS				RTOR			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>



LAVES:	WEST SIDE				EAST SIDE				PEDESTRIAN CROSSINGS				BICYCLE CROSSINGS			
	E SIDE	W SIDE	S SIDE	N SIDE	E SIDE	W SIDE	S SIDE	N SIDE	ES	WS	SS	NS	ES	WS	SS	NS
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**AimTD LLC**  
TURNING MOVEMENT COUNTS







### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtMD LLC. Tel: 714 253 7888 [cs@airtmd.com](mailto:cs@airtmd.com)

PROJECT #: SC2074  
LOCATION #: 43  
CONTROL: STOP N/S

DATE: 1/30/19  
WEDNESDAY  
LOCATION: NORTH & SOUTH:  
EAST & WEST:

Chino  
Vineyard  
Merrill

CLASS 4:	NOTES:										AM		PM		
4 OR MORE AXLE TRUCKS												▲	▼	▲	▼
												N	S	N	S
												▲	▼	▲	▼
												W	E	W	E
												←	→	←	→
												←	→	←	→
												←	→	←	→

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

	Vineyard			Vineyard			Merrill			Merrill				
7:00 AM	0	0	0	0	0	0	0	6	0	0	0	5	0	11
7:15 AM	0	0	0	0	0	0	0	2	0	0	0	13	0	15
7:30 AM	0	0	0	0	0	0	0	7	0	0	0	4	0	11
7:45 AM	0	0	0	0	0	0	0	3	0	0	0	8	0	11
8:00 AM	0	0	0	0	0	0	0	4	0	0	0	9	0	13
8:15 AM	0	0	0	0	0	0	0	9	0	0	0	8	0	17
8:30 AM	0	0	0	0	0	0	0	8	0	0	0	11	0	19
8:45 AM	0	0	0	0	0	0	0	6	0	0	0	7	0	13
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	45	0	0	0	65	0	110
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0
APP/DEPART	0	/	/	0	/	/	0	45	/	/	45	65	/	65
BEGIN PEAK HR	8:00 AM	0	0	0	0	0	0	27	0	0	0	35	0	62
VOLUMES	0	0	0	0	0	0	0	100%	0%	0%	100%	0%	0%	0.816
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0.750	0%	0%	0.795	0%	0%	0
PEAK HR FACTOR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.795	0.000	0.000	0
APP/DEPART	0	/	/	0	/	/	0	27	/	/	27	35	/	35
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	6	0	0	0	3	0	9
4:30 PM	0	0	0	0	0	0	0	4	0	0	0	4	0	8
4:45 PM	0	0	0	0	0	0	0	3	0	0	0	3	0	6
5:00 PM	0	0	0	0	0	0	0	9	0	0	0	6	0	15
5:15 PM	0	0	0	0	0	0	0	6	0	0	0	3	0	9
5:30 PM	0	0	0	0	0	0	0	8	0	0	0	3	0	17
5:45 PM	0	0	0	0	0	0	0	5	0	0	2	2	0	7
VOLUMES	0	0	0	0	0	0	0	5	0	0	0	5	0	5
APPROACH %	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	76
APP/DEPART	0	/	/	0	/	/	0	46	/	/	46	30	/	30
4:45 PM	0	0	0	0	0	0	0	28	0	0	0	20	0	48
VOLUMES	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0.706
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0.778	0%	0%	0.556	0%	0%	0
PEAK HR FACTOR	0	/	/	0	/	/	0	28	/	/	28	20	/	20
APP/DEPART	0	/	/	0	/	/	0	28	/	/	28	20	/	20



Merrill WEST SIDE

Merrill EAST SIDE



U-TURNS							
NB	SB	EB	WB	TTL	NB	SB	WB

0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	

0	0	0	0	0
X	X	X	X	X
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
---	---	---	---	---

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

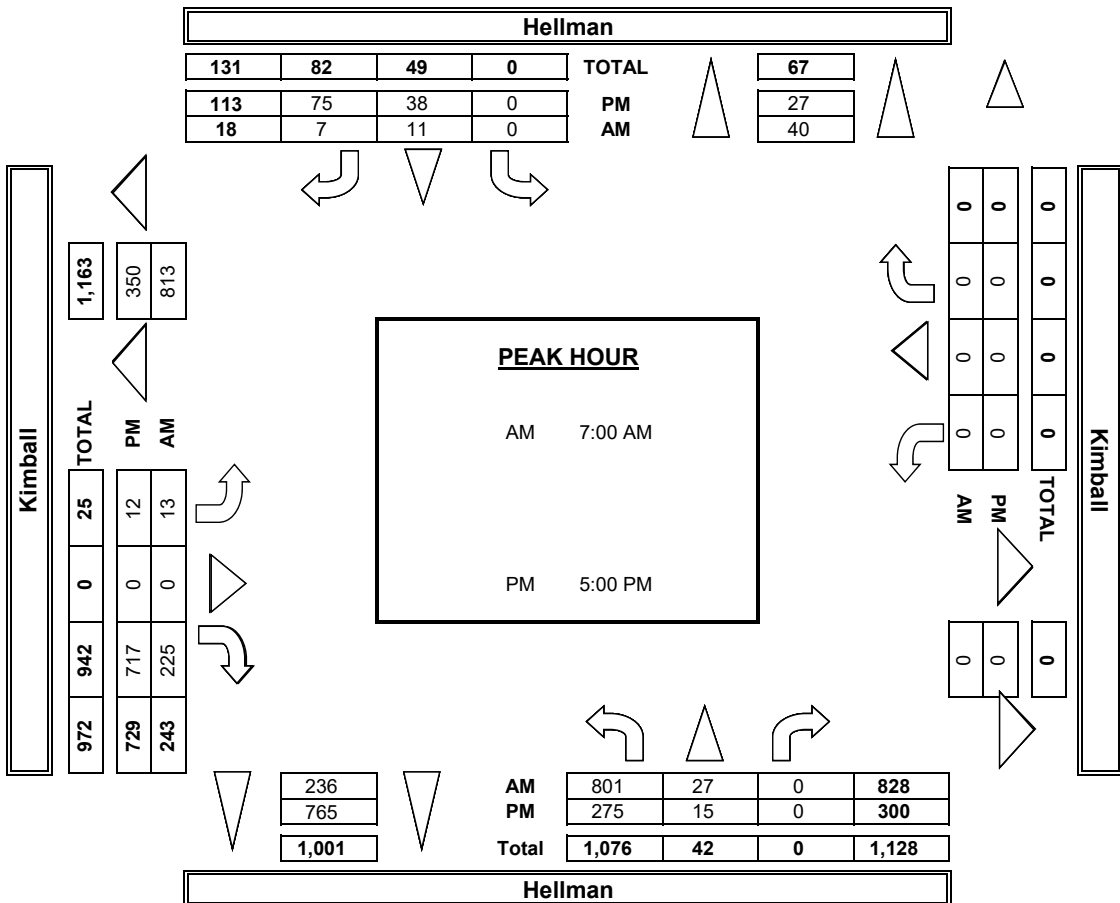
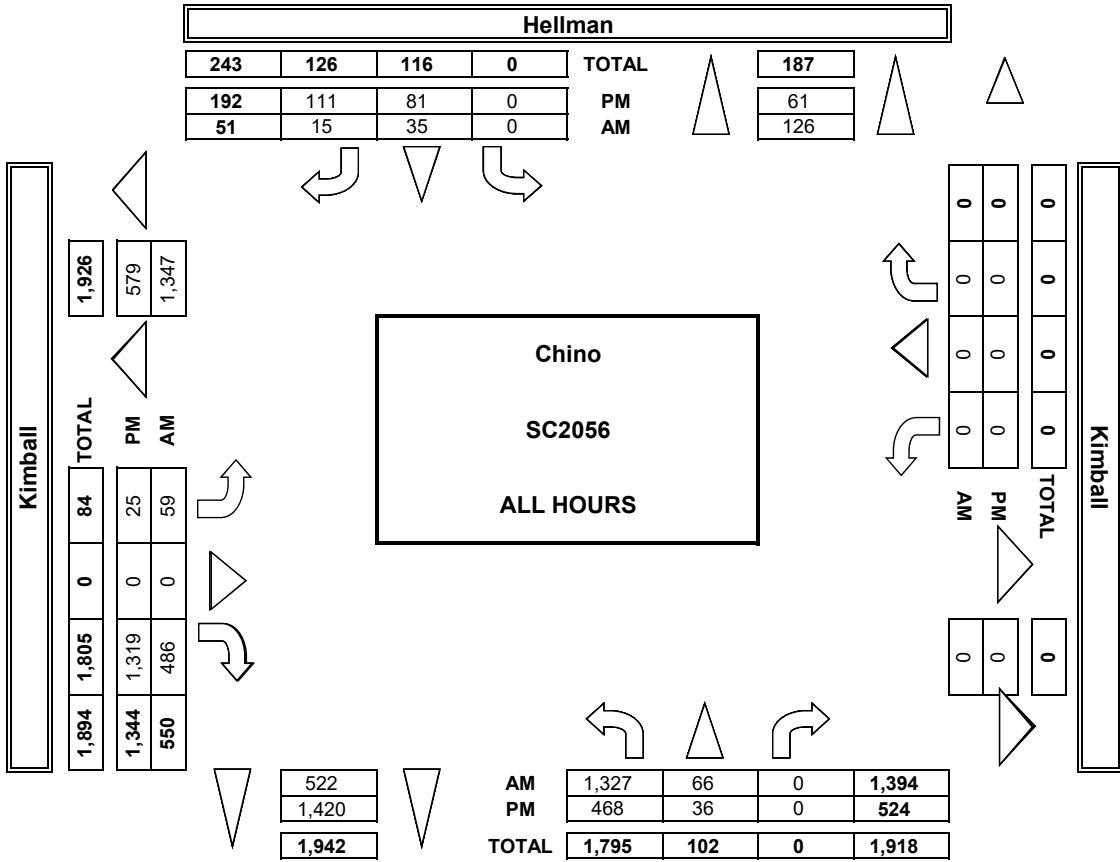
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
---	---	---	---	---





**AimTD LLC**  
TURNING MOVEMENT COUNTS



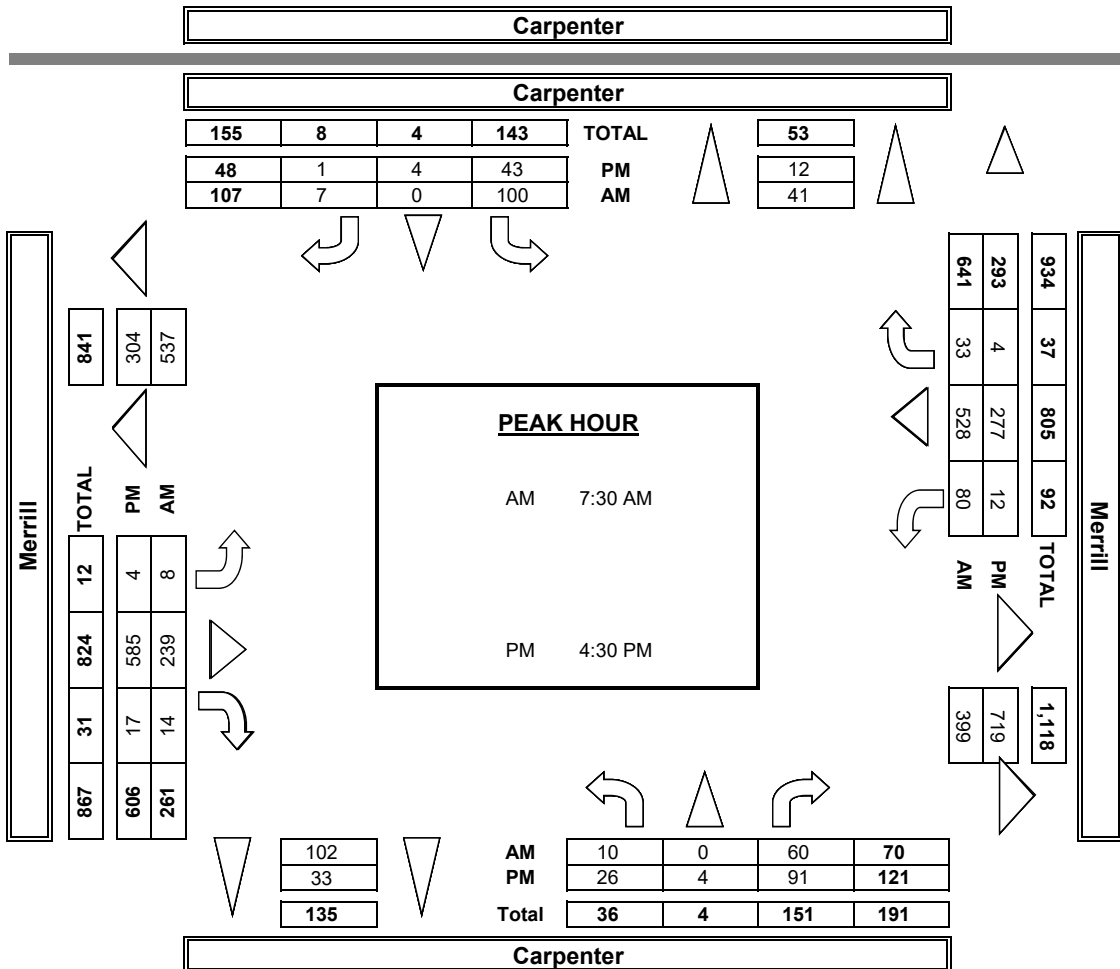
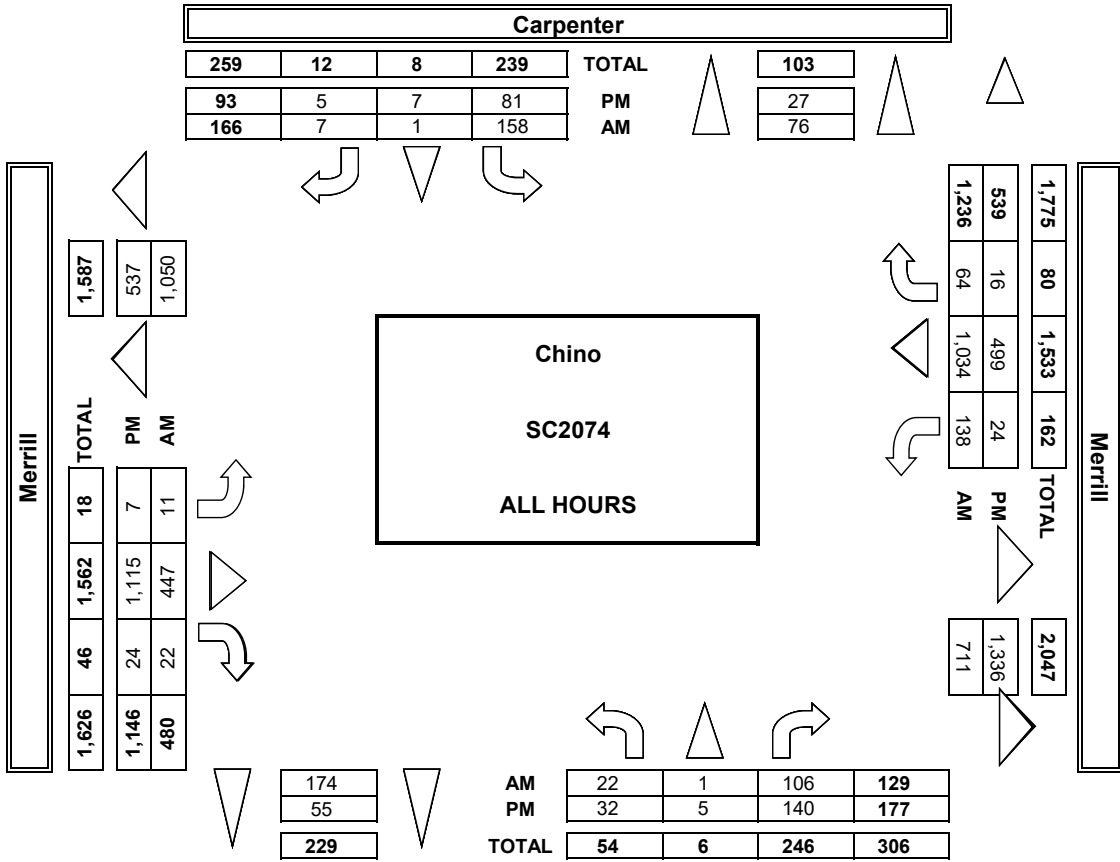








**AimTD LLC**  
TURNING MOVEMENT COUNTS





# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AImTD LLC, tel: 714 253 7888 cs@aImtd.com

DATE: 1/30/19  
 WEDNESDAY  
 LOCATION: NORTH & SOUTH:  
 EAST & WEST:  
 CHINO  
 CARPENTER  
 MERRILL

PROJECT #: SC2074  
 LOCATION #: 46  
 CONTROL: STOP ALL

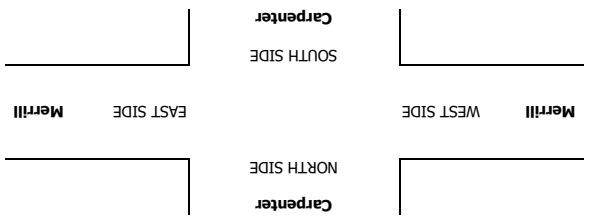
CLASS:	TRUCKS	NOTES:		LANES:												
		3-AXLE	PM	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL

NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
Carpenter				Carpenter				Merrill				Merrill					
NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
0	0	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0

APPROACH %	BEGIN PEAK HR	VOLUMES	APPROACH %	APPROACH %														
				33%	0%	97%	3%	64%	3%	75%	25%	0%	0%	0%	0%	0%	0%	0%
33%	4:00 PM	2	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPROACH %	BEGIN PEAK HR	VOLUMES	APPROACH %	APPROACH %														
				33%	0%	67%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
33%	4:00 PM	2	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPROACH %	BEGIN PEAK HR	VOLUMES	APPROACH %	APPROACH %														
				20%	0%	80%	75%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
20%	4:00 PM	1	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



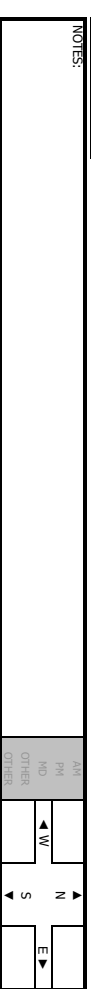




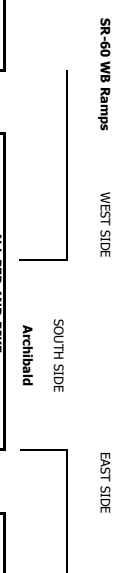
**INTERSECTION TURNING MOVEMENT COUNTS**  
 PREPARED BY: AlmtD LLC Tel: 714 253 7888 c5@almtD.com  
 Chino  
 SR-60 WB Ramps

PROJECT #:  
 SC02/4  
 LOCATION #:  
 49  
 CONTROL:  
 SIGNAL

DATE:  
 Wed Jan 30, 19  
 LOCATION:  
 NORTH & SOUTH  
 EAST & WEST:

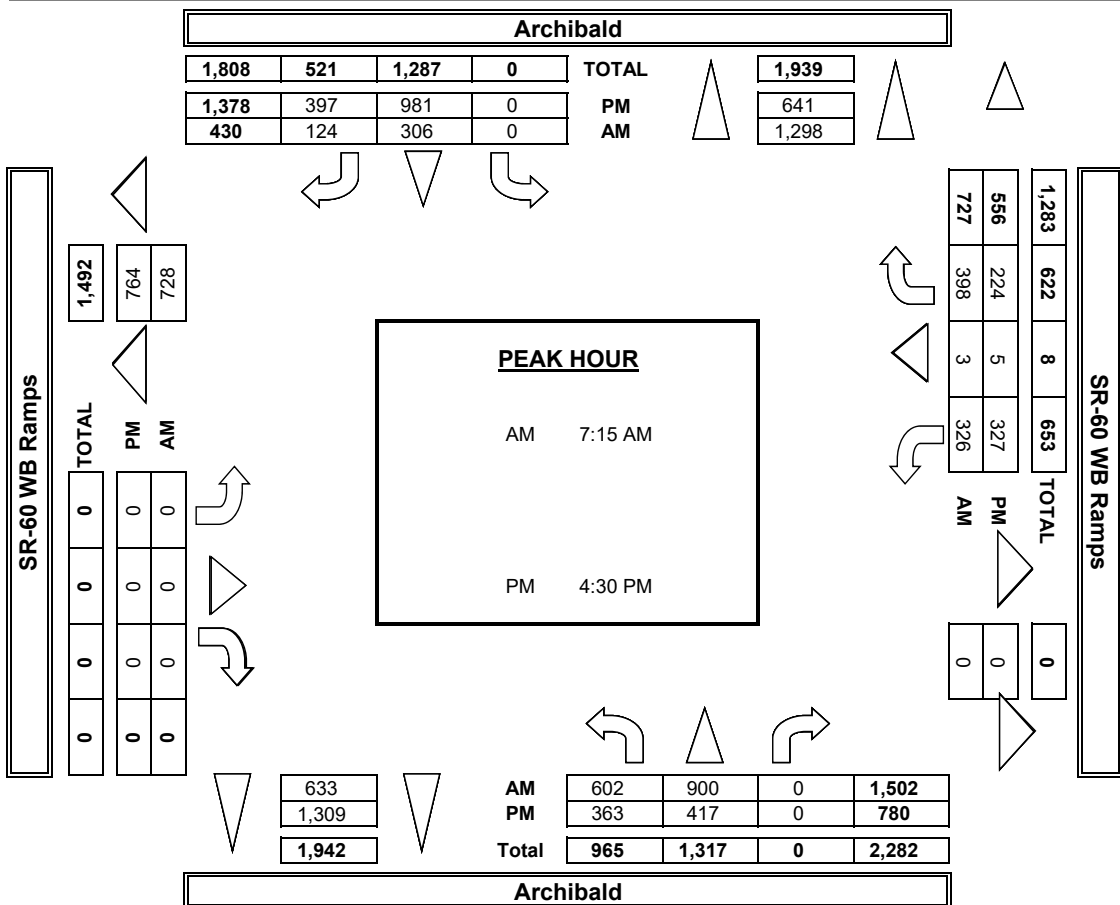
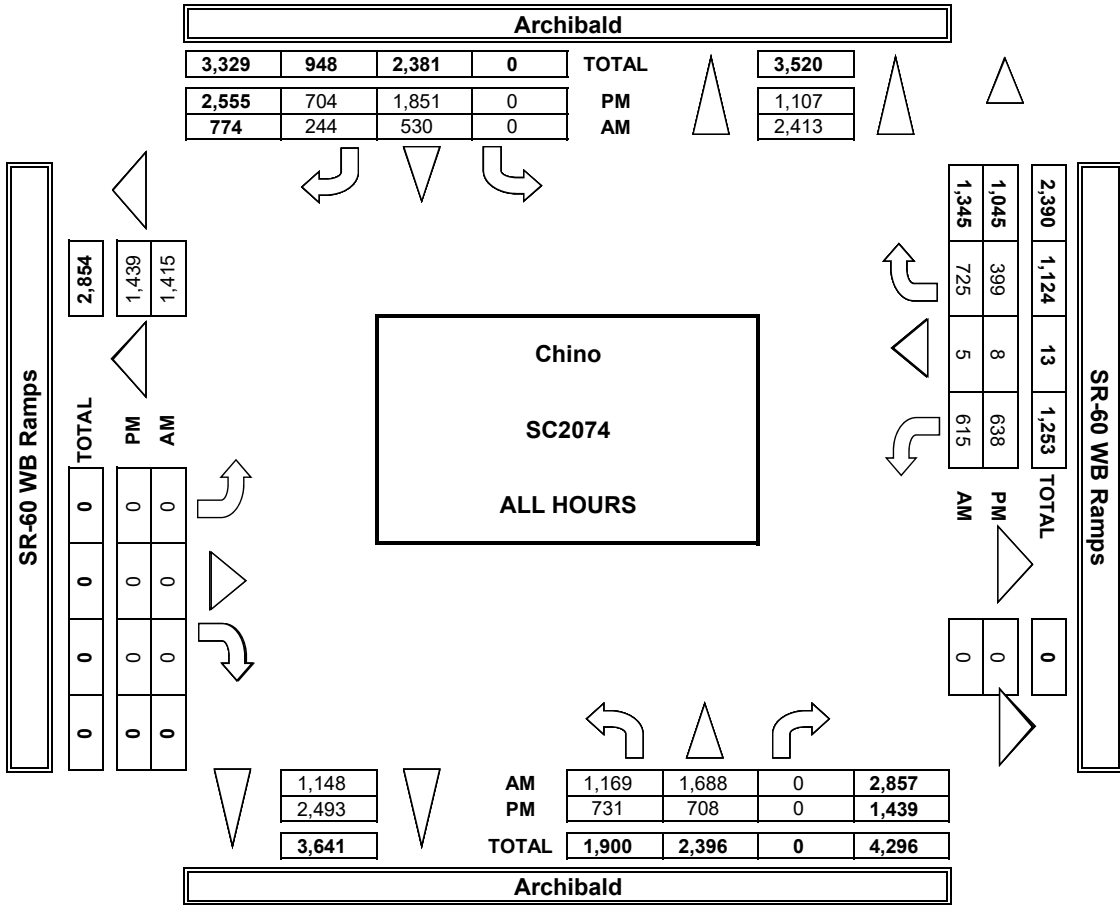


	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				U-TURNS				RTOR							
	LN	WT	NR	SL	LN	WT	NR	SL	LN	WT	NR	SL	LN	WT	NR	SL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR			
<b>AM</b>																												
VOLUMES	152	180	0	0	68	45	0	0	75	0	0	0	74	0	81	601	1	0	0	0	1	0	0	0	0	0	0	0
APPROACH %	41%	59%	0%	0%	68%	32%	0%	0%	46%	0%	0%	0%	46%	0%	54%	4976	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH	2,857	2,413	0	0	774	1,148	0	0	1,345	0	0	0	1,415	0	0	2,659	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	602	900	0	0	306	124	0	0	0	0	0	0	326	3	398	2,659	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	40%	60%	0%	0%	71%	29%	0%	0%	0%	0%	0%	0%	45%	0%	55%	0,904	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR	0.892	0.892	0	0	0.846	0.74	0	0	0.000	0	0	0	0.857	0.857	0.904	0.904	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH PART	1,502	1,298	0	0	430	633	0	0	0	0	0	0	227	0	728	0	0	0	0	0	0	0	0	0	0	0	0	
<b>PM</b>																												
VOLUMES	21	78	0	0	0	0	0	0	1,351	28%	2,493	0	638	1%	389	5,039	4	0	0	0	4	0	0	0	0	0	0	0
APPROACH %	51%	49%	0%	0%	72%	28%	0%	0%	49%	0%	0%	0%	48%	1%	39%	5,039	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH	1,239	1,107	0	0	2,555	2,493	0	0	1,045	1%	1,435	0	1,435	0	1,435	2,714	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	363	417	0	0	981	397	0	0	327	5	224	2,714	0	0	0	0,960	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	47%	53%	0%	0%	71%	29%	0%	0%	0%	0%	0%	0%	49%	0%	55%	0,960	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR	0.938	0.938	0	0	0.916	0.816	0	0	0.000	0	0	0	0.863	0.863	0.960	0.960	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH PART	780	641	0	0	1,378	1,309	0	0	556	0	764	0	764	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



	ALL PED AND BIKE				PEDESTRIAN CROSSINGS				BICYCLE CROSSINGS						
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
<b>AM</b>															
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH PART	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>PM</b>															
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH PART	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**AimTD LLC**  
TURNING MOVEMENT COUNTS





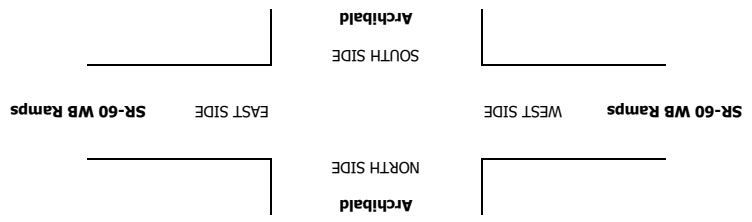
**INTERSECTION TURNING MOVEMENT COUNTS**

DATE: 1/30/19 WEDNESDAY  
 LOCATION: NORTH & WEST: Archibald  
 EAST & WEST: Archibald  
 PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com  
 PROJECT #: SC2074  
 LOCATION #: 49  
 CONTROL: SIGNAL

CLASS 3: TRUCKS	NOTES:											
	AM	PM	OTHER	OTHER	MD	S	▲	▲	▲	▲	▲	▲

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	3	X	X	4	0	X	X	X	0.5	0.5	1	

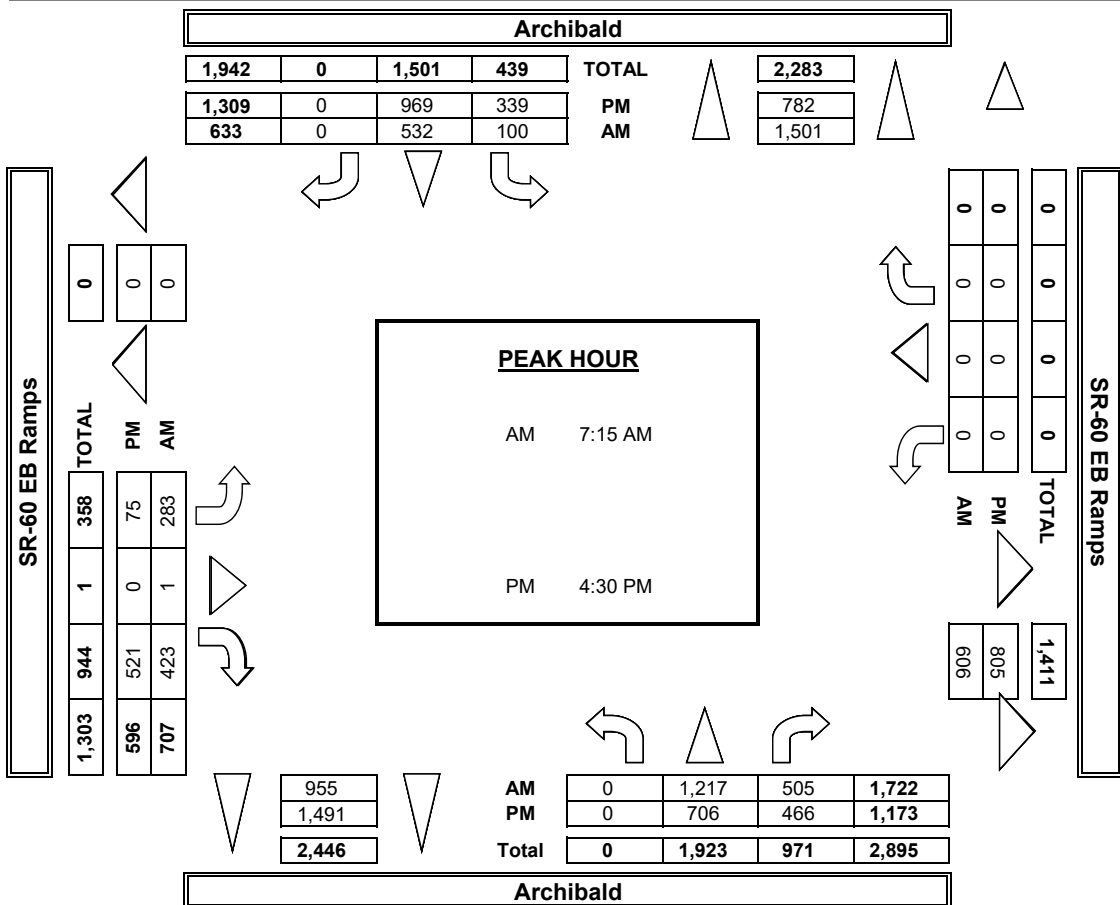
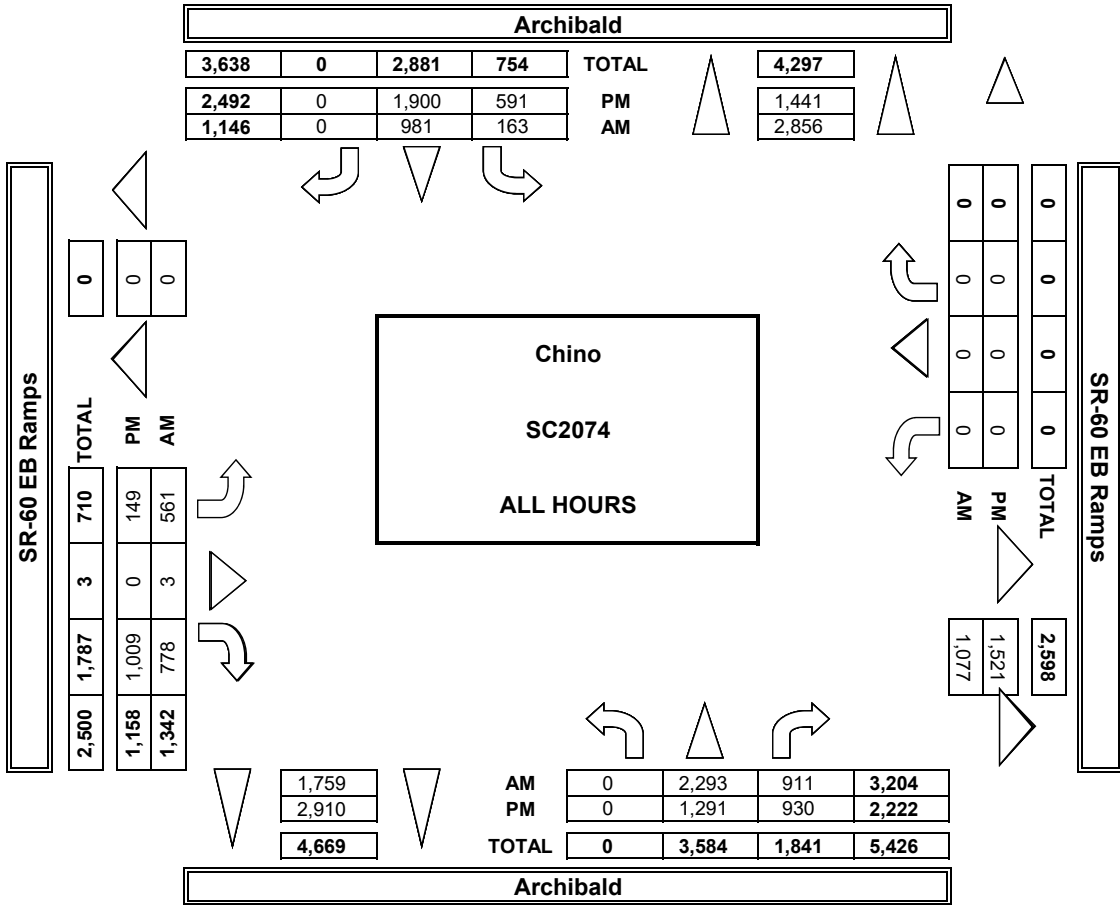
TIME	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	APPROACH %	BEGIN PEAK HR	VOLUMES	APPROACH %	AP/P/DEPART	PEAK HR FACTOR	AP/P/DEPART	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR									
7:00 AM	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	1	8	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	8	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	2	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	2	7	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	6	26	0	0	14	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	19%	81%	0%	0%	82%	18%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AP/P/DEPART	32	32	17	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	7:45 AM																				
VOLUMES	5	22	0	0	11	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	19%	81%	0%	0%	92%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AP/P/DEPART	27	25	12	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR	0.750		0.600		0.000																
AP/P/DEPART	9	17	13	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	1	8	0	0	7	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	11%	89%	0%	0%	54%	46%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AP/P/DEPART	1	8	0	0	7	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	4:00 PM																				
VOLUMES	1	4	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	20%	80%	0%	0%	60%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
AP/P/DEPART	5	8	0	0	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR	0.417		0.417		0.000																
AP/P/DEPART	5	8	0	0	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0







**AimTD LLC**  
TURNING MOVEMENT COUNTS











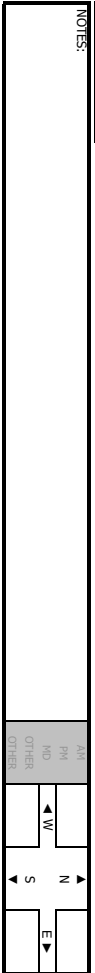
INTERSECTION TURNING MOVEMENT COUNTS

DATE: Wed Jan 30, 19

LOCATION: NORTH & SOUTH EAST & WEST

PREPARED BY: Almind LLC Tel: 714 253 7888 c@almind.com

PROJECT #: SC02/4 LOCATION #: 51 CONTROL: SIGNAL

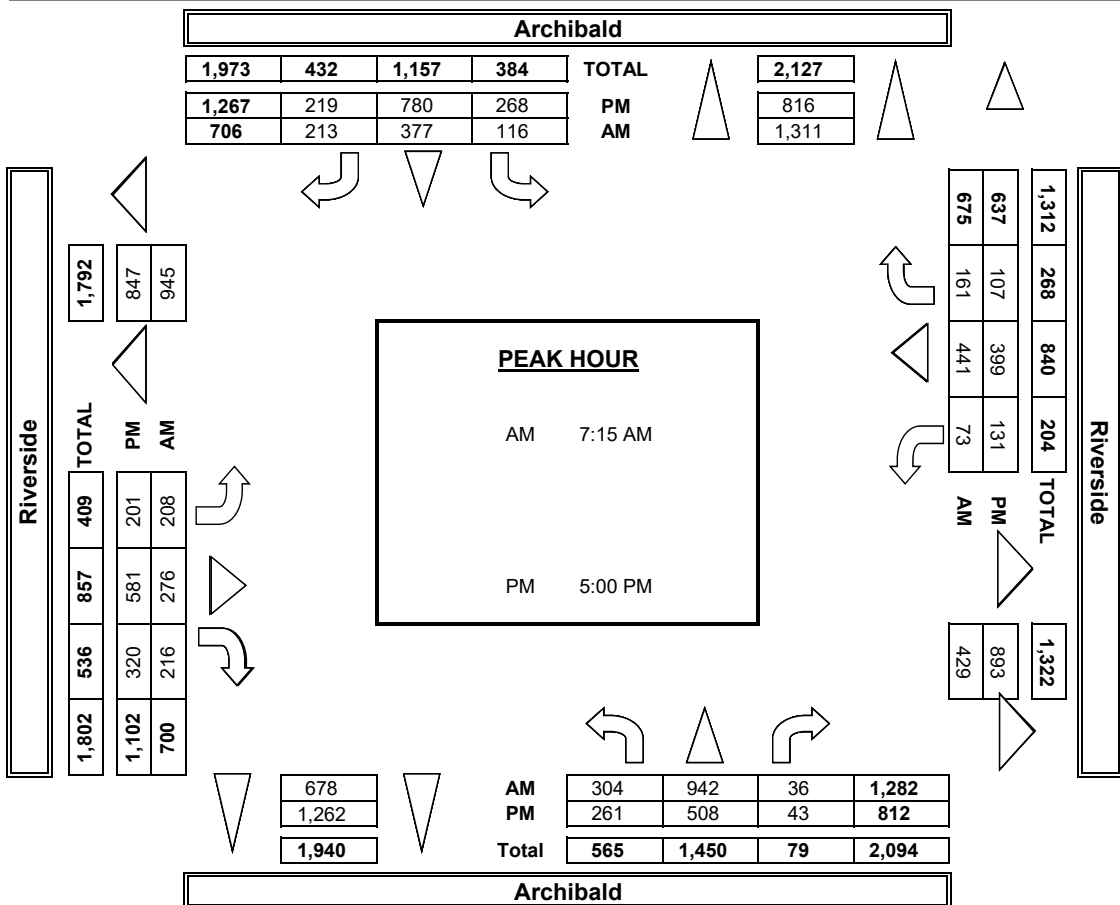
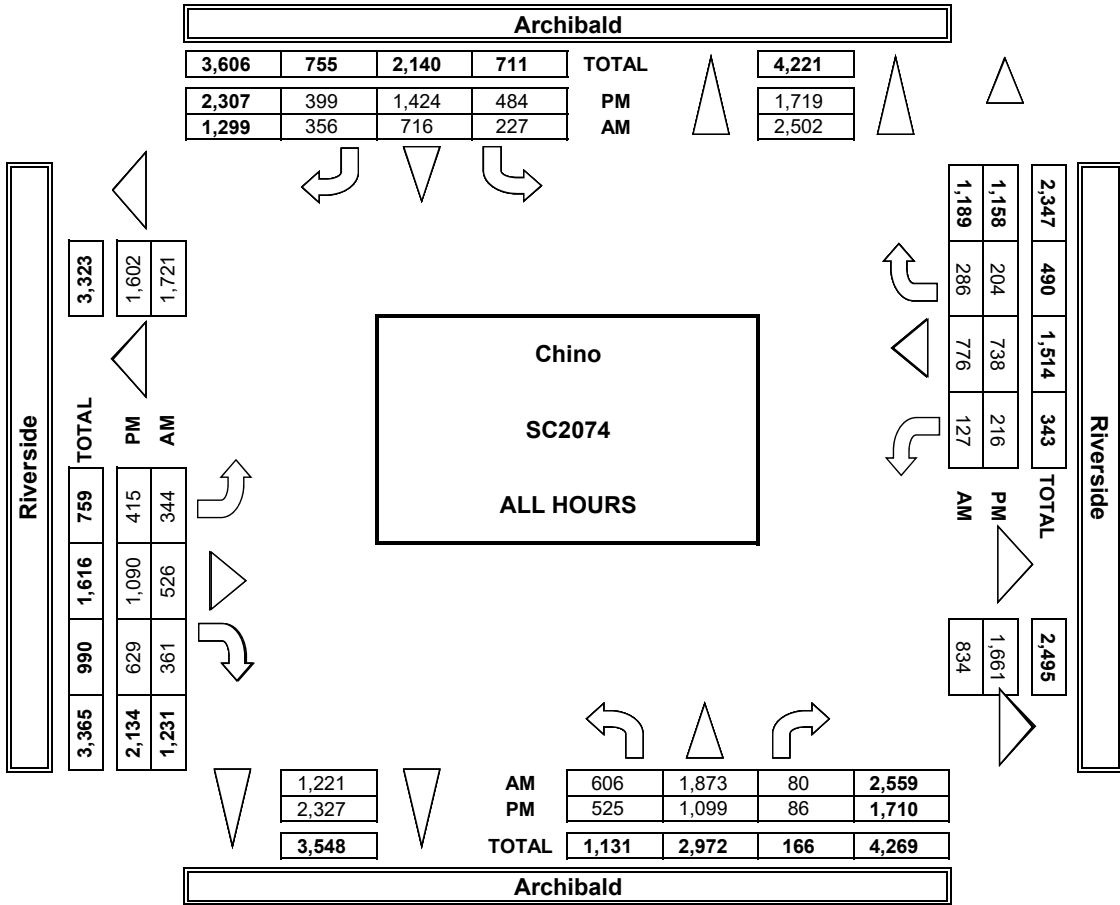


Add U-turns to left turn

Table with columns: Lanes (NL, NT, NR, SL, ST, SR, EL, ET, ER, WL, WT, WR), Volume, and Approach % for AM and PM periods. Includes sub-tables for RTOR, U-TURNS, and BICYCLE CROSSINGS.

Summary table showing traffic counts and percentages for AM and PM periods. Columns include E SIDE, W SIDE, S SIDE, N SIDE, and TOTAL for various categories like ALL PED AND BIKE, PEDESTRIAN CROSSINGS, and BICYCLE CROSSINGS.

**AimTD LLC**  
TURNING MOVEMENT COUNTS









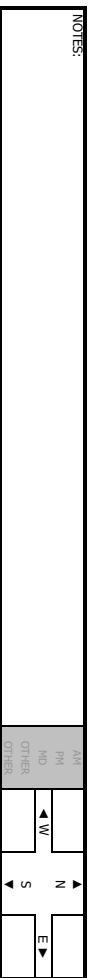


INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC Tel: 714 253 7888 cfo@aimtd.com

DATE: Wed Jan 30, 19 LOCATION: NORTH & SOUTH EAST & WEST: Chino Archibald Chino

PROJECT #: SC2074 LOCATION #: 52 CONTROL: SIGNAL



Added U-turns to Left Turns

Main traffic volume table with columns for direction (Northbound, Southbound, Eastbound, Westbound), movement (Lanes, Approach %, Peak Hr Factor), and counts (E, ER, F, FT, SR, S, W, WT, NR, WR, TT, Total). Includes summary rows for AM and PM peaks.

U-TURNS table with columns for direction (NR, SB, EB, WB) and counts (TTL, Total).

RTO table with columns for movement (NRR, SRR, ERR, WRR) and counts (Total).

Summary table for West Side with counts 8, 1, 2, 76.

Summary table for East Side with counts 2, 2, 16, 125.



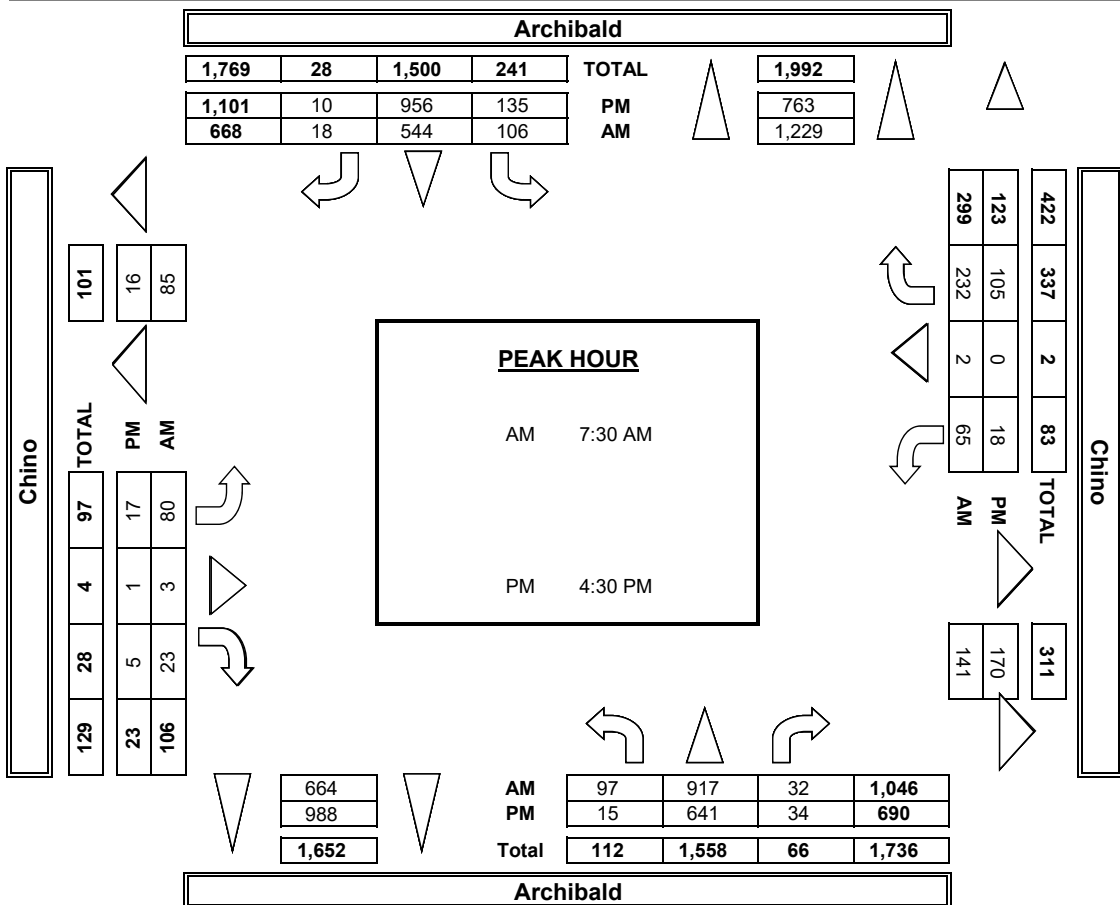
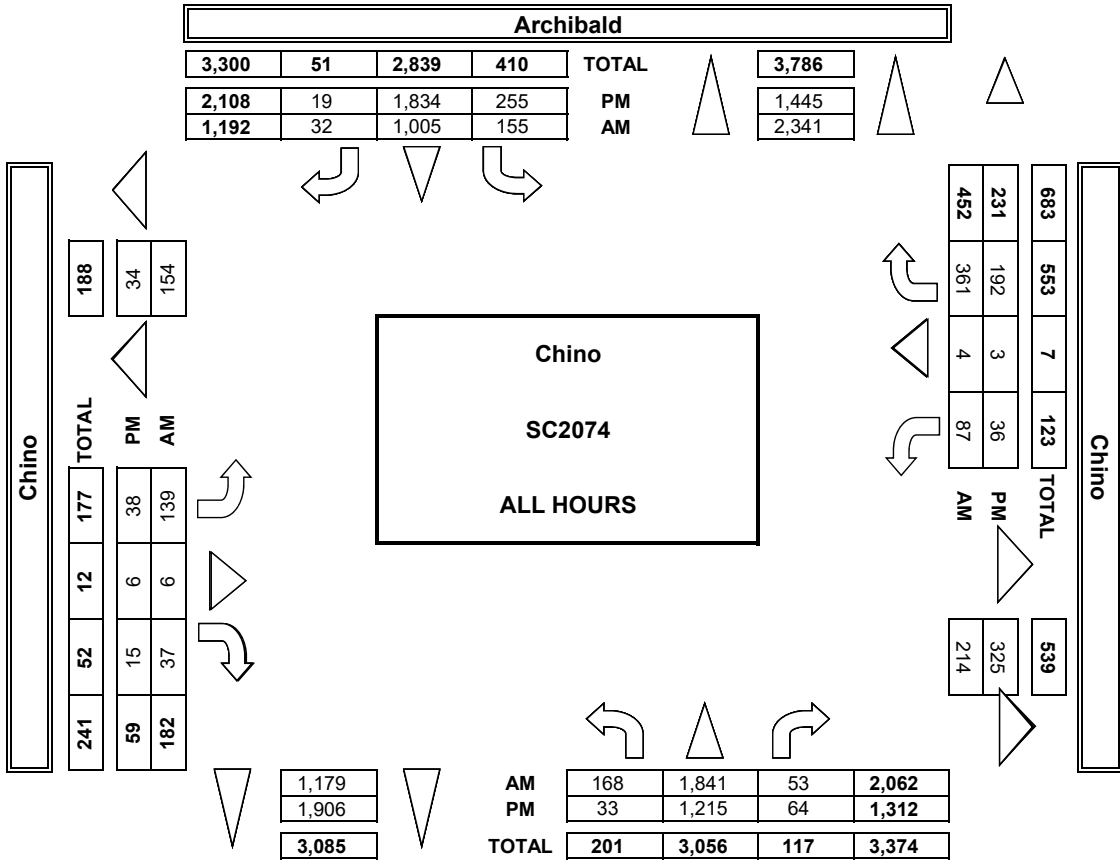
AM Traffic Volume Summary Table (Peak Hour)

ALL PED AND BIKE Summary Table

PEDESTRIAN CROSSINGS Summary Table

BICYCLE CROSSINGS Summary Table

**AimTD LLC**  
TURNING MOVEMENT COUNTS



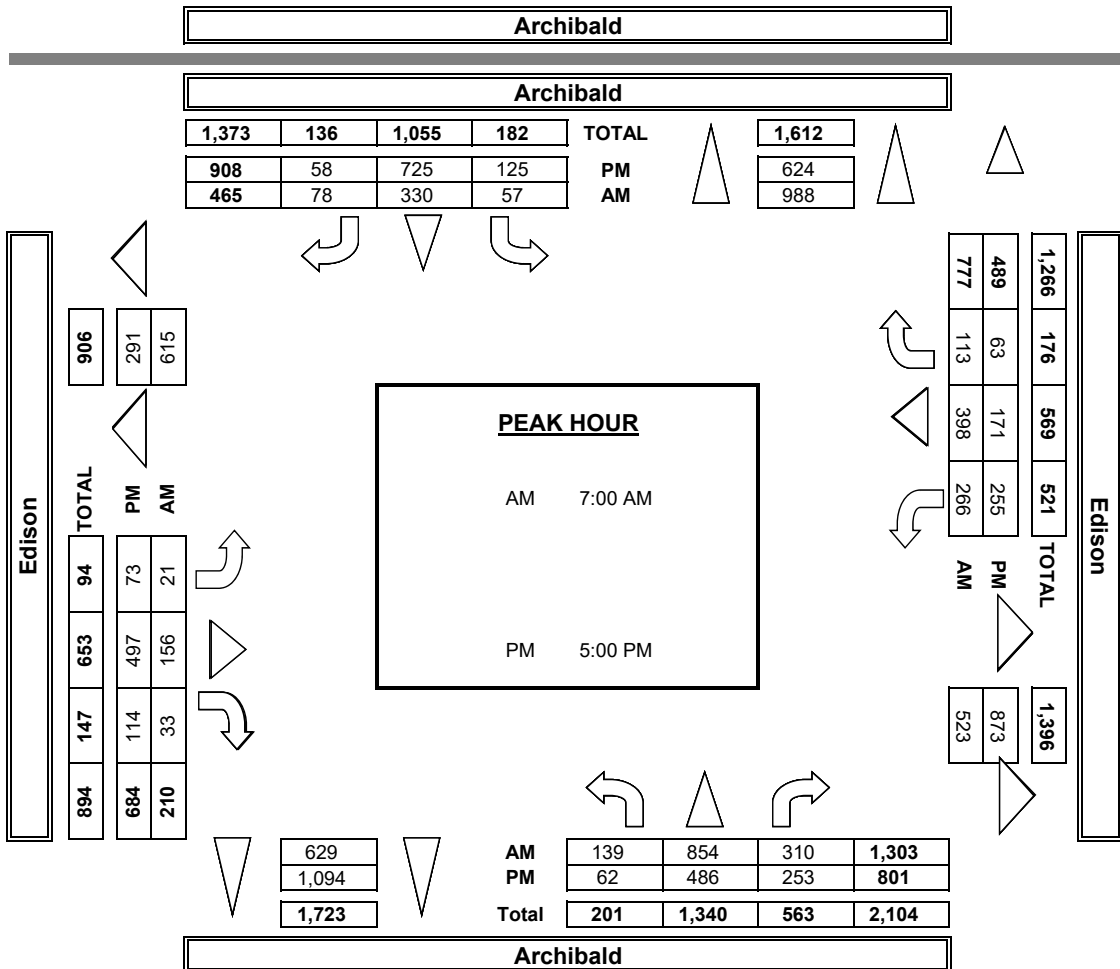
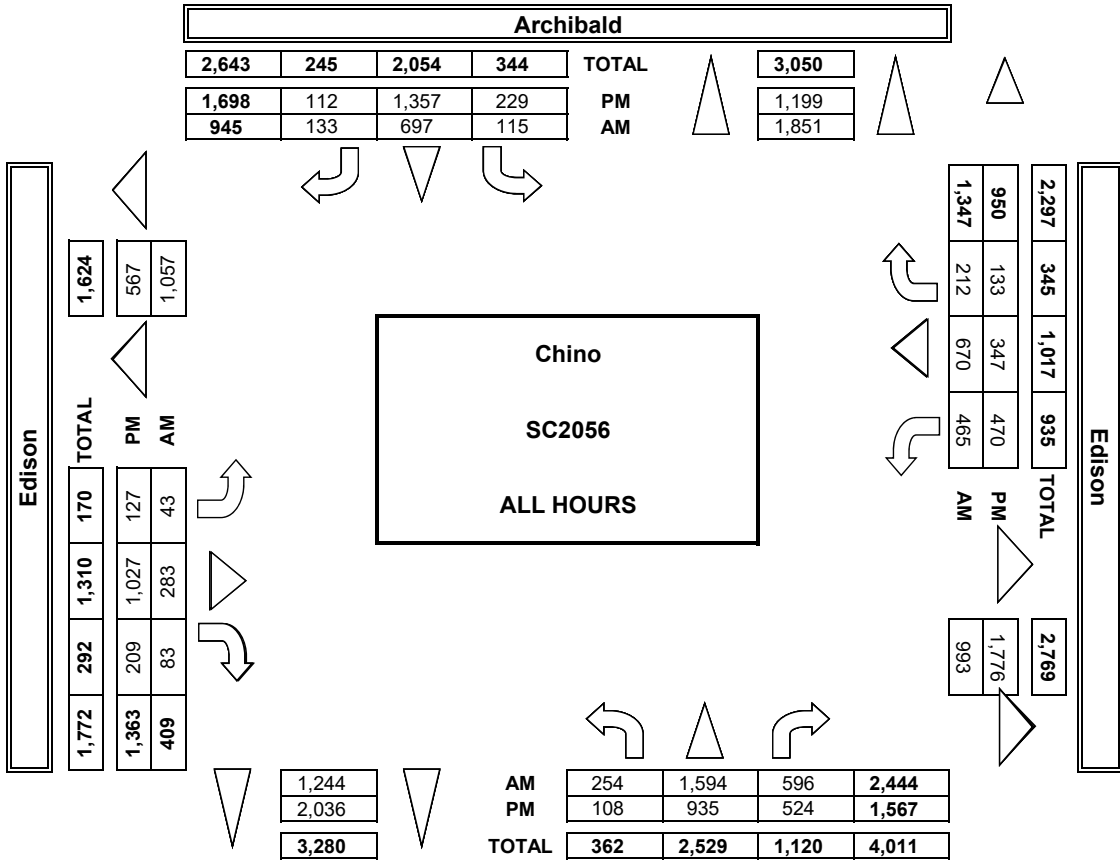








**AimTD LLC**  
TURNING MOVEMENT COUNTS



### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtmTD LLC, tel: 714 253 7888 cs@airtmtd.com

DATE: 1/22/19  
TUESDAY

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

PROJECT #: SC2056  
LOCATION #: 34  
CONTROL: SIGNAL

Chino  
Archbald  
Edison

CLASS 2: WORK VEHICLES/ TRUCKS	NOTES:	COUNTS												
		NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
		1	2	1	1	2	1	2	2	1	2	1	1	46

	OTHER			TOTAL
	PM	MD	OTHER	
	0	0	0	0

LANES:	NORTHBOUND						SOUTHBOUND						EASTBOUND						WESTBOUND					
	Archbald		Edison		Chino		Archbald		Edison		Chino		Archbald		Edison		Chino							
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL											
	1	2	1	1	2	1	2	2	1	2	1	1	46											

U-TURNS							
NB	SB	EB	WB	TTL			
0	0	0	0	0			

RTOR				
NRR	SRR	ERR	WRR	TOTAL
0	0	0	0	0

AM																								
APPROACH %	NORTHBOUND						SOUTHBOUND						EASTBOUND						WESTBOUND					
	Archbald		Edison		Chino		Archbald		Edison		Chino		Archbald		Edison		Chino							
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL											
7:00 AM	2	4	5	2	7	1	0	1	1	1	1	1	12											
7:15 AM	0	4	5	1	3	0	0	4	0	7	9	2	35											
7:30 AM	0	3	7	2	6	2	0	3	1	5	4	1	34											
7:45 AM	0	6	3	2	2	1	0	4	1	10	5	4	39											
8:00 AM	0	8	4	3	12	1	0	2	2	5	9	2	48											
8:15 AM	0	5	9	4	6	1	1	5	3	3	2	3	42											
8:30 AM	1	8	2	2	6	0	1	7	2	7	8	2	47											
8:45 AM	1	6	3	3	9	0	0	5	3	5	3	3	41											
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0											
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0											
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0											
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0											
VOLUMES	4	44	38	20	52	6	2	31	13	54	48	20	332											
APPROACH %	5%	51%	44%	26%	67%	8%	4%	67%	28%	44%	39%	16%	0.927											

RTOR				
NRR	SRR	ERR	WRR	TOTAL
0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	TOTAL
0	4	0	0	15

PM																								
APPROACH %	NORTHBOUND						SOUTHBOUND						EASTBOUND						WESTBOUND					
	Archbald		Edison		Chino		Archbald		Edison		Chino		Archbald		Edison		Chino							
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL											
03:00 PM	4	7	4	4	8	3	0	0	0	0	0	0	15											
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0											
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0											
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0											
4:00 PM	2	6	2	2	1	0	0	1	9	1	4	0	27											
4:15 PM	1	5	3	0	4	1	2	4	2	4	5	0	31											
4:30 PM	0	8	7	1	3	1	1	9	1	3	2	1	37											
4:45 PM	0	4	2	2	4	2	2	4	2	0	3	0	24											
5:00 PM	2	7	5	1	2	2	1	9	0	1	0	2	30											
5:15 PM	1	8	0	0	5	2	1	6	0	2	2	0	25											
5:30 PM	2	4	4	2	4	1	1	5	1	1	0	0	28											
5:45 PM	0	3	3	1	3	0	0	6	3	2	4	3	28											
VOLUMES	8	45	26	7	26	7	9	52	10	17	16	6	229											
APPROACH %	10%	57%	33%	18%	65%	18%	13%	73%	14%	44%	41%	15%	0.927											

RTOR				
NRR	SRR	ERR	WRR	TOTAL
0	1	0	0	7

RTOR				
NRR	SRR	ERR	WRR	TOTAL
0	2	0	1	3

ARCHBALD																								
APPROACH %	NORTHBOUND						SOUTHBOUND						EASTBOUND						WESTBOUND					
	Archbald		Edison		Chino		Archbald		Edison		Chino		Archbald		Edison		Chino							
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL											
BEGIN PEAK HR	2	27	18	12	33	2	2	19	10	20	22	10	178											
VOLUMES	4%	57%	38%	25%	69%	4%	6%	61%	32%	38%	42%	19%	0.927											
APPROACH %	0.839																							
PEAK HR FACTOR	0.775																							

RTOR				
NRR	SRR	ERR	WRR	TOTAL
0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	TOTAL
0	2	0	1	3









DATE:  
Tue, Jan 22, 19

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

INTERSECTION TURNING MOVEMENT COUNTS  
PREPARED BY: AImTD LLC Tel: 714 253 7888 csl@aimtd.com

PROJECT #:  
35  
LOCATION #:  
CONTROL:

SC2056  
SIGNAL

Map navigation icons: Add U-turns to left turns, NW, N, NE, E, SE, S, SW, W, NW, HD, OTHER

Table with columns: LANE, NORTHBOUND, SOUTHBOUND, EASTBOUND, WESTBOUND, TOTAL. Includes AM and PM sections for VOLUMES, APPROACH %, BEGIN PEAK HR, and PEAK HR FACTOR. Includes sub-totals for Archibald and Eucliptus.

Table with columns: U-TURNS, RTOR. Includes AM and PM sections for NR, SB, EB, WB, TT, SR, ERR, WRR.

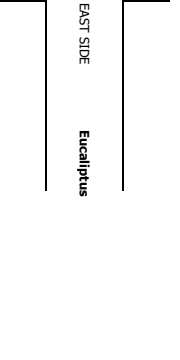
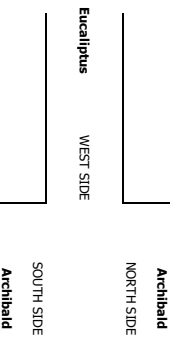


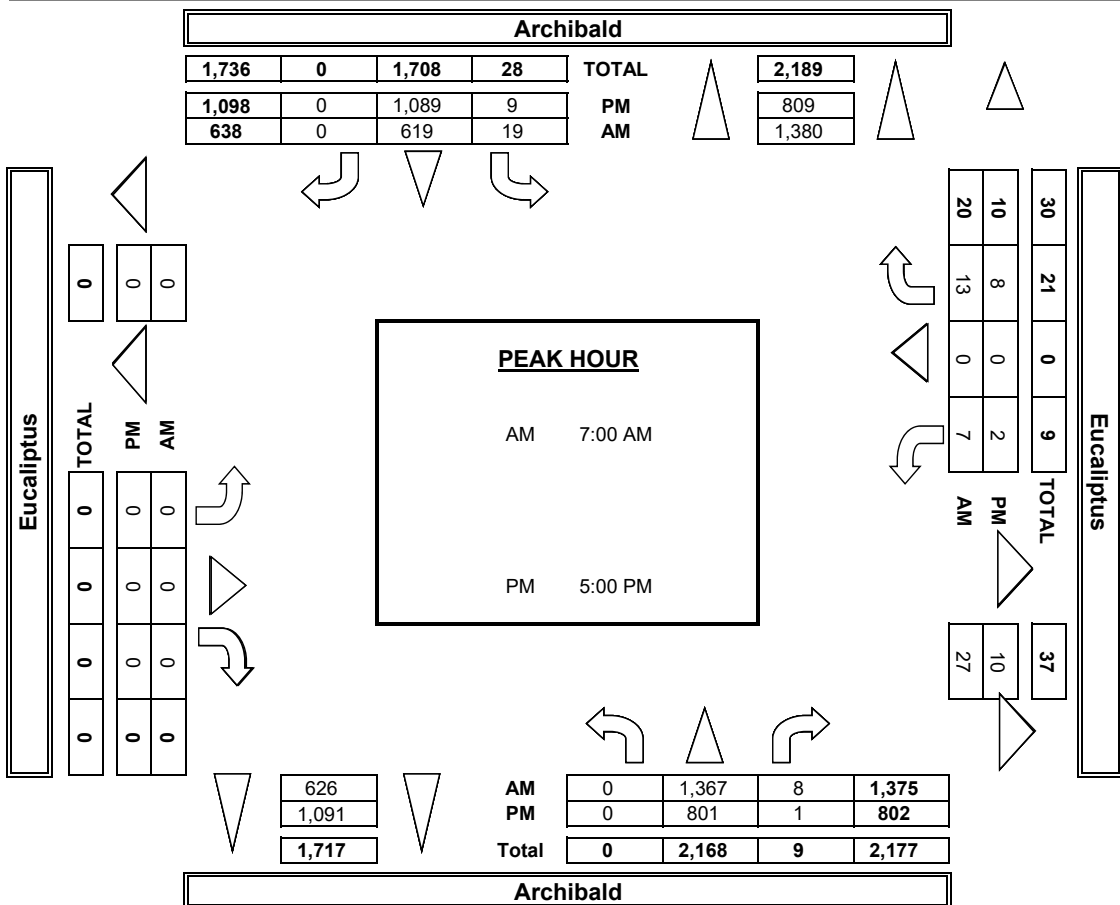
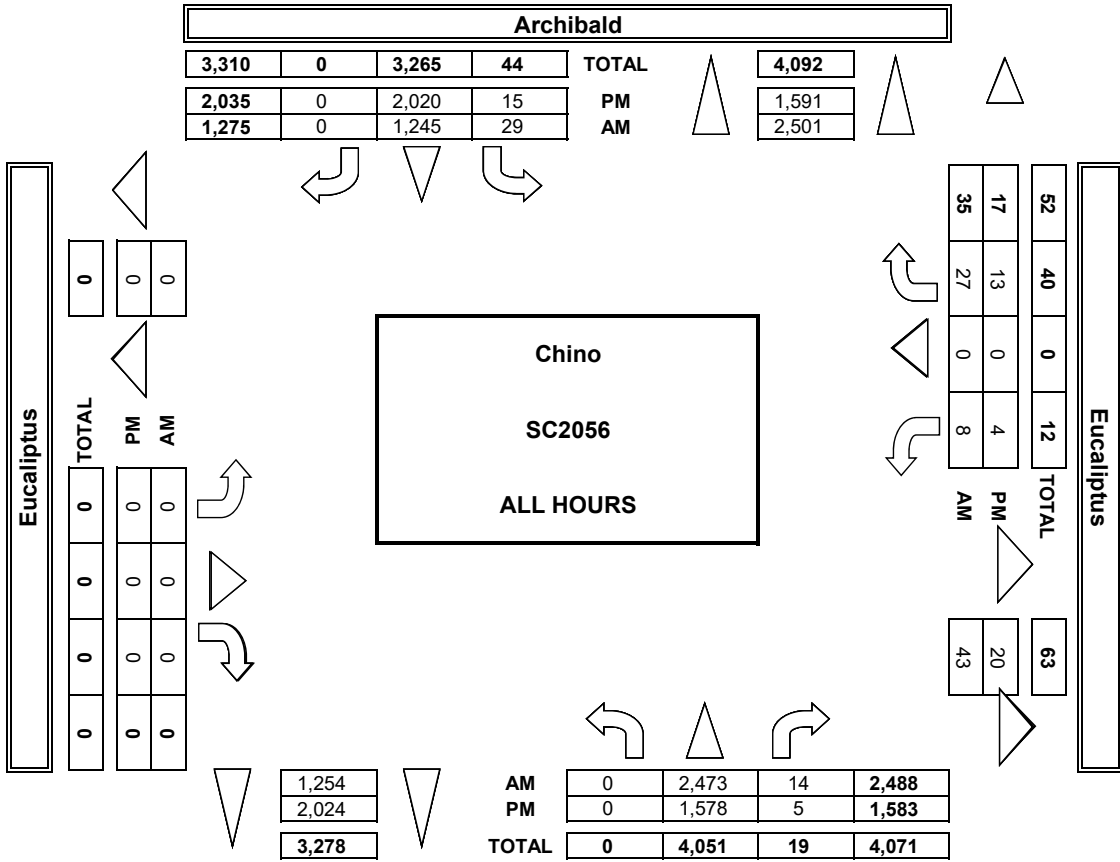
Table with columns: AM, PM. Rows: 7:00 AM to 7:00 PM. Includes TOTAL row.

Table titled 'ALL PED AND BIKE' with columns: E SIDE, W SIDE, S SIDE, N SIDE, TOTAL. Rows: 7:00 AM to 7:00 PM. Includes TOTAL row.

Table titled 'PEDESTRIAN CROSSINGS' with columns: E SIDE, W SIDE, S SIDE, N SIDE, TOTAL. Rows: 7:00 AM to 7:00 PM. Includes TOTAL row.

Table titled 'BICYCLE CROSSINGS' with columns: ES, WS, SS, NS, TOTAL. Rows: 7:00 AM to 7:00 PM. Includes TOTAL row.

**AimTD LLC**  
TURNING MOVEMENT COUNTS



**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AintTD LLC, tel: 714 253 7888 csc@aintd.com

PROJECT #: SC2056

DATE: 1/22/19

TUESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST:Chino  
Archbald  
Eucaillipus

LOCATION #:

35  
SIGNAL CONTROL:

CLASS 2: WORK VEHICLES/ TRUCKS	NOTES:	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TL				
2-AXLE WORK VEHICLES/ TRUCKS		Archbald				Archbald				Eucaillipus				Eucaillipus				
		LANES: NL NT		2			1	2			X	X	X	0	X			

AM	PM	N	S	E
← W	← W			
OTHER	OTHER			
OTHER	OTHER			

U-TURNS				
NB	SB	EB	WB	TTL

RTOR				
NRR	SRR	ERR	WRR	

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TL				
<b>7:00 AM</b>	0	10	0	3	14	0	0	0	0	1	0	0	0	28			
7:15 AM	0	15	0	2	18	0	0	0	0	0	0	0	0	35			
7:30 AM	0	11	0	2	15	0	0	0	0	1	0	3	0	32			
7:45 AM	0	11	0	1	18	0	0	0	0	1	0	1	0	32			
8:00 AM	0	11	1	1	9	0	0	0	0	0	0	2	0	21			
8:15 AM	0	9	0	0	9	0	0	0	0	0	0	2	0	20			
8:30 AM	0	7	0	0	15	0	0	0	0	0	0	0	0	22			
8:45 AM	0	5	0	1	12	0	0	0	0	0	0	0	0	18			
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
VOLUMES	0	79	1	9	110	0	0	0	0	3	0	5	0	208			
APPROACH %	0%	99%	1%	8%	92%	0%	0%	0%	0%	33%	0%	67%		0			
APPROACH	80	78	85	119	113	0	0	0	10	9	0	0		0			
APPR/DEPART	/	/	/	/	/	/	/	/	/	/	/	/		0			
BEGIN PEAK HR	7:00 AM													127			
VOLUMES	0	47	0	8	65	0	0	0	0	3	0	4		0			
APPROACH %	0%	100%	0%	11%	89%	0%	0%	0%	0%	43%	0%	57%		0			
APPROACH	0	783	0	0.913	0.000	0.000	0.000	0.000	0.000	0.438	0.438	0.907		0			
PEAK HR FACTOR	47	51	73	68	8	7	8	7	8	7	8	7		0			
APPR/DEPART	03:00 PM	0	0	0	0	0	0	0	0	0	0	0		0			
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0		0			
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0		0			
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0		0			
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0		0			
4:15 PM	0	13	0	0	6	0	0	0	0	0	0	0		19			
4:30 PM	0	8	0	0	12	0	0	0	0	0	0	0		20			
4:45 PM	0	16	0	0	8	0	0	0	0	1	0	0		25			
5:00 PM	0	6	0	0	5	0	0	0	0	0	0	0		11			
5:15 PM	0	10	0	0	5	0	0	0	0	0	0	0		15			
5:30 PM	0	9	0	0	4	0	0	0	0	0	0	0		13			
5:45 PM	0	6	0	0	5	0	0	0	0	0	0	0		11			
VOLUMES	0	10	0	0	6	0	0	0	0	0	0	0		16			
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%		130			
APPR/DEPART	78	78	0%	51	52	0	0	0	0	1	1	0		0			
BEGIN PEAK HR	4:00 PM													75			
VOLUMES	0	43	0	0	31	0	0	0	0	1	0	0		0			
APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%		0			
APPROACH	0	672	0	0.646	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.750		0			
PEAK HR FACTOR	43	43	31	32	0	0	0	0	1	1	0	0		0			
APPR/DEPART	43	43	31	32	0	0	0	0	1	1	0	0		0			

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
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0	0	0	0	0	0
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0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
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0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
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0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0



**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTD LLC, tel: 714 253 7888 csa@aimtd.com

PROJECT #: SC2056  
 LOCATION #: 35  
 CONTROL: SIGNAL

DATE: 1/22/19  
 TUESDAY  
 EAST & WEST: Archibald  
 Archibald  
 Eucalyptus

LOCATION: CHINA

NOTES:

CLASS: 3  
 3-AXLE  
 TRUCKS



LANES:		
NL	NT	NR
Archibald		
Northbound		
WESTBOUND		
Eucalyptus		
WL	WT	WR
TOTAL		

U-TURNS			
NB	SB	EB	WB
TOTAL			

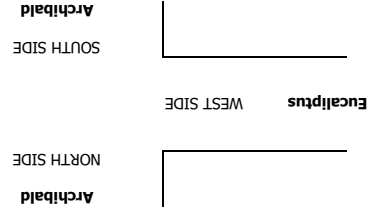
RTOR			
NRR	SRR	FRR	WRR
TOTAL			

Time	APPROACH %	VOLUMES	BEGIN PEAK HR	APPROACH %	VOLUMES	PEAK HR FACTOR	AP/P/DEPART
7:00 AM	0%	2	0	2	0	0	0
7:15 AM	0%	2	0	2	0	0	0
7:30 AM	0%	2	0	2	0	0	0
7:45 AM	0%	3	0	3	0	0	0
8:00 AM	0%	5	0	5	0	0	0
8:15 AM	0%	3	0	3	0	0	0
8:30 AM	0%	2	0	2	0	0	0
8:45 AM	0%	2	0	2	0	0	0
9:00 AM	0%	0	0	0	0	0	0
9:15 AM	0%	0	0	0	0	0	0
9:30 AM	0%	0	0	0	0	0	0
9:45 AM	0%	0	0	0	0	0	0
TOTAL	0%	21	0	21	0	0.650	13
	APPROACH %	VOLUMES	BEGIN PEAK HR	APPROACH %	VOLUMES	PEAK HR FACTOR	AP/P/DEPART
	0%	13	7:30 AM	0%	13	1.000	13

Time	APPROACH %	VOLUMES	BEGIN PEAK HR	APPROACH %	VOLUMES	PEAK HR FACTOR	AP/P/DEPART
10:00 AM	0%	10	4:00 PM	0%	10	0.625	10
TOTAL	0%	10		0%	10	0.625	10
	APPROACH % <th>VOLUMES</th> <th>BEGIN PEAK HR</th> <th>APPROACH %</th> <th>VOLUMES</th> <th>PEAK HR FACTOR</th> <th>AP/P/DEPART</th>	VOLUMES	BEGIN PEAK HR	APPROACH %	VOLUMES	PEAK HR FACTOR	AP/P/DEPART
	0%	3	0	0%	3	1.000	3
	APPROACH % <th>VOLUMES</th> <th>BEGIN PEAK HR</th> <th>APPROACH %</th> <th>VOLUMES</th> <th>PEAK HR FACTOR</th> <th>AP/P/DEPART</th>	VOLUMES	BEGIN PEAK HR	APPROACH %	VOLUMES	PEAK HR FACTOR	AP/P/DEPART
	0%	0	0	0%	0	0.000	0
	APPROACH % <th>VOLUMES</th> <th>BEGIN PEAK HR</th> <th>APPROACH %</th> <th>VOLUMES</th> <th>PEAK HR FACTOR</th> <th>AP/P/DEPART</th>	VOLUMES	BEGIN PEAK HR	APPROACH %	VOLUMES	PEAK HR FACTOR	AP/P/DEPART
	0%	0	0	0%	0	0.000	0
	APPROACH % <th>VOLUMES</th> <th>BEGIN PEAK HR</th> <th>APPROACH %</th> <th>VOLUMES</th> <th>PEAK HR FACTOR</th> <th>AP/P/DEPART</th>	VOLUMES	BEGIN PEAK HR	APPROACH %	VOLUMES	PEAK HR FACTOR	AP/P/DEPART
	0%	0	0	0%	0	0.000	0

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

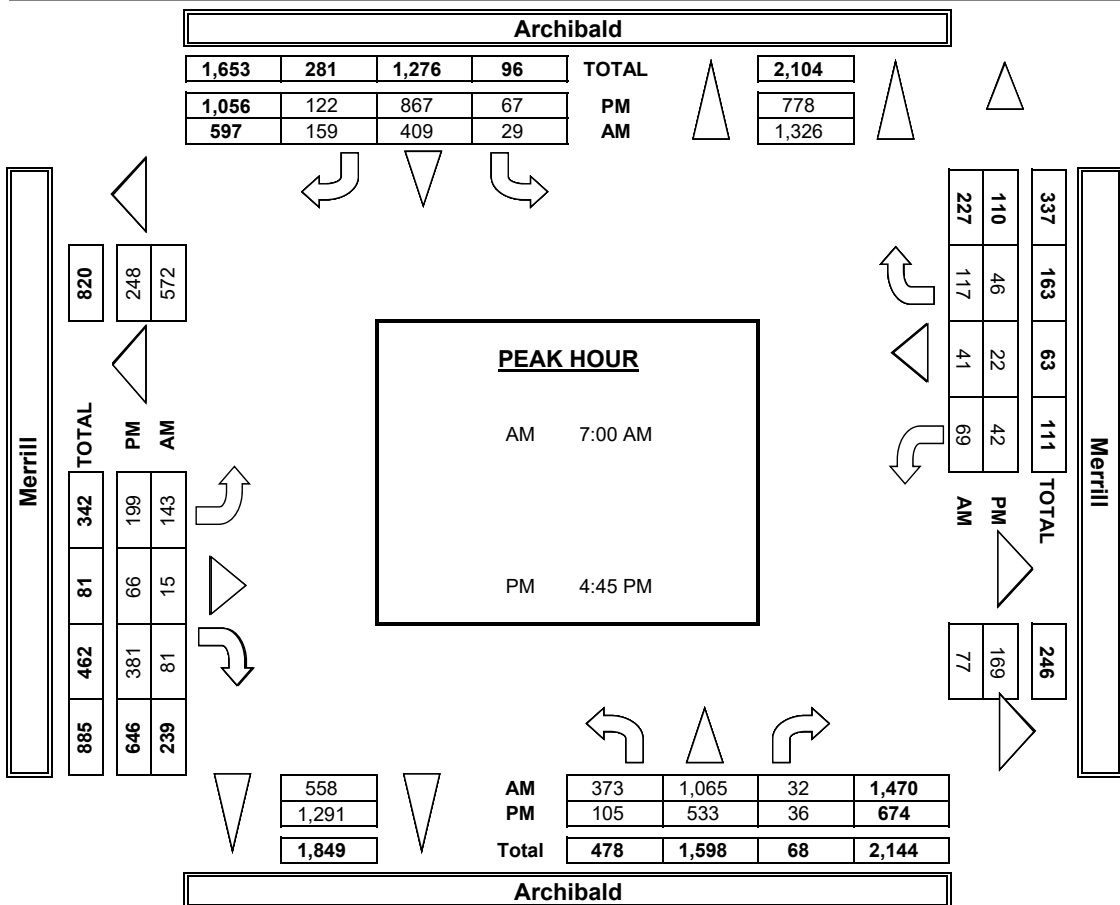
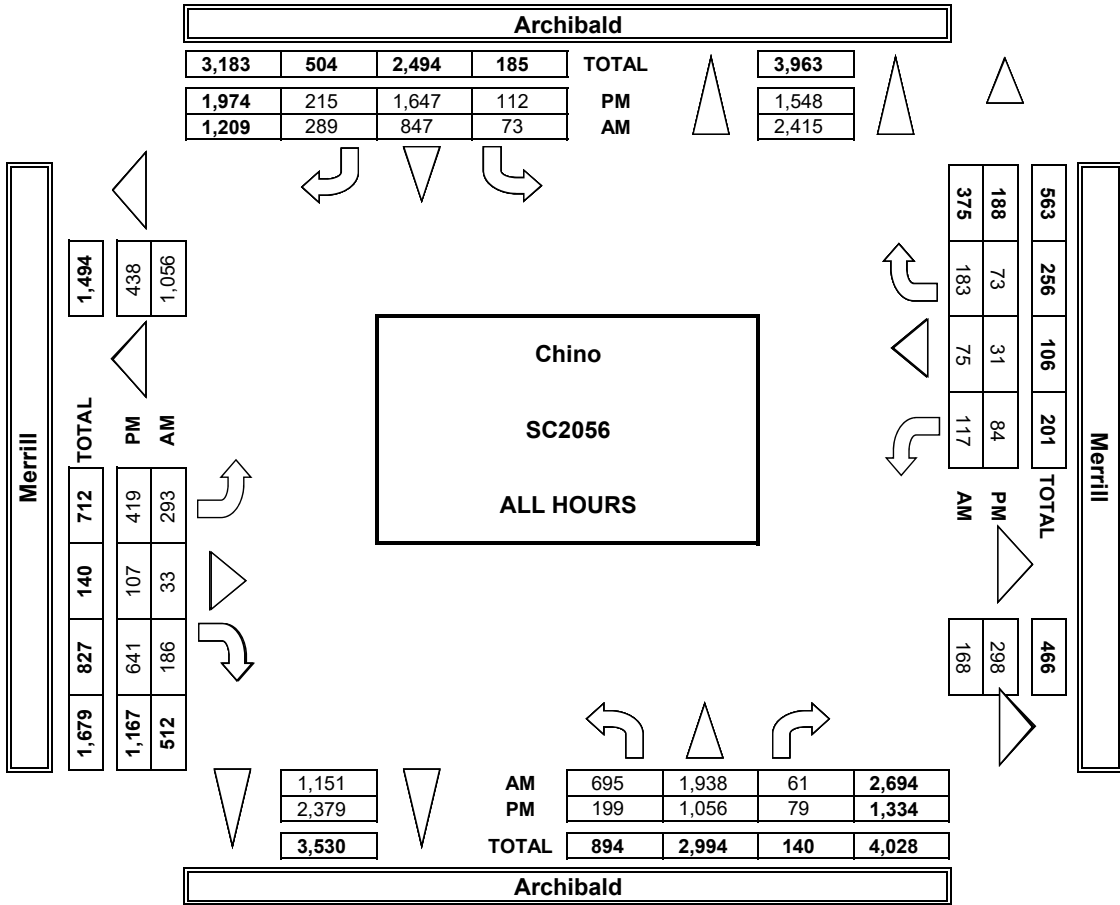








**AimTD LLC**  
TURNING MOVEMENT COUNTS





**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimtD LLC, tel: 714 253 7888 cs@aimtd.com

DATE: 1/22/19 TUESDAY  
 LOCATION: NORTH & SOUTH: Archibald; EAST & WEST: Merrill  
 PROJECT #: SC2056; LOCATION #: 36; SIGNAL CONTROL: **ARCHIBALD**

CLASS: 3-AXLE TRUCKS

NOTES: **ARCHIBALD**

LANES:	ARCHIBALD											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	2	1	2	0	0	1	1	1	1	1	1

LANES:	MERRILL											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	MERRILL											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	ARCHIBALD											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	MERRILL											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	ARCHIBALD											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	MERRILL											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	ARCHIBALD											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	MERRILL											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	ARCHIBALD											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	MERRILL											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	ARCHIBALD											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	MERRILL											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	ARCHIBALD											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	MERRILL											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	ARCHIBALD											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	MERRILL											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	ARCHIBALD											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

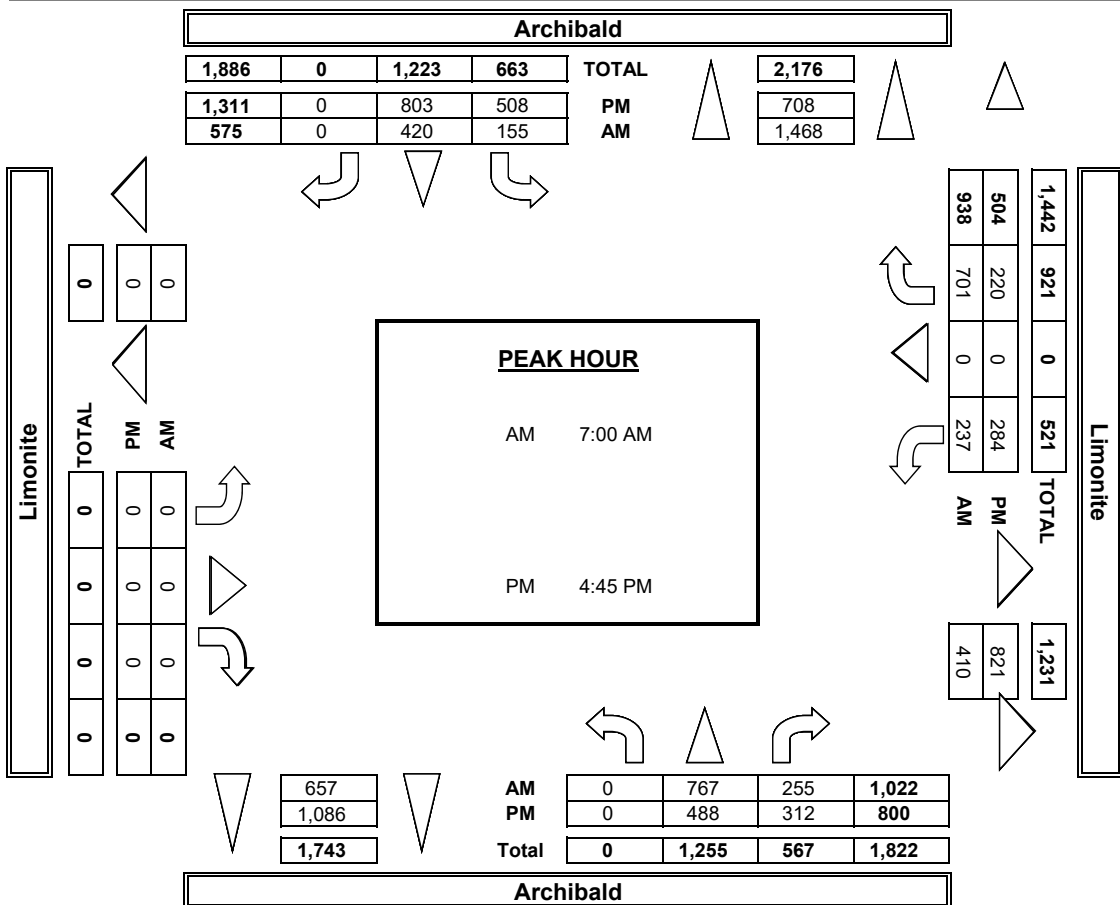
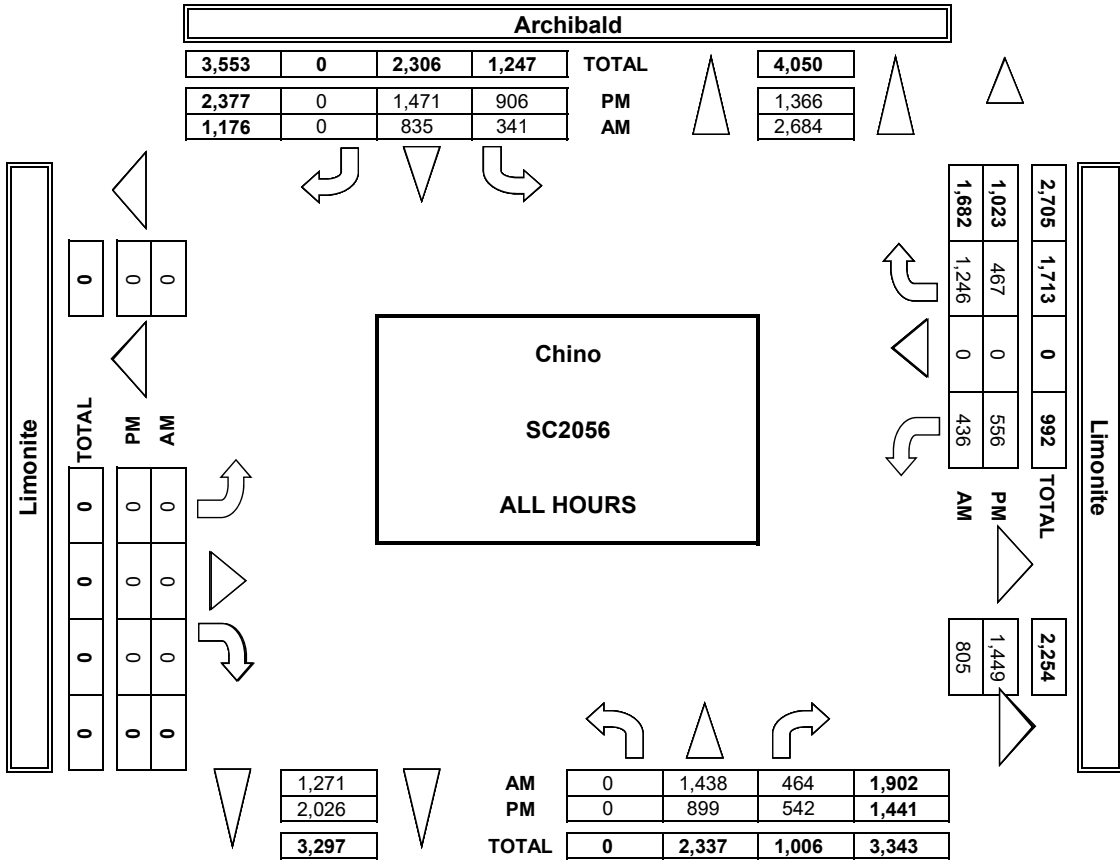
LANES:	MERRILL											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1

LANES:	ARCHIBALD											
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR
TOTAL	1	1	1	1	1	1	1	1	1	1	1	1





**AimTD LLC**  
TURNING MOVEMENT COUNTS









INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AintD LLC, tel: 714 253 7888 cs@aintd.com

DATE: 1/22/19  
 TUESDAY  
 LOCATION: NORTH & SOUTH:  
 EAST & WEST:

PROJECT #: SC2056  
 LOCATION #: 37  
 CONTROL: SIGNAL

Chino  
 Archbald  
 Limonte

CLASS 4: AXLE TRUCKS	NOTES:	Archbald		Limonte		AND MID OTHER	▲	◀	E▶			
		NL	NT	NR	SL		ST	SR		EL	ET	ER

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

7:00 AM	0	1	0	0	2	0	0	0	0	0	3	0	0	1	7
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	1	1	2	0	0	0	0	1	0	0	1	6	
7:45 AM	0	0	1	1	1	0	0	0	0	0	0	0	0	6	
8:00 AM	0	2	2	0	0	0	0	0	0	1	0	0	3	8	
8:15 AM	0	3	1	0	9	0	0	0	0	2	0	0	3	15	
8:30 AM	0	4	1	2	3	0	0	0	0	3	0	1	1	14	
8:45 AM	0	3	0	0	2	0	0	0	0	2	0	0	1	8	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
VOLUMES	0	13	6	4	20	0	0	0	0	12	0	0	10	65	
APPROACH %	0%	68%	32%	17%	83%	0%	0%	0%	0%	55%	0%	45%	0	0	
APP/DEPART	19	/	23	24	/	32	0	/	10	22	/	0	0	0	
BEGIN PEAK HR	8:00 AM												45		
VOLUMES	0	12	4	2	14	0	0	0	0	8	0	5			
APPROACH %	0%	75%	25%	13%	88%	0%	0%	0%	0%	62%	0%	38%			
PEAK HR FACTOR		0.800		0.444		0.000		0.000		0.813		0.750			
APP/DEPART	16	/	17	16	/	22	0	/	6	13	/	0	0	0	

U-TURNS						
NB	SB	EB	WB	TTL		

RTOR				
NRR	SRR	ERR	WRR	

03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	4
4:15 PM	0	0	0	0	1	0	0	0	0	1	0	0	2	2
4:30 PM	0	1	0	1	3	0	0	0	0	1	0	1	7	6
4:45 PM	0	2	0	4	0	0	0	0	0	0	0	0	6	4
5:00 PM	0	0	0	1	3	0	0	0	0	0	0	0	4	4
5:15 PM	0	5	0	1	0	0	0	0	0	0	0	0	1	6
5:30 PM	0	0	1	2	2	0	0	0	0	1	0	0	0	4
5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	1	2
VOLUMES	0	10	1	3	15	0	0	0	0	3	0	3	3	35
APPROACH %	0%	91%	9%	17%	83%	0%	0%	0%	0%	50%	0%	50%	0	0
APP/DEPART	11	/	13	18	/	18	0	/	4	6	/	0	0	0
BEGIN PEAK HR	4:30 PM												23	
VOLUMES	0	8	0	2	10	0	0	0	0	1	0	2		
APPROACH %	0%	100%	0%	17%	83%	0%	0%	0%	0%	33%	0%	67%		
PEAK HR FACTOR		0.400		0.750		0.000		0.000		0.375		0.821		
APP/DEPART	8	/	10	12	/	11	0	/	2	3	/	0	0	0

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Archbald				Limonte			
	NORTH SIDE		SOUTH SIDE		EAST SIDE		WEST SIDE	

NORTH SIDE

EAST SIDE

WEST SIDE

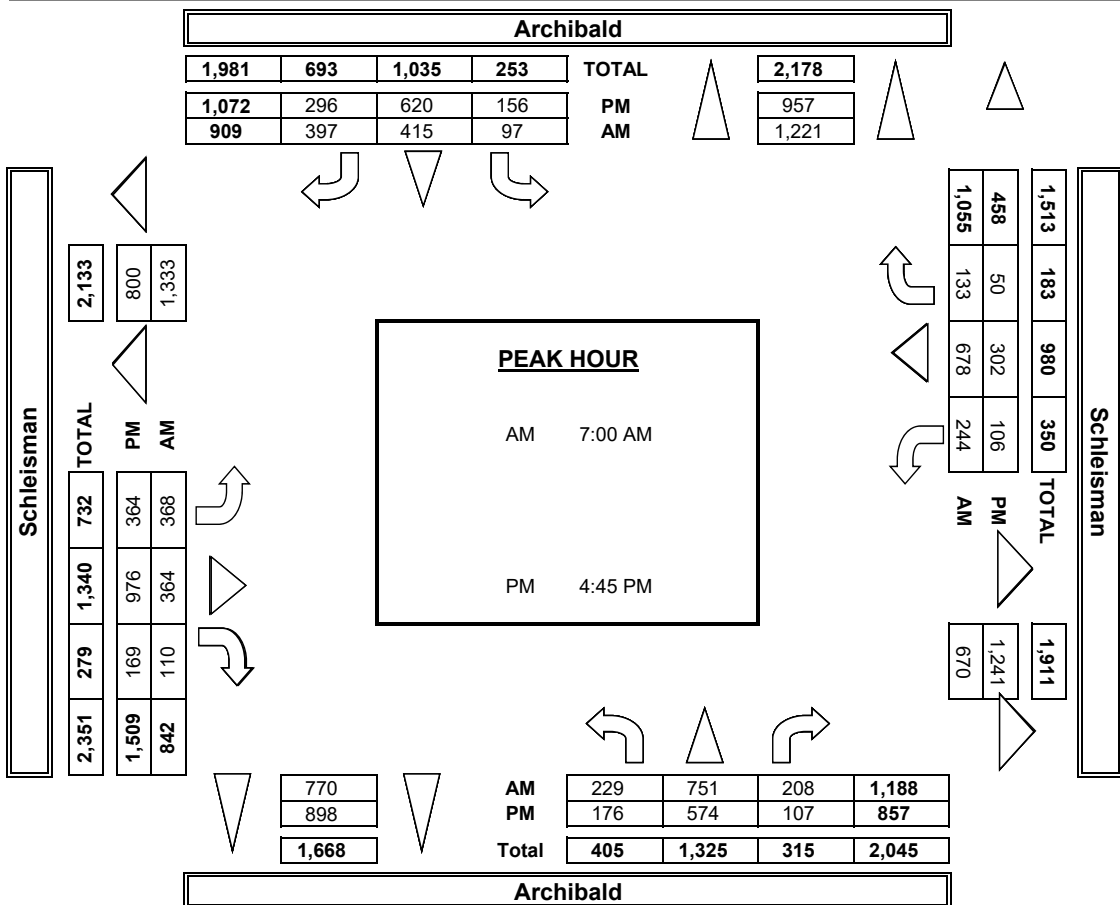
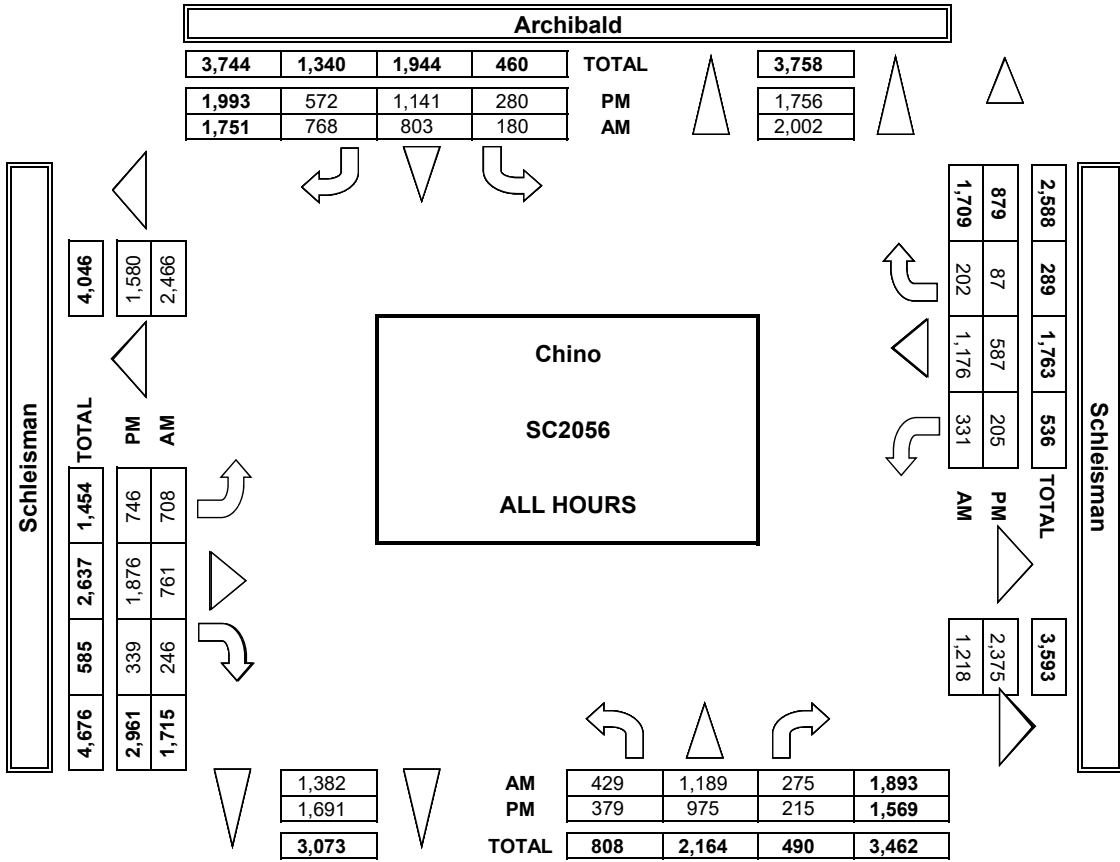
WEST SIDE

SOUTH SIDE

EAST SIDE



**AimTD LLC**  
TURNING MOVEMENT COUNTS



### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtmD LLC. Tel: 714 253 7888 [cs@airtm.com](mailto:cs@airtm.com)

DATE: 1/22/19  
TUESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST: Archbald  
Schlesman

PROJECT #: SC2056  
LOCATION #: 39  
CONTROL: SIGNAL

CLASS 2: WORK VEHICLES/ TRUCKS	NOTES:			AM		PM		N	E
				WT	W	WT	W		

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

TIME	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	8	0	0	4	1	2	3	2	0	2	2	24
7:15 AM	3	6	0	3	8	7	3	5	0	3	1	0	39
7:30 AM	4	6	2	3	7	5	7	6	2	2	7	2	53
7:45 AM	4	11	0	1	11	7	2	4	2	1	4	0	47
8:00 AM	0	8	2	2	11	4	3	6	2	0	8	1	47
8:15 AM	3	5	0	3	7	4	3	6	0	1	4	0	36
8:30 AM	1	7	2	1	9	4	4	4	2	1	4	0	41
8:45 AM	2	6	3	1	9	3	3	1	2	1	4	0	35
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	17	57	9	14	68	35	27	35	12	9	34	5	322
APPROACH %	20%	69%	11%	12%	58%	30%	36%	47%	16%	19%	71%	10%	
APPR/DEPART	83	/	86	117	/	89	74	/	58	48	/	89	0

U-TURNS						
NB	SB	EB	WB	TTL	N	E
0	0	0	0	0	0	0
0	0	1	0	1	0	0
0	0	1	0	1	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	T
0	0	0	1	1
0	1	0	3	4
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

TIME	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:15 AM	11	31	4	9	37	23	13	21	6	6	20	3	186
VOLUMES	11	31	4	9	37	23	13	21	6	6	20	3	186
APPROACH %	24%	67%	9%	13%	54%	33%	31%	50%	14%	21%	69%	10%	
APPR/DEPART	46	/	47	69	/	49	42	/	34	29	/	56	0

U-TURNS						
NB	SB	EB	WB	TTL	N	E
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	T
0	2	1	1	4
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

TIME	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	1	9	1	0	10	2	5	11	2	1	2	0	44
4:15 PM	3	5	0	1	7	1	5	3	0	0	0	1	25
4:30 PM	0	8	1	2	5	2	4	3	2	1	2	0	30
4:45 PM	1	7	1	1	6	1	4	7	2	1	2	0	35
5:00 PM	0	6	1	1	3	1	2	2	1	0	0	0	19
5:15 PM	1	6	1	1	4	0	2	5	2	1	3	1	24
5:30 PM	0	4	0	1	2	1	1	5	1	1	0	0	15
5:45 PM	0	3	0	1	3	2	0	4	3	0	3	0	19
VOLUMES	6	48	5	7	40	10	23	40	13	5	13	1	211
APPROACH %	100%	81%	8%	12%	70%	18%	30%	53%	17%	26%	68%	5%	
APPR/DEPART	59	/	73	57	/	58	76	/	51	19	/	29	0

U-TURNS						
NB	SB	EB	WB	TTL	N	E
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	T
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

U-TURNS						
NB	SB	EB	WB	TTL	N	E
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	T
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

Archbald  
NORTH SIDE

Schlesman  
WEST SIDE

Archbald  
SOUTH SIDE

Schlesman  
EAST SIDE

**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTD LLC, tel: 714 253 7888 csa@aimtd.com

PROJECT #: SC2056  
 LOCATION #: 39  
 CONTROL: SIGNAL

LOCATION: Archibald  
 Schleisman

DATE: 1/22/19  
 TUESDAY  
 EAST & WEST:

<b>CLASS 3:</b>	TRUCKS 3-AXLE	<p>AM</p> <div style="display: flex; justify-content: space-around; width: 100%;"> <span>▶</span> <span>◀</span> </div> <p>PM</p> <div style="display: flex; justify-content: space-around; width: 100%;"> <span>▶</span> <span>◀</span> </div> <p>OTHER</p> <div style="display: flex; justify-content: space-around; width: 100%;"> <span>▶</span> <span>◀</span> </div> <p>OTHER</p>	<b>NOTES:</b>
<p>AM</p> <div style="display: flex; justify-content: space-around; width: 100%;"> <span>▶</span> <span>◀</span> </div> <p>PM</p> <div style="display: flex; justify-content: space-around; width: 100%;"> <span>▶</span> <span>◀</span> </div> <p>OTHER</p> <div style="display: flex; justify-content: space-around; width: 100%;"> <span>▶</span> <span>◀</span> </div> <p>OTHER</p>			

LANES:	Archibald				Archibald				Schleisman					
	NL	NT	NR	SL	SR	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	2	3	1	2	0	3	1	2	0	3	1	3	1	1

VOLUMES	Archibald				Archibald				Schleisman					
	NL	NT	NR	SL	SR	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	0	0	0	1	1	1	1	1	1	1	1	1	4
7:30 AM	1	0	0	0	2	2	2	2	2	2	2	2	2	8
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	2	2	0	0	11	11	6	4	6	4	2	2	2	36

BEGIN PEAK HR	Archibald				Archibald				Schleisman					
	NL	NT	NR	SL	SR	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	1	0	0	0	1	1	1	1	1	1	1	1	1	4
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	2	2	0	0	11	11	6	4	6	4	2	2	2	36

APPROACH %	Archibald				Archibald				Schleisman					
	NL	NT	NR	SL	SR	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
50%	50%	50%	50%	50%	61%	61%	60%	60%	60%	40%	50%	50%	50%	15%

APPROACH %	Archibald				Archibald				Schleisman					
	NL	NT	NR	SL	SR	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	75%	100%	100%	100%	3%

APPROACH %	Archibald				Archibald				Schleisman					
	NL	NT	NR	SL	SR	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

APPROACH %	Archibald				Archibald				Schleisman					
	NL	NT	NR	SL	SR	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

APPROACH %	Archibald				Archibald				Schleisman					
	NL	NT	NR	SL	SR	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

APPROACH %	Archibald				Archibald				Schleisman					
	NL	NT	NR	SL	SR	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AlimTD LLC, tel: 714 253 7888 cs@alimtd.com

DATE: 1/22/19  
TUESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST:

Chino  
Archibald  
Schlesman

PROJECT #: SC2056  
LOCATION #: 39  
CONTROL: SIGNAL

<b>CLASS 4:</b> 4 OR MORE AXLE TRUCKS	<b>NOTES:</b>	AM	N	E
		PM	W	S
		MD	W	S
		OTHER	S	E

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	1	1	1	0	2	1	0	1	0	0	1	0	8
7:15 AM	1	2	0	0	1	3	1	1	0	0	0	0	8
7:30 AM	0	1	1	1	1	0	1	0	0	0	2	0	7
7:45 AM	0	0	1	0	0	0	1	0	0	0	4	1	7
8:00 AM	0	0	0	0	0	0	1	0	0	0	1	0	2
8:15 AM	0	1	0	0	3	2	3	3	0	0	0	0	12
8:30 AM	1	1	0	0	5	3	2	1	0	0	0	0	13
8:45 AM	0	1	0	0	2	1	0	0	1	0	0	0	5
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	3	7	3	1	14	10	9	5	1	0	8	1	62
APPROACH %	23%	54%	23%	25%	56%	40%	60%	33%	7%	0%	89%	11%	0
APP/DEPART	13	/	17	4	/	15	15	/	9	9	/	21	0
BEGIN PEAK HR	7-45 AM												
VOLUMES	1	2	1	0	8	5	7	4	0	0	5	1	34
APPROACH %	25%	50%	25%	0%	62%	38%	64%	36%	0%	0%	83%	17%	0.654
PEAK HR FACTOR	0.500												
APP/DEPART	4	/	10	13	/	8	11	/	5	6	/	11	0

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	4	0	1	1	0	0	0	0	0	1	0	7
4:15 PM	0	1	0	0	3	0	1	2	0	0	0	0	6
4:30 PM	0	1	0	0	3	0	0	2	1	0	0	0	7
4:45 PM	0	0	0	0	2	0	0	0	1	0	0	0	3
5:00 PM	0	0	0	1	2	0	0	2	0	0	0	0	5
5:15 PM	0	1	0	1	1	0	1	1	0	0	1	1	5
5:30 PM	0	2	0	0	1	0	0	1	1	0	0	0	4
5:45 PM	1	0	0	0	0	1	0	1	0	0	0	0	3
VOLUMES	1	8	0	2	13	1	2	8	1	0	2	2	40
APPROACH %	11%	89%	0%	13%	81%	6%	18%	73%	9%	0%	50%	50%	0
APP/DEPART	9	/	12	16	/	14	11	/	10	4	/	4	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	0	5	0	1	9	0	1	4	1	0	1	1	23
APPROACH %	0%	100%	0%	10%	90%	0%	17%	67%	17%	0%	50%	50%	0.821
PEAK HR FACTOR	0.313												
APP/DEPART	5	/	7	10	/	10	6	/	5	2	/	1	0

U-TURNS			
NB	SB	EB	WB
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
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0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	2	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0

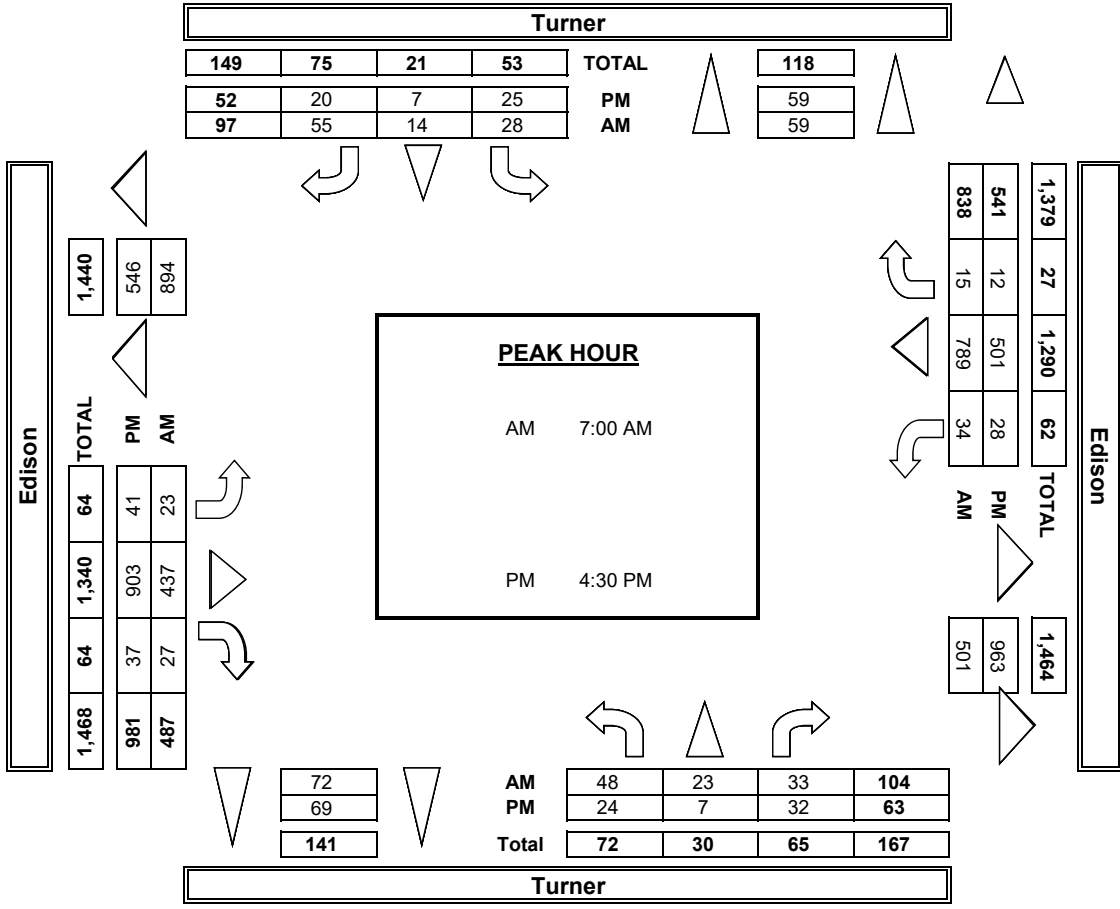
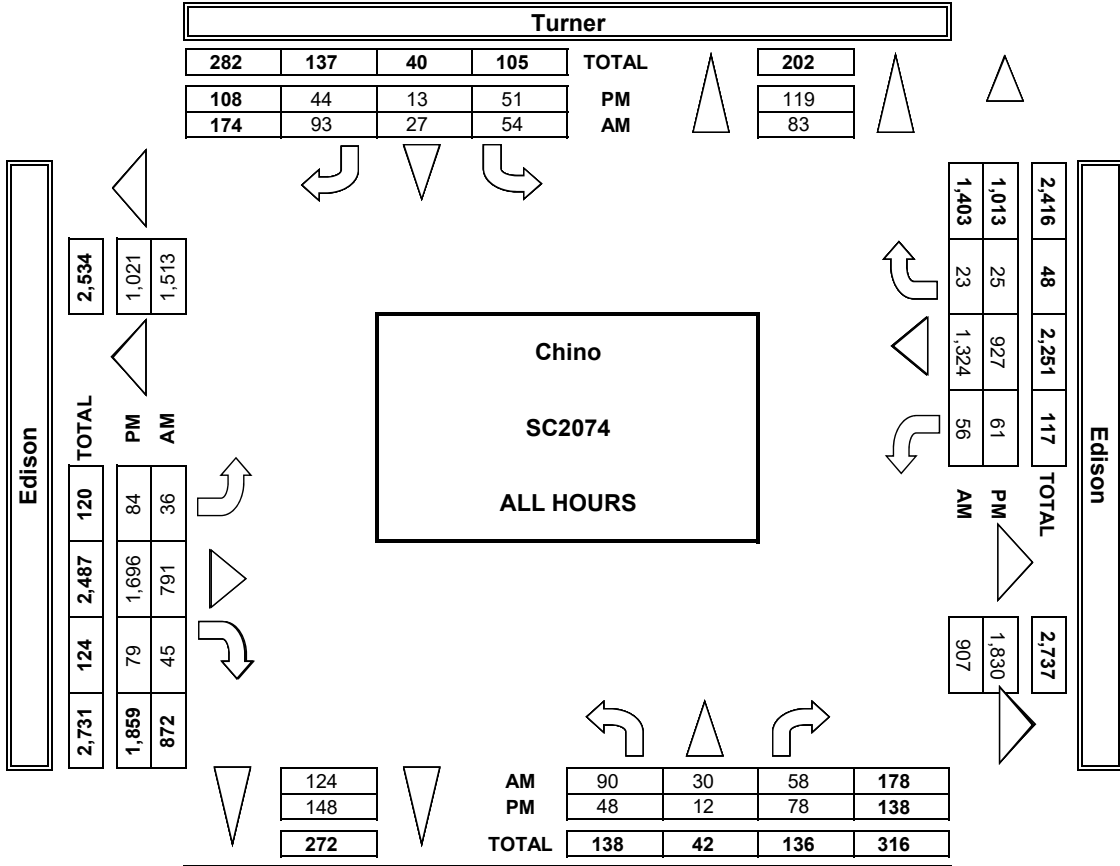
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0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	1
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**AimTD LLC**  
TURNING MOVEMENT COUNTS









### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC, tel: 714 253 7888 csc@aimtd.com

DATE: 1/30/19  
WEDNESDAY  
LOCATION: NORTH & SOUTH:  
EAST & WEST:

PROJECT #: SC2074  
LOCATION #: 59  
CONTROL: SIGNAL

Chino  
Turner  
Edison

CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:								▲ N	▼ S	▶ E																				
	<table border="1" style="width: 100%; text-align: center;"> <tr> <td colspan="2">PM</td> <td colspan="2">← W</td> <td colspan="2">→</td> <td colspan="2">N</td> </tr> <tr> <td colspan="2">MD</td> <td colspan="2">W</td> <td colspan="2">S</td> <td colspan="2">E</td> </tr> <tr> <td colspan="2">OTHER</td> <td colspan="2">S</td> <td colspan="2">E</td> <td colspan="2">E</td> </tr> </table>											PM		← W		→		N		MD		W		S		E		OTHER		S	
PM		← W		→		N																									
MD		W		S		E																									
OTHER		S		E		E																									

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	Turner		Turner		Edison		Edison		Edison		Edison		Edison				
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	WL	WT	WR		
<b>7:00 AM</b>	0	0	0	1	0	0	1	4	0	0	20	1	0	0	27		
7:15 AM	0	0	0	1	0	0	0	7	0	15	0	23					
7:30 AM	1	0	0	0	0	0	0	5	1	22	0	29					
7:45 AM	1	0	1	0	0	0	0	8	0	16	0	28					
8:00 AM	0	0	0	0	0	0	0	7	0	14	0	21					
8:15 AM	0	0	0	0	0	0	0	6	0	18	1	25					
8:30 AM	0	0	0	0	0	0	0	5	0	14	1	21					
8:45 AM	0	0	0	0	0	0	0	5	0	18	0	23					
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0					
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0					
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0					
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0					
<b>VOLUMES</b>	2	2	1	3	0	0	1	47	1	2	137	3	0	197			
<b>APPROACH %</b>	67%	0%	33%	100%	0%	0%	2%	96%	2%	1%	96%	2%		139			
<b>APP/DEPART</b>	3	4	3	3	3	3	49	51	142	76	75	0	0	0			
<b>BEGIN PEAK HR</b>					7:00 AM								107				
<b>VOLUMES</b>	2	0	3	2	0	0	1	24	1	2	73	1		107			
<b>APPROACH %</b>	67%	0%	33%	100%	0%	0%	4%	92%	4%	3%	96%	1%		0.922			
<b>PEAK HR FACTOR</b>					0.375				0.813				0.922				
<b>APP/DEPART</b>	3	3	2	2	3	3	26	27	76	75	0	0		0			
<b>03:00 PM</b>	0	0	0	0	0	0	0	0	0	0	0	0		0			
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0		0			
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0		0			
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0		0			
4:00 PM	0	0	0	0	0	0	0	0	0	0	4	0		12			
4:15 PM	0	0	1	0	0	0	0	7	0	11	0	16					
4:30 PM	0	0	0	0	0	0	0	4	0	8	0	16					
4:45 PM	0	0	1	0	0	0	0	7	0	1	8	0		16			
5:00 PM	0	0	0	0	0	0	0	6	0	7	0	0		14			
5:15 PM	0	0	1	0	0	0	0	8	0	0	2	0		10			
5:30 PM	0	0	0	0	0	0	0	12	0	6	0	0		19			
5:45 PM	0	0	0	0	0	0	0	2	0	2	0	0		4			
<b>VOLUMES</b>	0	0	4	0	0	0	0	54	0	1	41	0		100			
<b>APPROACH %</b>	0%	0%	100%	0%	0%	0%	0%	100%	0%	2%	98%	0%		100			
<b>APP/DEPART</b>	4	4	0	0	1	1	54	58	42	41	0	0		0			
<b>BEGIN PEAK HR</b>					4:30 PM								59				
<b>VOLUMES</b>	0	0	2	0	0	0	0	33	0	1	23	0		59			
<b>APPROACH %</b>	0%	0%	100%	0%	0%	0%	0%	100%	0%	4%	96%	0%		0.776			
<b>PEAK HR FACTOR</b>					0.500				0.688				0.776				
<b>APP/DEPART</b>	2	2	0	0	1	1	33	35	24	23	0	0		0			

Turner  
NORTH SIDE

Edison  
WEST SIDE

Edison  
EAST SIDE

Turner  
SOUTH SIDE

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

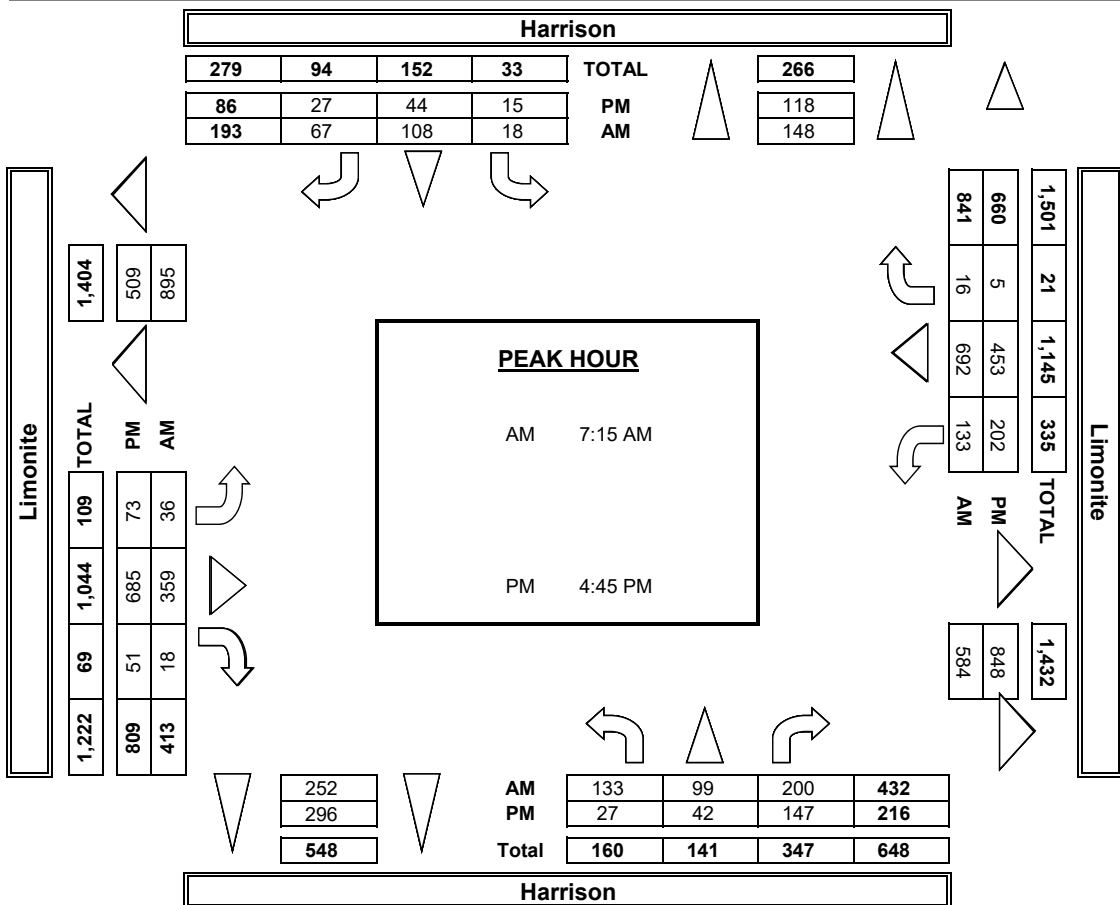
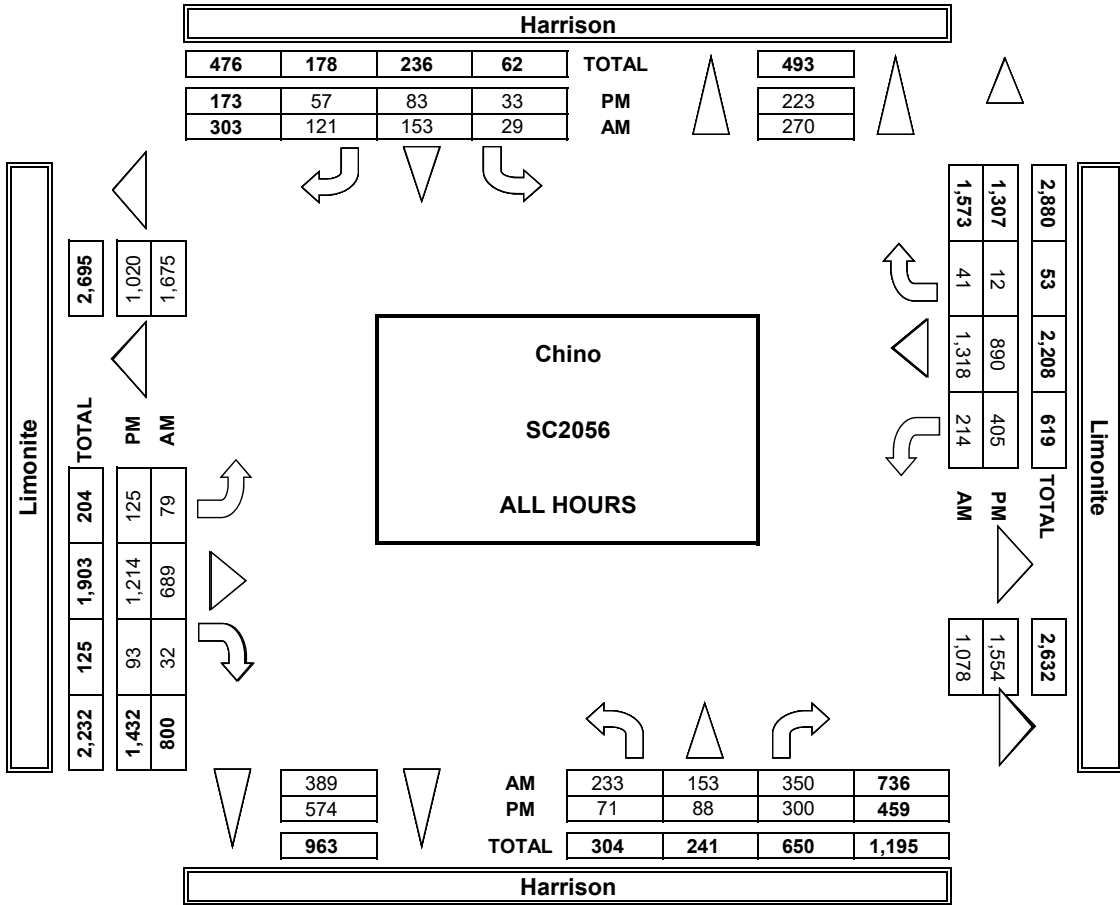
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0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

2	0	0	0	0
---	---	---	---	---



**AimTD LLC**  
TURNING MOVEMENT COUNTS



# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AIMTD LLC, tel: 714 253 7888 cse@aimtd.com

DATE: 1/22/19  
TUESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST:

Chino  
Harrison  
Limonte

PROJECT #: SC2056  
LOCATION #: 40  
CONTROL: SIGNAL

CLASS 2: WORK VEHICLES/ TRUCKS	NOTES:	NORTHBOUND		SOUTHBOUND		EASTBOUND			WESTBOUND		
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL

NORTHBOUND		SOUTHBOUND		EASTBOUND			WESTBOUND			TOTAL	
LANES:	1	1	1	1	1	3	0	1	2	1	23

AM	PM	N	E
MD		W	S
OTHER			
OTHER			

U-TURNS						
NB	SB	EB	WB	TTL		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		
0	0	0	0	0		

RTOR				
NRR	SRR	ERR	WRR	
0	0	0	1	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	

	Harrison			Harrison			Limonte			Limonte			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
BEGIN PEAK HR	21		28	16		8	56		55	91		93	0
APPROACH %	24%	19%	57%	19%	13%	69%	25%	71%	4%	4%	85%	11%	0
APPROACH %	23%	23%	54%	9%	9%	82%	18%	77%	5%	2%	40%	15%	94
PEAK HR FACTOR	0.464	/	0.464	0.550	/	0.550	0.688	/	0.706	48	/	52	0.904
APP/DEPART	13		14	11		3	22		25	48		52	0
VOLUMES	5	4	12	3	2	11	14	40	2	4	77	10	184
APPROACH %	4	4	12	3	2	11	14	40	2	4	77	10	184
VOLUMES	5	4	12	3	2	11	14	40	2	4	77	10	184
APPROACH %	24%	19%	57%	19%	13%	69%	25%	71%	4%	4%	85%	11%	0
APPROACH %	24%	19%	57%	19%	13%	69%	25%	71%	4%	4%	85%	11%	0

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Harrison			Harrison			Limonte			Limonte			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
BEGIN PEAK HR	21		28	16		8	56		55	91		93	0
APPROACH %	24%	19%	57%	19%	13%	69%	25%	71%	4%	4%	85%	11%	0
APPROACH %	23%	23%	54%	9%	9%	82%	18%	77%	5%	2%	40%	15%	94
PEAK HR FACTOR	0.464	/	0.464	0.550	/	0.550	0.688	/	0.706	48	/	52	0.904
APP/DEPART	13		14	11		3	22		25	48		52	0
VOLUMES	5	4	12	3	2	11	14	40	2	4	77	10	184
APPROACH %	4	4	12	3	2	11	14	40	2	4	77	10	184
VOLUMES	5	4	12	3	2	11	14	40	2	4	77	10	184
APPROACH %	24%	19%	57%	19%	13%	69%	25%	71%	4%	4%	85%	11%	0
APPROACH %	24%	19%	57%	19%	13%	69%	25%	71%	4%	4%	85%	11%	0

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Harrison  
NORTH SIDE

Harrison  
EAST SIDE

Limonte  
WEST SIDE

Harrison  
SOUTH SIDE

Limonte  
WEST SIDE

Harrison



### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtmTD LLC. tel: 714 253 7888 cs@airtmtd.com

DATE: 1/22/19  
 TUESDAY

LOCATION: NORTH & SOUTH:  
 EAST & WEST: Harrison  
 Limonte

PROJECT #: SC2056  
 LOCATION #: 40  
 CONTROL: SIGNAL

<b>CLASS 4:</b> 4 OR MORE AXLE TRUCKS	<b>NOTES:</b>	AM	PM	▲	N	▶
		▲	N	▶	E	▶

NORTHBOUND		Harrison				SOUTHBOUND				Harrison				Limonte				WESTBOUND				Limonte				TOTAL	
LANES:		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TL	TR	WL	WT	WR	TL	TR	WL	WT	WR	TL	TR	TOTAL	
		1	1	1	1	1	0	1	3	0	1	2	1	1	1	1	2	2	1	1	1	2	1	1	1	1	5

AM		Harrison				SOUTHBOUND				Harrison				Limonte				WESTBOUND				Limonte				TOTAL	
LANES:		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TL	TR	WL	WT	WR	TL	TR	WL	WT	WR	TL	TR	TOTAL	
		1	1	1	1	1	0	1	3	0	1	2	1	1	1	1	2	2	1	1	1	2	1	1	1	1	5

PM		Harrison				SOUTHBOUND				Harrison				Limonte				WESTBOUND				Limonte				TOTAL	
LANES:		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TL	TR	WL	WT	WR	TL	TR	WL	WT	WR	TL	TR	TOTAL	
		1	1	1	1	1	0	1	3	0	1	2	1	1	1	1	2	2	1	1	1	2	1	1	1	1	5

U-TURNS									
NB	SB	EB	WB	TTL	NB	SB	EB	WB	TTL
0	0	0	0	0	0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	TOTAL
0	0	0	0	0

0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---

0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---

0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---

0	0	0	0	0	0	0	0	0	0
---	---	---	---	---	---	---	---	---	---

APPROACH %		Harrison				SOUTHBOUND				Harrison				Limonte				WESTBOUND				Limonte				TOTAL	
APPROACH %	APPROACH %	50%	0%	50%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	8
		1	0	1	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	0	0	8

APPROACH %		Harrison				SOUTHBOUND				Harrison				Limonte				WESTBOUND				Limonte				TOTAL	
APPROACH %	APPROACH %	50%	0%	50%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	11
		1	0	1	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	4	0	0	0	0	11

Harrison

NORTH SIDE

SOUTH SIDE

Harrison

NORTH SIDE

SOUTH SIDE

Limonte

WEST SIDE

EAST SIDE

Limonte

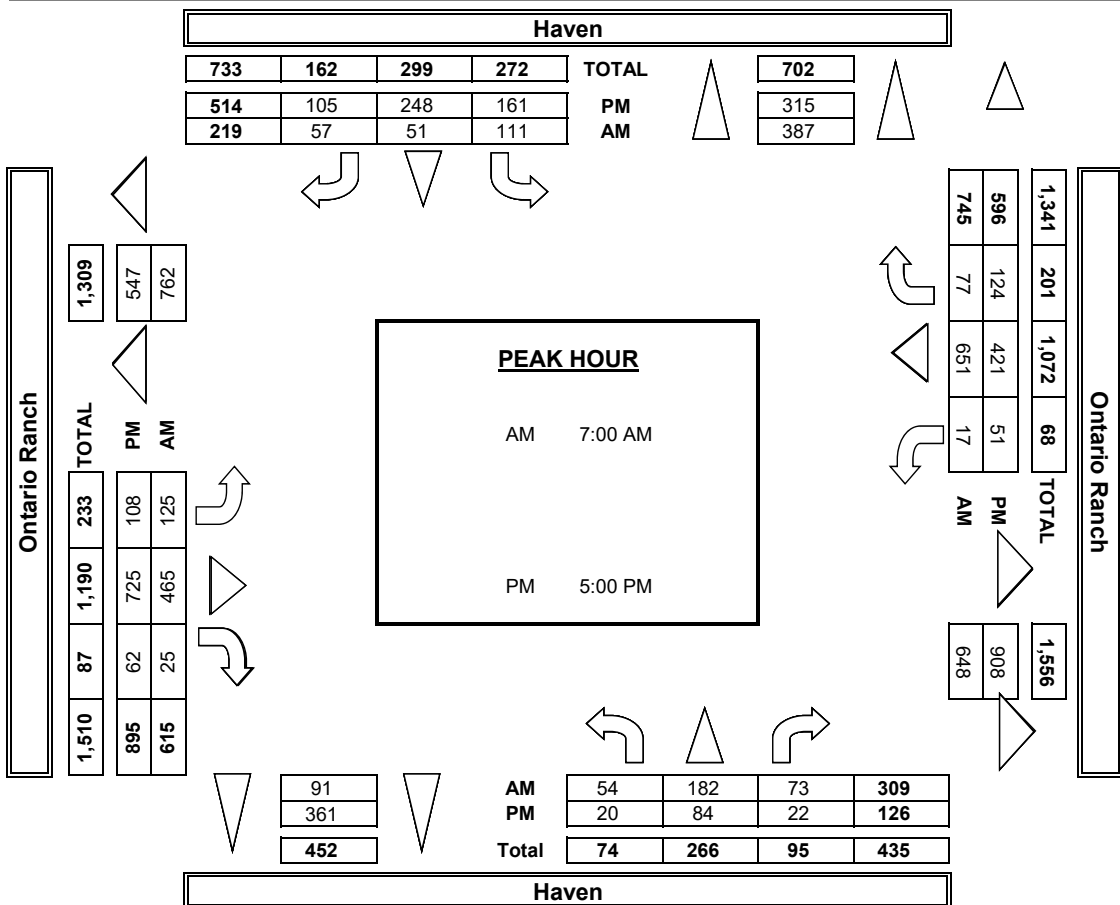
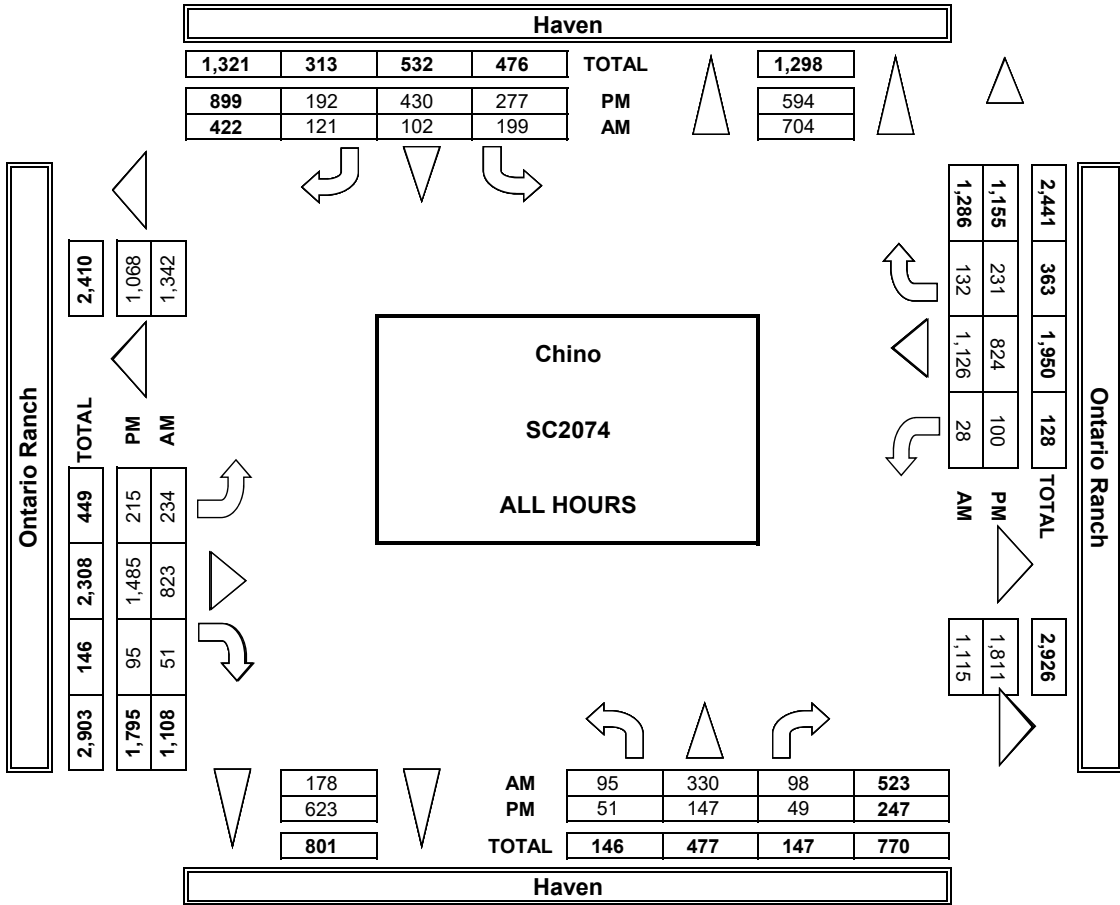
WEST SIDE

EAST SIDE





**AimTD LLC**  
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

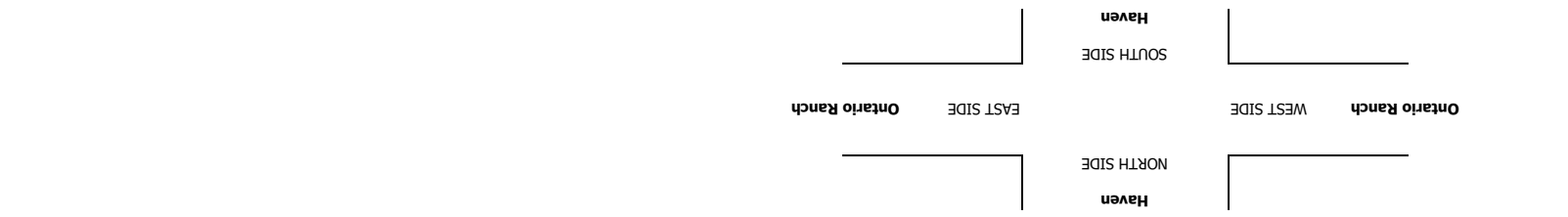
PREPARED BY: AimtD LLC, tel: 714 253 7888 cs@aimtd.com

DATE: WEDNESDAY 2/6/19 LOCATION: CHINO HAVEN ONTARIO RANCH EAST & WEST: NORTH & SOUTH: CONTROL: SIGNAL LOCATION #: SC2074 PROJECT #: 61

Table with columns: CLASS, TRUCKS, 3-AXLE, NOTES, LANE, LANS: (NL, NT, NR, SL, ST, SR, EL, ET, ER, WL, WT, WR, TOTAL), U-TURNS, RTOR.

Main data table with columns: TIME (7:00 AM to 4:00 PM), LANE (NORTHBOUND, SOUTHBOUND, EASTBOUND, WESTBOUND), COUNTS, APPROACH %, BEGIN PEAK HR, VOLUMES, PEAK HR FACTOR, APP/DEPART.

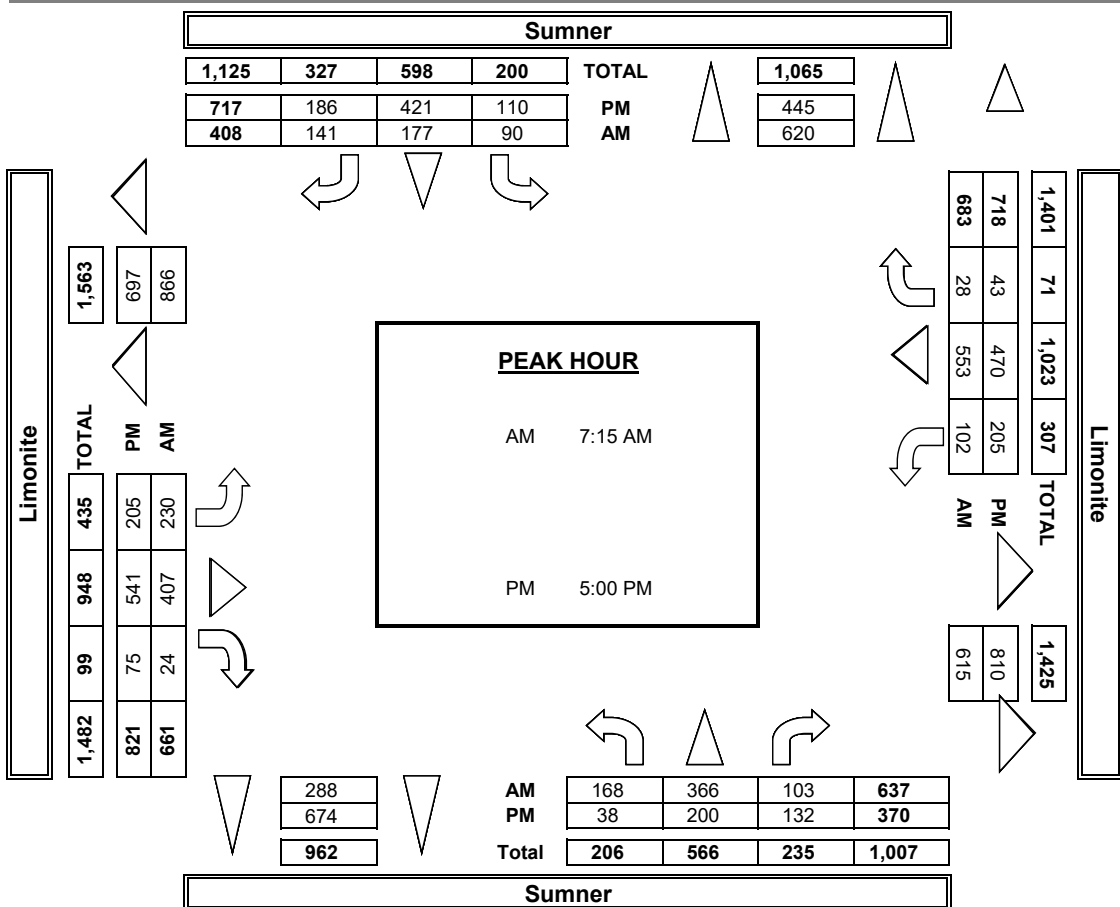
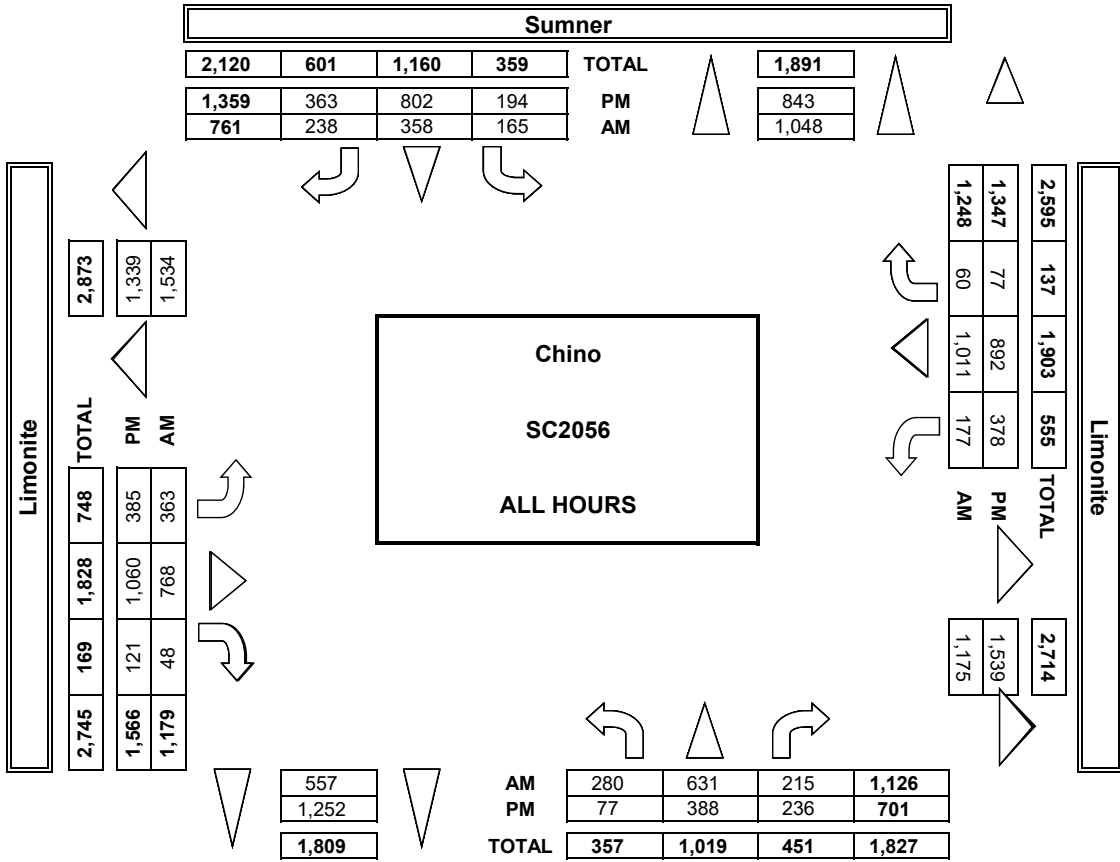
Summary tables for RTOR, U-TURNS, and RTOR, showing counts and percentages for various movement categories.







**AimTD LLC**  
TURNING MOVEMENT COUNTS







**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com

PROJECT #: SC2056  
 LOCATION #: 41  
 CONTROL: SIGNAL

LOCATION: NORTH & SOUTH: China  
 EAST & WEST: Summer  
 Limonite

DATE: 1/22/19  
 TUESDAY

**NOTES:**

CLASS 3: TRUCKS



LANES:	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	SL	SR	EL	ET	ER	WL	WT	WR	WL	WT	WR			
	1	2	0	1	2	0	0	0	2	3	0	2	3	1			

APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	100%	0%	0%	0%	100%	0%	0%	0%	88%	13%	9%	91%	0%	14%			
VOLUMES	1	0	0	0	0	0	0	0	0	0	0	0	0	0	23		

BEGIN PEAK HR	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	100%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
VOLUMES	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1		

APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	50%	50%	0%	0%	100%	0%	0%	0%	0%	67%	33%	0%	0%	0%			
VOLUMES	1	1	0	0	0	0	0	0	0	2	1	0	0	0	6		

APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	50%	50%	0%	0%	100%	0%	0%	0%	0%	50%	50%	0%	0%	0%			
VOLUMES	1	1	0	0	0	0	0	0	0	1	1	0	0	0	5		

APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	50%	50%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
VOLUMES	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2		

APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	50%	50%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
VOLUMES	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2		

APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	50%	50%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
VOLUMES	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2		

APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	50%	50%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
VOLUMES	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2		

APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	50%	50%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
VOLUMES	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2		

APPROACH %	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	50%	50%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
VOLUMES	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2		

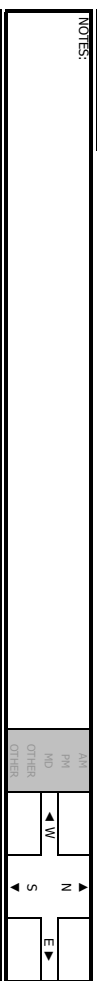


INTERSECTION TURNING MOVEMENT COUNTS  
PREPARED BY: Almid LLC Tel: 714 253 7888 c@almid.com

PROJECT #: SCC056  
LOCATION #: 42  
CONTROL: SIGNAL

DATE: Tue, Jan 22, 19  
LOCATION: NORTH & SOUTH  
EAST & WEST:

Chino  
Scholar  
Limonite



Add U-Turns to Left Turns

Table with columns for Northbound, Southbound, Eastbound, and Westbound lanes. Rows include Lanes, Volumes, Approach %, and Peak Hour Factor for AM and PM periods.

U-TURNS table with columns for NB, SB, EB, WB, TTL and counts for each.

RTOB table with columns for NRR, SRR, ERR, WRR and counts for each.

Main data table for Limonite and Scholar sides, including VOLUMES, APPROACH %, and PEAK HR FACTOR for AM and PM.

U-TURNS table for Limonite and Scholar sides.

RTOB table for Limonite and Scholar sides.



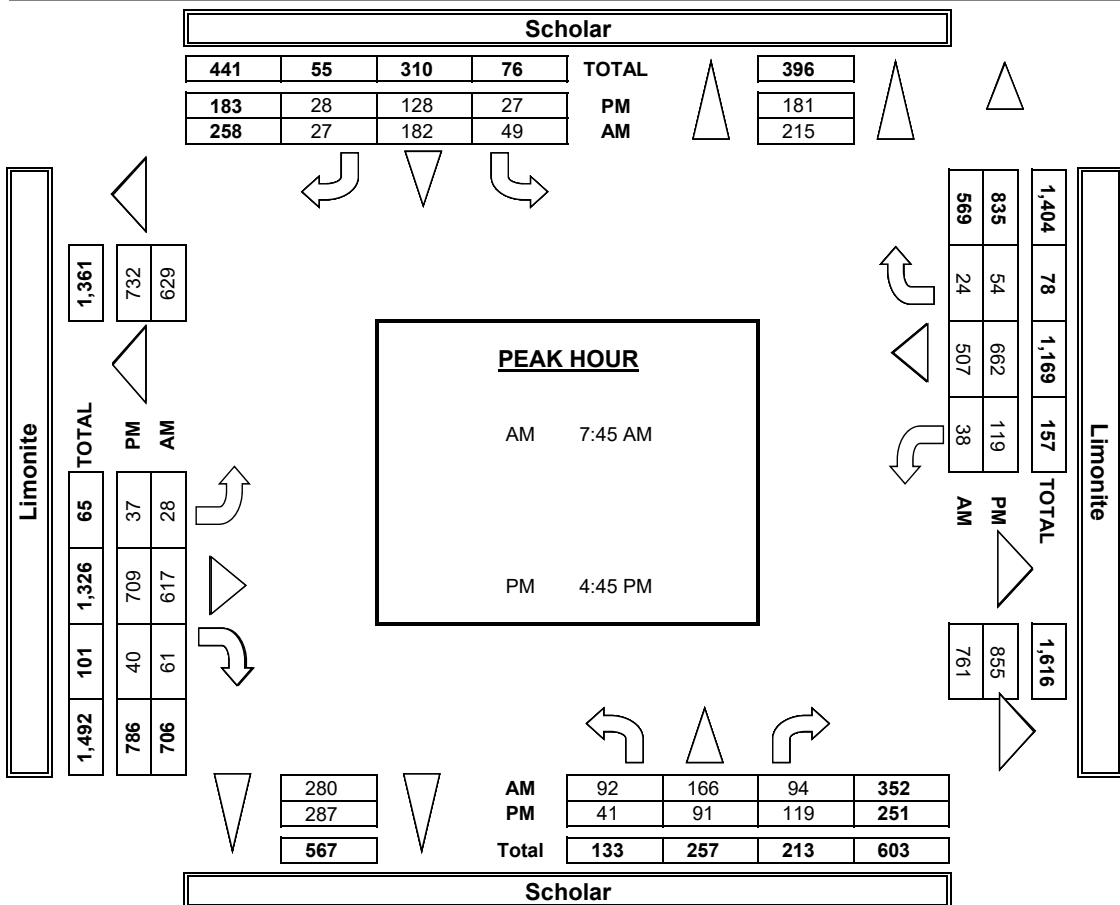
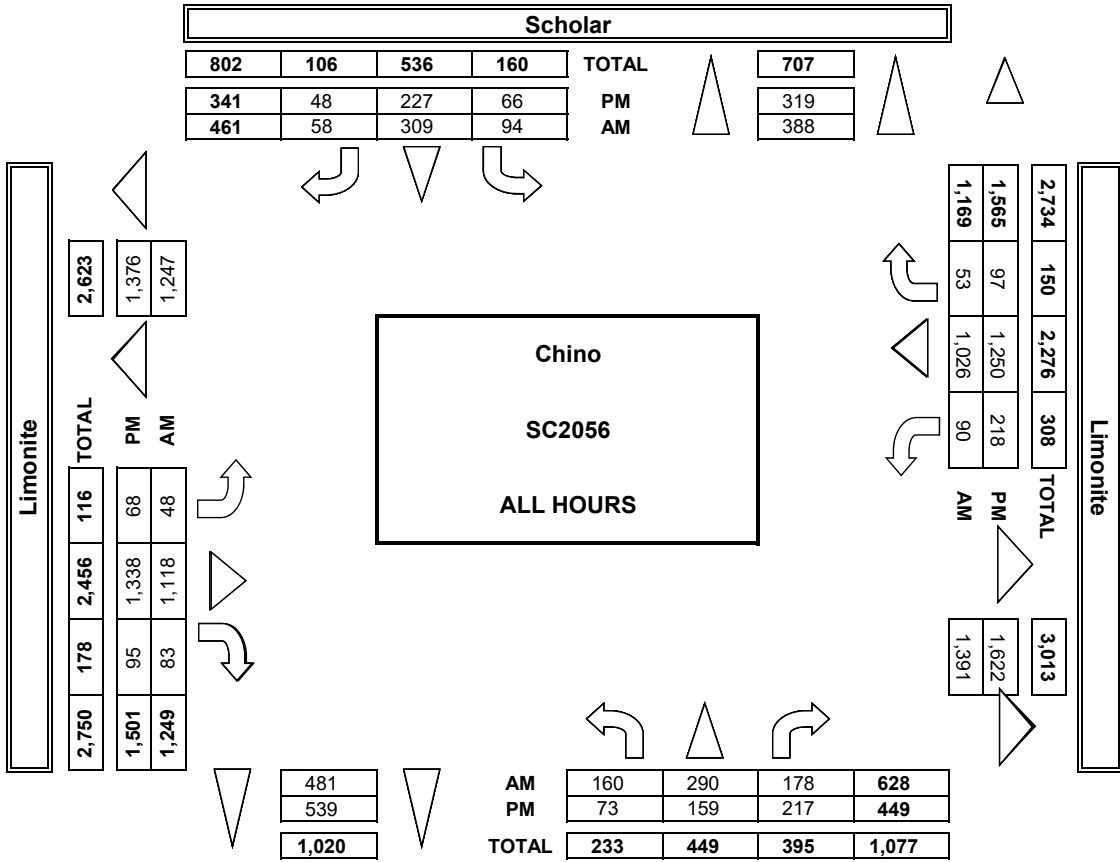
AM and PM summary table for Limonite and Scholar sides.

ALL PED AND BIKE table with columns for E SIDE, W SIDE, S SIDE, N SIDE, and TOTAL.

PEDESTRIAN CROSSINGS table with columns for E SIDE, W SIDE, S SIDE, N SIDE, and TOTAL.

BICYCLE CROSSINGS table with columns for ES, WS, SS, NS, and TOTAL.

**AimTD LLC**  
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtmD LLC. tel: 714 253 7888 csa@airtmD.com

DATE: 1/22/19  
TUESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST: Limonte

Scholar

PROJECT #: SC2056  
LOCATION #: 42  
CONTROL: SIGNAL

CLASS 2: WORK VEHICLES/ TRUCKS	NOTES:		NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		TOTAL	
	LN	NT	NR	SL	ST	SR	EL	ET	ER	WL		WT
	1	1	1	1	2	1	1	2	1	1	2	1

LANES:	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		TOTAL	
	Scholar	Limonte	Scholar	Limonte	Limonte	Limonte	Limonte	Limonte		
7:00 AM	1	1	0	0	0	6	0	1	13	0
7:15 AM	1	1	1	1	0	4	0	0	12	1
7:30 AM	1	0	0	1	0	3	0	3	10	0
7:45 AM	0	1	0	1	0	6	0	1	8	0
8:00 AM	0	1	1	1	0	11	1	0	11	0
8:15 AM	0	1	0	0	0	7	0	1	13	0
8:30 AM	0	0	1	0	0	6	0	1	9	1
8:45 AM	0	0	0	1	0	7	0	1	13	0
9:00 AM	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0
VOLUMES	3	4	4	4	4	50	1	8	89	2
APPROACH %	27%	36%	20%	80%	0%	91%	2%	8%	90%	2%
APP/DEPART	11	10	5	13	55	55	55	99	92	0
BEGIN PEAK HR	8:00 AM									
VOLUMES	0	2	0	2	0	31	1	3	46	1
APPROACH %	0%	50%	50%	100%	0%	89%	3%	6%	92%	2%
PEAK HR FACTOR	0.500		0.500		0.673		0.893		0.843	
APP/DEPART	4	6	2	6	35	33	50	46	46	0

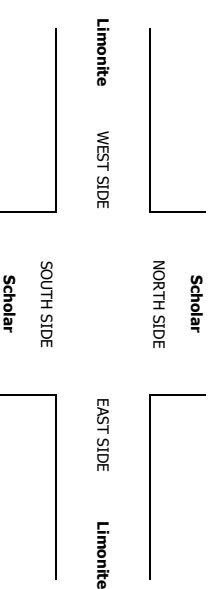
U-TURNS							
NB	SB	EB	WB	TTL	NB	SB	WB
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	0

AM		PM		
APP/DEPART	11	4	5	
BEGIN PEAK HR	8:00 AM		4:15 PM	
VOLUMES	0	2	1	
APPROACH %	0%	50%	33%	
PEAK HR FACTOR	0.500		0.375	
APP/DEPART	4	6	5	
3:15 PM	0	0	0	
3:30 PM	0	0	0	
3:45 PM	0	0	0	
4:00 PM	1	1	0	
4:15 PM	0	3	0	
4:30 PM	0	0	1	
4:45 PM	0	0	0	
5:00 PM	0	0	1	
5:15 PM	0	0	0	
5:30 PM	0	0	1	
5:45 PM	0	0	0	
VOLUMES	1	3	2	
APPROACH %	20%	60%	40%	
APP/DEPART	5	4	4	
BEGIN PEAK HR			4:15 PM	
VOLUMES	0	3	0	
APPROACH %	0%	100%	0%	
PEAK HR FACTOR	0.250		0.375	
APP/DEPART	3	2	3	

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
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0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	1	0	0	0





**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AirtmD LLC. tel: 714 253 7888 csc@airtmD.com

DATE: 1/22/19  
TUESDAY

LOCATION: NORTH & SOUTH: EAST & WEST: Limonte

Chino  
Scholar

PROJECT #: SC2056  
LOCATION #: 42  
CONTROL: SIGNAL

CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		AM	N	E		
		Scholar	Scholar	Limonte	Limonte	Limonte	Limonte	Limonte	PM	▲	▶			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
		1	1	1	1	2	1	1	2	1	1	2	1	5
		0	0	0	0	0	0	0	1	0	0	2	0	3
		0	0	0	0	0	0	0	2	0	0	2	0	4
		0	1	0	0	0	0	0	3	0	0	3	0	7
		1	0	0	0	1	0	0	2	0	0	1	0	4
		0	0	0	0	0	0	1	0	0	0	3	0	5
		0	0	0	0	0	0	0	3	0	0	4	0	7
		0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	Scholar	Scholar	Limonte	Scholar	Scholar	Limonte	Scholar	Scholar	Limonte	Scholar	Scholar	Limonte		
7:00 AM	0	0	0	0	0	0	0	1	0	0	0	4	0	5
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	2	0	3
7:30 AM	0	0	0	0	0	0	0	0	2	0	0	2	0	4
7:45 AM	0	1	0	0	0	0	0	0	3	0	0	3	0	7
8:00 AM	1	0	0	0	0	0	0	0	2	0	0	1	0	4
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	3	0	0	4	0	7
8:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	0	1
VOLUMES	1	1	0	0	0	1	0	0	14	0	0	22	0	39
APPROACH %	50%	50%	0%	0%	100%	0%	0%	0%	100%	0%	0%	100%	0%	23
APP/DEPART	2	/	1	1	/	1	14	/	14	22	/	23	0	0
BEGIN PEAK HR	1	1	0	1	0	0	0	9	9	0	0	11	0	23
VOLUMES	50%	50%	0%	0%	100%	0%	0%	0%	100%	0%	0%	100%	0%	0.821
APPROACH %	0.500	0.500	0.000	0.250	1.000	0.000	0.750	0.000	0.688	0.000	0.000	0.688	0.000	0.821

U-TURNS						
NB	SB	EB	WB	WB	TTL	
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	Scholar	Scholar	Limonte	Scholar	Scholar	Limonte	Scholar	Scholar	Limonte	Scholar	Scholar	Limonte		
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	
4:15 PM	0	1	0	0	0	0	0	0	0	2	0	0	3	
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	
5:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	2	
5:30 PM	0	0	0	0	0	0	0	0	3	0	1	0	4	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
VOLUMES	0	1	0	0	0	0	0	0	5	0	6	0	12	
APPROACH %	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0	
APP/DEPART	1	/	1	0	0	0	0	5	/	5	6	/	6	0
BEGIN PEAK HR	0	0	0	0	0	0	0	4	4	0	0	3	0	7
VOLUMES	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0.438
APPROACH %	0.000	0.000	0.000	0.000	0.000	0.333	0.000	0.000	0.375	0.000	0.000	0.375	0.000	0.438

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

Scholar  
NORTH SIDE

Limonte WEST SIDE

SOUTH SIDE  
Scholar

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AlmtD LLC Tel: 714 253 7888 c@almtD.com

PROJECT #: SC02/4  
LOCATION #: 64  
CONTROL: SIGNAL

Chino  
Hammer  
Ontario Ranch

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

DATE:  
Wed Jan 30, 19

NOTES:

Add U-Turns to Left Turns

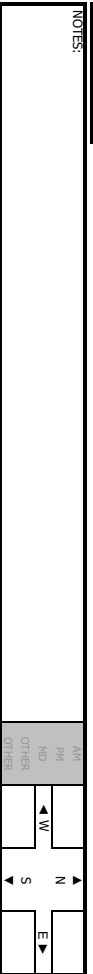


Table with columns for Northbound, Southbound, Eastbound, Westbound, and RTOR. Rows include Lanes, Volumes, Approach %, and Peak Hour Factor.

Table with columns for North Side, South Side, East Side, West Side, and RTOR. Rows include Volumes, Approach %, and Peak Hour Factor.

Summary table for Ontario Ranch and Hammer locations, showing total volumes and approach percentages for North and South sides.

Table for AM period showing lane volumes from 7:00 AM to 9:45 AM.

Table for ALL PED AND BIKE showing east, west, south, north, and total counts.

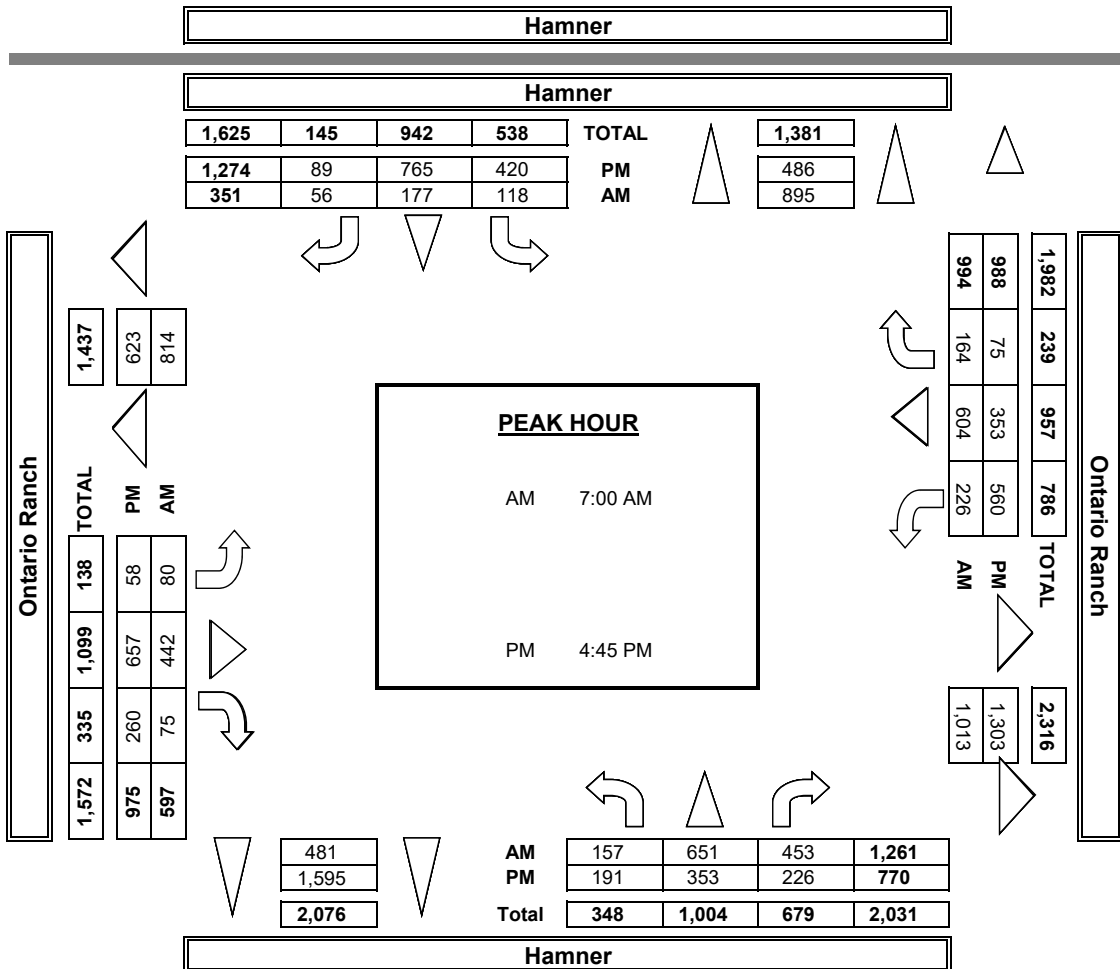
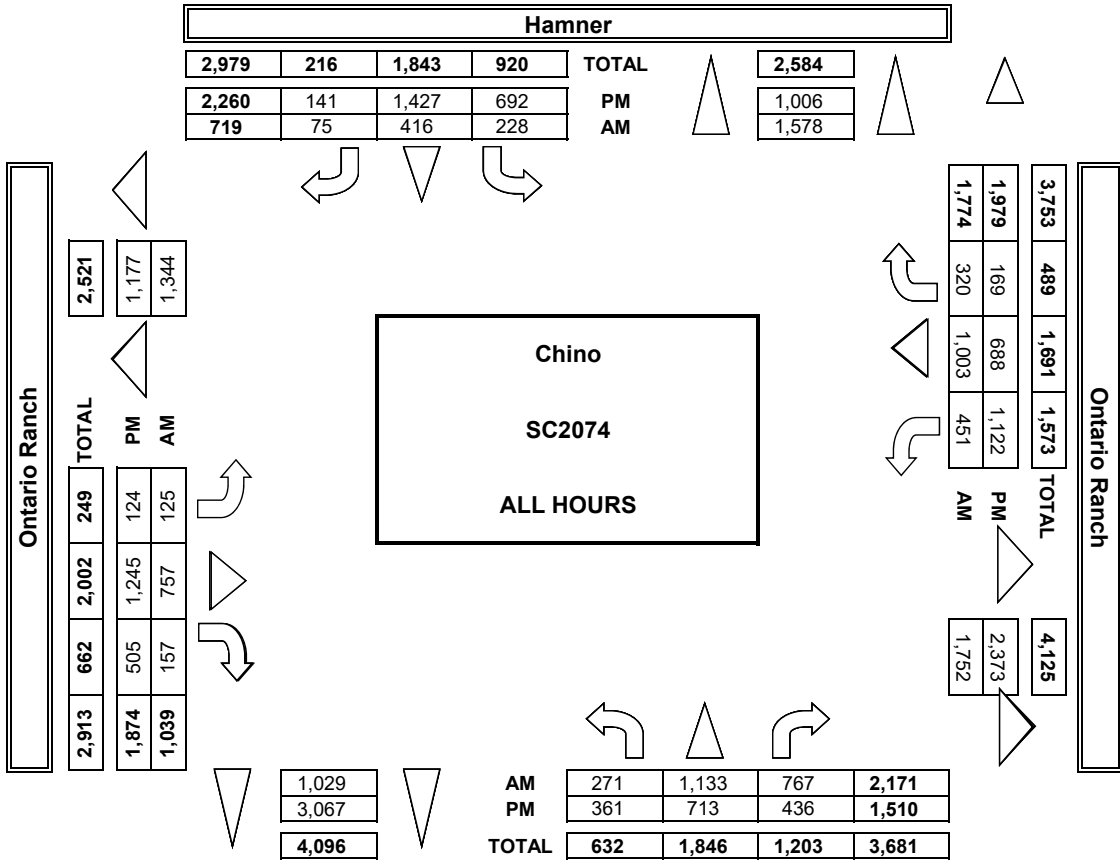
Table for PEDESTRIAN CROSSINGS showing east, west, south, north, and total counts.

Table for BICYCLE CROSSINGS showing east, west, south, north, and total counts.

Summary table for Ontario Ranch and Hammer locations, showing total counts for various categories.



**AimTD LLC**  
TURNING MOVEMENT COUNTS





**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTD LLC, tel: 714 253 7888 cs@aimtd.com  
 LOCATION: NORTH & WEST: Ontario Ranch  
 LOCATION: EAST & SOUTH: Ontario Ranch  
 PROJECT #: SC2074  
 LOCATION #: 64  
 CONTROL: SIGNAL

DATE: 1/30/19  
 WEDNESDAY

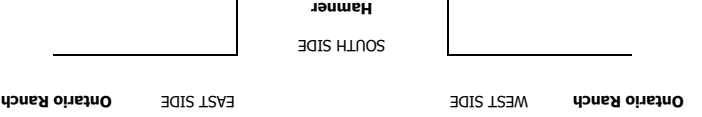
CLASS 3: TRUCKS

NOTES:

<p>AM</p>											
<p>PM</p>											

NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND			
LN	NT	NR	SL	SR	ST	SL	SR	EL	ET	ER	WL	WT	WR	TOTAL	
2	3	1	2	1	2	4	1	2	4	0	2	2	1	1	
40%	40%	40%	42%	25%	49%	94%	57%	4%	88%	4%	10%	75%	15%	0.750	
APPROACH %				APPROACH %				APPROACH %				APPROACH %			
7:45 AM				7:45 AM				7:45 AM				7:45 AM			
1				2				2				3			
25%				50%				8%				20%			
0.500				0.438				0.591				0.625			
AP/D/DEPART				AP/D/DEPART				AP/D/DEPART				AP/D/DEPART			
5				9				26				20			
4				7				7				16			
PEAK HR FACTOR				PEAK HR FACTOR				PEAK HR FACTOR				PEAK HR FACTOR			

7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	1	1	1	3	1	4	0	4	0	4	0	4	0	14
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	1	1	1	2	1	3	0	3	0	3	0	3	0	10
VOLUMES	2	2	2	4	2	5	3	2	5	1	3	2	3	23
APPROACH %	20%	40%	40%	33%	42%	25%	49%	4%	88%	4%	10%	77%	13%	0.750
AP/D/DEPART	5	8	12	9	54	27	9	54	27	27	30	27	30	0
BEGIN PEAK HR	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM	7:45 AM
VOLUMES	1	2	1	2	1	2	2	2	2	2	1	2	1	15
APPROACH %	25%	50%	25%	43%	57%	43%	0%	8%	88%	4%	10%	75%	15%	0.750
AP/D/DEPART	4	7	7	7	7	7	7	7	7	7	7	7	7	16
PEAK HR FACTOR	0.500	0.438	0.438	0.591	0.625	0.591	0.625	0.591	0.625	0.591	0.625	0.591	0.625	0.750
BEGIN PEAK HR	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM
VOLUMES	1	1	1	1	1	1	1	1	1	1	1	1	1	7
APPROACH %	20%	60%	20%	22%	56%	22%	16%	84%	0%	12%	88%	0%	12%	88%
AP/D/DEPART	5	8	9	7	32	30	17	17	18	30	17	18	30	0
BEGIN PEAK HR	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	41
APPROACH %	0%	100%	20%	0%	80%	0%	14%	86%	0%	15%	85%	0%	15%	85%
AP/D/DEPART	1	3	5	2	22	22	6	22	21	13	13	11	13	0
PEAK HR FACTOR	0.250	0.625	0.625	0.917	0.813	0.917	0.813	0.917	0.813	0.917	0.813	0.917	0.813	0.932
AP/D/DEPART	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AP/D/DEPART	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000



**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AirtmTD LLC. Tel: 714 253 7888 csc@airtmtd.com

PROJECT #: SC2074

DATE: 1/30/19  
WEDNESDAY

LOCATION:  
NORTH & SOUTH:  
EAST & WEST: Ontario Ranch

PROJECT #: 64  
LOCATION #: 64  
CONTROL: SIGNAL

<b>CLASS 4:</b> 4 OR MORE AXLE TRUCKS	<b>NOTES:</b>	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		AM	N	E
		WL	WT	WL	WT	WL	WT	WL	WT	PM	W	S
										MD		
										OTHER		

LANES:	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		TOTAL
	NL	NT	SL	ST	EL	ET	WL	WT	
	2	3	2	2	2	4	2	2	

U-TURNS					
NB	SB	EB	WB	TTL	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	

RTOR				
NRR	SRR	ERR	WRR	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	
0	0	0	0	

	NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		TOTAL
	NL	NT	SL	ST	EL	ET	WL	WT	
<b>7:00 AM</b>	1	2	2	2	1	5	0	0	37
7:15 AM	0	1	3	0	2	4	5	13	2
7:30 AM	0	1	3	1	3	4	1	17	2
7:45 AM	1	2	3	2	1	6	5	12	5
8:00 AM	0	1	4	2	1	7	3	16	3
8:15 AM	1	0	2	2	1	7	0	12	4
8:30 AM	0	1	3	5	1	4	4	12	2
8:45 AM	0	0	4	2	0	4	0	17	3
9:00 AM	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0
<b>VOLUMES</b>	3	8	21	12	15	8	19	119	24
<b>APPROACH %</b>	9%	25%	66%	44%	25%	31%	16%	82%	2%
<b>APPROACH</b>	32	40	48	26	32	50	83	162	137
<b>APPROACH %</b>	6%	28%	67%	38%	19%	78%	4%	17%	69%
<b>PEAK HR FACTOR</b>	0.750	0.750	0.929	0.929	0.750	0.750	0.955	0.955	0.923
<b>APPROACH</b>	18	22	26	20	27	43	84	70	0
<b>APPROACH %</b>	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	3	1	0	0	0	4	4
4:15 PM	0	0	2	2	3	5	0	13	4
4:30 PM	0	2	0	1	1	3	1	6	3
4:45 PM	0	1	0	0	4	3	0	4	5
5:00 PM	0	1	0	3	2	6	0	2	3
5:15 PM	0	1	1	1	1	10	0	2	1
5:30 PM	0	1	2	0	1	5	0	3	2
5:45 PM	0	0	1	3	3	3	0	3	2
<b>VOLUMES</b>	0	5	18	6	10	17	5	34	24
<b>APPROACH %</b>	0%	56%	44%	18%	29%	30%	8%	54%	38%
<b>APPROACH</b>	9	46	34	11	57	62	63	44	0
<b>APPROACH %</b>	0	4	11	4	10	19	4	25	15
<b>PEAK HR FACTOR</b>	0%	100%	48%	17%	34%	66%	9%	57%	34%
<b>APPROACH</b>	4	29	23	8	29	30	44	33	0

0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

Ontario Ranch WEST SIDE

NORTH SIDE

Hammer

SOUTH SIDE

Hammer

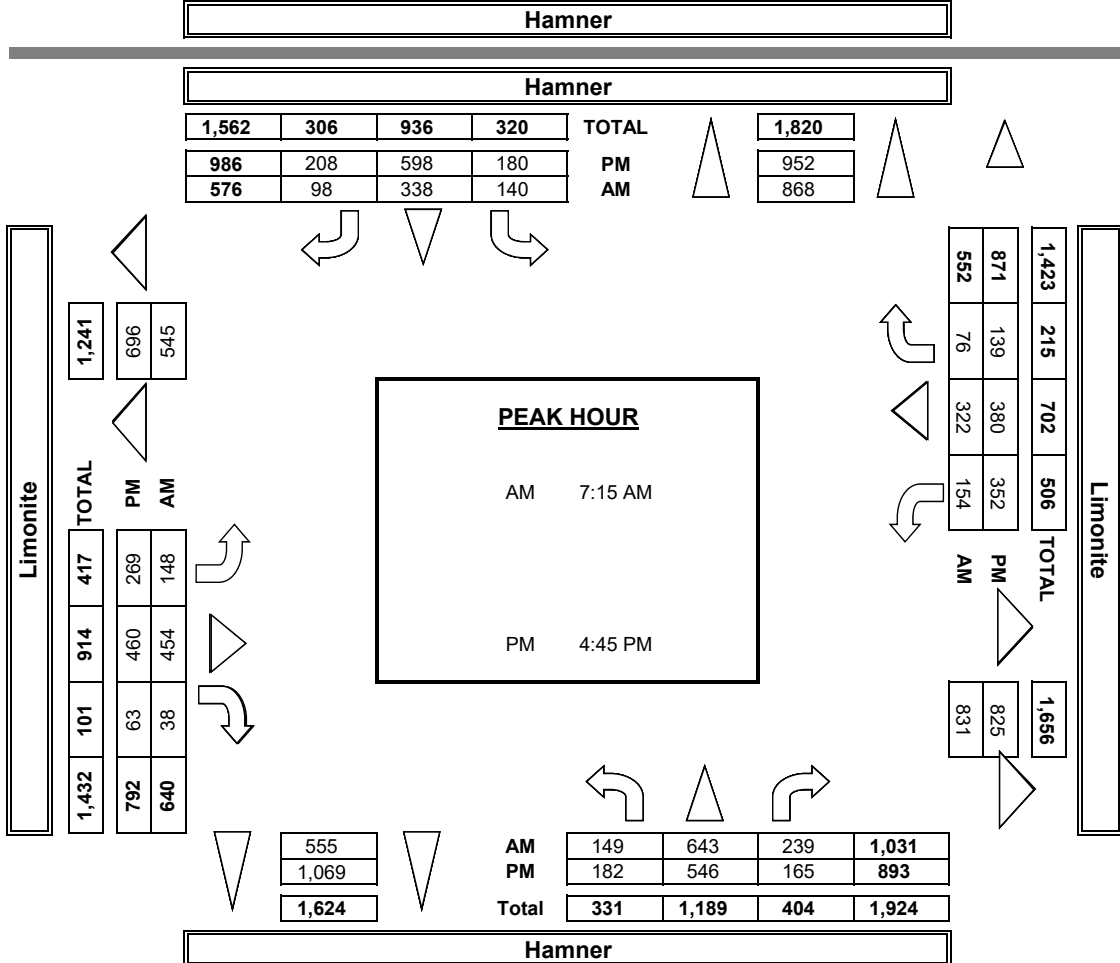
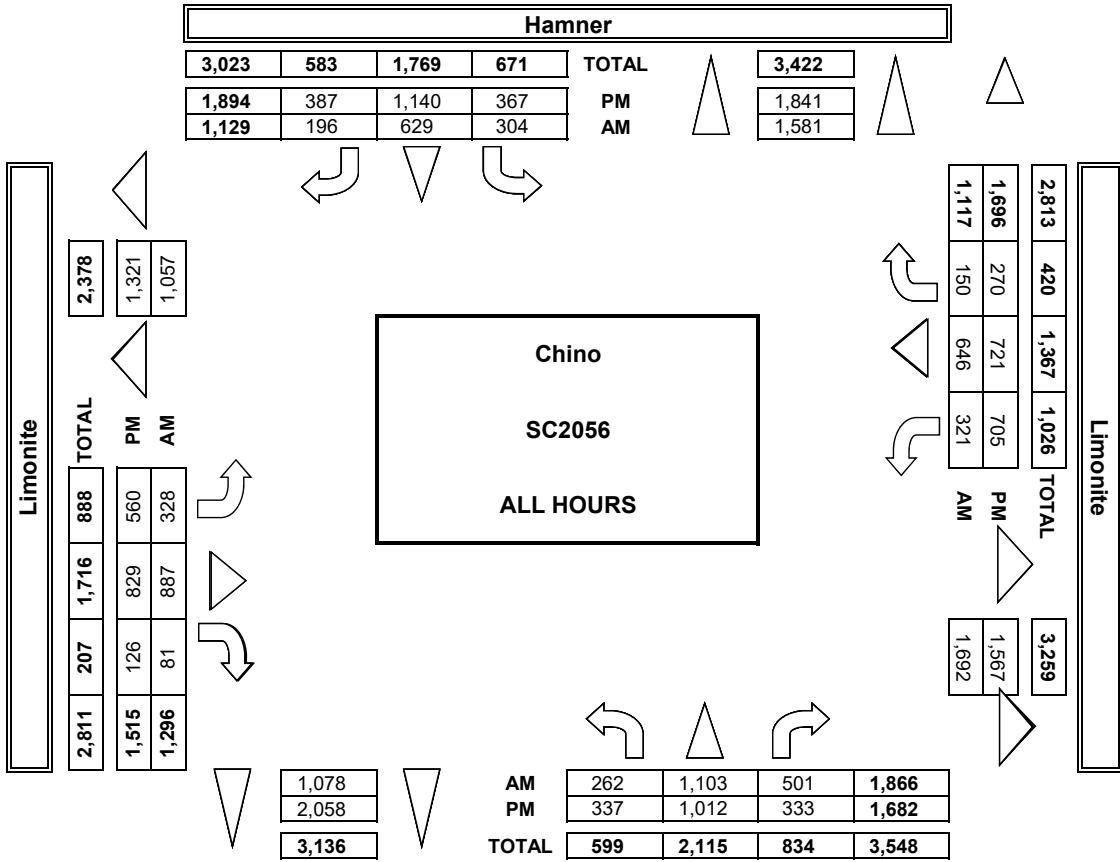
EAST SIDE

Ontario Ranch

0	4	0	3
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**AimTD LLC**  
TURNING MOVEMENT COUNTS









# INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtMD LLC. tel: 714 253 7888 cs@airtmd.com

DATE: 1/22/19  
TUESDAY

LOCATION: NORTH & SOUTH:  
EAST & WEST:

Chino  
Hammer  
Limonte

PROJECT #: SC2056  
LOCATION #: 43  
CONTROL: SIGNAL

<b>CLASS 4:</b> 4 OR MORE AXLE TRUCKS	<b>NOTES:</b>	▲	N	▶
		▶	W	S
		▲	E	▶
		▲	N	▶
		▶	W	S
		▲	E	▶

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	Hammer			Hammer			Limonte			Limonte			
	2	3	1	2	2	1	2	3	1	2	2	1	

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
<b>7:00 AM</b>	0	1	0	0	0	0	1	1	0	0	3	0	5
7:15 AM	0	1	0	0	0	0	0	1	0	0	4	2	8
7:30 AM	2	1	0	0	0	0	0	0	0	1	1	1	6
7:45 AM	0	1	0	1	0	0	2	3	0	3	2	0	12
8:00 AM	0	1	0	1	2	0	0	1	0	0	0	1	8
8:15 AM	0	1	0	2	0	0	2	1	0	0	3	0	8
8:30 AM	0	0	0	1	0	0	0	1	0	0	2	1	7
8:45 AM	0	0	0	1	0	2	0	1	0	0	3	0	8
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	2	5	0	0	0	0	0	0	0	0	0	0	62
<b>VOLUMES</b>	2	5	0	5	3	3	5	10	0	5	18	6	62
<b>APPROACH %</b>	29%	71%	0%	45%	27%	27%	33%	67%	0%	17%	62%	21%	222
<b>APP/DEPART</b>	/	/	16	11	/	9	15	/	15	29	/	222	0
<b>BEGIN PEAK HR</b>	7:45 AM			4			4			4			35
<b>VOLUMES</b>	0	3	0	50%	38%	13%	36%	64%	0%	31%	54%	15%	0.729
<b>APPROACH %</b>	0%	100%	0%	0.667			0.550			0.650			
<b>PEAK HR FACTOR</b>	3	/	9	8	/	7	11	/	11	13	/	8	0

U-TURNS					
NB	SB	EB	WB	TTL	
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
<b>03:00 PM</b>	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	1	0	0	1	0	0	0	1	3
4:15 PM	0	1	0	0	0	0	0	0	0	0	2	0	3
4:30 PM	0	0	0	1	1	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0
5:15 PM	1	1	0	0	0	0	0	0	0	0	2	1	5
5:30 PM	0	0	0	0	0	0	0	3	0	0	0	0	3
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
<b>VOLUMES</b>	1	3	0	1	1	1	0	5	0	0	4	2	19
<b>APPROACH %</b>	25%	75%	0%	25%	50%	25%	0%	100%	0%	0%	67%	33%	33%
<b>APP/DEPART</b>	4	/	5	4	/	2	5	/	6	6	/	6	0
<b>BEGIN PEAK HR</b>	4:45 PM			2			4			0			10
<b>VOLUMES</b>	1	2	0	0	0	0	0	4	0	0	2	1	10
<b>APPROACH %</b>	33%	67%	0%	0%	0%	0%	0%	100%	0%	0%	67%	33%	0.500
<b>PEAK HR FACTOR</b>	3	/	3	0	/	0	4	/	4	3	/	3	0

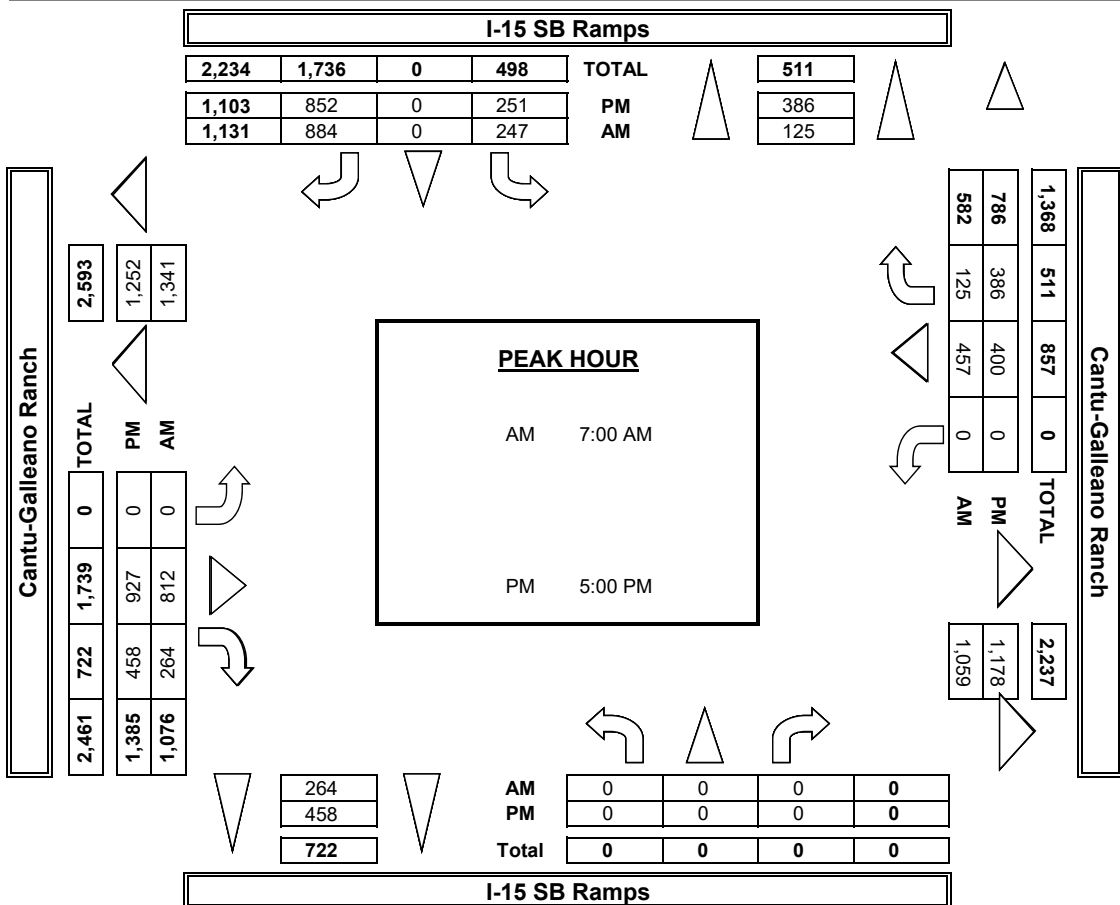
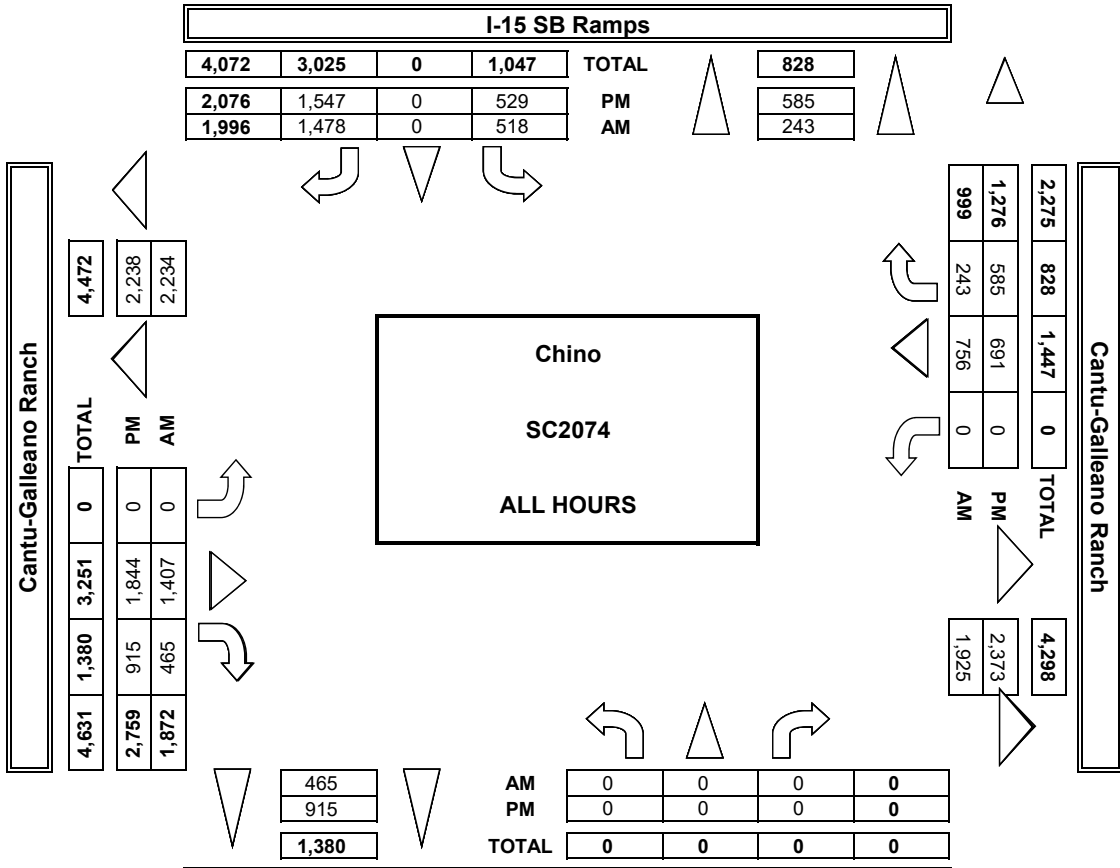
U-TURNS					
NB	SB	EB	WB	TTL	
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0

RTOR				
NRR	SRR	ERR	WRR	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0





**AimTD LLC**  
TURNING MOVEMENT COUNTS



### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AirtmD LLC. tel: 714 253 7888 cs@airtmD.com

DATE: 1/30/19  
WEDNESDAY

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

Chino  
I-15 SB Ramps  
Cantu-Galleano Ranch

PROJECT #:  
LOCATION #:  
CONTROL:

SC2074  
66  
SIGNAL

CLASS 2: WORK VEHICLES/ TRUCKS	NOTES:	PM ▲	N	E ▶
		WB ▶	S	W ▶
		AM ▲	W	S ▶
		OTHER		

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	LN	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	X	X	X	2	X	1	X	3	1	X	2	1	
1-15 SB Ramps							Cantu-Galleano Ranch			Cantu-Galleano Ranch			
7:00 AM	0	0	0	8	0	10	0	9	14	0	9	2	52
7:15 AM	0	0	0	4	0	15	0	9	7	0	8	3	46
7:30 AM	0	0	0	3	0	14	0	5	2	0	6	2	32
7:45 AM	0	0	0	3	0	11	0	5	2	0	6	3	30
8:00 AM	0	0	0	1	0	8	0	4	9	0	10	4	36
8:15 AM	0	0	0	4	0	13	0	5	3	0	6	2	33
8:30 AM	0	0	0	3	0	12	0	7	3	0	12	1	38
8:45 AM	0	0	0	4	0	11	0	7	3	0	3	4	32
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	30	0	94	0	51	43	0	60	21	299
APPROACH %	0%	0%	0%	24%	0%	76%	0%	54%	46%	0%	74%	26%	
APPROACH %	0%	0%	0%	124	0%	43	0%	94	81	0%	81	154	0
APP/DEPART	0	0	0	21	0	43	0	576	469	0	74%	26%	0
BEGIN PEAK HR	7:00 AM	7:00 AM	0	18	0	50	0	28	25	0	29	10	160
VOLUMES	0	0	0	26%	0%	74%	0%	53%	47%	0%	74%	26%	
APPROACH %	0%	0%	0%	0.895	0	0.576	0	0.576	0.886	0	0.886	0.769	0.769
PEAK HR FACTOR	0	0	10	68	0	25	0	53	46	39	0	79	0
APP/DEPART	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	3	0	6	0	10	10	0	9	3	41
4:15 PM	0	0	0	3	0	12	0	13	9	0	2	1	40
4:30 PM	0	0	0	2	0	8	0	8	5	0	2	3	28
4:45 PM	0	0	0	7	0	9	0	12	9	0	2	0	39
5:00 PM	0	0	0	3	0	3	0	11	8	0	9	7	40
5:15 PM	0	0	0	2	0	4	0	11	8	2	2	6	33
5:30 PM	0	0	0	2	0	5	0	5	4	0	1	5	22
5:45 PM	0	0	0	2	0	4	0	5	4	0	1	5	22
VOLUMES	0	0	0	25	0	50	0	82	53	0	29	31	270
APPROACH %	0%	0%	0%	33%	0%	67%	0%	61%	39%	0%	48%	52%	
APPROACH %	0	0	0	75	0	53	0	135	107	0	79	0	0
APP/DEPART	0	0	31	0	0	0	0	0	0	0	0	0	0
BEGIN PEAK HR	4:00 PM	4:00 PM	0	15	0	35	0	43	33	0	15	7	148
VOLUMES	0	0	0	30%	0%	70%	0	57%	43%	0%	68%	32%	
APPROACH %	0%	0%	0%	0.781	0	0.864	0	0.864	0.458	0	0.458	0.902	0.902
PEAK HR FACTOR	0	0	7	50	0	33	0	76	58	22	50	0	
APP/DEPART	0	0	0	0	0	0	0	0	0	0	0	0	0

#### I-15 SB Ramps

NORTH SIDE

Cantu-Galleano Ranch

WEST SIDE

EAST SIDE

Cantu-Galleano Ranch

#### I-15 SB Ramps

SOUTH SIDE

I-15 SB Ramps

U-TURNS					
NB	SB	EB	WB	TTL	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	

RTOR				
NRR	SRR	ERR	WRR	
X	0	X	X	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	33	0	0	0
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0	10	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	13	0	0	0
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0	9	0	0	0
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0	0	0	0	0
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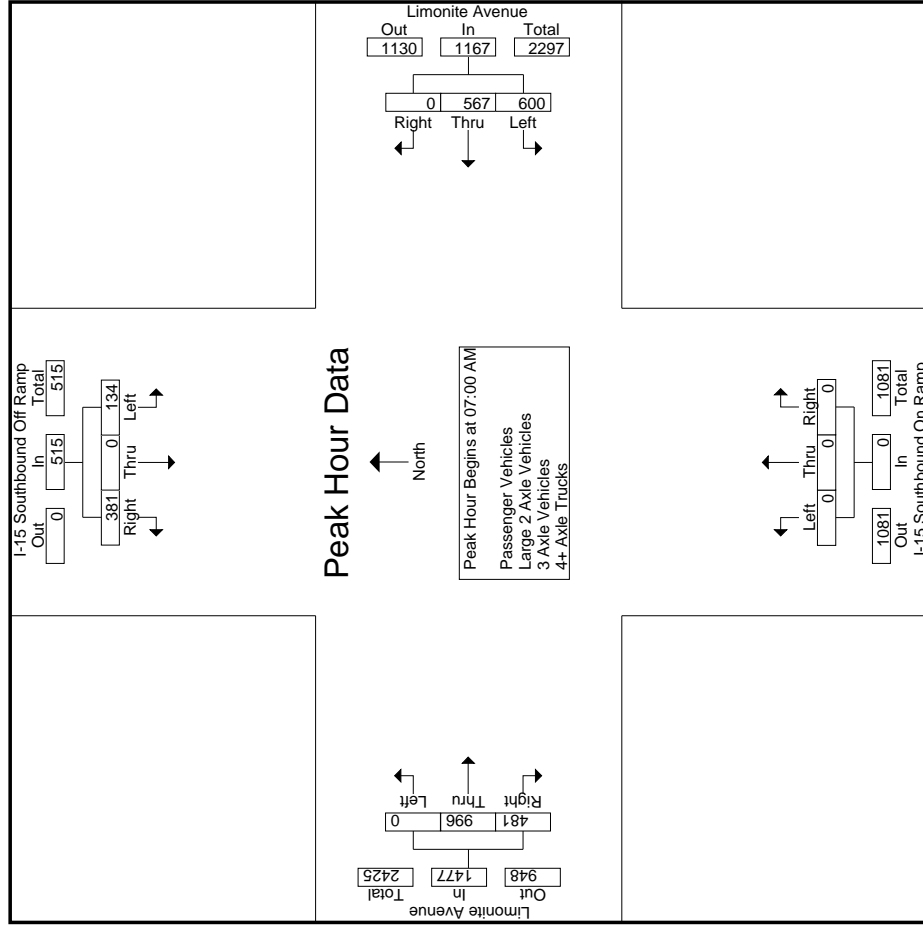
Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Eastvale  
 N/S: I-15 Southbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 26\_ESV\_15S\_Limonite AM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 1

	Groups Printed- Passenger Vehicles - Large 2-Axle Vehicles - 3-Axle Vehicles - 4+ Axle Trucks																							
	I-15 Southbound Off Ramp					Limonite Avenue Westbound					I-15 Southbound On Ramp					Limonite Avenue Eastbound								
	Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	36	0	129	87	165	153	123	0	0	276	0	0	0	0	0	262	109	18	371	105	812	917		
07:15 AM	42	0	102	80	144	166	148	0	0	314	0	0	0	0	0	265	119	22	384	102	842	944		
07:30 AM	38	0	84	54	122	144	138	0	0	282	0	0	0	0	0	242	126	33	368	87	772	859		
07:45 AM	18	0	66	59	84	137	158	0	0	295	0	0	0	0	0	227	127	42	354	101	733	834		
Total	134	0	381	280	515	600	567	0	0	1167	0	0	0	0	0	996	481	115	1477	395	3159	3554		
08:00 AM	32	0	91	69	123	123	152	0	0	275	0	0	0	0	0	221	107	32	328	101	726	827		
08:15 AM	34	0	89	64	123	126	187	0	0	313	0	0	0	0	0	182	114	37	296	101	732	833		
08:30 AM	47	0	108	66	155	126	196	0	0	322	0	0	0	0	0	255	93	23	348	89	825	914		
08:45 AM	46	0	93	62	139	126	170	0	0	296	0	0	0	0	0	200	95	27	295	89	730	819		
Total	159	0	381	261	540	501	705	0	0	1206	0	0	0	0	0	858	409	119	1267	380	3013	3393		
Grand Total	293	0	762	541	1055	1101	1272	0	0	2373	0	0	0	0	0	1854	890	234	2744	775	6172	6947		
Approch %	27.8	0	72.2			46.4	53.6	0	0	32.4	0	0	0	0	0	67.6	32.4							
Total %	4.7	0	12.3			17.1	20.6	0	0	38.4	0	0	0	0	0	30	14.4			11.2	88.8			
% Passenger Vehicles	273	0	734	96.5	1529	1059	1226	0	0	2285	0	0	0	0	0	1810	856	96.2	2891	0	0	6705		
% Large 2 Axle Vehicles	93.2	0	96.3		95.8	96.2	96.4	0	0	96.3	0	0	0	0	0	97.6	96.2		97.1	0	0	96.5		
% 3 Axle Vehicles	13	0	23		51	29	38	0	0	67	0	0	0	0	0	34	25		65	0	0	183		
% 4+ Axle Trucks	4.4	0	3		3.2	2.6	3	0	0	2.8	0	0	0	0	0	1.8	2.8		2.2	0	0	2.6		
3 Axle Vehicles	3	0	0		3	5	0	0	0	5	0	0	0	0	0	1	3		6	0	0	14		
% 3 Axle Vehicles	1	0	0		0.2	0.5	0	0	0	0.2	0	0	0	0	0	0.1	0.3		0.2	0	0	0.2		
4+ Axle Trucks	4	0	5		13	8	8	0	0	16	0	0	0	0	0	9	6		16	0	0	45		
% 4+ Axle Trucks	1.4	0	0.7		0.8	0.7	0.6	0	0	0.7	0	0	0	0	0	0.5	0.7		0.5	0	0	0.6		

	I-15 Southbound Off Ramp										Limonite Avenue Westbound					I-15 Southbound On Ramp					Limonite Avenue Eastbound				
	Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total			
	Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																								
Peak Hour for Entire Intersection Begins at 07:00 AM																									
07:00 AM	36	0	129	87	165	153	123	0	0	276	0	0	0	0	0	262	109	18	371	105	812	917			
07:15 AM	42	0	102	80	144	166	148	0	0	314	0	0	0	0	0	265	119	22	384	102	842	944			
07:30 AM	38	0	84	54	122	144	138	0	0	282	0	0	0	0	0	242	126	33	368	87	772	859			
07:45 AM	18	0	66	59	84	137	158	0	0	295	0	0	0	0	0	227	127	42	354	101	733	834			
Total Volume	134	0	381	280	515	600	567	0	0	1167	0	0	0	0	0	996	481	115	1477	395	3159	3554			
% App. Total	26	0	74			51.4	48.6	0	0	48.6	0	0	0	0	0	67.4	32.6								
PHF	.798	.000	.738			.904	.897	.000	.929	.000	.000	.000	.000	.000	.940	.947	.962					.938			





Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Eastvale  
 N/S: I-15 Southbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 26\_ESV\_15S\_Limonite AM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	I-15 Southbound Off Ramp Southbound						Limonite Avenue Westbound						I-15 Southbound On Ramp Northbound						Limonite Avenue Eastbound					
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total	
07:00 AM	5	0	3	2	8		7	2	0	0	9		0	0	0	0	0		0	3	4	0	7	
07:15 AM	0	0	2	1	2		4	5	0	0	9		0	0	0	0	0		8	3	1	11		
07:30 AM	1	0	4	2	5		2	6	0	0	8		0	0	0	0	0		6	3	0	9		
07:45 AM	0	0	2	2	2		0	8	0	0	8		0	0	0	0	0		5	4	3	9		
Total	6	0	11	7	17		13	21	0	0	34		0	0	0	0	0		22	14	4	36		
08:00 AM	2	0	5	2	7		6	2	0	0	8		0	0	0	0	0		0	2	1	0		
08:15 AM	0	0	2	2	2		3	6	0	0	9		0	0	0	0	0		5	5	1	10		
08:30 AM	2	0	3	2	5		3	6	0	0	9		0	0	0	0	0		1	3	0	4		
08:45 AM	3	0	2	2	5		4	3	0	0	7		0	0	0	0	0		4	2	1	6		
Total	7	0	12	8	19		16	17	0	0	33		0	0	0	0	0		12	11	2	23		
Grand Total	13	0	23	15	36		29	38	0	0	67		0	0	0	0	0		34	25	6	59		
Approch %	36.1	0	63.9		43.3		56.7	0			41.4		0	0	0	0	0		57.6	42.4		21		
Total %	8	0	14.2		22.2		17.9	23.5	0				0	0	0	0	0		21	15.4		36.4		

Start Time	I-15 Southbound Off Ramp Southbound						Limonite Avenue Westbound						I-15 Southbound On Ramp Northbound						Limonite Avenue Eastbound					
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total	
07:00 AM	5	0	0	0	3		7	2	0	0	9		0	0	0	0	0		0	3	4	0	7	
07:15 AM	0	0	2	1	2		4	5	0	0	9		0	0	0	0	0		8	3	1	11		
07:30 AM	1	0	4	2	5		2	6	0	0	8		0	0	0	0	0		6	3	0	9		
07:45 AM	0	0	2	2	2		0	8	0	0	8		0	0	0	0	0		5	4	3	9		
Total	6	0	11	7	17		13	21	0	0	34		0	0	0	0	0		22	14	4	36		
08:00 AM	2	0	5	2	7		6	2	0	0	8		0	0	0	0	0		0	2	1	0		
08:15 AM	0	0	2	2	2		3	6	0	0	9		0	0	0	0	0		5	5	1	10		
08:30 AM	2	0	3	2	5		3	6	0	0	9		0	0	0	0	0		1	3	0	4		
08:45 AM	3	0	2	2	5		4	3	0	0	7		0	0	0	0	0		4	2	1	6		
Total	7	0	12	8	19		16	17	0	0	33		0	0	0	0	0		12	11	2	23		
Grand Total	13	0	23	15	36		29	38	0	0	67		0	0	0	0	0		34	25	6	59		
Approch %	36.1	0	63.9		43.3		56.7	0			41.4		0	0	0	0	0		57.6	42.4		21		
Total %	8	0	14.2		22.2		17.9	23.5	0				0	0	0	0	0		21	15.4		36.4		

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

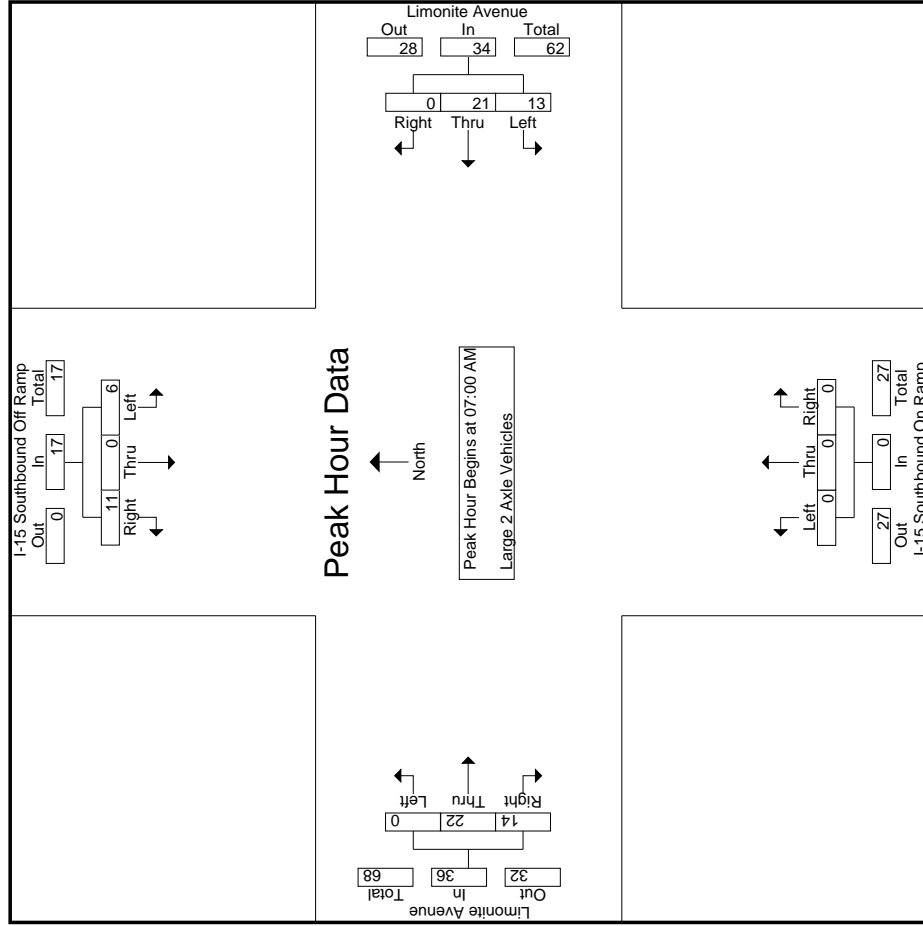
Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	I-15 Southbound Off Ramp Southbound						Limonite Avenue Westbound						I-15 Southbound On Ramp Northbound						Limonite Avenue Eastbound					
	Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total		Left	Thru	Right	RTOR	App. Total	
07:00 AM	5	0	0	0	3		7	2	0	0	9		0	0	0	0	0		0	3	4	0	7	
07:15 AM	0	0	2	1	2		4	5	0	0	9		0	0	0	0	0		8	3	1	11		
07:30 AM	1	0	4	2	5		2	6	0	0	8		0	0	0	0	0		6	3	0	9		
07:45 AM	0	0	2	2	2		0	8	0	0	8		0	0	0	0	0		5	4	3	9		
Total Volume	6	0	11	7	17		13	21	0	0	34		0	0	0	0	0		22	14	4	36		
% App. Total	35.3	0	64.7			38.2	61.8	0				0	0	0	0	0		61.1	38.9					
PHF	.300	.000	.688		.531		.464	.656	.000		.944		.000	.000	.000		.000		.688	.875	.818		.906	

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Eastvale  
 N/S: I-15 Southbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 26\_ESV\_15S\_Limonite AM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 2



Counts Unlimited  
 PO Box 1178  
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City of Eastvale  
 N/S: I-15 Southbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 26\_ESV\_15S\_Limonite AM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	I-15 Southbound Off Ramp Southbound					Limonite Avenue Westbound					I-15 Southbound On Ramp Northbound					Limonite Avenue Eastbound				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total
07:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
07:15 AM	1	0	0	0	1	3	0	0	0	3	0	0	0	0	0	0	1	0	0	1
07:30 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	2	1	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	0	0	3	4	0	0	0	4	0	0	0	0	0	0	1	3	2	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Grand Total	3	0	0	0	3	5	0	0	0	5	0	0	0	0	0	0	1	3	2	4
Approch %	100	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	25	75	25	33.3
Total %	25	0	0	0	25	41.7	0	0	0	41.7	0	0	0	0	0	0	8.3	25	25	33.3
																				14.3
																				85.7

Start Time	I-15 Southbound Off Ramp Southbound					Limonite Avenue Westbound					I-15 Southbound On Ramp Northbound					Limonite Avenue Eastbound				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total
07:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	0	0	1	3	0	0	0	3	0	0	0	0	0	0	1	0	0	1
07:30 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	2	1	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	0	0	3	4	0	0	0	4	0	0	0	0	0	0	1	3	2	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Grand Total	3	0	0	0	3	5	0	0	0	5	0	0	0	0	0	0	1	3	2	4
Approch %	100	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	25	75	25	33.3
Total %	25	0	0	0	25	41.7	0	0	0	41.7	0	0	0	0	0	0	8.3	25	25	33.3
																				14.3
																				85.7

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

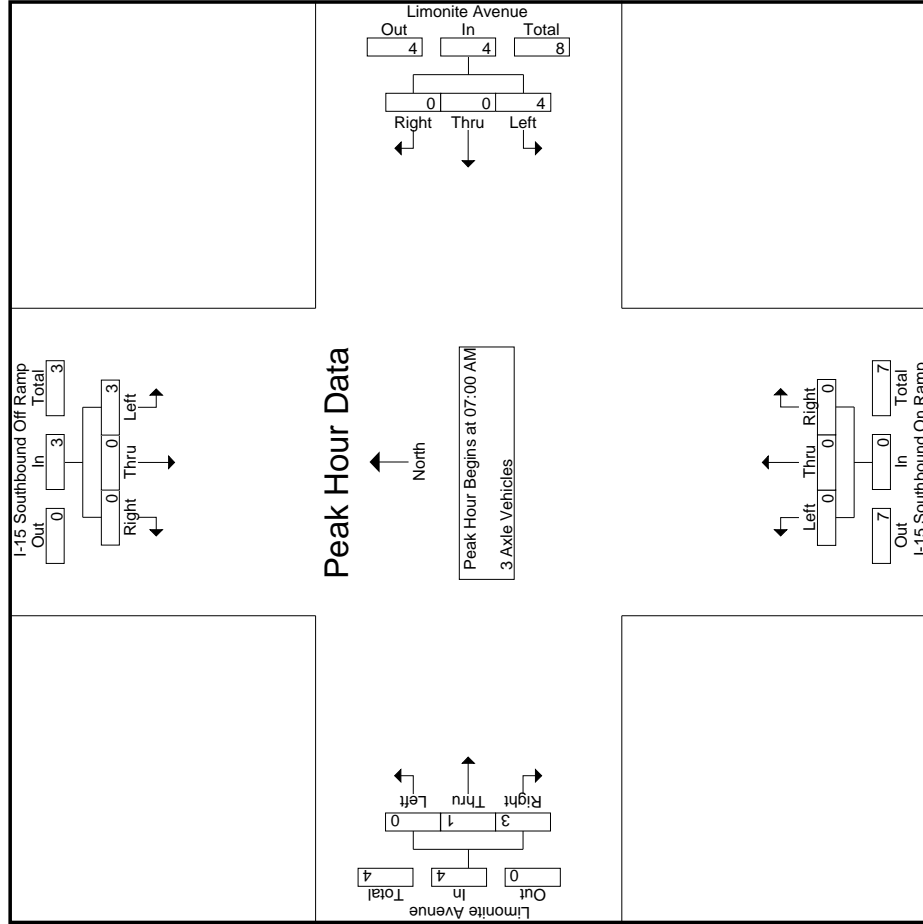
Peak Hour for Entire Intersection Begins at 07:00 AM

Start Time	I-15 Southbound Off Ramp Southbound					Limonite Avenue Westbound					I-15 Southbound On Ramp Northbound					Limonite Avenue Eastbound				
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total
07:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	1	0	0	0	1	3	0	0	0	3	0	0	0	0	0	0	1	0	0	1
07:30 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	2	1	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	3	0	0	0	3	4	0	0	0	4	0	0	0	0	0	0	1	3	2	4
% App. Total	100	0	0	0	100	33.3	0	0	0	33.3	0	0	0	0	0	0	25	75	25	33.3
PHF	.750	.000	.000	.000	.750	.333	.000	.000	.000	.333	.000	.000	.000	.000	.000	.000	.250	.375	.250	.500

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Eastvale  
 N/S: I-15 Southbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 26\_ESV\_15S\_Limonite AM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 2

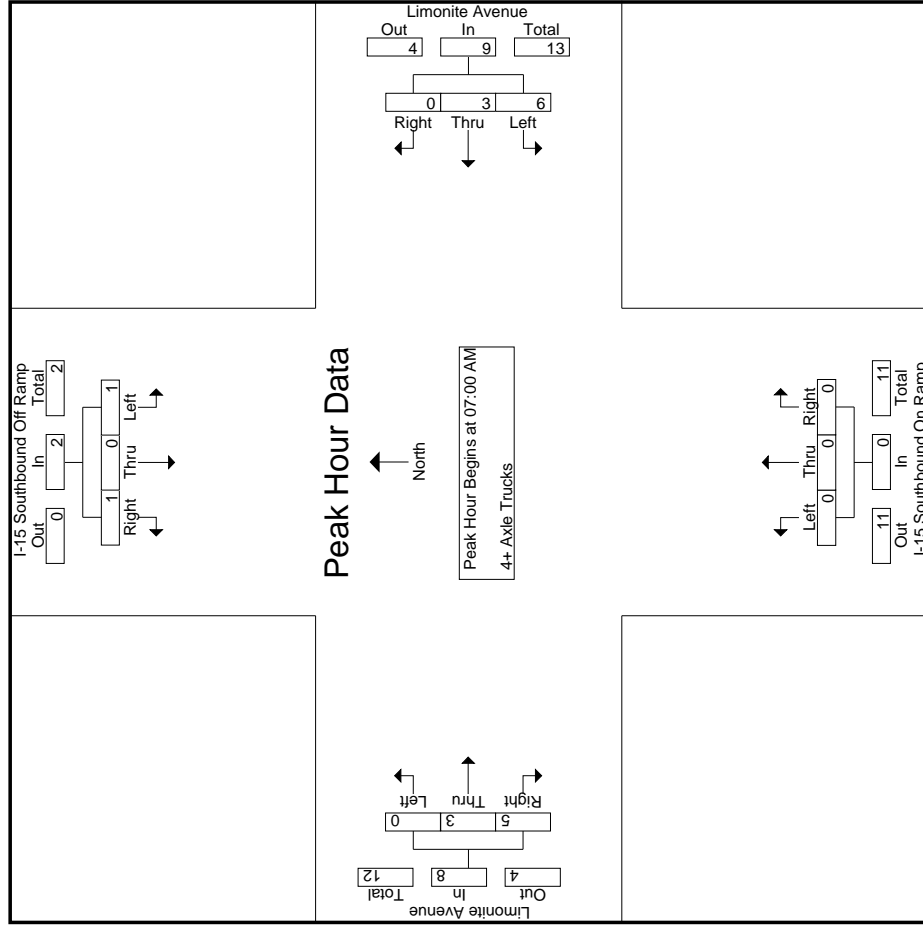




Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Eastvale  
 N/S: I-15 Southbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 26\_ESV\_15S\_Limonite AM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 2



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Corona, CA 92878  
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City of Eastvale  
N/S: I-15 Southbound Ramps  
E/W: Limonite Avenue  
Weather: Clear

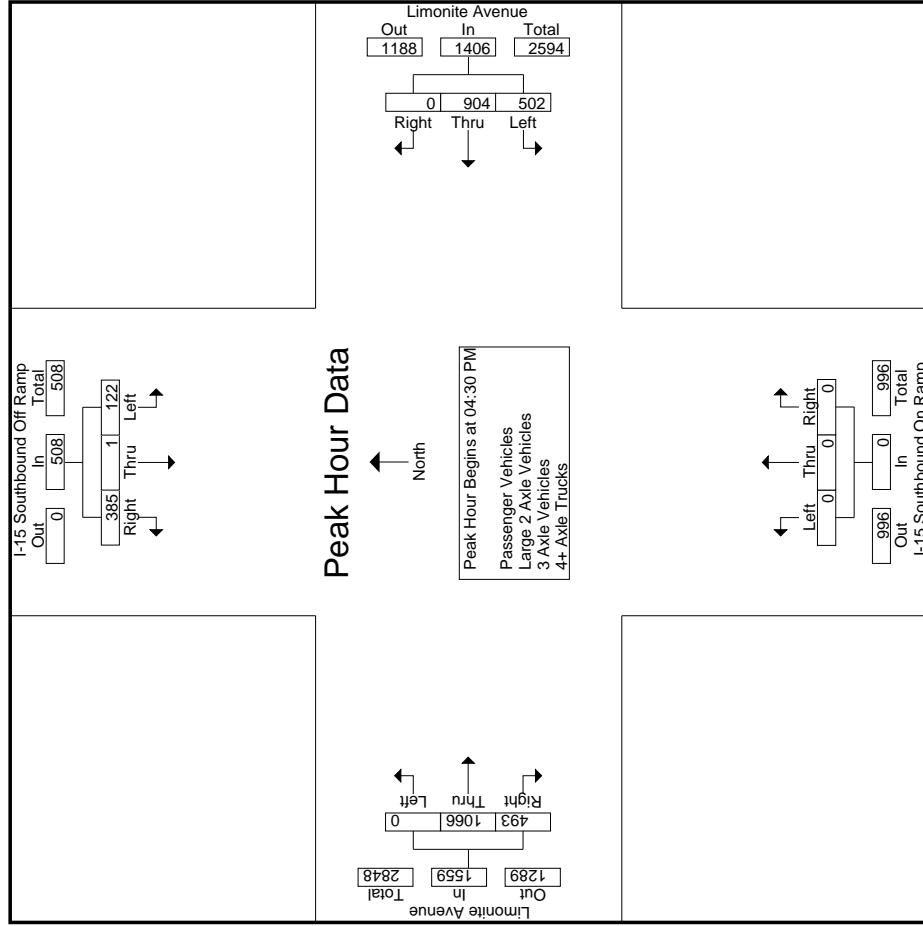
File Name : 26\_ESV\_15S\_Limonite PM  
Site Code : 05118278  
Start Date : 4/12/2018  
Page No : 1

Start Time	I-15 Southbound Off Ramp												I-15 Southbound On Ramp						I-15 Southbound On Ramp						Limonite Avenue Eastbound					
	Southbound						Westbound						Northbound						Eastbound											
	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total				
04:00 PM	31	0	35	30	66	314	93	221	0	0	314	0	0	0	0	0	0	280	102	29	382	59	762	821						
04:15 PM	20	0	57	47	77	317	129	188	0	0	317	0	0	0	0	0	0	262	109	31	371	78	765	843						
04:30 PM	27	0	91	56	118	353	143	210	0	0	353	0	0	0	0	0	0	249	122	28	371	84	842	926						
04:45 PM	28	0	111	63	139	349	134	215	0	0	349	0	0	0	0	0	0	281	119	41	400	104	888	992						
Total	106	0	294	196	400	1333	499	834	0	0	1333	0	0	0	0	0	0	1072	452	129	1524	325	3257	3582						
05:00 PM	30	0	83	54	113	354	109	245	0	0	354	0	0	0	0	0	0	267	129	32	396	86	863	949						
05:15 PM	37	1	100	56	138	350	116	234	0	0	350	0	0	0	0	0	0	269	123	42	392	98	880	978						
05:30 PM	42	0	99	59	141	332	106	226	0	0	332	0	0	0	0	0	0	231	130	48	361	107	834	941						
05:45 PM	27	2	85	53	114	360	103	257	0	0	360	0	0	0	0	0	0	225	109	36	334	89	808	897						
Total	136	3	367	222	506	1396	434	962	0	0	1396	0	0	0	0	0	0	992	491	158	1483	380	3385	3765						
Grand Total	242	3	661	418	906	2729	933	1796	0	0	2729	0	0	0	0	0	0	2064	943	287	3007	705	6642	7347						
Approach %	26.7	0.3	73		34.2	65.8																								
Total %	3.6	0	10		14	27					41.1											45.3				9.6	90.4			
% Passenger Vehicles	232	3	651	99	1300	2676	915	1761	0	0	2676	0	0	0	0	0	0	2017	937	99.3	3239	0	0	7215						
% Large 2 Axle Vehicles	95.9	100	98.5	99	98.2	98.1	98.1	98.1	0	0	98.1	0	0	0	0	0	0	97.7	99.4	99.3	98.3	0	0	98.2						
% 3 Axle Vehicles	7	0	4	0.6	13	28	11	17	0	1	28	0	0	0	0	0	0	24	5	0.7	31	0	0	72						
% 4+ Axle Trucks	2.9	0	0.6	0.5	1	1	1.2	0.9	0	0	1	0	0	0	0	0	0	1.2	0.5	0.7	0.9	0	0	1						
3 Axle Vehicles	0	0	0	0	0	17	1	16	0	0	17	0	0	0	0	0	0	9	0	0	9	0	0	26						
% 3 Axle Vehicles	0	0	0	0	0	0.6	0.1	0.9	0	0	0.6	0	0	0	0	0	0	0.4	0	0	0.3	0	0	0.4						
4+ Axle Trucks	3	0	6	0.5	11	8	6	2	0	8	0	0	0	0	0	0	14	1	0	15	0	0	34							
% 4+ Axle Trucks	1.2	0	0.9	0.5	0.8	0.3	0.6	0.1	0	0.3	0	0	0	0	0	0	0.7	0.1	0	0.5	0	0	0.5							
Start Time	I-15 Southbound Off Ramp						Limonite Avenue Westbound						I-15 Southbound On Ramp						Limonite Avenue Eastbound											
Approach %																														
Total %																														
PHF	.824						.250						.867						.914											

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Eastvale  
 N/S: I-15 Southbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 26\_ESV\_15S\_Limonite PM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 2





Counts Unlimited  
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City of Eastvale  
 N/S: I-15 Southbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 26 ESV\_15S\_Limonite PM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	I-15 Southbound Off Ramp Southbound						Limonite Avenue Westbound						I-15 Southbound On Ramp Northbound						Limonite Avenue Eastbound													
	Left		Right		RTOR		Thru		Right		RTOR		Thru		Right		RTOR		Thru		Right		RTOR		Thru		Right		RTOR			
	Left	Thru	Right	Thru	App. Total	Left	Thru	Right	Thru	App. Total	Left	Thru	Right	Thru	App. Total	Left	Thru	Right	Thru	App. Total	Left	Thru	Right	Thru	App. Total	Left	Thru	Right	Thru	App. Total	Exclu. Total	Inclu. Total
04:00 PM	1	0	1	1	2	1	5	0	0	6	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	1	14	15				
04:15 PM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4	2	0	6	0	8					
04:30 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	5					
04:45 PM	0	0	2	1	2	3	3	0	0	6	0	0	0	0	0	0	4	1	1	1	5	4	1	1	2	2	13					
Total	2	0	3	2	5	5	11	0	0	16	0	0	0	0	0	0	16	3	1	19	3	40	3	40	3	40	43					
05:00 PM	3	0	1	0	4	1	2	0	0	3	0	0	0	0	0	0	1	1	1	2	1	1	1	2	1	9	10					
05:15 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	3	3					
05:30 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	5	0	0	5	0	0	0	5	0	7	7					
05:45 PM	2	0	0	0	2	1	4	0	0	5	0	0	0	0	0	0	1	1	0	2	0	1	1	0	2	9	9					
Total	5	0	1	0	6	6	6	0	0	12	0	0	0	0	0	0	8	2	1	10	1	28	2	28	1	28	29					
Grand Total	7	0	4	2	11	11	17	0	0	28	0	0	0	0	0	0	24	5	2	29	4	68	2	68	4	68	72					
Approch %	63.6	0	36.4			39.3	60.7	0	0	41.2	0	0	0	0	0	0	82.8	17.2	0	42.6	5.6	94.4	7.4	94.4	5.6	94.4						
Total %	10.3	0	5.9			16.2	25	0	0	41.2	0	0	0	0	0	0	35.3	7.4	0	42.6	5.6	94.4	7.4	94.4	5.6	94.4						

Start Time	I-15 Southbound Off Ramp Southbound						Limonite Avenue Westbound						I-15 Southbound On Ramp Northbound						Limonite Avenue Eastbound																	
	Left		Right		RTOR		Thru		Right		RTOR		Thru		Right		RTOR		Thru		Right		RTOR		Thru		Right		RTOR		Thru		Right		RTOR	
	Left	Thru	Right	Thru	App. Total	Left	Thru	Right	Thru	App. Total	Left	Thru	Right	Thru	App. Total	Left	Thru	Right	Thru	App. Total	Left	Thru	Right	Thru	App. Total	Left	Thru	Right	Thru	App. Total	Exclu. Total	Inclu. Total	Int. Total			
04:30 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5								
04:45 PM	0	0	0	0	0	3	3	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	5								
05:00 PM	3	0	0	1	4	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2									
05:15 PM	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	1									
Total Volume	3	0	0	3	6	7	7	0	0	14	0	0	0	0	0	0	8	2	10	3	0	20	2	10	3	30										
% App. Total	50	0	50			50	50	0	0	50	0	0	0	0	0	0	80	20	0	42.6	5.6	94.4	7.4	94.4	5.6	94.4										
PHF	.250	.000	.375			.583	.583	.000	.000	.583	.000	.000	.000	.000	.000	.000	.500	.500	.500	.577	.000	.500	.500	.500	.500	.500	.500									

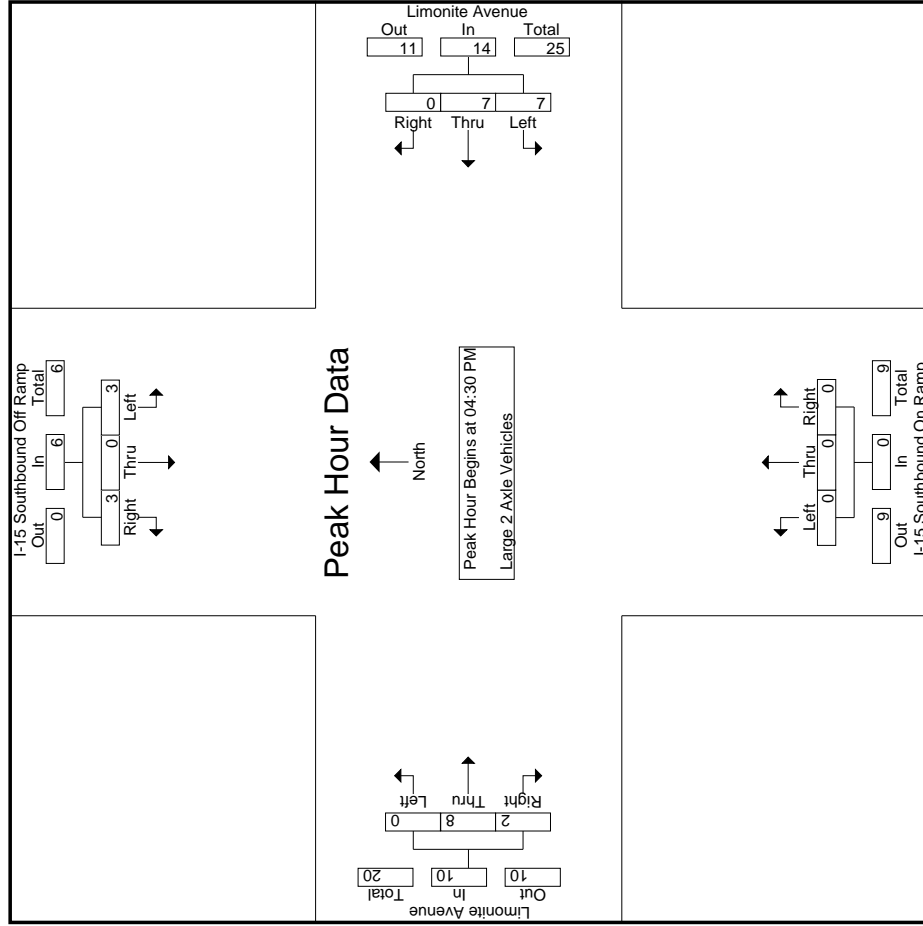
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Eastvale  
 N/S: I-15 Southbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 26\_ESV\_15S\_Limonite PM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 2



Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Eastvale  
 N/S: I-15 Southbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 26 ESV\_15S\_Limonite PM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	I-15 Southbound Off Ramp Southbound				Limonite Avenue Westbound				I-15 Southbound On Ramp Northbound				Limonite Avenue Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	3	3
04:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	2	2
04:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	2
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	3	0	4	4
Total	0	0	0	0	0	1	6	0	0	7	0	0	0	0	4	0	11	11
05:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	1	0	4	4
05:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2	0	4	4
05:30 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	1	0	5	5
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	2	2
Total	0	0	0	0	0	1	10	0	0	10	0	0	0	0	5	0	15	15
Grand Total	0	0	0	0	0	1	16	0	0	17	0	0	0	0	9	0	26	26
Approch %	0	0	0	0	0	5.9	94.1	0	0	0	0	0	0	0	100	0	0	0
Total %	0	0	0	0	0	3.8	61.5	0	0	65.4	0	0	0	0	34.6	0	100	0

Start Time	I-15 Southbound Off Ramp Southbound				Limonite Avenue Westbound				I-15 Southbound On Ramp Northbound				Limonite Avenue Eastbound					
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:30 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	3	0	3	4
05:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	1	0	1	4
05:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2	0	2	4
Total Volume	0	0	0	0	0	0	8	0	0	8	0	0	0	0	6	0	6	14
% App. Total	0	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.667	.000	.000	.667	.000	.000	.000	.000	.500	.000	.500	.875

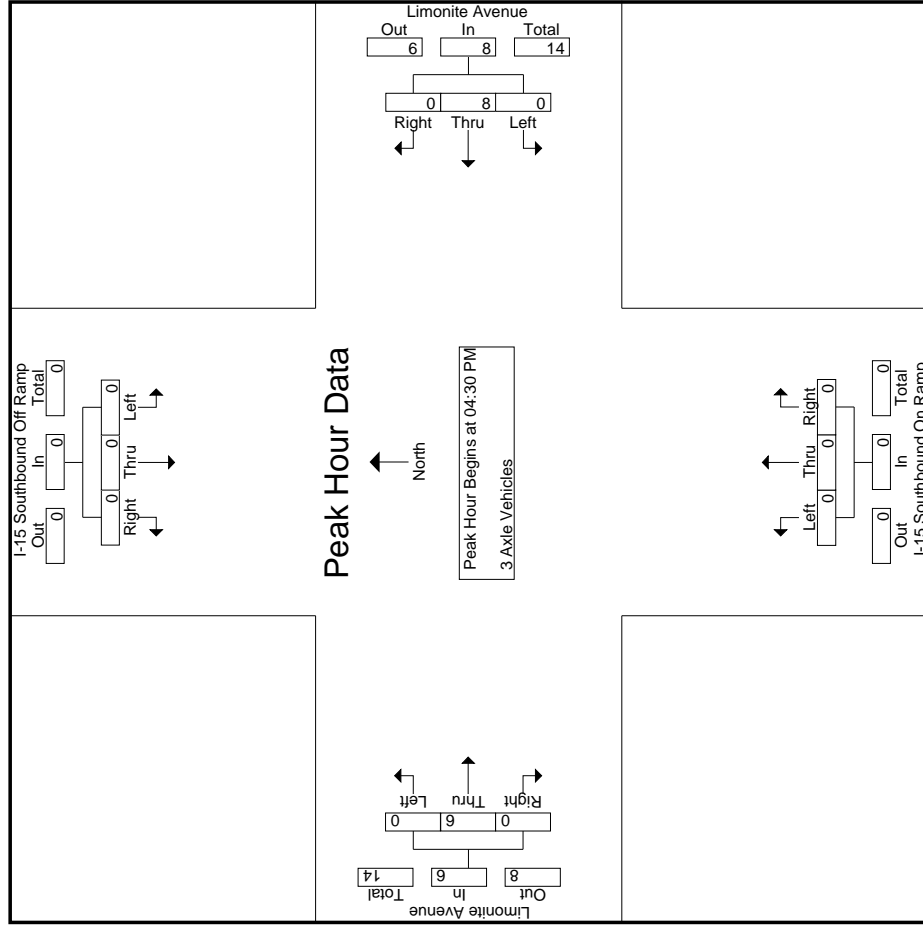
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Eastvale  
 N/S: I-15 Southbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 26\_ESV\_15S\_Limonite PM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 2



Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Eastvale  
 N/S: I-15 Southbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 26 ESV\_15S\_Limonite PM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 1

Groups Printed- 4+ Axle Trucks

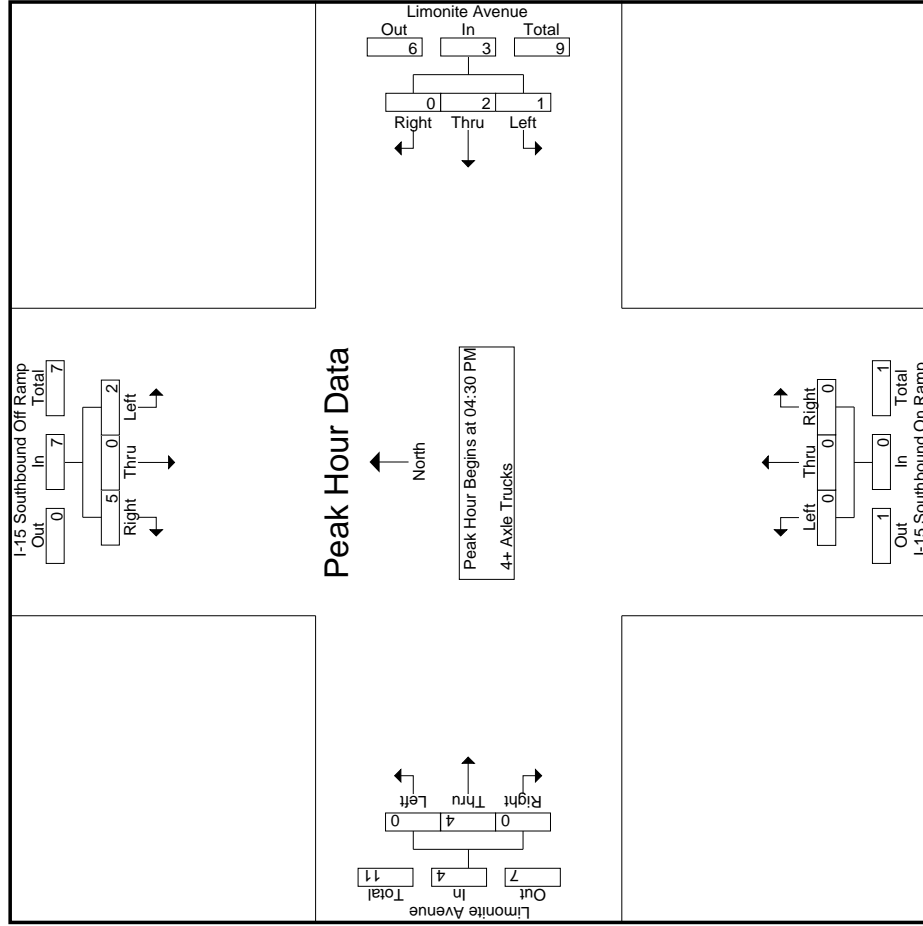
Start Time	I-15 Southbound Off Ramp				Limonite Avenue Westbound				I-15 Southbound On Ramp Northbound				Limonite Avenue Eastbound											
	Southbound		RTOR		Thru		RTOR		App. Total		Thru		RTOR		App. Total		Thru		RTOR		App. Total			
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Exclu. Total	Inclu. Total	Int. Total	
04:00 PM	1	0	0	1	3	0	0	3	0	0	0	0	0	0	0	0	0	3	0	0	0	0	7	7
04:15 PM	0	0	1	1	2	0	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	5	5
04:30 PM	2	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
04:45 PM	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	3
Total	3	0	4	7	6	0	0	6	0	0	0	0	0	0	0	0	0	8	0	0	0	0	21	21
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	2	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	3	0	6	9	6	2	0	8	0	0	0	0	0	0	0	0	0	0	14	1	0	0	2	32
Approch %	33.3	0	66.7		75	25	0		0	0	0	0	0	0	0	0	0	0	93.3	6.7	0	0	2	34
Total %	9.4	0	18.8	28.1	18.8	6.2	0	25	0	0	0	0	0	0	0	0	0	0	43.8	3.1	0	0	5.9	94.1

Start Time	I-15 Southbound Off Ramp				Limonite Avenue Westbound				I-15 Southbound On Ramp Northbound				Limonite Avenue Eastbound											
	Southbound		RTOR		Thru		RTOR		App. Total		Thru		RTOR		App. Total		Thru		RTOR		App. Total			
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Exclu. Total	Inclu. Total	Int. Total	
04:30 PM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	5	7	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
% App. Total	28.6	0	71.4		33.3	66.7	0		0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	14
PHF	.250	.000	.625	.438	.250	.250	.000	.375	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.000	.000	.500	.583	

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Eastvale  
 N/S: I-15 Southbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 26\_ESV\_15S\_Limonite PM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 2



Location: Eastvale  
 N/S: I-15 Southbound Ramps  
 E/W: Limonite Avenue



Date: 4/12/2018  
 Day: Thursday

PEDESTRIANS

	North Leg I-15 Southbound Ramps Pedestrians	East Leg Limonite Avenue Pedestrians	South Leg I-15 Southbound Ramps Pedestrians	West Leg Limonite Avenue Pedestrians	
7:00 AM	0	0	1	0	1
7:15 AM	1	0	0	0	1
7:30 AM	0	0	0	0	0
7:45 AM	1	0	0	0	1
8:00 AM	1	0	0	0	1
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	3	0	1	0	4

	North Leg I-15 Southbound Ramps Pedestrians	East Leg Limonite Avenue Pedestrians	South Leg I-15 Southbound Ramps Pedestrians	West Leg Limonite Avenue Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

Counts Unlimited, Inc.  
 PO Box 1178  
 Corona, CA 92878  
 951-268-6268

3.1-312

Location: Eastvale  
 N/S: I-15 Southbound Ramps  
 E/W: Limonite Avenue



Date: 4/12/2018  
 Day: Thursday

**BICYCLES**

	Southbound I-15 Southbound Ramps			Westbound Limonite Avenue			Northbound I-15 Southbound Ramps			Eastbound Limonite Avenue			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES:</b>	0	0	0	0	3	0	0	0	0	0	1	0	4

	Southbound I-15 Southbound Ramps			Westbound Limonite Avenue			Northbound I-15 Southbound Ramps			Eastbound Limonite Avenue			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES:</b>	0	0	0	0	0	0	0	0	0	0	0	0	0



### INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AlmitD LLC Tel: 714 253 7888 c@almitd.com  
 Chino  
 I-15 NB Ramps  
 Cantu-Galleano Ranch

PROJECT #:  
 LOCATION #:  
 CONTROL:

SC2074  
 68  
 SIGNAL

DATE:  
Wed Jan 30, 19

LOCATION:  
NORTH & SOUTH:  
EAST & WEST:

NOTES:

	N ▲ W ◀ S ▶ E ▶
RT P NB OTHER OTHER	LT P SB OTHER OTHER

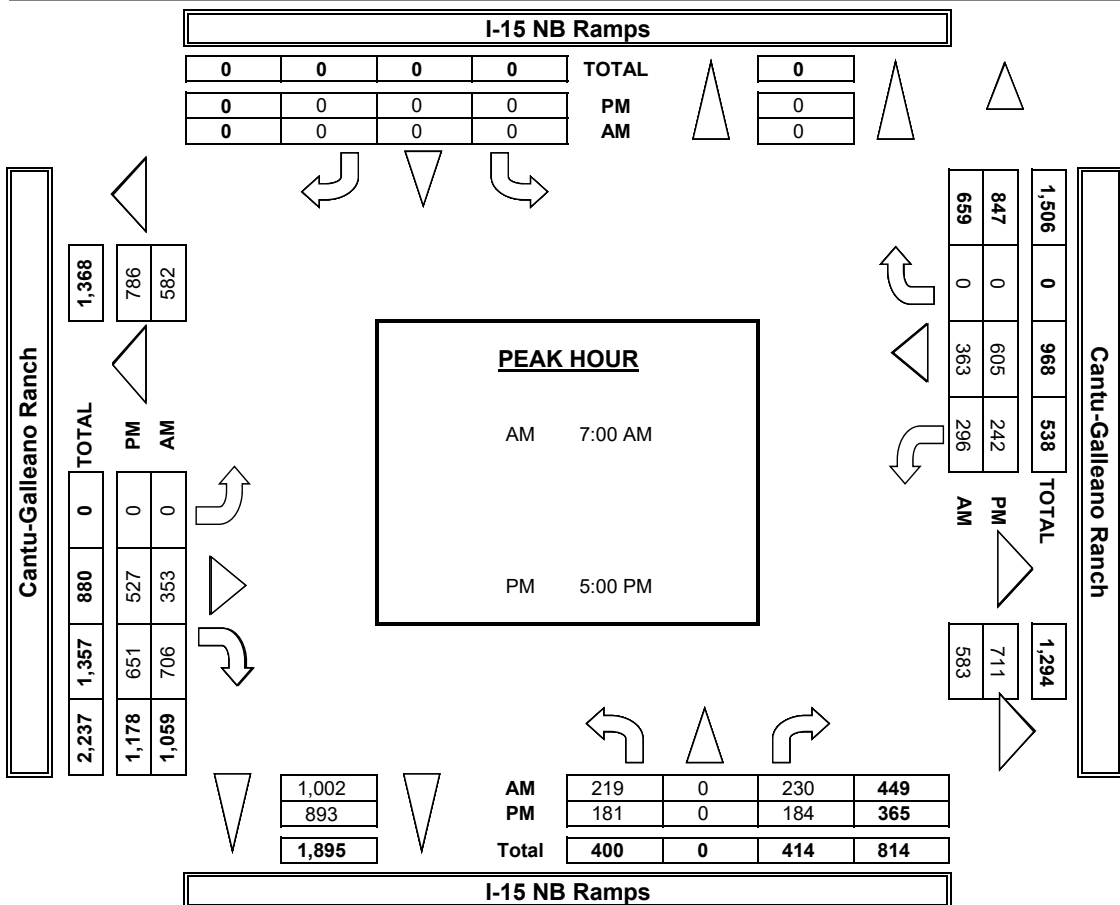
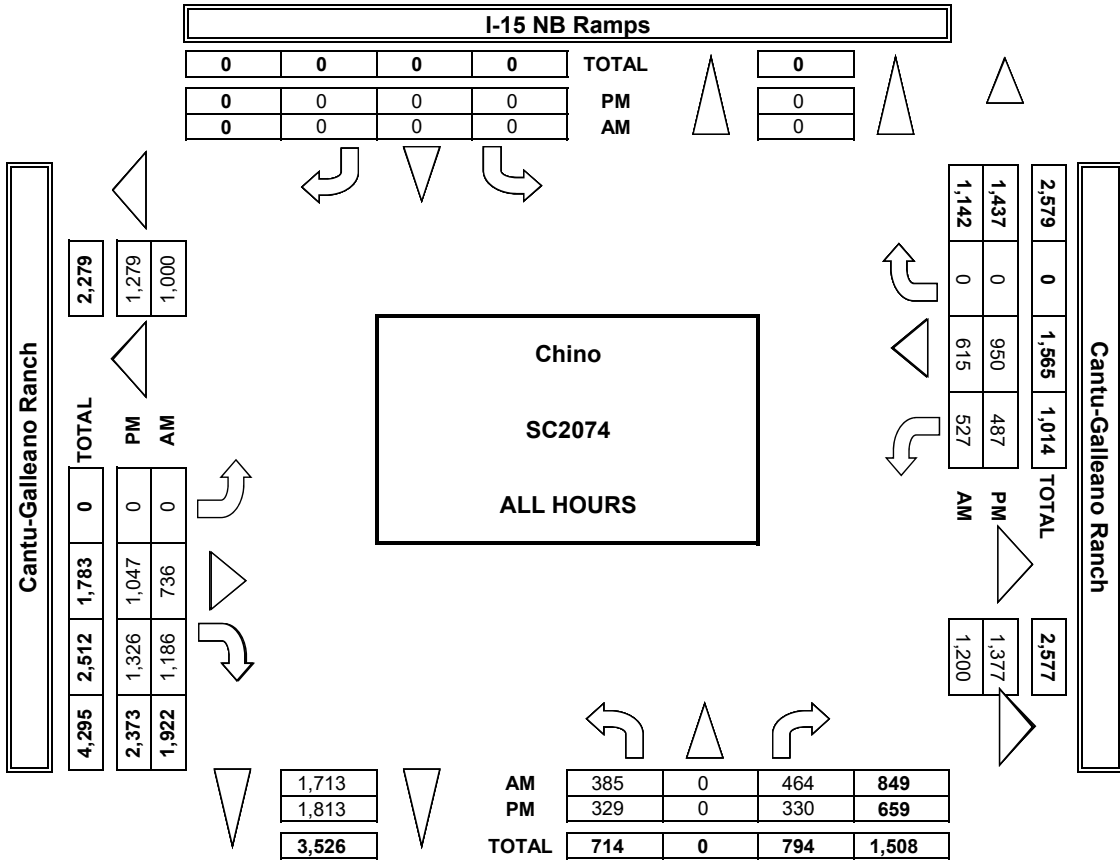
Add U-Turns to Left Turns

	NORTHBOUND <small>I-15 NB Ramps</small>				SOUTHBOUND <small>I-15 NB Ramps</small>				EASTBOUND <small>Cantu-Galleano Ranch</small>				WESTBOUND <small>Cantu-Galleano Ranch</small>				RTOR								
	LN	WT	NR	SR	SL	ST	SR	SR	EL	ET	ER	WL	WT	WR	WR	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR	
<b>7:00 AM</b>	58	0	37	0	0	0	0	0	0	76	178	85	93	0	527	0	0	0	0	0	0	0	0	0	0
7:15 AM	47	0	40	0	0	0	0	0	0	81	227	76	102	0	593	0	0	0	0	0	0	0	0	0	0
7:30 AM	65	0	70	0	0	0	0	0	0	88	180	79	109	0	571	0	0	0	0	0	0	0	0	0	0
7:45 AM	49	0	83	0	0	0	0	0	0	108	121	56	59	0	476	0	0	0	0	0	0	0	0	0	0
8:00 AM	35	0	72	0	0	0	0	0	0	103	116	49	82	0	457	0	0	0	0	0	0	0	0	0	0
8:15 AM	48	0	72	0	0	0	0	0	0	103	116	49	82	0	457	0	0	0	0	0	0	0	0	0	0
8:30 AM	51	0	51	0	0	0	0	0	0	101	130	51	59	0	442	0	0	0	0	0	0	0	0	0	0
8:45 AM	32	0	39	0	0	0	0	0	0	97	104	64	58	0	455	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>385</b>	<b>0</b>	<b>464</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>736</b>	<b>1,186</b>	<b>527</b>	<b>615</b>	<b>0</b>	<b>3,913</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>APPROACH %</b>	<b>45%</b>	<b>0%</b>	<b>55%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>38%</b>	<b>62%</b>	<b>46%</b>	<b>54%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
<b>APPROACH</b>	<b>849</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,922</b>	<b>1,200</b>	<b>1,142</b>	<b>1,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>BEGIN PEAK HR</b>	<b>219</b>	<b>0</b>	<b>230</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>353</b>	<b>706</b>	<b>296</b>	<b>363</b>	<b>0</b>	<b>2,167</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>VOLUMES</b>	<b>49%</b>	<b>0%</b>	<b>51%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0.860</b>	<b>0.860</b>	<b>0.860</b>	<b>0.876</b>	<b>0%</b>	<b>0.914</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>APPROACH %</b>	<b>0.850</b>	<b>0</b>	<b>0.850</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>1.047</b>	<b>1.266</b>	<b>1.371</b>	<b>1.279</b>	<b>0</b>	<b>4,469</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>APPROACH</b>	<b>659</b>	<b>0</b>	<b>30%</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,813</b>	<b>2,373</b>	<b>1,437</b>	<b>1,279</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>BEGIN PEAK HR</b>	<b>181</b>	<b>0</b>	<b>184</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>527</b>	<b>651</b>	<b>242</b>	<b>605</b>	<b>0</b>	<b>2,390</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>VOLUMES</b>	<b>50%</b>	<b>0%</b>	<b>50%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0.901</b>	<b>0.901</b>	<b>0.901</b>	<b>0.967</b>	<b>0%</b>	<b>0.950</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>APPROACH %</b>	<b>0.815</b>	<b>0</b>	<b>0.815</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>1.178</b>	<b>1.178</b>	<b>0.847</b>	<b>0.786</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>APPROACH</b>	<b>365</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>847</b>	<b>711</b>	<b>847</b>	<b>786</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>



	WEST SIDE <small>Cantu-Galleano Ranch</small>				SOUTH SIDE <small>I-15 NB Ramps</small>				EAST SIDE <small>Cantu-Galleano Ranch</small>				BICYCLE CROSSINGS			
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

**AimTD LLC**  
TURNING MOVEMENT COUNTS









Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 27\_JVY\_15N\_Limonite AM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 1

Start Time	Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks																					
	I-15 Northbound On Ramp				Limonite Avenue Westbound				I-15 Northbound Off Ramp				Limonite Avenue Eastbound									
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR						
07:00 AM	0	0	0	0	0	245	89	31	334	36	0	49	32	85	177	122	0	0	299	63	718	781
07:15 AM	0	0	0	0	0	256	100	27	356	37	0	69	49	106	176	131	0	0	307	76	769	845
07:30 AM	0	0	0	0	0	242	88	26	330	39	0	86	59	125	173	113	0	0	286	85	741	826
07:45 AM	0	0	0	0	0	258	78	31	336	50	0	93	65	143	137	105	0	0	242	96	721	817
Total	0	0	0	0	0	1001	355	115	1356	162	0	297	205	459	663	471	0	0	1134	320	2949	3269
08:00 AM	0	0	0	0	0	231	73	25	304	57	0	85	54	142	149	107	0	0	256	79	702	781
08:15 AM	0	0	0	0	0	259	70	36	329	64	1	65	47	130	118	102	0	0	220	83	679	762
08:30 AM	0	0	0	0	0	232	82	29	314	80	0	76	49	156	154	152	0	0	306	78	776	854
08:45 AM	0	0	0	0	0	227	72	26	299	61	0	85	56	146	139	114	0	0	253	82	698	780
Total	0	0	0	0	0	949	297	116	1246	262	1	311	206	574	560	475	0	0	1035	322	2855	3177
Grand Total	0	0	0	0	0	1950	652	231	2602	424	1	608	411	1033	1223	946	0	0	2169	642	5804	6446
Approach %	0	0	0	0	0	74.9	25.1			41	0.1	58.9			56.4	43.6	0	0				
Total %	0	0	0	0	0	33.6	11.2			44.8	7.3	10.5		17.8	21.1	16.3	0	0	37.4	10	90	
% Passenger Vehicles	0	0	0	0	0	1866	624		2711	402	0	586		1386	1181	910	0	0	2091	0	0	6188
% Large 2 Axle Vehicles	0	0	0	0	0	63	14		83	11	1	16		40	24	27	0	0	51	0	0	96
% 3 Axle Vehicles	0	0	0	0	0	3.2	2.1		2.6	2.6	2.9	2.9		2.8	2	2.9	0	0	2.4	0	0	2.7
4+ Axle Trucks	0	0	0	0	0	0.5	0.5		0	0.9	0	0.3		0.4	0.8	0.3	0	0	1.3	0	0	0.5
% 4+ Axle Trucks	0	0	0	0	0	0.6	1.7		1	1.7	0	0.7		0.2	0.7	0.6	0	0	1.4	0	0	0.8

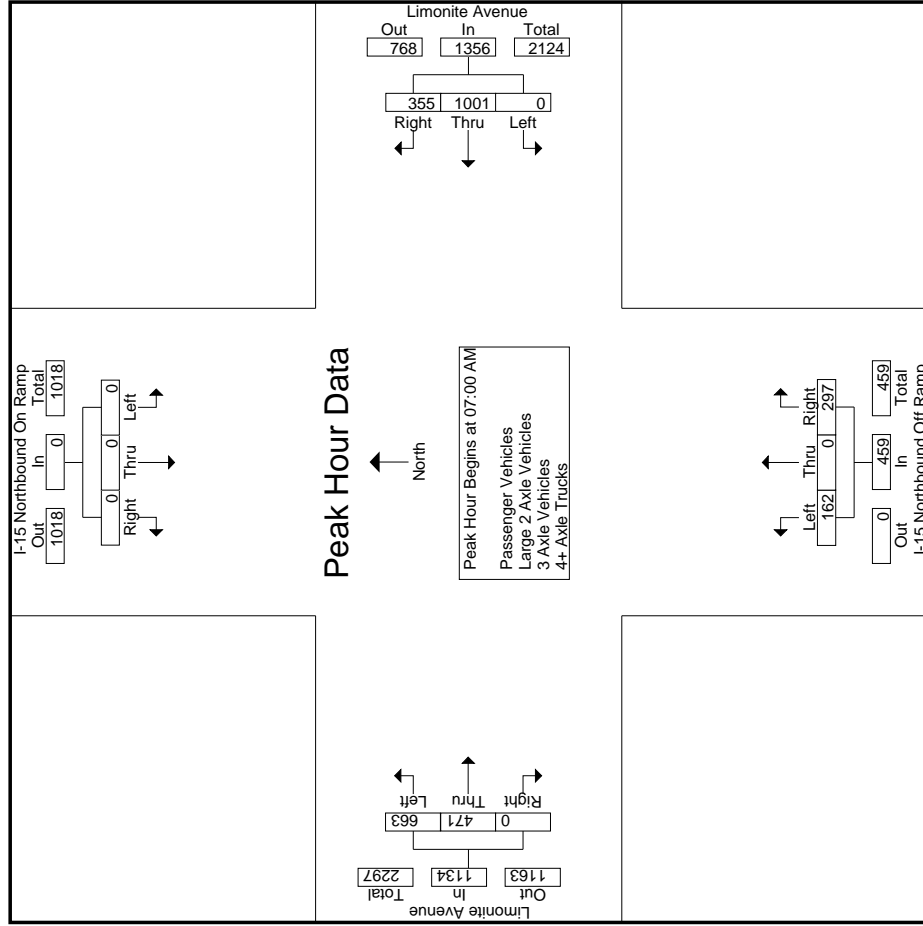
  

Start Time	I-15 Northbound On Ramp												Limonite Avenue Westbound				I-15 Northbound Off Ramp				Limonite Avenue Eastbound			
	Southbound				Limonite Avenue Westbound				I-15 Northbound Off Ramp				Limonite Avenue Eastbound											
	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR	Left	Thru	Right	RTOR				
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1	0	0	0	0	0	245	89	31	334	36	0	49	32	85	177	122	0	0	299	63	718	781		
Peak Hour for Entire Intersection Begins at 07:00 AM	0	0	0	0	0	256	100	27	356	37	0	69	49	106	176	131	0	0	307	76	769	845		
07:00 AM	0	0	0	0	0	242	88	26	330	39	0	86	59	125	173	113	0	0	286	85	741	826		
07:15 AM	0	0	0	0	0	258	78	31	336	50	0	93	65	143	137	105	0	0	242	96	721	817		
07:30 AM	0	0	0	0	0	1001	355	115	1356	162	0	297	205	459	663	471	0	0	1134	320	2949	3269		
07:45 AM	0	0	0	0	0	231	73	25	304	57	0	85	54	142	149	107	0	0	256	79	702	781		
Total Volume	0	0	0	0	0	259	70	36	329	64	1	65	47	130	118	102	0	0	220	83	679	762		
% App. Total	0	0	0	0	0	232	82	29	314	80	0	76	49	156	154	152	0	0	306	78	776	854		
PHF	.000	.000	.000	.000	.000	.970	.888		.952	.810	.000	.798		.802	.936	.899	.000	.923				.959		

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 27\_JVY\_15N\_Limonite AM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 2



Counts Unlimited  
 PO Box 1178  
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City of Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 27\_JVY\_15N\_Limonite AM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	I-15 Northbound On Ramp Southbound						Limonite Avenue Westbound						I-15 Northbound Off Ramp Northbound						Limonite Avenue Eastbound					
	Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR	
	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total
07:00 AM	0	0	0	0	0	13	1	1	2	0	3	3	5	2	6	0	0	0	8	4	26	30		
07:15 AM	0	0	0	0	0	10	3	0	1	0	2	1	3	5	4	0	0	9	1	22	23			
07:30 AM	0	0	0	0	0	15	6	2	0	0	0	0	0	3	4	0	0	7	2	22	24			
07:45 AM	0	0	0	0	0	9	1	1	1	0	2	1	3	4	4	1	0	5	2	17	19			
Total	0	0	0	0	0	47	11	4	4	0	7	5	11	14	15	0	0	29	9	87	96			
08:00 AM	0	0	0	0	0	7	1	0	2	0	3	3	5	2	3	0	0	5	3	17	20			
08:15 AM	0	0	0	0	0	10	1	1	2	1	2	2	5	1	3	0	0	4	3	19	22			
08:30 AM	0	0	0	0	0	8	1	1	1	0	3	1	4	3	2	0	0	5	2	17	19			
08:45 AM	0	0	0	0	0	5	0	0	2	0	1	1	3	4	4	0	0	8	1	16	17			
Total	0	0	0	0	0	30	3	2	7	1	9	7	17	10	12	0	0	22	9	69	78			
Grand Total	0	0	0	0	0	77	11	6	11	1	16	12	28	24	27	0	0	51	18	156	174			
Approch %	0	0	0	0	0	39.3	3.6	57.1	47.1	52.9	0	0	47.1	15.4	17.3	0	0	32.7	10.3	89.7				
Total %	0	0	0	0	0	49.4	7.1	10.3	17.9	17.3	0	0	17.9	15.4	17.3	0	0	32.7	10.3	89.7				

Start Time	I-15 Northbound On Ramp Southbound						Limonite Avenue Westbound						I-15 Northbound Off Ramp Northbound						Limonite Avenue Eastbound					
	Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR	
	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total
07:00 AM	0	0	0	0	0	13	1	1	2	0	3	3	5	2	6	0	0	0	8	4	26	30		
07:15 AM	0	0	0	0	0	10	3	0	1	0	2	1	3	5	4	0	0	9	1	22	23			
07:30 AM	0	0	0	0	0	15	6	2	0	0	0	0	0	3	4	0	0	7	2	22	24			
07:45 AM	0	0	0	0	0	9	1	1	1	0	2	1	3	4	4	1	0	5	2	17	19			
Total	0	0	0	0	0	47	11	4	4	0	7	5	11	14	15	0	0	29	9	87	96			
08:00 AM	0	0	0	0	0	7	1	0	2	0	3	3	5	2	3	0	0	5	3	17	20			
08:15 AM	0	0	0	0	0	10	1	1	2	1	2	2	5	1	3	0	0	4	3	19	22			
08:30 AM	0	0	0	0	0	8	1	1	1	0	3	1	4	3	2	0	0	5	2	17	19			
08:45 AM	0	0	0	0	0	5	0	0	2	0	1	1	3	4	4	0	0	8	1	16	17			
Total	0	0	0	0	0	30	3	2	7	1	9	7	17	10	12	0	0	22	9	69	78			
Grand Total	0	0	0	0	0	77	11	6	11	1	16	12	28	24	27	0	0	51	18	156	174			
Approch %	0	0	0	0	0	39.3	3.6	57.1	47.1	52.9	0	0	47.1	15.4	17.3	0	0	32.7	10.3	89.7				
Total %	0	0	0	0	0	49.4	7.1	10.3	17.9	17.3	0	0	17.9	15.4	17.3	0	0	32.7	10.3	89.7				

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:00 AM

07:00 AM

07:15 AM

07:30 AM

07:45 AM

Total Volume

% App. Total

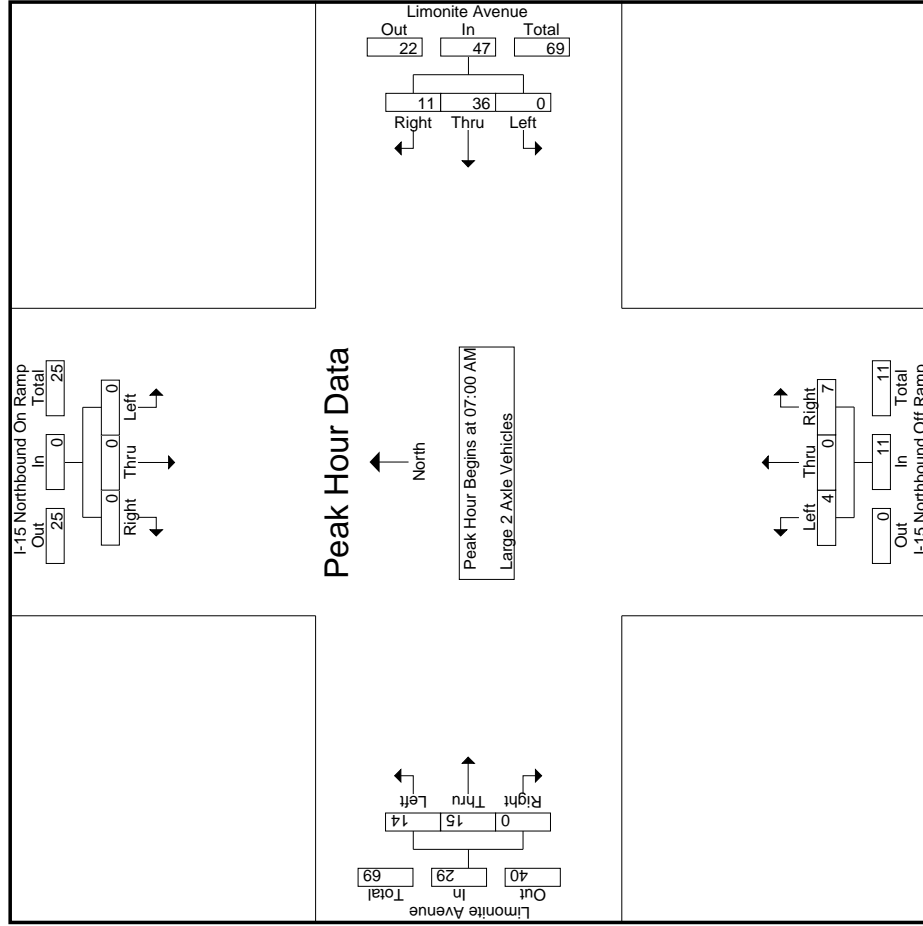
PHF



Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 27\_JVY\_15N\_Limonite AM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 2



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 (951) 268-6268

City of Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 27\_JVY\_15N\_Limonite AM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	I-15 Northbound On Ramp Southbound					Limonite Avenue Westbound					I-15 Northbound Off Ramp Northbound					Limonite Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	0	0	0	0	0	0	0	4
07:15 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	1	0	0	0	1	0	0	3
07:30 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	1	0	0	0	1	0	0	3
07:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	1	0	0	3	0	0	4
Total	0	0	0	0	0	6	2	0	0	8	1	0	0	0	1	4	1	0	0	5	0	14	14
08:00 AM	0	0	0	0	0	1	0	0	0	1	1	0	1	0	2	1	0	0	0	1	0	0	4
08:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2	0	0	0	2	0	0	4
08:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	0	0	0	1	0	0	3
08:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	2	2	0	0	4	0	0	6
Total	0	0	0	0	0	3	1	0	0	4	3	0	2	0	5	6	2	0	0	8	0	17	17
Grand Total	0	0	0	0	0	9	3	0	0	12	4	0	2	0	6	10	3	0	0	13	0	31	31
Approch %	0	0	0	0	0	75	25			33.3	66.7	0	33.3		76.9	76.9	23.1			0	0	100	100
Total %	0	0	0	0	0	29	9.7			38.7	12.9	0	6.5		19.4	32.3	9.7			41.9	0	0	0

Start Time	I-15 Northbound On Ramp Southbound					Limonite Avenue Westbound					I-15 Northbound Off Ramp Northbound					Limonite Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	1	0	0	3	0	0	3
Total Volume	0	0	0	0	0	0	6	2		8	1	0	0	0	1	4	1	0	0	5	0	5	14
% App. Total	0	0	0	0	0	0	75	25		25	100	0	0		0	80	20			0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.500	.500		.667	.250	.000	.000		.250	.500	.250	.000		.417	.000	.417	.875

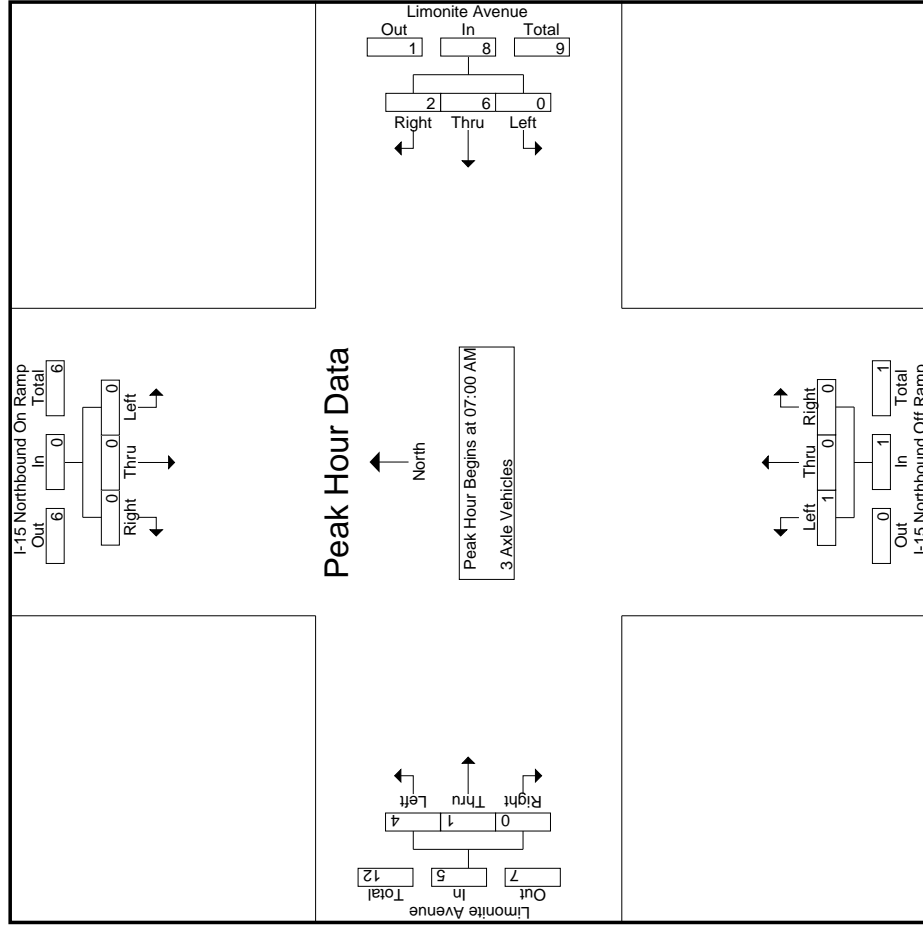
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:00 AM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 27\_JVY\_15N\_Limonite AM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 2



Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 27\_JVY\_15N\_Limonite AM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	I-15 Northbound On Ramp Southbound						Limonite Avenue Westbound						I-15 Northbound Off Ramp Northbound						Limonite Avenue Eastbound								
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right				
	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total			
07:00 AM	0	0	0	0	0	5	3	2	0	0	0	1	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0
07:15 AM	0	0	0	0	0	2	1	1	0	0	1	1	1	0	1	1	1	0	0	0	0	2	0	0	0	0	
07:30 AM	0	0	0	0	0	2	2	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
07:45 AM	0	0	0	0	0	6	3	3	1	0	0	0	0	0	0	1	1	0	0	0	0	2	1	0	0	0	
Total	0	0	0	0	0	15	9	6	1	15	3	3	2	0	3	3	2	0	0	0	0	5	2	23	25	25	
08:00 AM	0	0	0	0	0	2	1	1	0	0	2	2	0	0	2	1	1	0	0	0	0	2	0	0	6	6	
08:15 AM	0	0	0	0	0	2	0	2	2	0	1	1	1	0	1	1	1	0	0	0	0	2	0	2	5	7	
08:30 AM	0	0	0	0	0	3	1	2	1	3	2	0	0	2	1	1	0	0	0	0	1	1	1	6	7		
08:45 AM	0	0	0	0	0	1	0	1	0	1	1	1	0	3	2	2	0	0	0	0	4	0	0	8	8		
Total	0	0	0	0	0	8	3	5	3	8	6	0	2	8	5	4	0	0	0	0	9	3	25	28	28		
Grand Total	0	0	0	0	0	23	12	11	4	23	7	0	4	11	8	6	0	0	0	0	14	5	48	53	53		
Approch %	0	0	0	0	0	47.9	52.2	47.8			63.6	0	36.4	22.9	57.1	42.9	0	0	0	0	29.2	9.4	90.6	90.6	90.6		
Total %	0	0	0	0	0	22.9	25	22.9			14.6	0	8.3	22.9	16.7	12.5	0	0	0	0	29.2	9.4	90.6	90.6	90.6		

Start Time	I-15 Northbound On Ramp Southbound						Limonite Avenue Westbound						I-15 Northbound Off Ramp Northbound						Limonite Avenue Eastbound							
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		Left		Thru		Right			
	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total	RTOR	App. Total		
07:00 AM	0	0	0	0	0	5	3	2	0	0	0	1	0	0	1	1	0	0	0	0	0	1	0	0	0	0
07:15 AM	0	0	0	0	0	2	1	1	0	0	1	1	1	0	1	1	1	0	0	0	0	2	0	0	1	1
07:30 AM	0	0	0	0	0	2	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
07:45 AM	0	0	0	0	0	6	3	3	1	6	0	0	0	0	1	1	0	0	0	0	2	1	0	0	0	
Total	0	0	0	0	0	15	9	6	1	15	3	3	2	0	3	3	2	0	0	0	0	5	2	23	25	25
08:00 AM	0	0	0	0	0	2	1	1	0	2	2	0	0	2	1	1	0	0	0	0	2	0	0	6	6	
08:15 AM	0	0	0	0	0	2	0	2	2	0	1	1	1	0	1	1	1	0	0	0	0	2	0	2	5	7
08:30 AM	0	0	0	0	0	3	1	2	1	3	2	0	0	2	1	1	0	0	0	0	1	1	1	6	7	
08:45 AM	0	0	0	0	0	1	0	1	0	1	1	1	0	3	2	2	0	0	0	0	4	0	0	8	8	
Total	0	0	0	0	0	8	3	5	3	8	6	0	2	8	5	4	0	0	0	0	9	3	25	28	28	
Grand Total	0	0	0	0	0	23	12	11	4	23	7	0	4	11	8	6	0	0	0	0	14	5	48	53	53	
Approch %	0	0	0	0	0	47.9	52.2	47.8			63.6	0	36.4	22.9	57.1	42.9	0	0	0	0	29.2	9.4	90.6	90.6	90.6	
Total %	0	0	0	0	0	22.9	25	22.9			14.6	0	8.3	22.9	16.7	12.5	0	0	0	0	29.2	9.4	90.6	90.6	90.6	

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:00 AM

Total Volume

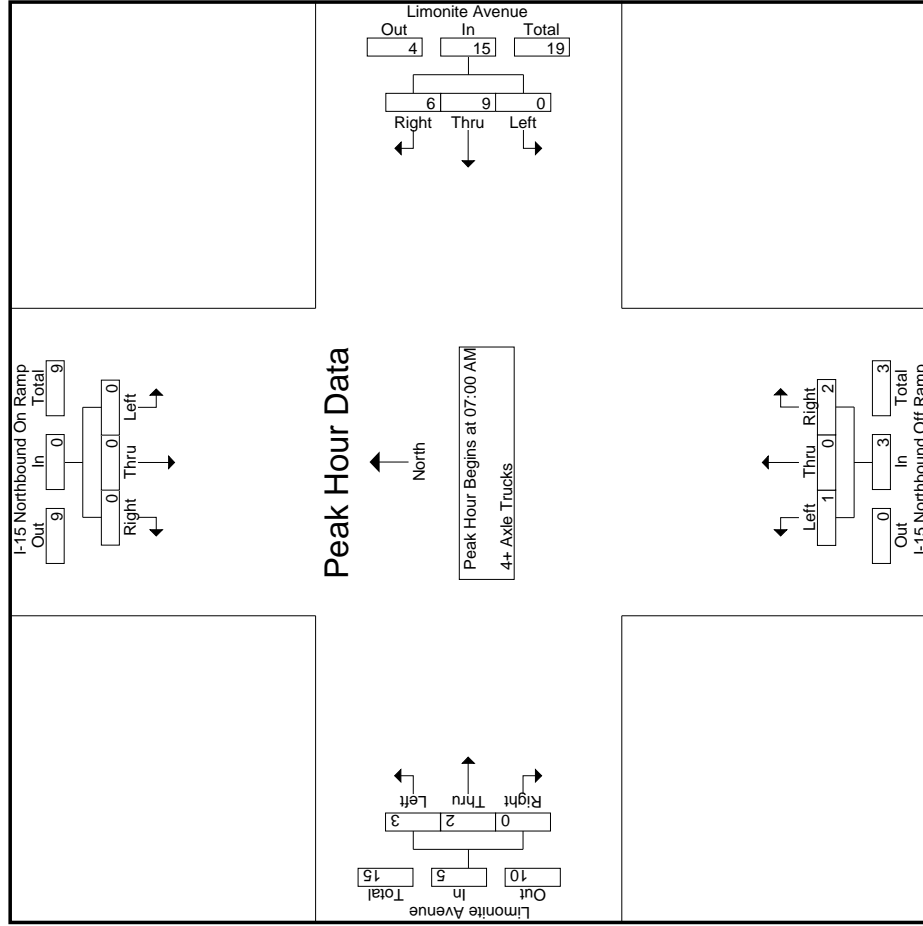
% App. Total

PHF

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 27\_JVY\_15N\_Limonite AM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 2



Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

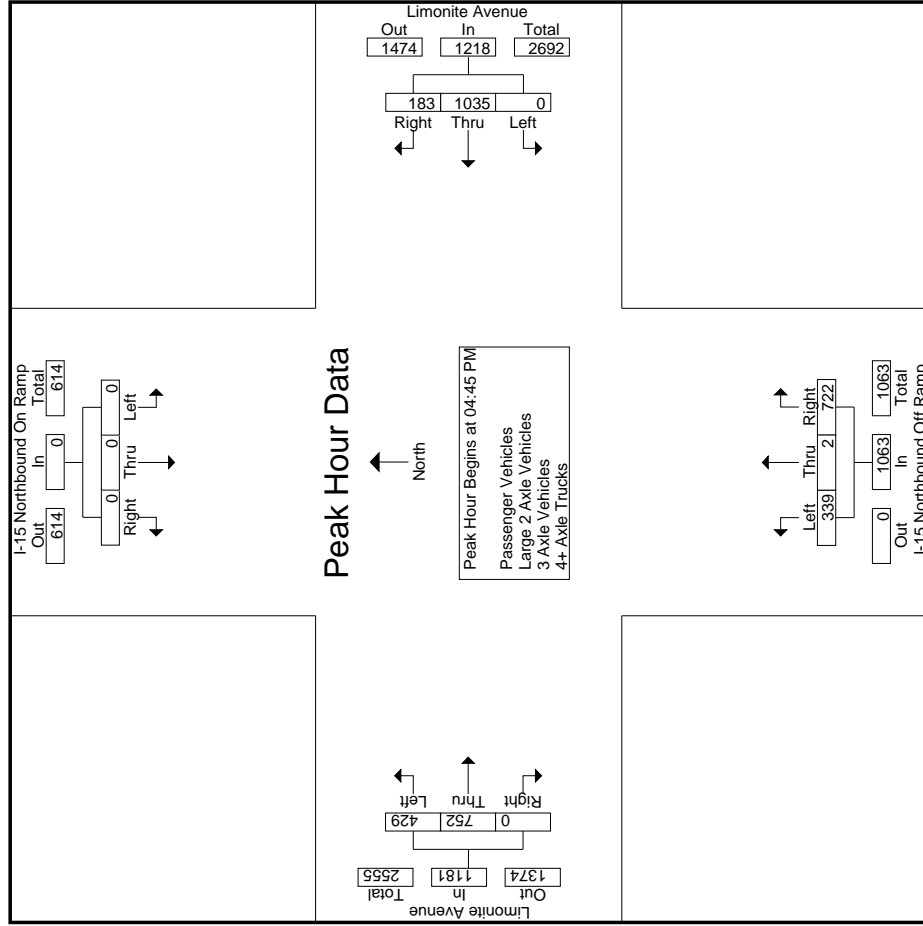
File Name : 27\_JVY\_15N\_Limonite PM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 1

Start Time	I-15 Northbound On Ramp												I-15 Northbound Off Ramp						I-15 Northbound Off Ramp						Limonite Avenue Eastbound																
	Southbound						Westbound						Northbound						Northbound						Eastbound																
	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total	Left	Thru	Right	RTOR	App. Total	Inclu. Total					
04:00 PM	0	0	0	0	0	0	239	58	30	297	297	85	2	143	71	230	230	122	186	0	0	308	308	101	835	101	835	101	835	101	835	101	835	101	835	101	835	101	835	101	835
04:15 PM	0	0	0	0	0	0	264	55	38	319	319	67	1	182	73	250	250	101	193	0	0	294	294	111	863	111	863	111	863	111	863	111	863	111	863	111	863	111	863	111	863
04:30 PM	0	0	0	0	0	0	245	46	28	291	291	104	0	161	79	265	265	108	169	0	0	277	277	107	833	107	833	107	833	107	833	107	833	107	833	107	833	107	833	107	833
04:45 PM	0	0	0	0	0	0	257	41	19	298	298	82	1	180	71	263	263	120	188	0	0	308	308	90	869	90	869	90	869	90	869	90	869	90	869	90	869	90	869	90	869
Total	0	0	0	0	0	0	1005	200	115	1205	1205	338	4	666	294	1008	1008	451	736	0	0	1187	1187	409	3400	409	3400	409	3400	409	3400	409	3400	409	3400	409	3400	409	3400	409	3400
05:00 PM	0	0	0	0	0	0	257	44	17	301	301	86	1	186	77	273	273	123	177	0	0	300	300	94	874	94	874	94	874	94	874	94	874	94	874	94	874	94	874	94	874
05:15 PM	0	0	0	0	0	0	258	48	24	306	306	89	0	177	80	266	266	111	192	0	0	303	303	104	875	104	875	104	875	104	875	104	875	104	875	104	875	104	875	104	875
05:30 PM	0	0	0	0	0	0	263	50	30	313	313	82	0	179	62	261	261	75	195	0	0	270	270	92	844	92	844	92	844	92	844	92	844	92	844	92	844	92	844	92	844
05:45 PM	0	0	0	0	0	0	262	48	29	310	310	96	0	180	73	276	276	99	157	0	0	256	256	102	842	102	842	102	842	102	842	102	842	102	842	102	842	102	842	102	842
Total	0	0	0	0	0	0	1040	190	100	1230	1230	353	1	722	292	1076	1076	408	721	0	0	1129	1129	392	3435	392	3435	392	3435	392	3435	392	3435	392	3435	392	3435	392	3435	392	3435
Grand Total	0	0	0	0	0	0	2045	390	215	2435	2435	691	5	1388	586	2084	2084	859	1457	0	0	2316	2316	801	6635	801	6635	801	6635	801	6635	801	6635	801	6635	801	6635	801	6635	801	6635
Approach %	0	0	0	0	0	0	84	16	33.2	0.2	66.6	37.1	62.9	0	0	0	37.1	62.9	0	0	0	0	37.1	62.9	0	0	0	0	37.1	62.9	0	0	0	0	37.1	62.9	0	0	0	0	
Total %	0	0	0	0	0	0	29.9	5.7	35.6	10.1	20.3	30.5	21.3	0	0	0	30.5	21.3	0	0	0	0	30.5	21.3	0	0	0	0	30.5	21.3	0	0	0	0	30.5	21.3	0	0	0	0	
% Passenger Vehicles	0	0	0	0	0	0	2006	380	100	98.2	2601	685	5	1330	95.6	96.6	96.6	831	1431	0	0	2262	2262	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Large 2 Axle Vehicles	0	0	0	0	0	0	24	6	1.1	30	30	5	0	44	69	69	15	18	0	0	33	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% 3 Axle Vehicles	0	0	0	0	0	0	5	0	0.2	5	5	0	0	7	8	8	2	2	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% 4+ Axle Trucks	0	0	0	0	0	0	0.2	0	0	0.2	0.2	0	0.5	0.2	0.3	0.3	0.2	0.1	0	0	0.2	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% 4+ Axle Trucks	0	0	0	0	0	0	0.5	1	0	0.5	0.5	0.1	0	0.5	0.9	0.5	1.3	0.4	0	0	0.7	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.984	.915	.973	.973	.952	.500	.970	.973	.973	.973	.964	.000	.959	.989	.989	.000	.959	.000	.959	.000	.959	.000	.959	.000	.959	.000	.959	.000	.959	.000	.959	.000	.959	

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 27\_JVY\_15N\_Limonite PM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 2



Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 27\_JVY\_15N\_Limonite PM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 1

Groups Printed- Large 2 Axle Vehicles

Start Time	I-15 Northbound On Ramp Southbound						Limonite Avenue Westbound						I-15 Northbound Off Ramp Northbound						Limonite Avenue Eastbound						
	Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR		
	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	
04:00 PM	0	0	0	0	0	0	4	1	0	5	1	0	5	1	0	6	4	0	0	4	0	0	8	1	19
04:15 PM	0	0	0	0	0	0	1	2	0	3	0	0	6	2	0	6	3	0	0	3	2	0	5	2	14
04:30 PM	0	0	0	0	0	0	2	1	0	3	2	0	4	2	0	6	0	0	0	2	0	0	2	2	11
04:45 PM	0	0	0	0	0	0	6	1	0	7	0	0	4	2	0	4	2	0	0	2	0	0	4	2	15
Total	0	0	0	0	0	0	13	5	0	18	3	0	19	7	22	22	9	10	0	0	0	19	7	59	66
05:00 PM	0	0	0	0	0	0	3	0	0	3	0	0	10	6	10	1	2	0	0	1	2	0	3	6	16
05:15 PM	0	0	0	0	0	0	2	1	0	3	0	0	6	3	6	1	2	0	0	1	2	0	3	3	12
05:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	3	3	3	2	2	0	0	2	2	0	4	3	10
05:45 PM	0	0	0	0	0	0	3	0	0	3	2	0	6	1	8	2	2	0	0	2	2	0	4	1	15
Total	0	0	0	0	0	0	11	1	0	12	2	0	25	13	27	6	8	0	0	6	8	0	14	13	53
Grand Total	0	0	0	0	0	0	24	6	0	30	5	0	44	20	49	15	18	0	0	15	18	0	33	20	112
Approch %	0	0	0	0	0	0	80	20		10.2	0	89.8		45.5	54.5				45.5	54.5			20	112	
Total %	0	0	0	0	0	0	21.4	5.4		26.8	4.5	39.3		13.4	16.1				13.4	16.1			15.2	84.8	

Start Time	I-15 Northbound On Ramp Southbound						Limonite Avenue Westbound						I-15 Northbound Off Ramp Northbound						Limonite Avenue Eastbound						
	Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR		Left		Right		RTOR		
	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	Thru	App. Total	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
05:00 PM	0	0	0	0	0	0	0	3	0	3	0	0	10	6	10	1	2	0	0	1	2	0	3	2	3
05:15 PM	0	0	0	0	0	0	0	2	1	3	0	0	6	3	6	1	2	0	0	1	2	0	3	2	12
05:30 PM	0	0	0	0	0	0	0	3	0	3	0	0	3	3	3	2	2	0	0	2	2	0	4	2	10
Total Volume	0	0	0	0	0	0	0	14	2	16	0	0	23	23	23	6	8	0	0	42.9	57.1	0	14	8	53
% App. Total	0	0	0	0	0	0	87.5	12.5		10.2	0	100		45.5	54.5				45.5	54.5			20	112	
PHF	.000	.000	.000	.000	.000	.000	.000	.583	.500	.571	.000	.000	.575	.575	.575	.750	1.000	.000	.875	.875	.875	.875	.875	.828	

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1

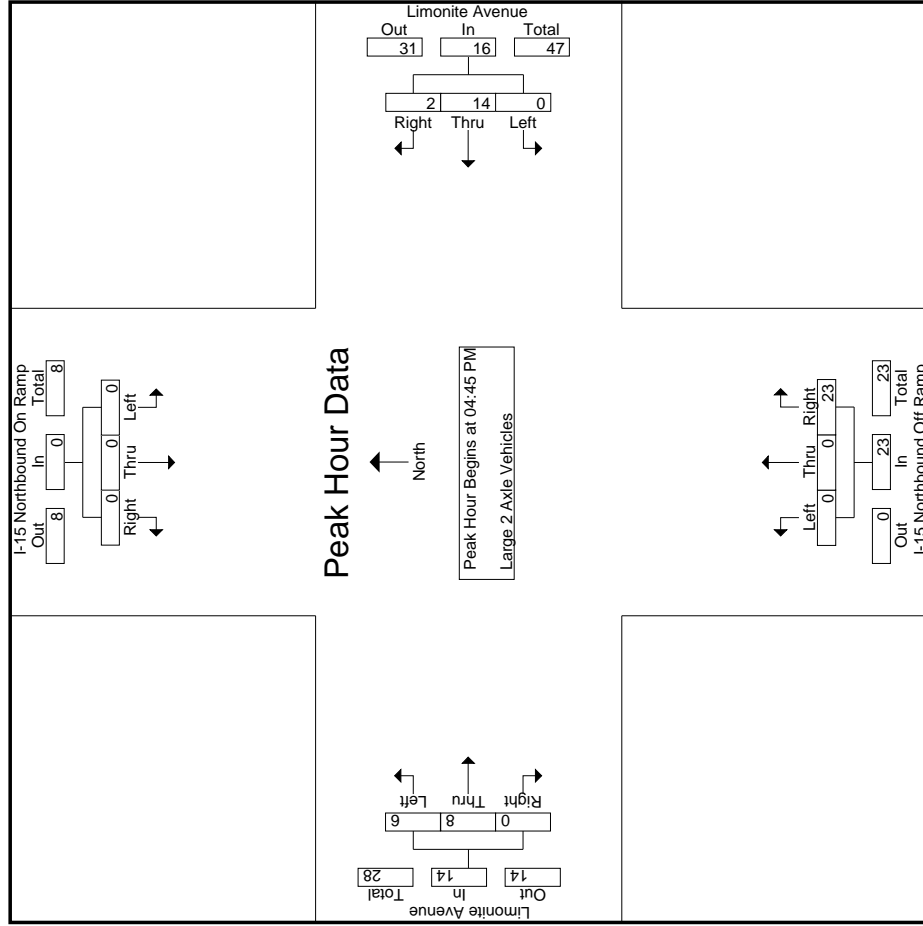
Peak Hour for Entire Intersection Begins at 04:45 PM



Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 27\_JVY\_15N\_Limonite PM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 2



Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 27\_JVY\_15N\_Limonite PM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 1

Groups Printed- 3 Axle Vehicles

Start Time	I-15 Northbound On Ramp Southbound					Limonite Avenue Westbound					I-15 Northbound Off Ramp Northbound					Limonite Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	1	1	0	0	2	0	0	5
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	3	0	0	3	0	0	0	0	3	1	2	0	0	3	0	0	9
05:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	4	1	0	0	0	1	0	1	7
Grand Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	7	2	2	0	0	4	1	1	16
Approch %	0	0	0	0	0	0	100	0	0	0	0	0	0	100	0	50	50	0	0	0	0	0	0
Total %	0	0	0	0	0	0	31.2	0	0	31.2	0	0	0	43.8	43.8	12.5	12.5	0	0	25	5.9	5.9	94.1

Start Time	I-15 Northbound On Ramp Southbound					Limonite Avenue Westbound					I-15 Northbound Off Ramp Northbound					Limonite Avenue Eastbound							
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	2	0	2	0	0	0	0	6	0	0	0	0	0	0	0	1
% App. Total	0	0	0	0	0	0	0	100	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.500	.000	.500	.250	.250	.000	.000	.250	.750	.750	.750

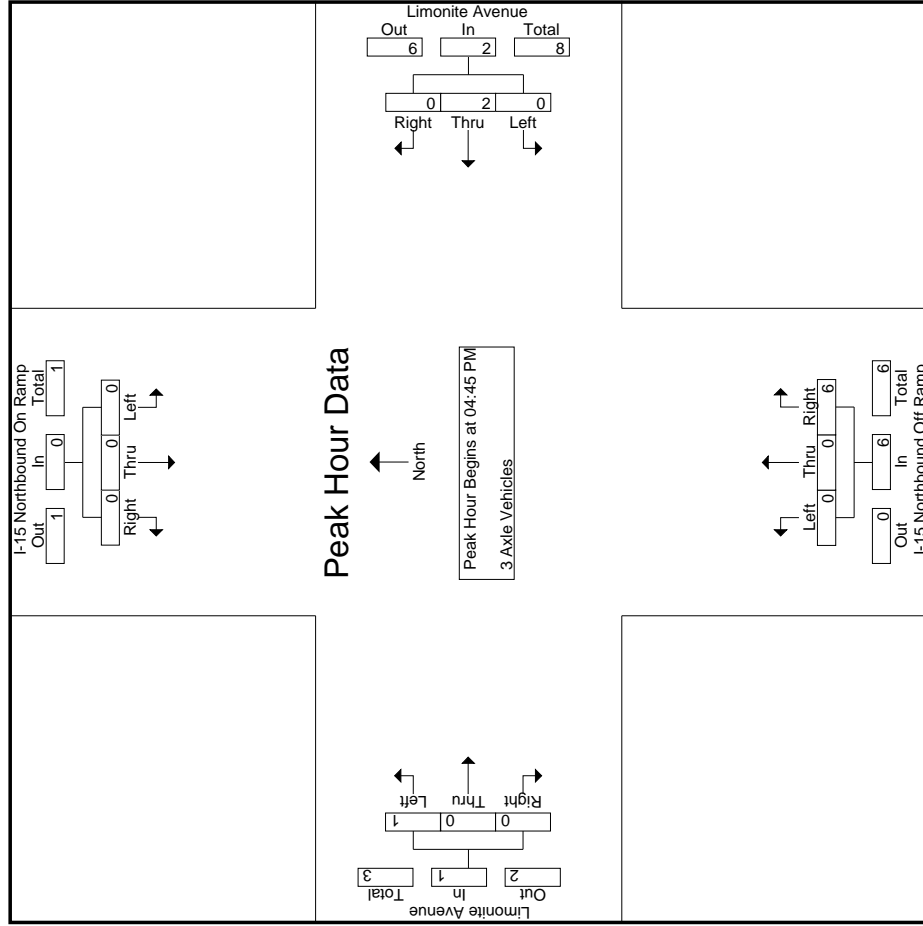
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 27\_JVY\_15N\_Limonite PM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 2



Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 27\_JVY\_15N\_Limonite PM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 1

Groups Printed- 4+ Axle Trucks

Start Time	I-15 Northbound On Ramp Southbound						Limonite Avenue Westbound						I-15 Northbound Off Ramp Northbound						Limonite Avenue Eastbound											
	Left		Right		RTOR		Thru		Right		RTOR		App. Total		Left		Thru		Right		RTOR		App. Total		Exclu. Total		Inclu. Total		Int. Total	
	Left	Thru	Right	Thru	RTOR	App. Total	Left	Thru	Right	Thru	RTOR	App. Total	Left	Thru	Right	Thru	RTOR	App. Total	Left	Thru	Right	Thru	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	4	0	10	0	10		
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	2	0	1	7	0	8		
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4	0	0	7	0	7		
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	3		
Total	0	0	0	0	0	0	0	9	3	0	12	0	0	0	3	2	3	3	7	4	0	0	11	2	26	2	28			
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	4	0	5		
05:15 PM	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3	
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	1	4	0	5	
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	3	0	3		
Total	0	0	0	0	0	0	0	1	1	0	2	1	0	0	4	3	5	4	2	0	0	0	6	3	13	3	16			
Grand Total	0	0	0	0	0	0	0	10	4	0	14	1	0	7	5	8	11	6	0	0	0	0	17	5	39	5	44			
Approch %	0	0	0	0	0	0	0	71.4	28.6	0	35.9	12.5	0	87.5	0	20.5	64.7	35.3	0	0	0	0	43.6	11.4	88.6	0	88.6			
Total %	0	0	0	0	0	0	0	25.6	10.3	0	35.9	2.6	0	17.9	0	28.2	15.4	0	0	0	0	0	43.6	11.4	88.6	0	88.6			

Start Time	I-15 Northbound On Ramp Southbound						Limonite Avenue Westbound						I-15 Northbound Off Ramp Northbound						Limonite Avenue Eastbound												
	Left		Right		RTOR		Thru		Right		RTOR		App. Total		Left		Thru		Right		RTOR		App. Total		Exclu. Total		Inclu. Total		Int. Total		
	Left	Thru	Right	Thru	RTOR	App. Total	Left	Thru	Right	Thru	RTOR	App. Total	Left	Thru	Right	Thru	RTOR	App. Total	Left	Thru	Right	Thru	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total				
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250	.000	.000	.000	.625	.750	.375	.250	.000	.625	.750	.000	.625	.750	.000	.750			

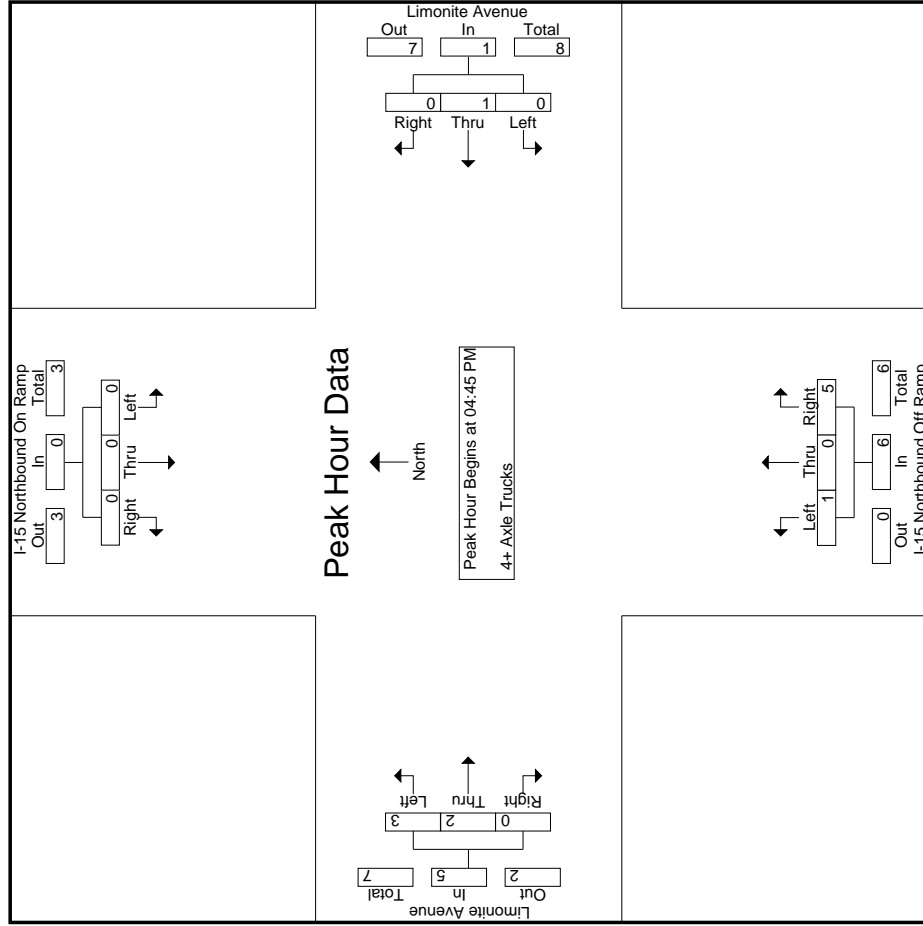
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

Counts Unlimited  
 PO Box 1178  
 Corona, CA 92878  
 (951) 268-6268

City of Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue  
 Weather: Clear

File Name : 27\_JVY\_15N\_Limonite PM  
 Site Code : 05118278  
 Start Date : 4/12/2018  
 Page No : 2



Location: Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue



Date: 4/12/2018  
 Day: Thursday

PEDESTRIANS

	North Leg I-15 Northbound Ramps Pedestrians	East Leg Limonite Avenue Pedestrians	South Leg I-15 Northbound Ramps Pedestrians	West Leg Limonite Avenue Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg I-15 Northbound Ramps Pedestrians	East Leg Limonite Avenue Pedestrians	South Leg I-15 Northbound Ramps Pedestrians	West Leg Limonite Avenue Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	1	0	0	0	1
4:30 PM	0	0	0	0	0
4:45 PM	1	0	0	0	1
5:00 PM	1	0	0	0	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	3	0	0	0	3

Counts Unlimited, Inc.  
 PO Box 1178  
 Corona, CA 92878  
 951-268-6268

3.1-335

Location: Jurupa Valley  
 N/S: I-15 Northbound Ramps  
 E/W: Limonite Avenue



Date: 4/12/2018  
 Day: Thursday

**BICYCLES**

	Southbound I-15 Northbound Ramps			Westbound Limonite Avenue			Northbound I-15 Northbound Ramps			Eastbound Limonite Avenue			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES:</b>	0	0	0	0	2	0	0	0	0	0	0	0	2

	Southbound I-15 Northbound Ramps			Westbound Limonite Avenue			Northbound I-15 Northbound Ramps			Eastbound Limonite Avenue			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	1	0	0	0	0	0	2	0	3
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL VOLUMES:</b>	0	0	0	0	3	0	0	0	0	0	2	0	5

**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AimTD LLC tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, January 29, 2019

CITY: Chino

JOB #: SC2074

LOCATION: Central south of Edison

AM TIME	AM						TOTAL	PM Time	PM						TOTAL		
	1	2	3	4	5	6			1	2	3	4	5	6			
0:00	25	0	0	0	0	0	25	12:00	189	21	2	5	0	1	218		
0:15	15	0	0	2	0	0	17	12:15	201	19	3	10	0	2	235		
0:30	22	0	0	0	0	0	22	12:30	194	19	3	2	0	5	223		
0:45	15	0	0	0	0	0	15	12:45	150	21	3	13	0	3	190		
1:00	6	1	1	1	0	0	9	13:00	211	19	3	5	0	2	240		
1:15	16	0	0	0	0	0	16	13:15	189	16	1	6	0	2	214		
1:30	12	1	0	0	0	0	13	13:30	235	22	3	4	0	3	267		
1:45	11	2	0	0	0	0	13	13:45	250	20	3	10	0	4	287		
2:00	20	1	0	0	0	0	21	14:00	269	20	5	11	0	3	308		
2:15	13	0	0	1	0	0	14	14:15	206	15	2	7	0	1	231		
2:30	10	0	1	1	0	0	12	14:30	287	22	2	7	0	3	321		
2:45	11	0	0	4	0	0	15	14:45	288	17	3	4	0	3	316		
3:00	6	1	0	1	0	0	8	15:00	257	26	6	8	0	3	300		
3:15	10	0	1	1	0	0	12	15:15	263	26	6	11	0	2	308		
3:30	8	0	0	0	0	0	8	15:30	234	25	2	4	0	2	267		
3:45	18	0	0	0	0	0	18	15:45	329	21	3	7	0	2	362		
4:00	17	0	0	0	0	0	17	16:00	313	22	3	8	0	6	352		
4:15	29	0	0	0	0	0	29	16:15	317	12	0	3	0	3	335		
4:30	26	5	0	3	0	0	34	16:30	290	18	1	6	0	1	316		
4:45	39	3	0	0	0	0	42	16:45	288	15	1	7	0	1	312		
5:00	42	2	0	4	0	0	48	17:00	323	18	1	5	0	6	353		
5:15	33	2	0	0	0	0	35	17:15	311	14	0	5	0	4	334		
5:30	35	3	0	0	0	0	38	17:30	306	9	3	3	0	1	322		
5:45	94	5	1	1	0	0	101	17:45	294	11	1	4	0	1	311		
6:00	118	4	1	3	0	0	126	18:00	291	10	2	3	0	0	306		
6:15	109	11	0	2	0	0	122	18:15	253	11	0	0	0	0	264		
6:30	111	10	3	1	0	3	128	18:30	206	12	0	2	0	1	221		
6:45	119	9	0	0	0	4	132	18:45	192	5	0	5	0	0	202		
7:00	188	16	0	2	0	0	207	19:00	190	2	1	3	0	0	196		
7:15	220	7	1	3	0	1	232	19:15	191	2	0	0	0	0	193		
7:30	261	17	1	1	0	1	281	19:30	151	4	0	3	0	1	159		
7:45	257	16	0	4	0	6	283	19:45	159	4	0	1	0	0	164		
8:00	208	14	1	4	0	2	229	20:00	147	2	1	1	0	0	151		
8:15	222	13	1	4	1	3	244	20:15	131	2	0	0	0	0	133		
8:30	174	12	0	5	0	2	193	20:30	115	2	0	1	0	1	119		
8:45	214	26	0	3	0	8	251	20:45	103	2	0	0	0	0	105		
9:00	209	16	2	11	1	2	241	21:00	119	3	1	0	0	0	123		
9:15	144	10	2	6	0	0	162	21:15	89	1	0	0	0	0	90		
9:30	171	15	1	5	0	2	194	21:30	106	0	0	0	0	1	107		
9:45	164	14	3	3	0	0	184	21:45	95	0	0	1	0	0	96		
10:00	176	11	2	7	0	0	196	22:00	109	1	0	1	0	0	111		
10:15	126	8	1	4	0	0	139	22:15	92	1	0	0	0	0	93		
10:30	139	27	2	3	0	1	172	22:30	57	2	0	0	0	0	59		
10:45	152	16	2	7	0	0	177	22:45	43	0	1	1	0	0	45		
11:00	178	26	2	6	0	0	212	23:00	43	2	0	1	0	0	46		
11:15	154	19	1	5	0	1	180	23:15	28	1	0	0	0	0	29		
11:30	150	21	1	9	0	2	183	23:30	44	1	0	0	0	0	45		
11:45	150	23	4	6	0	1	184	23:45	37	0	0	0	0	0	37		
<b>TOTAL</b>	<b>4,647</b>	<b>387</b>	<b>35</b>	<b>123</b>	<b>2</b>	<b>40</b>	<b>5,234</b>	<b>TOTAL</b>	<b>9,185</b>	<b>518</b>	<b>66</b>	<b>178</b>	<b>0</b>	<b>69</b>	<b>10,016</b>		
								<b>AM PEAK HOUR</b>							<b>AM PEAK HOUR</b>		
								7:30 AM							3:45 PM		
								1,037							1,365		

CLASS	TOTAL: AM+PM	% OF TOTAL	TOTAL: ALL	% OF TOTAL
CLASS 1 PASSENGER VEHICLES	13,832	90.7%	26,512	90.8%
CLASS 2 2-AXLE TRUCKS	905	5.9%	1,726	5.9%
CLASS 3 3-AXLE TRUCKS	101	0.7%	186	0.6%
CLASS 4 4 OR MORE AXLE TRUCKS	301	2.0%	563	1.9%
CLASS 5 RV	2	0.0%	3	0.0%
CLASS 6 Buses	109	0.7%	205	0.7%
<b>TOTAL</b>	<b>15,250</b>	<b>100.0%</b>	<b>29,195</b>	<b>100.0%</b>



**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AlimTD LLC tel. 714 253 7888 cs@alimtd.com

DATE: Tuesday, January 29, 2019  
JOB #: SC2074

CITY: Chino  
LOCATION: Central south of Edison

AM TIME	AM						TOTAL	PM Time	PM						TOTAL
	1	2	3	4	5	6			1	2	3	4	5	6	
0:00	18	1	0	0	0	0	19	12:00	10	1	7	0	0	170	
0:15	15	2	0	0	0	0	17	12:15	13	2	9	0	0	206	
0:30	16	0	0	0	0	0	16	12:30	140	1	5	0	0	158	
0:45	9	0	0	0	0	0	9	12:45	170	19	3	0	2	199	
1:00	6	0	0	0	0	0	6	13:00	186	20	2	0	4	213	
1:15	9	0	0	0	0	0	9	13:15	207	14	2	0	7	232	
1:30	6	0	0	2	0	0	8	13:30	165	8	1	6	0	181	
1:45	8	2	0	0	0	0	10	13:45	201	12	2	0	5	220	
2:00	6	1	0	0	0	0	7	14:00	170	3	1	0	3	193	
2:15	8	0	0	3	0	0	11	14:15	163	17	1	5	0	188	
2:30	10	0	0	1	0	0	11	14:30	193	24	2	11	0	230	
2:45	10	0	0	1	0	0	11	14:45	189	21	8	1	3	223	
3:00	9	1	0	1	0	0	11	15:00	237	13	2	10	2	264	
3:15	22	0	0	0	0	0	22	15:15	217	16	2	6	0	242	
3:30	30	2	1	2	0	0	35	15:30	198	16	2	8	0	226	
3:45	73	0	0	0	0	0	73	15:45	227	17	2	4	0	251	
4:00	73	0	1	1	0	0	75	16:00	238	14	1	3	0	257	
4:15	59	0	0	1	0	0	60	16:15	240	1	3	0	2	258	
4:30	70	1	0	2	0	0	73	16:30	216	13	0	1	0	230	
4:45	140	4	1	0	0	0	145	16:45	257	12	1	1	0	272	
5:00	96	3	1	4	0	0	104	17:00	244	15	0	1	0	262	
5:15	113	7	2	2	0	0	122	17:15	217	15	0	3	2	237	
5:30	180	12	2	3	0	0	197	17:30	210	10	2	1	0	223	
5:45	285	10	2	2	0	0	299	17:45	203	7	1	203	0	213	
6:00	169	11	0	0	0	4	184	18:00	235	0	5	0	2	242	
6:15	136	9	0	6	0	0	157	18:15	194	3	0	4	0	201	
6:30	179	15	2	1	0	0	204	18:30	189	6	0	2	0	197	
6:45	274	19	1	1	0	7	302	18:45	206	3	0	0	0	209	
7:00	239	24	4	3	0	5	275	19:00	148	2	0	0	1	151	
7:15	262	16	1	4	0	2	285	19:15	113	3	0	2	0	118	
7:30	247	11	2	5	0	2	267	19:30	103	1	2	1	0	107	
7:45	268	14	2	1	0	3	288	19:45	113	1	1	1	0	116	
8:00	272	20	1	3	0	2	298	20:00	104	0	0	0	1	105	
8:15	226	30	2	2	0	0	260	20:15	111	0	0	0	0	111	
8:30	216	18	1	5	0	1	241	20:30	100	3	1	2	0	106	
8:45	202	17	3	3	0	0	225	20:45	87	2	1	1	0	91	
9:00	163	18	0	4	0	1	186	21:00	83	0	1	0	1	85	
9:15	158	17	3	10	0	0	188	21:15	59	0	1	0	0	60	
9:30	125	12	0	7	0	0	144	21:30	80	0	3	0	0	83	
9:45	137	18	2	5	0	0	162	21:45	89	0	1	0	0	90	
10:00	133	14	1	2	0	1	151	22:00	51	2	0	0	0	53	
10:15	128	17	1	8	0	0	154	22:15	35	1	0	1	0	37	
10:30	117	13	1	12	0	0	143	22:30	27	1	0	0	0	28	
10:45	129	14	1	2	0	1	147	22:45	35	2	0	0	0	37	
11:00	132	17	1	5	0	1	156	23:00	25	2	1	1	0	29	
11:15	125	18	1	8	0	4	156	23:15	2	0	1	0	0	22	
11:30	137	20	1	7	0	1	166	23:30	14	0	0	0	0	14	
11:45	171	13	3	5	0	0	192	23:45	23	0	0	0	0	24	
<b>TOTAL</b>	<b>5,616</b>	<b>441</b>	<b>42</b>	<b>134</b>	<b>0</b>	<b>48</b>	<b>6,281</b>	<b>TOTAL</b>	<b>7,064</b>	<b>380</b>	<b>43</b>	<b>128</b>	<b>1</b>	<b>7,664</b>	
							<b>7:15 AM</b>							<b>4:15 PM</b>	
							<b>1,138</b>							<b>1,022</b>	

CLASS	AM PEAK HOUR						AM PEAK HOUR						TOTAL	% OF TOTAL
	1	2	3	4	5	6	1	2	3	4	5	6		
CLASS 1	12,680	821	85	262	1	96	13,945	90.9%	5.9%	0.6%	1.9%	0.0%	0.7%	100.0%
CLASS 2														
CLASS 3														
CLASS 4														
CLASS 5														
CLASS 6														

**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AimTD LLC tel: 714 253 7888 cs@aimtd.com

DATE: Tuesday, January 29, 2019

CITY: Chino

JOB #: SC2074

LOCATION: Edison east of Central

AM TIME	AM						TOTAL	PM Time	PM						TOTAL		
	1	2	3	4	5	6			1	2	3	4	5	6			
0:00	22	0	0	0	0	0	23	12:00	138	18	6	13	0	0	175		
0:15	16	0	0	1	0	0	17	12:15	124	11	3	11	0	1	150		
0:30	11	0	0	1	0	0	12	12:30	156	11	7	10	0	0	184		
0:45	13	0	2	0	0	0	15	12:45	117	9	4	14	0	2	146		
1:00	7	0	1	2	0	0	10	13:00	138	6	3	16	0	0	163		
1:15	7	0	0	0	0	0	7	13:15	139	10	0	14	0	0	163		
1:30	5	0	0	2	0	0	7	13:30	196	13	5	17	0	0	231		
1:45	9	0	0	2	0	0	11	13:45	173	11	2	16	0	0	202		
2:00	9	0	0	0	0	0	10	14:00	190	10	3	20	0	0	223		
2:15	4	0	0	0	0	0	4	14:15	154	17	4	13	1	1	190		
2:30	7	1	1	1	0	0	10	14:30	203	12	2	13	0	2	232		
2:45	2	0	2	2	0	0	6	14:45	277	15	3	24	0	1	320		
3:00	4	0	0	1	0	0	6	15:00	223	12	8	16	0	0	259		
3:15	2	0	0	0	0	0	4	15:15	247	17	7	12	0	1	284		
3:30	6	0	1	2	0	0	9	15:30	234	17	2	14	0	0	267		
3:45	11	0	1	2	0	0	14	15:45	231	19	3	22	0	0	275		
4:00	8	0	1	4	0	0	9	16:00	247	12	10	10	0	0	279		
4:15	8	3	0	3	0	0	14	16:15	261	12	3	17	0	0	293		
4:30	11	1	1	5	0	0	18	16:30	249	11	4	13	0	0	277		
4:45	20	1	0	1	0	0	22	16:45	238	6	6	20	0	0	270		
5:00	22	1	0	8	0	0	31	17:00	267	12	6	14	0	0	299		
5:15	13	3	0	3	0	0	19	17:15	259	9	5	13	0	1	287		
5:30	21	1	0	2	0	0	24	17:30	249	10	5	11	0	0	275		
5:45	59	3	3	2	0	0	67	17:45	241	8	3	9	0	0	261		
6:00	57	2	1	9	0	0	70	18:00	253	13	2	14	0	0	282		
6:15	49	5	2	2	0	0	61	18:15	235	13	3	10	0	0	261		
6:30	69	8	3	4	0	2	86	18:30	239	5	1	4	0	0	249		
6:45	67	11	2	6	0	2	88	18:45	213	1	1	3	0	0	218		
7:00	92	14	3	4	0	0	113	19:00	203	5	0	9	0	0	217		
7:15	141	9	1	9	0	2	162	19:15	219	1	0	3	0	0	223		
7:30	162	11	4	9	0	3	189	19:30	179	2	1	5	0	0	187		
7:45	160	11	0	5	0	2	178	19:45	162	1	1	2	0	0	166		
8:00	137	11	4	9	1	0	162	20:00	160	3	2	8	0	0	173		
8:15	121	12	4	11	0	0	148	20:15	160	1	0	4	0	0	165		
8:30	104	12	3	7	1	0	127	20:30	152	1	0	3	0	0	156		
8:45	117	10	0	3	0	1	131	20:45	131	1	2	6	0	0	140		
9:00	121	12	4	15	0	0	152	21:00	120	0	3	3	0	0	126		
9:15	92	6	5	3	0	0	106	21:15	97	2	1	2	0	0	102		
9:30	74	5	3	11	0	0	93	21:30	110	0	1	1	0	0	112		
9:45	79	6	7	15	0	0	107	21:45	78	0	3	1	0	0	82		
10:00	73	16	6	15	1	0	111	22:00	65	0	2	4	0	0	71		
10:15	58	12	3	8	0	1	82	22:15	65	1	0	2	0	0	68		
10:30	69	10	5	9	0	1	94	22:30	52	1	1	0	0	0	54		
10:45	99	13	4	18	0	0	134	22:45	46	1	1	1	0	0	49		
11:00	88	13	4	11	0	1	117	23:00	42	1	1	2	0	0	46		
11:15	101	10	0	9	0	0	120	23:15	34	1	1	0	0	0	36		
11:30	116	11	4	16	0	0	147	23:30	28	1	1	2	0	0	32		
11:45	138	14	5	14	0	0	171	23:45	27	0	0	0	0	0	27		
<b>TOTAL</b>	<b>2,681</b>	<b>258</b>	<b>91</b>	<b>266</b>	<b>3</b>	<b>19</b>	<b>3,318</b>	<b>TOTAL</b>	<b>8,021</b>	<b>343</b>	<b>132</b>	<b>441</b>	<b>1</b>	<b>9</b>	<b>8,947</b>		
								<b>AM PEAK HOUR</b>							<b>AM PEAK HOUR</b>		
								7:15 AM							4:15 PM		
								691							1,139		

CLASS	TOTAL	% OF TOTAL
CLASS 1 PASSENGER VEHICLES	10,702	87.3%
CLASS 2 2-AXLE TRUCKS	601	4.9%
CLASS 3 3-AXLE TRUCKS	223	1.8%
CLASS 4 4 OR MORE AXLE TRUCKS	707	5.8%
CLASS 5 RV	4	0.0%
CLASS 6 Buses	28	0.2%
<b>TOTAL: AM+PM</b>	<b>12,223</b>	<b>100.0%</b>
<b>TOTAL: ALL</b>	<b>20,750</b>	<b>100.0%</b>
<b>% OF TOTAL</b>	<b>1,223</b>	<b>5.1%</b>
<b>% OF TOTAL</b>	<b>453</b>	<b>1.9%</b>
<b>% OF TOTAL</b>	<b>1,433</b>	<b>6.0%</b>
<b>% OF TOTAL</b>	<b>5</b>	<b>0.0%</b>
<b>% OF TOTAL</b>	<b>56</b>	<b>0.2%</b>
<b>% OF TOTAL</b>	<b>23,920</b>	<b>100.0%</b>

**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Tuesday, January 29, 2019  
JOB #: SC2074

CITY: Chino  
LOCATION: Edison east of Central

AM TIME	AM						TOTAL	PM Time	PM						TOTAL		
	1	2	3	4	5	6			1	2	3	4	5	6			
0:00	15	0	0	0	0	0	16	12:00	119	9	6	21	0	0	155		
0:15	3	0	3	0	0	0	6	12:15	100	12	4	18	0	1	135		
0:30	6	1	1	0	0	0	8	12:30	90	3	1	10	0	0	104		
0:45	0	0	0	1	0	0	1	12:45	100	7	6	11	0	1	125		
1:00	8	0	1	1	0	0	10	13:00	120	19	1	9	0	2	151		
1:15	7	0	1	1	0	0	8	13:15	100	13	2	16	0	1	132		
1:30	2	1	1	4	0	0	8	13:30	102	6	1	14	0	1	124		
1:45	5	1	0	3	0	0	9	13:45	121	9	1	8	0	1	140		
2:00	1	0	1	3	0	0	5	14:00	127	14	4	7	0	0	152		
2:15	5	0	4	4	0	0	9	14:15	120	12	5	15	0	1	153		
2:30	7	0	2	1	0	0	10	14:30	147	17	1	12	0	1	177		
2:45	6	0	1	4	0	0	11	14:45	165	20	3	21	0	2	211		
3:00	8	0	2	6	0	0	16	15:00	167	16	4	13	0	1	201		
3:15	12	0	1	2	0	0	15	15:15	141	18	4	18	0	1	182		
3:30	14	0	3	3	0	0	19	15:30	172	4	16	0	1	1	208		
3:45	31	0	4	1	0	0	36	15:45	184	18	8	13	0	2	225		
4:00	44	0	2	4	0	0	50	16:00	180	12	3	14	0	0	209		
4:15	46	0	2	4	0	0	52	16:15	154	7	4	8	0	0	173		
4:30	44	1	1	3	0	0	49	16:30	152	7	5	5	0	0	169		
4:45	101	2	0	5	0	0	108	16:45	219	7	2	8	0	0	236		
5:00	107	4	1	5	0	0	117	17:00	181	9	3	9	0	1	203		
5:15	146	13	1	8	0	0	168	17:15	159	9	2	8	0	1	178		
5:30	168	10	3	5	0	0	186	17:30	162	6	6	4	0	0	178		
5:45	238	11	7	5	0	0	261	17:45	174	5	0	2	0	0	181		
6:00	196	7	1	5	0	0	209	18:00	178	3	2	6	0	0	189		
6:15	166	8	9	11	0	0	194	18:15	130	4	1	9	0	0	144		
6:30	182	9	3	3	0	0	197	18:30	113	0	3	7	0	0	123		
6:45	254	12	8	9	0	2	285	18:45	132	0	3	3	0	0	138		
7:00	280	13	9	11	0	0	313	19:00	128	0	1	4	0	0	133		
7:15	273	10	2	9	0	1	295	19:15	84	4	0	4	0	1	93		
7:30	256	14	9	15	0	0	294	19:30	72	7	2	3	0	0	78		
7:45	262	11	3	12	0	3	291	19:45	73	0	3	0	0	0	76		
8:00	248	14	4	17	0	0	283	20:00	72	0	0	1	0	0	73		
8:15	216	19	2	12	1	2	252	20:15	85	0	1	4	0	0	90		
8:30	167	14	3	11	0	1	196	20:30	71	1	0	1	0	0	73		
8:45	155	9	7	23	0	1	195	20:45	58	1	1	0	0	0	60		
9:00	140	17	3	14	0	0	174	21:00	45	1	1	1	0	0	48		
9:15	115	10	3	18	0	0	146	21:15	30	0	1	2	0	0	33		
9:30	127	7	2	14	0	0	150	21:30	31	0	2	1	0	0	34		
9:45	137	14	0	8	0	0	159	21:45	48	0	0	2	0	0	50		
10:00	116	12	1	20	0	0	149	22:00	39	1	1	1	0	0	42		
10:15	105	16	3	13	0	0	137	22:15	20	1	1	3	0	0	25		
10:30	92	11	1	15	0	0	119	22:30	15	0	0	1	0	0	16		
10:45	112	13	4	10	0	0	139	22:45	22	1	0	3	0	0	26		
11:00	119	13	3	14	0	0	149	23:00	12	0	4	3	0	0	19		
11:15	115	13	0	11	0	1	140	23:15	18	0	1	1	0	0	19		
11:30	107	12	2	15	0	0	138	23:30	8	0	0	1	0	0	9		
11:45	136	12	2	20	0	0	170	23:45	8	0	0	2	0	0	10		
<b>TOTAL</b>	<b>5,100</b>	<b>334</b>	<b>123</b>	<b>383</b>	<b>1</b>	<b>11</b>	<b>5,952</b>	<b>TOTAL</b>	<b>4,948</b>	<b>288</b>	<b>107</b>	<b>343</b>	<b>0</b>	<b>17</b>	<b>5,703</b>		
								<b>7:00 AM</b>									<b>3:15 PM</b>
								1,193									824
								<b>AM PEAK HOUR</b>									<b>AM PEAK HOUR</b>
								1,193									824

CLASS	AM	PM	TOTAL	% OF TOTAL
CLASS 1 PASSENGER VEHICLES	10,048	622	230	86.2%
CLASS 2 2-AXLE TRUCKS	726	1	28	6.2%
CLASS 3 3-AXLE TRUCKS	0	0	0	0.0%
CLASS 4 4 OR MORE AXLE TRUCKS	0	0	0	0.0%
CLASS 5 RV	0	0	0	0.0%
CLASS 6 BUS	0	0	0	0.0%
<b>TOTAL</b>	<b>11,655</b>			<b>100.0%</b>

**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AimTD LLC tel: 714.253.7888 cs@aimtd.com

DATE: Wednesday, January 30, 2019

CITY: Chino

JOB #: SC2074

LOCATION: Grove south of Walnut

AM TIME	AM						TOTAL	PM Time	PM						TOTAL		
	1	2	3	4	5	6			1	2	3	4	5	6			
0:00	9	1	0	0	3	0	13	12:00	78	7	8	13	0	106			
0:15	7	1	1	4	0	0	13	12:15	70	12	6	11	0	99			
0:30	7	0	2	0	0	0	9	12:30	74	6	3	12	0	95			
0:45	14	0	3	3	0	0	20	12:45	52	6	2	17	0	77			
1:00	7	0	0	3	0	0	10	13:00	77	10	5	14	1	107			
1:15	3	2	3	4	0	0	12	13:15	70	10	5	10	0	95			
1:30	6	0	0	5	0	0	11	13:30	73	6	5	11	0	95			
1:45	3	0	1	1	0	0	5	13:45	98	8	8	12	0	126			
2:00	2	0	0	3	0	0	5	14:00	90	6	2	5	0	103			
2:15	6	0	0	5	0	0	11	14:15	82	5	3	10	0	100			
2:30	8	2	1	6	0	0	17	14:30	112	12	3	12	0	139			
2:45	6	2	1	7	0	0	16	14:45	124	18	8	8	0	158			
3:00	5	0	0	8	0	0	13	15:00	114	10	0	14	0	138			
3:15	6	3	2	11	0	0	22	15:15	97	14	5	7	0	123			
3:30	3	1	0	3	0	0	7	15:30	107	12	1	12	0	132			
3:45	7	1	2	3	0	0	13	15:45	149	13	2	4	0	169			
4:00	11	1	1	2	0	0	15	16:00	114	15	0	6	0	135			
4:15	10	0	2	7	0	0	19	16:15	140	11	3	5	0	159			
4:30	16	1	2	9	0	0	28	16:30	113	11	4	6	0	134			
4:45	20	3	1	8	0	0	32	16:45	130	12	3	4	0	149			
5:00	22	2	1	12	0	0	37	17:00	115	12	1	5	0	133			
5:15	19	1	0	8	0	0	28	17:15	138	8	3	4	0	153			
5:30	27	1	0	6	0	0	34	17:30	122	16	3	7	0	148			
5:45	43	0	6	13	0	0	62	17:45	114	8	7	4	0	133			
6:00	42	2	2	11	0	0	57	18:00	133	6	3	4	0	146			
6:15	41	6	3	14	0	0	64	18:15	91	4	1	7	0	103			
6:30	45	11	1	8	0	0	65	18:30	84	5	1	3	0	93			
6:45	79	8	4	13	0	1	105	18:45	83	4	0	2	0	89			
7:00	91	8	7	9	0	0	115	19:00	71	4	4	5	0	84			
7:15	103	5	2	13	0	0	123	19:15	66	3	2	2	0	73			
7:30	120	12	2	17	0	1	152	19:30	50	0	0	1	0	51			
7:45	99	4	1	9	0	2	115	19:45	36	2	1	2	0	41			
8:00	80	8	7	11	0	0	106	20:00	50	0	3	2	0	55			
8:15	92	11	6	10	0	0	119	20:15	34	2	1	2	0	39			
8:30	105	14	4	14	0	0	137	20:30	38	0	1	3	0	42			
8:45	89	8	10	13	0	0	120	20:45	37	2	2	4	0	45			
9:00	70	6	3	10	0	0	89	21:00	28	0	2	1	0	31			
9:15	55	12	1	15	0	0	83	21:15	25	0	1	3	0	29			
9:30	57	7	3	4	0	1	72	21:30	29	4	1	6	0	40			
9:45	64	8	1	11	0	1	85	21:45	15	0	1	2	0	18			
10:00	51	5	6	15	0	0	77	22:00	23	1	2	4	0	30			
10:15	57	17	6	7	0	0	87	22:15	14	2	2	3	0	21			
10:30	58	7	7	8	0	0	80	22:30	14	2	1	0	0	18			
10:45	55	12	3	12	0	1	83	22:45	12	1	0	3	0	16			
11:00	63	9	1	12	0	0	85	23:00	16	0	2	2	0	20			
11:15	64	9	9	11	0	1	94	23:15	13	0	0	2	0	15			
11:30	82	2	3	15	0	0	102	23:30	17	0	1	0	0	19			
11:45	73	4	3	11	0	0	91	23:45	13	1	0	1	0	15			
<b>TOTAL</b>	<b>2,002</b>	<b>217</b>	<b>127</b>	<b>404</b>	<b>0</b>	<b>8</b>	<b>2,758</b>	<b>TOTAL</b>	<b>3,445</b>	<b>291</b>	<b>122</b>	<b>279</b>	<b>1</b>	<b>4,139</b>			
								<b>AM PEAK HOUR</b>								<b>3:45 PM</b>	
								<b>AM PEAK VOLUME</b>								<b>597</b>	

CLASS	AM+PM	% OF TOTAL	AM PEAK HOUR	% OF TOTAL
CLASS 1 PASSENGER VEHICLES	5,447	79.0%	508	7.4%
CLASS 2 2-AXLE TRUCKS	249	3.6%	683	9.9%
CLASS 3 3-AXLE TRUCKS	1	0.0%	1	0.1%
CLASS 4 4 OR MORE AXLE TRUCKS	541	3.8%	1,372	9.6%
CLASS 5 RV	986	6.9%	4	0.0%
CLASS 6 Buses	11,345	79.5%	541	3.8%
<b>TOTAL: ALL</b>	<b>6,897</b>	<b>100.0%</b>	<b>16</b>	<b>0.1%</b>
<b>TOTAL: AM+PM</b>	<b>5,447</b>	<b>79.0%</b>	<b>508</b>	<b>7.4%</b>
<b>TOTAL: AM PEAK HOUR</b>	<b>683</b>	<b>9.9%</b>	<b>1</b>	<b>0.1%</b>

**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AlimTD LLC tel. 714 253 7888 cs@alimtd.com

DATE: Wednesday, January 30, 2019  
JOB #: SC2074

CITY: Chino  
LOCATION: Grove south of Walnut

AM TIME	AM						TOTAL	PM Time	PM						TOTAL		
	1	2	3	4	5	6			1	2	3	4	5	6			
0:00	14	0	0	1	3	0	18	12:00	67	10	10	7	0	94			
0:15	10	0	0	0	1	0	11	12:15	95	12	10	12	0	129			
0:30	10	2	2	0	0	0	14	12:30	74	8	6	13	0	101			
0:45	11	2	1	2	0	0	16	12:45	71	5	5	6	0	88			
1:00	9	0	3	2	2	0	14	13:00	91	11	5	12	0	119			
1:15	8	0	2	2	0	0	10	13:15	81	7	6	10	0	104			
1:30	8	0	1	2	0	0	11	13:30	80	5	10	10	0	106			
1:45	6	0	1	0	0	0	7	13:45	94	8	3	5	0	110			
2:00	11	0	2	2	0	0	14	14:00	79	9	7	20	0	115			
2:15	7	1	4	6	0	0	18	14:15	87	13	8	11	0	120			
2:30	9	0	0	1	0	0	10	14:30	85	4	2	13	0	104			
2:45	17	0	2	0	1	0	18	14:45	115	8	8	13	0	144			
3:00	6	1	1	4	0	0	12	15:00	95	5	1	18	0	119			
3:15	15	0	2	4	0	0	21	15:15	75	8	5	10	1	100			
3:30	21	0	2	2	0	0	24	15:30	114	11	6	11	0	144			
3:45	17	0	0	1	0	0	18	15:45	126	9	2	13	0	150			
4:00	22	0	3	3	0	0	28	16:00	120	12	2	14	0	148			
4:15	30	0	2	2	0	0	34	16:15	121	10	5	12	0	148			
4:30	41	0	1	1	0	0	43	16:30	115	7	3	15	0	140			
4:45	42	0	3	2	0	0	47	16:45	128	7	2	12	0	149			
5:00	46	5	2	1	0	0	54	17:00	111	8	5	9	0	133			
5:15	62	2	3	2	0	0	69	17:15	142	10	5	9	0	166			
5:30	92	1	0	6	0	0	99	17:30	143	6	2	6	0	157			
5:45	122	6	2	7	0	0	137	17:45	151	2	4	5	0	162			
6:00	95	2	3	3	0	0	103	18:00	103	5	4	6	1	119			
6:15	79	6	4	4	0	0	93	18:15	91	5	2	14	0	112			
6:30	76	8	4	3	0	1	92	18:30	86	2	2	7	0	97			
6:45	86	9	2	6	0	0	103	18:45	79	4	3	11	0	97			
7:00	68	13	4	5	0	0	90	19:00	70	6	1	7	0	84			
7:15	61	11	3	6	0	0	81	19:15	67	3	3	2	0	75			
7:30	96	11	9	5	0	1	122	19:30	51	67	2	13	0	67			
7:45	96	9	3	11	0	0	119	19:45	51	3	0	11	0	65			
8:00	93	4	5	9	0	0	111	20:00	53	4	3	6	0	66			
8:15	83	9	5	11	0	0	108	20:15	58	0	3	5	0	66			
8:30	61	9	2	5	0	0	77	20:30	45	0	3	6	0	54			
8:45	61	9	3	14	0	0	87	20:45	53	3	2	10	0	68			
9:00	56	7	5	8	0	0	76	21:00	41	1	3	6	0	51			
9:15	45	10	3	11	0	0	69	21:15	49	0	0	5	0	54			
9:30	58	13	4	8	0	0	83	21:30	32	0	2	5	0	39			
9:45	54	9	4	7	0	0	74	21:45	51	0	0	4	0	55			
10:00	47	9	7	11	0	0	74	22:00	29	0	1	9	0	39			
10:15	61	11	4	10	0	0	86	22:15	19	1	2	2	0	23			
10:30	63	17	6	7	0	0	93	22:30	17	2	1	4	0	24			
10:45	68	13	2	14	0	0	97	22:45	17	1	2	3	0	23			
11:00	62	5	4	11	0	0	82	23:00	16	0	1	3	0	20			
11:15	72	10	2	13	0	0	97	23:15	22	0	0	4	0	26			
11:30	68	8	6	17	0	1	100	23:30	10	1	0	8	0	19			
11:45	67	7	6	11	0	0	91	23:45	16	1	0	2	0	19			
<b>TOTAL</b>	<b>2,312</b>	<b>239</b>	<b>132</b>	<b>269</b>	<b>0</b>	<b>3</b>	<b>2,955</b>	<b>TOTAL</b>	<b>3,586</b>	<b>239</b>	<b>160</b>	<b>420</b>	<b>3</b>	<b>4</b>	<b>4,412</b>		
								<b>AM PEAK HOUR</b>								<b>5:00 PM</b>	
								<b>AM PEAK VOLUME</b>								<b>618</b>	
								<b>7:30 AM</b>								<b>460</b>	
								<b>AM PEAK HOUR</b>								<b>689</b>	
								<b>AM PEAK VOLUME</b>								<b>3</b>	
								<b>80.1%</b>								<b>6.5%</b>	
								<b>4.0%</b>								<b>9.4%</b>	
								<b>4.0%</b>								<b>0.1%</b>	
								<b>100.0%</b>								<b>100.0%</b>	

CLASS	AM + PM	% OF TOTAL
CLASS 1	5,898	80.1%
CLASS 2	478	6.5%
CLASS 3	292	4.0%
CLASS 4	689	9.4%
CLASS 5	3	0.0%
CLASS 6	7	0.1%
<b>TOTAL</b>	<b>7,367</b>	<b>100.0%</b>

**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AimTD LLC tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, February 06, 2019

CITY: Chino

LOCATION: CLASS4 Euclid between Eucalyptus and Merrill

JOB #: SC2074

AM TIME	AM						TOTAL	PM Time	PM						TOTAL		
	1	2	3	4	5	6			1	2	3	4	5	6			
0:00	18	0	0	0	0	0	21	12:00	114	31	4	16	0	165			
0:15	40	10	0	1	0	0	51	12:15	109	25	6	15	0	157			
0:30	69	10	1	1	0	0	81	12:30	118	24	5	16	0	165			
0:45	24	5	0	1	0	0	30	12:45	100	24	1	14	0	142			
1:00	18	2	0	3	0	0	23	13:00	96	24	2	8	0	135			
1:15	25	3	1	1	0	0	29	13:15	102	17	3	12	0	139			
1:30	31	2	1	2	0	0	36	13:30	163	24	5	8	0	202			
1:45	16	0	0	2	0	0	18	13:45	169	27	1	13	0	211			
2:00	29	1	1	4	0	0	35	14:00	144	32	5	12	0	193			
2:15	51	5	1	1	0	0	58	14:15	153	31	3	17	0	204			
2:30	39	5	1	4	0	1	50	14:30	201	33	1	14	0	251			
2:45	28	7	2	4	0	1	42	14:45	202	26	2	14	0	246			
3:00	23	5	0	6	0	0	34	15:00	197	26	4	10	0	239			
3:15	16	3	2	2	0	0	23	15:15	168	34	3	9	0	214			
3:30	17	4	1	8	0	1	31	15:30	231	31	6	12	0	281			
3:45	23	3	1	4	0	2	33	15:45	177	35	6	9	0	228			
4:00	35	5	1	3	0	0	44	16:00	188	17	2	11	0	218			
4:15	27	4	2	5	0	1	39	16:15	214	27	2	8	0	253			
4:30	24	6	3	6	0	0	39	16:30	257	27	2	12	0	300			
4:45	59	13	0	10	0	0	82	16:45	249	38	6	8	0	302			
5:00	86	9	0	10	0	0	105	17:00	233	26	2	11	0	272			
5:15	97	10	1	3	0	0	111	17:15	236	26	4	9	0	275			
5:30	127	14	0	10	0	2	153	17:30	211	19	2	8	0	240			
5:45	120	7	2	6	0	0	135	17:45	213	16	2	8	0	239			
6:00	126	12	4	8	0	1	151	18:00	176	23	1	4	0	204			
6:15	120	14	1	9	0	2	146	18:15	178	22	2	5	0	208			
6:30	155	13	1	1	0	1	171	18:30	167	16	1	4	0	188			
6:45	186	18	2	9	0	0	215	18:45	136	10	3	1	0	150			
7:00	233	14	3	13	0	1	264	19:00	122	13	2	4	0	143			
7:15	245	16	5	14	0	0	280	19:15	87	10	1	7	0	106			
7:30	217	28	4	10	0	1	260	19:30	101	25	0	12	0	138			
7:45	255	26	5	13	0	2	301	19:45	92	8	2	7	0	109			
8:00	248	25	3	11	0	0	287	20:00	76	16	2	7	0	101			
8:15	249	21	3	10	0	2	285	20:15	69	8	1	9	0	87			
8:30	241	39	5	11	0	0	296	20:30	66	7	2	2	0	77			
8:45	206	20	7	8	0	1	242	20:45	78	7	1	4	0	90			
9:00	182	32	2	11	0	1	228	21:00	67	10	3	3	0	83			
9:15	130	22	3	13	0	1	169	21:15	57	11	1	6	0	75			
9:30	101	28	2	11	0	5	147	21:30	57	8	0	4	0	69			
9:45	105	19	4	13	0	2	143	21:45	69	11	1	6	0	87			
10:00	91	19	3	7	0	2	122	22:00	63	7	1	2	0	73			
10:15	86	21	2	10	0	2	119	22:15	54	3	1	8	0	66			
10:30	101	15	1	18	0	2	137	22:30	46	10	0	7	0	63			
10:45	111	19	2	11	0	2	145	22:45	41	7	0	5	0	53			
11:00	88	20	2	11	0	1	122	23:00	47	4	0	2	0	53			
11:15	79	13	1	15	0	2	110	23:15	41	1	1	5	0	48			
11:30	102	15	3	13	0	0	133	23:30	83	11	1	5	0	100			
11:45	105	22	4	8	0	2	141	23:45	35	5	0	3	0	43			
<b>TOTAL</b>	<b>4,804</b>	<b>624</b>	<b>92</b>	<b>358</b>	<b>0</b>	<b>39</b>	<b>5,917</b>	<b>TOTAL</b>	<b>6,253</b>	<b>893</b>	<b>106</b>	<b>396</b>	<b>0</b>	<b>7,685</b>			
								<b>AM PEAK HOUR</b>							<b>AM PEAK HOUR</b>		
								7:45 AM							4:30 PM		
								1,169							1,149		

CLASS	TOTAL: AM+PM	% OF TOTAL	TOTAL: ALL	% OF TOTAL
CLASS 1 PASSENGER VEHICLES	11,057	81.3%	21,917	81.4%
CLASS 2 2-AXLE TRUCKS	1,517	11.2%	2,912	10.8%
CLASS 3 3-AXLE TRUCKS	198	1.5%	405	1.5%
CLASS 4 4 OR MORE AXLE TRUCKS	754	5.5%	1,562	5.8%
CLASS 5 RV	0	0.0%	0	0.0%
CLASS 6 Buses	0	0.0%	140	0.5%
<b>TOTAL</b>	<b>13,602</b>	<b>100.0%</b>	<b>26,936</b>	<b>100.0%</b>

**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AlimTD LLC tel. 714-253-7888 cs@alimtd.com

**DATE:** Wednesday, February 06, 2019  
**JOB #:** SC2074

**CITY:** Chino  
**LOCATION:** CLASS4 Euclid between Eucalyptus and Merrill

AM TIME	AM						TOTAL	PM						TOTAL							
	1	2	3	4	5	6		1	2	3	4	5	6								
0:00	8	2	2	0	0	0	12	12:00	96	11	1	8	0	117							
0:15	26	1	1	1	0	0	30	12:15	92	5	3	14	0	115							
0:30	26	3	0	3	0	0	32	12:30	121	20	2	9	0	155							
0:45	7	4	0	0	0	0	11	12:45	119	9	2	11	0	142							
1:00	9	2	0	2	0	0	14	13:00	121	12	4	17	0	155							
1:15	9	1	0	4	0	0	18	13:15	110	13	3	9	0	137							
1:30	6	2	0	2	0	0	12	13:30	99	13	8	12	0	133							
1:45	13	3	0	2	0	0	20	13:45	121	17	3	16	0	159							
2:00	17	1	1	3	0	0	23	14:00	136	4	2	12	0	158							
2:15	9	2	0	7	0	0	18	14:15	118	19	2	13	0	153							
2:30	19	4	0	9	0	0	32	14:30	133	20	2	11	0	166							
2:45	15	3	0	4	0	0	23	14:45	143	11	4	8	0	166							
3:00	10	2	2	10	0	0	24	15:00	175	17	4	12	0	209							
3:15	22	2	0	3	0	0	27	15:15	201	11	1	7	0	220							
3:30	39	2	0	14	0	0	55	15:30	210	10	4	10	0	235							
3:45	46	10	0	7	0	0	63	15:45	212	17	2	12	0	248							
4:00	44	9	0	4	0	0	57	16:00	206	14	1	14	0	236							
4:15	57	21	3	7	0	0	88	16:15	229	24	2	19	0	274							
4:30	110	11	0	13	0	0	130	16:30	246	11	3	8	0	268							
4:45	130	16	4	7	0	0	157	16:45	276	19	2	8	0	305							
5:00	97	21	0	8	0	0	127	17:00	272	18	1	6	0	297							
5:15	93	22	5	13	0	0	133	17:15	303	19	4	7	0	333							
5:30	144	25	6	7	0	0	182	17:30	275	24	2	11	0	313							
5:45	224	27	2	11	0	0	265	17:45	285	17	4	3	0	309							
6:00	174	29	5	7	0	0	216	18:00	200	11	4	7	0	222							
6:15	184	33	2	9	0	0	228	18:15	196	16	2	6	0	220							
6:30	162	29	4	8	0	0	203	18:30	126	17	1	3	0	147							
6:45	241	34	7	9	0	0	292	18:45	120	18	2	9	0	149							
7:00	186	25	5	7	0	0	225	19:00	99	21	4	9	0	133							
7:15	198	49	7	10	0	0	265	19:15	114	15	0	5	0	135							
7:30	184	26	3	14	0	0	228	19:30	111	18	2	4	0	135							
7:45	207	30	2	10	0	0	249	19:45	116	14	0	6	0	136							
8:00	187	24	3	12	0	0	227	20:00	80	20	2	3	0	106							
8:15	198	37	5	9	0	0	250	20:15	77	19	0	3	0	99							
8:30	149	18	3	15	0	0	186	20:30	91	9	3	5	0	108							
8:45	182	24	2	14	0	0	222	20:45	91	13	2	2	0	108							
9:00	132	28	1	9	0	0	171	21:00	61	12	1	2	0	76							
9:15	92	20	6	12	0	0	131	21:15	66	10	0	2	0	78							
9:30	86	18	4	10	0	0	120	21:30	60	11	0	3	0	74							
9:45	82	23	3	17	0	0	127	21:45	53	5	1	4	0	63							
10:00	93	22	2	14	0	0	131	22:00	26	6	1	7	0	40							
10:15	98	6	4	23	0	0	132	22:15	36	11	0	6	0	53							
10:30	104	19	2	15	0	0	141	22:30	20	4	1	6	0	31							
10:45	102	6	1	14	0	0	124	22:45	34	3	0	5	0	42							
11:00	99	20	3	17	0	0	140	23:00	28	1	2	5	0	36							
11:15	109	15	2	19	0	0	146	23:15	33	5	1	4	0	43							
11:30	125	16	5	8	0	0	154	23:30	31	12	1	1	0	45							
11:45	115	23	6	13	0	0	159	23:45	23	3	0	5	0	31							
<b>TOTAL</b>	4,669	766	111	439	0	36	6,021	<b>TOTAL</b>	6,191	629	96	369	0	7,313							
							6:45 AM							5:00 PM							
							1,010							1,252							
<b>CLASS 1</b>	<b>PASSENGER VEHICLES</b>													<b>TOTAL: AM+PM</b>	10,860	1,395	207	808	0	64	13,334
<b>CLASS 2</b>	<b>2-AXLE TRUCKS</b>													<b>% OF TOTAL</b>	81.4%	10.5%	1.6%	6.1%	0.0%	0.5%	100.0%
<b>CLASS 3</b>	<b>3-AXLE TRUCKS</b>																				
<b>CLASS 4</b>	<b>4 OR MORE AXLE TRUCKS</b>																				
<b>CLASS 5</b>	<b>RV</b>																				
<b>CLASS 6</b>	<b>BUS</b>																				

**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AimTD LLC tel: 714 253 7888 cs@aimtd.com

**DATE:** Wednesday, February 06, 2019  
**JOB #:** SC2074

**CITY:** Chino  
**LOCATION:** Kimball west of Rincon Meadows

AM TIME	AM						TOTAL	PM Time	PM						TOTAL		
	1	2	3	4	5	6			1	2	3	4	5	6			
0:00	8	0	0	0	0	0	8	12:00	80	5	0	0	5	0	0	90	
0:15	13	1	0	2	0	0	16	12:15	88	0	0	6	6	0	0	94	
0:30	12	0	0	0	0	0	12	12:30	92	4	0	1	0	0	1	98	
0:45	9	1	0	0	0	0	10	12:45	76	6	0	0	0	0	0	82	
1:00	7	2	0	0	0	0	9	13:00	82	5	0	5	0	0	1	93	
1:15	4	0	0	1	0	0	5	13:15	102	3	0	4	0	0	0	109	
1:30	7	0	0	0	0	0	7	13:30	97	1	0	4	0	0	1	103	
1:45	8	0	0	1	0	0	9	13:45	99	3	0	6	0	0	0	108	
2:00	7	0	0	0	0	0	7	14:00	96	7	3	4	0	0	2	112	
2:15	8	0	0	1	0	0	9	14:15	105	5	2	0	0	0	0	112	
2:30	7	0	0	1	0	0	8	14:30	123	7	0	2	0	0	5	137	
2:45	8	1	0	0	0	0	9	14:45	155	8	1	1	0	0	0	165	
3:00	5	0	0	1	0	0	6	15:00	163	5	0	4	0	0	0	172	
3:15	3	0	0	0	0	0	3	15:15	168	3	0	5	0	0	0	176	
3:30	16	0	0	2	0	0	18	15:30	185	10	1	2	0	0	0	198	
3:45	12	0	0	1	0	0	13	15:45	199	7	4	3	0	0	1	214	
4:00	4	1	0	0	0	0	5	16:00	182	4	0	3	0	0	0	189	
4:15	1	0	3	1	0	0	5	16:15	184	9	1	2	0	0	0	196	
4:30	4	0	0	1	0	0	5	16:30	250	5	0	2	0	0	0	257	
4:45	12	0	0	1	0	0	13	16:45	250	8	0	0	0	0	0	258	
5:00	23	1	2	1	0	0	27	17:00	243	9	1	1	0	0	0	254	
5:15	21	1	1	0	0	0	23	17:15	233	7	1	1	0	0	0	242	
5:30	36	1	1	0	0	0	38	17:30	261	4	1	3	0	0	0	269	
5:45	51	1	3	1	0	0	56	17:45	278	6	0	1	0	0	0	285	
6:00	52	5	1	1	0	0	60	18:00	270	7	0	1	0	0	0	278	
6:15	47	2	0	3	0	0	55	18:15	231	3	0	1	0	0	0	235	
6:30	44	5	1	0	0	0	52	18:30	211	5	0	4	0	0	0	220	
6:45	53	2	2	1	0	0	60	18:45	218	2	0	5	1	0	0	226	
7:00	66	8	1	0	0	0	75	19:00	178	3	0	0	0	0	0	181	
7:15	80	6	2	1	0	0	91	19:15	160	1	0	1	0	0	0	162	
7:30	97	4	0	3	0	0	106	19:30	145	2	0	1	0	0	0	148	
7:45	72	4	1	2	0	1	80	19:45	148	1	0	2	0	0	0	151	
8:00	118	5	0	1	0	0	124	20:00	115	2	0	2	0	0	0	119	
8:15	90	15	0	0	0	0	105	20:15	142	2	0	0	0	0	0	144	
8:30	71	6	1	5	0	0	83	20:30	120	3	0	2	0	0	0	125	
8:45	81	4	1	1	0	0	86	20:45	122	2	0	4	0	0	0	128	
9:00	68	4	1	1	0	0	74	21:00	111	2	0	0	0	0	0	113	
9:15	52	5	3	1	0	0	61	21:15	101	1	0	2	0	0	0	104	
9:30	51	8	0	5	0	0	64	21:30	65	0	0	3	0	0	0	68	
9:45	47	5	1	5	0	0	58	21:45	78	0	0	3	0	0	0	81	
10:00	52	0	0	2	0	0	54	22:00	62	2	0	1	0	0	0	65	
10:15	58	7	0	5	0	2	72	22:15	62	1	0	2	0	0	0	65	
10:30	43	3	0	2	0	0	48	22:30	37	1	0	0	0	0	0	38	
10:45	59	6	0	0	0	0	65	22:45	36	1	0	1	0	0	0	38	
11:00	56	3	1	2	0	1	63	23:00	38	0	0	1	0	0	0	39	
11:15	58	7	0	5	0	0	70	23:15	41	0	0	1	0	0	0	42	
11:30	61	5	1	1	0	0	68	23:30	23	1	1	0	0	0	0	25	
11:45	73	0	0	2	0	0	75	23:45	10	0	0	0	0	0	0	10	
<b>TOTAL</b>	1,835	129	28	62	0	16	2,070	<b>TOTAL</b>	6,515	173	16	102	1	11	6,818		
								<b>AM PEAK HOUR</b>							<b>AM PEAK HOUR</b>		
								7:30 AM							5:15 PM		
								415							1,074		

CLASS	AM+PM	% OF TOTAL
CLASS 1 PASSENGER VEHICLES	8,350	93.9%
CLASS 2 2-AXLE TRUCKS	302	3.4%
CLASS 3 3-AXLE TRUCKS	44	0.5%
CLASS 4 4 OR MORE AXLE TRUCKS	92	0.5%
CLASS 5 RV	580	3.4%
CLASS 6 Buses	2	0.0%
<b>TOTAL: AM+PM</b>	<b>8,350</b>	<b>93.9%</b>
<b>TOTAL: ALL</b>	<b>15,927</b>	<b>93.9%</b>



**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AimTD LLC tel. 714.253.7888 cs@aimtd.com

DATE: Wednesday, February 06, 2019  
JOB #: SC2074

CITY: Chino  
LOCATION: Kimball west of Rincon Meadows

AM TIME	AM						TOTAL	PM Time	PM						TOTAL	
	1	2	3	4	5	6			1	2	3	4	5	6		
0:00	6	0	0	0	0	0	6	12:00	75	4	2	1	0	0	83	
0:15	4	1	0	0	0	0	5	12:15	70	4	1	3	0	2	80	
0:30	3	0	0	0	0	0	3	12:30	79	7	0	5	0	0	79	
0:45	7	0	0	0	0	0	9	12:45	63	2	0	1	0	0	66	
1:00	1	0	1	0	0	0	2	13:00	69	4	0	4	0	1	78	
1:15	1	0	0	0	0	0	1	13:15	60	4	1	3	0	0	68	
1:30	4	0	0	0	0	0	4	13:30	83	4	0	3	0	0	90	
1:45	4	0	1	0	0	0	5	13:45	74	8	0	4	0	0	86	
2:00	2	0	0	0	0	0	2	14:00	69	4	1	3	0	0	77	
2:15	3	0	0	0	0	0	3	14:15	88	2	0	5	0	0	95	
2:30	5	0	2	0	0	0	7	14:30	90	10	2	1	0	3	106	
2:45	5	0	2	0	0	0	7	14:45	91	7	0	0	3	0	103	
3:00	12	0	0	0	0	0	12	15:00	108	5	2	3	0	0	118	
3:15	11	0	1	0	0	0	12	15:15	103	4	0	2	0	0	109	
3:30	10	2	1	0	0	0	13	15:30	147	6	0	2	0	0	155	
3:45	15	0	0	0	0	0	15	15:45	110	5	0	4	1	1	121	
4:00	27	1	1	1	0	0	30	16:00	96	4	0	2	0	1	103	
4:15	33	0	0	0	0	0	33	16:15	104	5	1	2	0	1	113	
4:30	50	1	0	0	0	0	51	16:30	129	4	1	0	0	4	134	
4:45	85	3	0	0	0	0	88	16:45	103	3	0	4	0	0	110	
5:00	84	3	0	0	0	0	87	17:00	125	3	2	0	0	0	132	
5:15	123	2	0	0	0	0	125	17:15	107	1	5	0	0	0	113	
5:30	140	3	0	0	0	0	146	17:30	106	3	2	1	0	0	112	
5:45	147	1	0	2	0	0	150	17:45	106	3	0	0	0	0	109	
6:00	164	6	0	2	0	0	172	18:00	97	4	0	1	0	0	102	
6:15	167	6	1	1	0	2	177	18:15	87	4	1	1	0	0	93	
6:30	228	3	2	3	0	4	240	18:30	91	2	0	1	0	0	94	
6:45	255	3	1	0	0	2	261	18:45	78	2	0	1	0	0	81	
7:00	245	4	3	0	0	0	254	19:00	89	3	1	5	0	0	98	
7:15	238	4	1	0	0	0	243	19:15	61	2	1	2	0	0	66	
7:30	251	5	2	2	0	2	262	19:30	44	0	0	1	0	0	45	
7:45	251	6	1	1	0	1	260	19:45	45	2	0	2	0	0	49	
8:00	211	5	0	0	0	0	217	20:00	30	0	1	0	0	0	32	
8:15	236	5	0	3	0	0	244	20:15	42	1	0	2	0	0	45	
8:30	170	6	0	0	1	0	178	20:30	29	0	0	0	0	0	32	
8:45	172	0	0	0	0	0	176	20:45	20	3	0	0	0	0	23	
9:00	135	7	0	2	0	0	144	21:00	26	0	0	2	0	0	28	
9:15	115	3	1	4	0	0	123	21:15	24	2	1	0	0	0	27	
9:30	106	6	2	3	0	0	117	21:30	19	1	1	0	0	0	22	
9:45	93	8	0	1	0	0	102	21:45	23	1	0	1	0	0	25	
10:00	90	0	0	0	0	0	92	22:00	13	0	0	4	0	0	17	
10:15	82	7	0	1	0	0	90	22:15	12	1	0	2	0	0	15	
10:30	101	8	1	2	0	0	112	22:30	10	0	2	0	0	0	13	
10:45	83	0	1	2	0	0	86	22:45	13	0	0	0	0	0	13	
11:00	73	5	1	0	0	0	79	23:00	9	0	0	0	0	0	9	
11:15	62	7	0	4	0	0	73	23:15	9	1	0	0	0	0	10	
11:30	59	4	0	1	0	3	67	23:30	7	0	0	0	0	0	7	
11:45	81	11	2	5	0	1	100	23:45	6	1	0	0	0	0	7	
<b>TOTAL</b>	4,450	138	28	53	0	16	4,685	<b>TOTAL</b>	3,127	140	20	92	1	13	3,393	
								<b>AM PEAK HOUR</b>	<b>AM PEAK HOUR</b>						<b>AM PEAK VOLUME</b>	
								6:45 AM							3:00 PM	
								1,020							503	

CLASS	AM+PM	% OF TOTAL
CLASS 1	7,577	93.8%
CLASS 2	278	3.4%
CLASS 3	48	0.6%
CLASS 4	145	1.8%
CLASS 5	1	0.0%
CLASS 6	29	0.4%
<b>TOTAL</b>	<b>8,078</b>	<b>100.0%</b>

**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AimTD LLC tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, February 06, 2019

CITY: Chino

JOB #: SC2074

LOCATION: CLASS7 Riverside between Colonial and Archibald

AM TIME	AM						TOTAL	PM Time	PM						TOTAL		
	1	2	3	4	5	6			1	2	3	4	5	6			
0:00							5	12:00	168	17	0	1	0	0	187		
0:15	1	4	0	0	0	0	0	12:15	180	13	1	0	0	2	196		
0:30	2	6	0	0	0	0	8	12:30	159	9	0	0	0	168			
0:45	7	4	0	0	0	0	11	12:45	184	15	1	6	0	206			
1:00	0	6	0	0	0	0	6	13:00	171	21	0	1	0	193			
1:15	5	1	0	0	0	0	6	13:15	167	16	2	2	0	187			
1:30	0	2	0	0	0	0	2	13:30	178	8	0	1	0	189			
1:45	3	0	0	0	0	0	3	13:45	178	11	1	0	0	190			
2:00	0	0	0	0	0	0	0	14:00	167	8	0	3	0	179			
2:15	1	1	0	0	0	0	2	14:15	160	10	1	1	0	172			
2:30	1	0	0	0	0	0	1	14:30	174	10	1	1	0	188			
2:45	0	2	0	0	0	0	2	14:45	167	0	3	0	1	171			
3:00	0	0	0	0	0	0	0	15:00	190	15	1	1	0	208			
3:15	0	2	0	0	0	0	2	15:15	170	21	0	1	0	192			
3:30	2	2	1	0	0	0	5	15:30	223	13	1	2	0	241			
3:45	1	1	0	0	0	0	3	15:45	210	8	0	0	0	219			
4:00	6	4	0	0	0	0	10	16:00	238	14	0	2	0	254			
4:15	13	3	0	0	0	0	16	16:15	247	16	2	2	0	268			
4:30	5	4	0	0	0	1	10	16:30	249	11	0	2	0	262			
4:45	12	5	0	0	0	0	17	16:45	268	14	2	0	1	285			
5:00	9	8	0	0	0	0	17	17:00	242	10	1	1	0	254			
5:15	13	12	0	0	0	1	26	17:15	259	13	1	0	1	274			
5:30	35	7	0	1	0	0	43	17:30	269	9	0	2	0	280			
5:45	55	10	1	2	0	1	69	17:45	202	7	1	2	0	212			
6:00	76	5	1	0	0	0	82	18:00	192	11	1	0	0	205			
6:15	116	8	0	2	0	0	127	18:15	194	12	0	2	0	208			
6:30	124	12	1	1	0	5	143	18:30	167	14	0	1	0	182			
6:45	118	13	2	1	0	1	135	18:45	147	13	1	2	0	164			
7:00	137	10	4	1	0	1	153	19:00	133	9	2	0	0	144			
7:15	126	16	2	2	0	3	149	19:15	118	10	0	1	0	130			
7:30	132	14	3	3	0	2	154	19:30	89	12	0	0	1	102			
7:45	133	13	4	1	0	0	151	19:45	62	9	0	1	0	72			
8:00	137	18	1	3	0	3	162	20:00	64	8	0	0	0	72			
8:15	130	12	2	4	0	1	149	20:15	32	6	0	1	0	39			
8:30	129	13	1	1	0	1	145	20:30	24	4	0	0	0	29			
8:45	135	11	3	2	0	0	151	20:45	15	11	0	0	0	26			
9:00	128	8	1	1	0	0	138	21:00	25	5	0	0	0	30			
9:15	141	16	1	1	0	2	161	21:15	15	6	0	0	0	21			
9:30	134	12	3	3	0	1	153	21:30	17	7	1	0	0	26			
9:45	131	15	2	0	0	0	148	21:45	15	9	0	0	0	24			
10:00	125	17	0	2	0	0	144	22:00	9	10	1	0	0	20			
10:15	122	20	2	1	0	0	145	22:15	3	7	0	1	0	11			
10:30	136	12	0	0	0	0	148	22:30	8	11	0	0	0	19			
10:45	146	22	1	2	0	0	171	22:45	11	6	0	0	0	17			
11:00	140	23	2	0	0	2	167	23:00	4	7	0	0	0	11			
11:15	138	36	0	0	0	1	175	23:15	5	6	0	0	0	11			
11:30	137	28	1	0	0	1	167	23:30	5	10	0	0	0	15			
11:45	145	25	1	3	0	1	175	23:45	10	8	0	0	0	18			
<b>TOTAL</b>	<b>3,290</b>	<b>465</b>	<b>40</b>	<b>38</b>	<b>0</b>	<b>29</b>	<b>3,862</b>	<b>TOTAL</b>	<b>6,184</b>	<b>500</b>	<b>22</b>	<b>43</b>	<b>0</b>	<b>22</b>	<b>6,771</b>		
								<b>AM PEAK HOUR</b>							<b>AM PEAK HOUR</b>		
								11:00 AM							4:45 PM		
								684							1,093		

CLASS	TOTAL: AM+PM	% OF TOTAL	TOTAL: ALL	% OF TOTAL
CLASS 1 PASSENGER VEHICLES	9,474	89.1%	18,533	89.8%
CLASS 2 2-AXLE TRUCKS	965	9.1%	1,604	7.8%
CLASS 3 3-AXLE TRUCKS	62	0.6%	194	0.9%
CLASS 4 4 OR MORE AXLE TRUCKS	81	0.8%	233	1.1%
CLASS 5 RV	0	0.0%	0	0.0%
CLASS 6 Buses	0	0.0%	83	0.4%
<b>TOTAL</b>	<b>10,633</b>	<b>100.0%</b>	<b>20,647</b>	<b>100.0%</b>

**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AlimTD LLC tel. 714-253-7888 cs@alimtd.com

**DATE:** Wednesday, February 06, 2019  
**JOB #:** SC2074

**CITY:** Chino  
**LOCATION:** CLASS7 Riverside between Colonial and Archibald

AM TIME	AM						TOTAL	PM						TOTAL					
	1	2	3	4	5	6		1	2	3	4	5	6						
0:00	12	2	2	1	1	0	16	113	12	1	0	0	0	126					
0:15	19	2	0	0	0	0	21	104	17	2	1	0	0	124					
0:30	9	0	0	0	0	0	9	85	16	3	2	0	1	107					
0:45	10	1	0	0	0	0	11	117	6	1	1	0	1	126					
1:00	7	0	0	0	1	0	8	96	3	1	2	0	0	102					
1:15	3	2	1	0	0	0	5	107	10	4	4	0	0	125					
1:30	10	1	0	0	0	0	11	164	17	3	1	0	0	185					
1:45	5	1	0	0	0	0	6	168	20	1	3	0	0	192					
2:00	4	1	1	1	0	0	6	124	10	1	5	0	0	140					
2:15	3	1	1	1	0	0	5	119	4	2	3	0	0	128					
2:30	9	1	0	0	0	0	10	153	10	4	4	0	1	172					
2:45	6	2	0	0	1	0	9	157	9	6	1	0	1	174					
3:00	7	2	0	0	0	0	9	162	6	4	3	0	0	175					
3:15	8	0	0	0	0	0	8	145	13	4	4	0	0	166					
3:30	6	2	0	0	0	0	8	146	11	2	4	0	1	164					
3:45	10	5	0	0	0	0	15	158	10	3	2	0	0	173					
4:00	10	3	0	0	5	0	18	157	7	1	5	0	1	171					
4:15	25	9	0	0	2	0	36	167	3	4	2	0	0	176					
4:30	38	8	0	0	0	0	46	164	14	1	7	0	0	186					
4:45	30	4	0	2	0	0	40	161	12	3	3	0	0	179					
5:00	49	6	0	1	0	0	56	188	10	3	3	0	1	205					
5:15	71	4	1	0	0	0	76	212	6	2	4	0	0	224					
5:30	92	7	5	1	0	0	105	207	5	0	4	0	0	216					
5:45	122	5	0	1	1	0	128	211	7	2	3	0	0	223					
6:00	112	6	2	0	0	0	120	191	10	0	3	0	0	204					
6:15	102	3	1	1	0	0	109	179	3	0	1	0	0	183					
6:30	136	9	2	2	0	0	149	142	4	2	0	0	1	149					
6:45	163	13	0	1	0	0	177	145	1	2	3	0	0	151					
7:00	163	8	4	3	0	0	180	103	2	0	0	0	0	105					
7:15	210	13	2	3	0	0	230	91	4	2	0	0	0	97					
7:30	249	12	4	1	0	0	267	74	3	1	1	0	0	79					
7:45	249	19	3	4	0	0	278	79	2	2	1	0	1	85					
8:00	207	14	1	6	0	0	229	84	3	2	0	0	0	89					
8:15	166	8	4	1	0	0	181	78	7	1	0	0	0	87					
8:30	153	9	2	4	0	0	168	67	10	1	0	0	1	79					
8:45	150	13	0	0	0	0	164	45	6	0	0	0	0	51					
9:00	119	9	0	2	0	0	130	51	4	0	0	0	0	55					
9:15	120	6	1	0	0	0	127	35	5	0	0	0	0	40					
9:30	111	1	2	3	0	0	119	38	1	0	1	0	0	40					
9:45	100	7	3	4	0	0	116	41	3	0	0	0	0	44					
10:00	90	15	0	4	0	0	109	35	3	0	0	0	0	38					
10:15	86	8	5	3	0	0	102	29	4	0	0	0	0	33					
10:30	92	10	4	4	0	0	111	26	4	0	0	0	0	30					
10:45	85	15	3	2	0	0	106	16	4	0	0	0	0	20					
11:00	116	10	1	0	0	0	127	11	2	0	0	0	0	13					
11:15	114	7	0	4	0	0	125	10	3	0	0	0	0	13					
11:30	121	2	3	1	0	0	129	14	5	0	0	0	0	19					
11:45	96	18	3	3	0	0	120	15	0	0	1	0	0	16					
<b>TOTAL</b>	<b>3,875</b>	<b>308</b>	<b>61</b>	<b>69</b>	<b>0</b>	<b>22</b>	<b>4,335</b>	<b>5,184</b>	<b>331</b>	<b>71</b>	<b>83</b>	<b>0</b>	<b>10</b>	<b>5,679</b>					
							<b>7:15 AM</b>							<b>5:00 PM</b>					
							<b>1,004</b>							<b>868</b>					
<b>CLASS 1</b>	<b>PASSENGER VEHICLES</b>																		
<b>CLASS 2</b>	<b>2-AXLE TRUCKS</b>																		
<b>CLASS 3</b>	<b>3-AXLE TRUCKS</b>																		
<b>CLASS 4</b>	<b>4 OR MORE AXLE TRUCKS</b>																		
<b>CLASS 5</b>	<b>RV</b>																		
<b>CLASS 6</b>	<b>BUS</b>																		
	<b>TOTAL: AM+PM</b>												<b>9,059</b>	<b>639</b>	<b>132</b>	<b>152</b>	<b>0</b>	<b>32</b>	<b>10,014</b>
	<b>% OF TOTAL</b>												<b>90.5%</b>	<b>6.4%</b>	<b>1.3%</b>	<b>1.5%</b>	<b>0.0%</b>	<b>0.3%</b>	<b>100.0%</b>

**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AimTD LLC tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, February 06, 2019  
 JOB #: SC2074

CITY: Chino  
 LOCATION: CLASS88 Ontario Ranch east of Haven

AM TIME	AM						TOTAL	PM Time	PM						TOTAL					
	1	2	3	4	5	6			1	2	3	4	5	6						
0:00	16	0	0	0	0	0	16	12:00	59	8	1	3	0	0	71					
0:15	11	0	0	1	0	0	12	12:15	60	11	3	8	0	0	82					
0:30	7	0	0	1	0	0	8	12:30	65	11	1	12	0	0	89					
0:45	6	0	0	0	0	0	6	12:45	76	4	6	8	0	0	94					
1:00	6	0	0	0	0	0	6	13:00	64	5	3	7	0	0	79					
1:15	3	1	1	1	0	0	6	13:15	59	16	5	8	0	0	88					
1:30	1	0	1	0	0	0	2	13:30	87	12	3	9	0	0	111					
1:45	6	0	1	0	0	0	7	13:45	90	12	3	8	0	0	113					
2:00	4	0	1	1	0	0	6	14:00	116	12	2	1	0	1	132					
2:15	10	1	0	2	0	0	13	14:15	111	9	1	9	0	0	130					
2:30	7	0	0	0	0	0	7	14:30	130	6	2	7	0	0	145					
2:45	7	0	2	0	0	0	9	14:45	166	8	3	4	0	0	181					
3:00	3	2	0	1	0	0	6	15:00	156	21	1	11	0	0	189					
3:15	5	0	0	0	0	0	5	15:15	196	14	5	12	0	0	227					
3:30	5	1	0	0	0	0	6	15:30	163	13	0	10	0	0	186					
3:45	4	1	0	0	0	0	5	15:45	182	13	6	5	0	0	206					
4:00	8	0	2	4	0	0	14	16:00	182	9	7	11	0	0	209					
4:15	9	1	0	1	0	0	11	16:15	206	12	3	7	0	0	228					
4:30	23	3	1	0	0	0	27	16:30	210	15	6	8	0	0	239					
4:45	18	2	0	6	0	0	26	16:45	215	8	2	4	0	0	229					
5:00	18	2	1	2	0	0	24	17:00	214	11	3	5	0	0	233					
5:15	26	1	1	5	0	0	33	17:15	229	14	1	7	0	0	251					
5:30	29	5	1	4	0	0	39	17:30	190	7	3	6	0	0	206					
5:45	32	3	4	5	0	0	44	17:45	198	7	1	10	0	0	216					
6:00	43	8	5	3	0	0	59	18:00	152	11	1	6	0	0	170					
6:15	51	6	0	6	0	0	63	18:15	124	4	1	8	0	0	137					
6:30	78	7	3	3	0	0	91	18:30	101	3	1	5	0	0	110					
6:45	93	4	4	6	0	0	107	18:45	83	2	3	1	0	0	89					
7:00	106	8	6	7	0	0	127	19:00	55	4	2	2	0	0	63					
7:15	178	6	5	6	0	0	195	19:15	48	5	1	1	0	0	55					
7:30	158	8	6	7	0	0	179	19:30	54	5	0	2	0	0	61					
7:45	119	11	7	5	0	0	142	19:45	52	1	1	0	0	0	54					
8:00	99	8	6	6	0	0	119	20:00	45	1	1	4	0	0	51					
8:15	102	6	6	8	0	0	122	20:15	42	0	0	1	0	0	43					
8:30	112	8	6	9	0	0	135	20:30	44	0	0	5	0	0	49					
8:45	79	5	5	7	0	0	96	20:45	41	3	3	0	0	0	50					
9:00	66	8	5	3	0	0	82	21:00	33	2	1	3	0	0	39					
9:15	63	7	3	5	0	0	78	21:15	27	3	0	1	0	0	31					
9:30	55	7	3	8	0	0	73	21:30	22	1	0	0	0	0	23					
9:45	66	8	5	5	0	0	84	21:45	24	2	1	4	0	0	31					
10:00	53	5	3	6	0	0	67	22:00	35	1	0	3	0	0	39					
10:15	43	4	5	7	0	0	59	22:15	31	2	0	1	0	0	34					
10:30	65	5	3	11	0	0	84	22:30	20	0	0	2	0	0	22					
10:45	60	4	6	8	0	0	78	22:45	16	0	1	3	0	0	20					
11:00	59	14	4	7	0	0	84	23:00	22	1	1	1	0	0	25					
11:15	47	8	2	5	0	0	62	23:15	24	0	0	2	0	0	26					
11:30	72	12	1	8	0	0	93	23:30	33	1	0	2	0	0	36					
11:45	50	8	0	4	0	0	62	23:45	19	1	0	0	0	0	20					
TOTAL	2,181	198	116	184	0	0	2,679	TOTAL	4,571	311	89	240	0	1	5,212					
							AM PEAK HOUR							AM PEAK HOUR						
							7:00 AM							4:30 PM						
							643							952						

CLASS	AM+PM	% OF TOTAL
CLASS 1 PASSENGER VEHICLES	6,752	85.6%
CLASS 2 2-AXLE TRUCKS	509	6.5%
CLASS 3 3-AXLE TRUCKS	205	2.6%
CLASS 4 4 OR MORE AXLE TRUCKS	424	5.4%
CLASS 5 RV	0	0.0%
CLASS 6 Buses	0	0.0%
TOTAL: AM+PM	7,891	100.0%
TOTAL: ALL	13,038	100.0%

**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AimTD LLC tel. 714.253.7888 cs@aimtd.com

DATE: Wednesday, February 06, 2019  
JOB #: SC2074

CITY: Chino  
LOCATION: CLASS8 Ontario Ranch east of Haver

AM TIME	AM						TOTAL	PM Time	PM						TOTAL
	1	2	3	4	5	6			1	2	3	4	5	6	
0:00	13	0	0	1	0	0	15	12:00	42	11	2	6	0	61	
0:15	10	0	0	0	0	0	10	12:15	52	4	3	7	0	66	
0:30	4	0	0	0	0	0	5	12:30	53	9	0	8	0	70	
0:45	8	1	1	0	0	0	10	12:45	62	7	0	6	0	75	
1:00	4	0	0	0	0	0	5	13:00	54	7	3	11	0	75	
1:15	4	1	0	0	0	0	5	13:15	66	6	3	4	0	79	
1:30	4	0	0	1	0	0	6	13:30	65	6	3	7	0	81	
1:45	9	0	0	0	0	0	10	13:45	65	7	2	7	0	81	
2:00	4	1	0	0	0	0	6	14:00	76	10	2	5	0	93	
2:15	6	1	1	0	0	0	8	14:15	91	2	2	3	0	98	
2:30	4	0	0	2	0	0	7	14:30	88	3	4	6	0	101	
2:45	9	0	0	0	0	0	10	14:45	79	5	3	10	0	97	
3:00	6	0	0	0	0	0	7	15:00	73	6	0	6	0	85	
3:15	14	0	0	0	0	0	15	15:15	79	8	2	8	0	97	
3:30	4	1	0	0	0	0	5	15:30	73	3	4	5	0	85	
3:45	21	0	0	0	0	0	22	15:45	98	4	1	7	0	111	
4:00	16	0	0	0	0	0	22	16:00	122	5	2	3	0	132	
4:15	26	0	0	0	0	0	30	16:15	113	8	1	10	0	133	
4:30	47	2	1	0	0	0	50	16:30	120	5	2	7	0	134	
4:45	92	1	0	0	0	0	96	16:45	146	4	3	7	0	160	
5:00	78	3	1	0	0	0	83	17:00	123	4	1	10	0	139	
5:15	92	3	0	0	0	0	96	17:15	146	5	1	7	0	159	
5:30	148	4	0	0	0	0	154	17:30	138	9	2	6	0	155	
5:45	171	8	1	3	0	0	183	17:45	129	5	1	8	0	143	
6:00	140	10	1	3	0	0	154	18:00	121	2	0	5	0	128	
6:15	135	8	1	5	0	0	149	18:15	84	4	1	7	0	96	
6:30	208	14	2	9	0	0	233	18:30	99	0	3	0	0	102	
6:45	135	17	1	14	0	0	167	18:45	82	2	0	2	0	86	
7:00	137	22	3	17	0	0	180	19:00	64	1	2	2	0	68	
7:15	153	7	4	18	0	0	182	19:15	69	1	0	4	0	74	
7:30	159	10	6	19	0	0	194	19:30	68	1	1	1	0	71	
7:45	163	11	2	12	0	0	188	19:45	40	0	1	5	0	46	
8:00	115	10	2	15	0	0	142	20:00	58	1	2	1	0	62	
8:15	110	16	6	11	0	0	143	20:15	51	2	1	2	0	54	
8:30	103	18	3	17	0	0	141	20:30	39	0	0	3	0	42	
8:45	79	17	1	19	0	0	116	20:45	35	0	0	4	0	39	
9:00	66	12	2	6	0	0	86	21:00	38	0	1	2	0	41	
9:15	47	4	2	11	0	0	64	21:15	57	1	1	1	0	60	
9:30	47	7	1	9	0	0	64	21:30	39	0	0	1	0	40	
9:45	35	6	2	8	0	0	51	21:45	25	1	0	2	0	28	
10:00	43	7	2	15	0	0	67	22:00	21	0	0	0	0	21	
10:15	42	9	3	10	0	0	64	22:15	24	0	1	3	0	28	
10:30	51	5	1	5	0	0	62	22:30	15	0	1	1	0	16	
10:45	43	6	2	12	0	0	63	22:45	21	0	0	0	0	21	
11:00	45	5	3	11	0	0	64	23:00	14	0	0	2	0	16	
11:15	59	5	1	12	0	0	77	23:15	17	1	1	1	0	20	
11:30	42	1	8	11	0	0	56	23:30	17	1	0	1	0	19	
11:45	64	8	3	15	0	0	90	23:45	19	0	0	3	0	22	
TOTAL	3,015	266	62	313	0	1	3,657	TOTAL	3,271	158	58	220	1	3,710	
								AM PEAK HOUR						4:45 PM	
								AM PEAK VOLUME						613	
								6:30 AM						762	
								AM PEAK HOUR						533	
								AM PEAK VOLUME						7,367	
								TOTAL: AM+PM						6,286	
								% OF TOTAL						85.3%	
								TOTAL: AM+PM						424	
								% OF TOTAL						5.8%	
								TOTAL: AM+PM						120	
								% OF TOTAL						1.6%	
								TOTAL: AM+PM						1	
								% OF TOTAL						0.0%	
								TOTAL: AM+PM						3	
								% OF TOTAL						0.0%	

CLASS	AM	PM	TOTAL	% OF TOTAL
CLASS 1	3,015	266	3,281	88.5%
CLASS 2	120	1	121	3.3%
CLASS 3	533	1	534	14.5%
CLASS 4	158	0	158	4.3%
CLASS 5	58	0	58	1.6%
CLASS 6	220	0	220	6.0%
TOTAL	3,710	268	3,978	100.0%

**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AimTD LLC tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, February 06, 2019

CITY: Chino

LOCATION: CLASS59 Grove between Eucalyptus and Merrill

JOB #: SC2074

AM TIME	AM						TOTAL	PM Time	PM						TOTAL		
	1	2	3	4	5	6			1	2	3	4	5	6			
0:00	2	0	0	0	0	0	2	12:00	14	9	0	2	0	0	27		
0:15	0	0	0	0	1	0	1	12:15	26	6	0	2	0	1	35		
0:30	2	3	0	0	0	0	5	12:30	11	10	1	2	0	0	24		
0:45	10	0	1	0	0	0	11	12:45	22	9	0	4	0	1	36		
1:00	2	1	0	0	0	0	3	13:00	12	4	1	2	0	0	19		
1:15	1	1	0	0	0	0	2	13:15	12	9	1	5	0	0	27		
1:30	0	0	0	0	0	0	0	13:30	27	6	1	3	0	0	37		
1:45	1	0	0	0	0	0	1	13:45	35	7	0	2	0	2	46		
2:00	2	1	0	0	0	0	3	14:00	37	6	1	3	0	0	47		
2:15	6	0	0	0	0	0	6	14:15	41	5	2	1	0	0	49		
2:30	2	1	0	0	0	0	3	14:30	75	3	0	4	0	0	82		
2:45	2	0	0	0	0	0	2	14:45	38	5	3	2	0	1	49		
3:00	2	0	0	0	0	0	2	15:00	50	8	0	2	0	0	60		
3:15	0	0	0	1	0	0	1	15:15	45	7	1	6	0	0	59		
3:30	1	0	0	1	0	0	2	15:30	52	3	0	1	0	0	56		
3:45	1	1	0	0	0	0	2	15:45	48	4	0	1	0	1	54		
4:00	0	0	0	0	0	0	0	16:00	50	7	1	3	0	0	61		
4:15	2	1	0	0	0	0	3	16:15	57	5	2	3	0	1	68		
4:30	2	2	0	0	0	0	4	16:30	63	8	0	0	0	0	71		
4:45	6	1	0	0	0	0	7	16:45	55	5	0	1	0	0	61		
5:00	5	0	0	0	0	0	5	17:00	69	7	0	2	0	0	78		
5:15	5	1	1	0	0	0	7	17:15	66	5	2	1	0	0	74		
5:30	16	1	0	1	0	0	18	17:30	49	4	1	2	0	0	56		
5:45	19	2	0	1	0	0	22	17:45	45	5	0	1	0	0	51		
6:00	21	3	1	1	0	0	26	18:00	42	8	0	2	0	0	52		
6:15	26	1	2	0	0	0	29	18:15	34	2	0	2	0	0	38		
6:30	32	2	0	2	0	0	36	18:30	25	2	0	1	0	0	28		
6:45	41	3	1	2	0	1	48	18:45	21	6	0	0	0	0	27		
7:00	54	1	2	2	0	0	59	19:00	11	1	0	1	0	0	13		
7:15	64	2	2	3	0	0	71	19:15	11	4	0	0	0	0	15		
7:30	59	3	1	2	0	0	65	19:30	13	0	0	1	0	0	14		
7:45	62	5	0	0	0	0	67	19:45	10	1	0	0	0	0	11		
8:00	44	2	2	2	0	2	52	20:00	9	1	0	0	0	0	10		
8:15	54	3	1	3	0	1	62	20:15	12	1	0	0	0	0	13		
8:30	50	4	1	2	0	0	57	20:30	3	1	1	1	0	0	6		
8:45	46	2	1	2	0	0	51	20:45	3	0	0	0	0	0	3		
9:00	28	3	0	0	0	0	31	21:00	6	0	1	0	0	0	7		
9:15	28	5	2	2	0	0	37	21:15	8	3	0	0	0	0	11		
9:30	24	3	1	1	0	0	29	21:30	6	0	0	0	0	0	6		
9:45	27	1	0	0	0	1	29	21:45	10	3	0	0	0	0	13		
10:00	13	5	2	3	0	0	23	22:00	8	2	0	0	0	0	10		
10:15	16	4	0	0	0	0	20	22:15	6	0	0	0	0	0	6		
10:30	20	6	1	4	0	1	32	22:30	1	2	0	0	0	0	3		
10:45	14	7	0	4	0	1	26	22:45	4	2	0	0	0	0	6		
11:00	19	3	0	0	0	0	22	23:00	12	0	0	0	0	0	12		
11:15	16	4	0	3	0	0	23	23:15	3	1	0	0	0	1	5		
11:30	20	3	0	3	0	0	26	23:30	18	1	0	0	0	0	19		
11:45	22	5	0	3	0	1	31	23:45	3	2	0	0	0	0	5		
<b>TOTAL</b>	<b>889</b>	<b>96</b>	<b>22</b>	<b>49</b>	<b>0</b>	<b>8</b>	<b>1,064</b>	<b>TOTAL</b>	<b>1,278</b>	<b>190</b>	<b>18</b>	<b>64</b>	<b>0</b>	<b>10</b>	<b>1,560</b>		
<b>AM PEAK HOUR</b>								<b>AM PEAK HOUR</b>								<b>AM PEAK HOUR</b>	
7:00 AM								4:30 PM								4:30 PM	
262								284								284	

CLASS	TOTAL: AM+PM	% OF TOTAL	TOTAL: ALL	% OF TOTAL
CLASS 1 PASSENGER VEHICLES	2,167	82.6%	4,089	80.2%
CLASS 2 2-AXLE TRUCKS	40	1.5%	82	12.7%
CLASS 3 3-AXLE TRUCKS	0	0.0%	0	0.0%
CLASS 4 4 OR MORE AXLE TRUCKS	0	0.0%	0	0.0%
CLASS 5 RV	0	0.0%	0	0.0%
CLASS 6 Buses	113	4.3%	249	4.9%
<b>TOTAL</b>	<b>2,624</b>	<b>100.0%</b>	<b>5,096</b>	<b>100.0%</b>

**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AlimTD LLC tel. 714-253-7888 cs@alimtd.com

**DATE:** Wednesday, February 06, 2019  
**JOB #:** SC2074

**CITY:** Chino  
**LOCATION:** CLASS99 Grove between Eucalyptus and Merrill

AM TIME	AM						TOTAL	PM Time	PM						TOTAL	
	1	2	3	4	5	6			1	2	3	4	5	6		
0:00	2	0	0	0	0	0	2	12:00	23	6	2	1	0	0	32	
0:15	4	0	0	0	0	0	4	12:15	21	1	1	4	0	27		
0:30	0	0	0	0	0	0	0	12:30	22	10	2	4	0	38		
0:45	2	0	0	0	0	0	2	12:45	35	7	1	2	0	45		
1:00	3	1	0	0	0	0	4	13:00	18	11	0	3	0	33		
1:15	0	0	0	0	0	0	0	13:15	22	4	1	3	0	30		
1:30	3	0	0	0	0	0	4	13:30	22	9	0	3	0	34		
1:45	1	0	0	0	0	0	1	13:45	30	14	1	0	0	46		
2:00	1	0	0	0	0	0	1	14:00	17	5	1	4	0	27		
2:15	0	1	0	0	0	0	3	14:15	29	4	2	2	0	38		
2:30	1	0	0	0	0	0	2	14:30	26	7	0	3	0	36		
2:45	2	0	0	0	0	0	2	14:45	33	4	0	1	0	38		
3:00	0	0	0	0	0	0	0	15:00	23	3	1	1	0	28		
3:15	7	1	0	0	0	0	10	15:15	26	8	0	2	0	36		
3:30	13	1	0	0	0	0	14	15:30	28	5	1	1	0	35		
3:45	12	2	0	0	0	0	14	15:45	30	4	0	0	0	34		
4:00	4	2	0	0	0	0	6	16:00	37	9	0	3	0	49		
4:15	20	1	1	1	1	0	23	16:15	52	2	1	1	0	56		
4:30	12	2	1	1	0	0	16	16:30	54	7	0	2	0	63		
4:45	23	9	0	0	0	0	32	16:45	46	4	0	1	0	52		
5:00	28	2	0	0	0	0	32	17:00	47	3	0	2	0	52		
5:15	16	7	0	0	0	0	23	17:15	64	2	0	0	0	66		
5:30	36	6	1	2	0	0	45	17:30	60	4	0	0	0	64		
5:45	65	10	0	0	0	0	76	17:45	42	1	0	0	0	44		
6:00	42	7	0	0	0	0	49	18:00	31	6	0	0	0	37		
6:15	45	6	0	0	0	0	53	18:15	26	9	0	0	0	35		
6:30	50	8	0	0	0	0	60	18:30	29	3	0	0	0	32		
6:45	55	11	3	1	0	0	70	18:45	20	4	0	1	0	25		
7:00	30	5	2	4	0	0	42	19:00	11	0	0	0	0	11		
7:15	29	6	2	2	0	0	39	19:15	15	1	0	0	0	16		
7:30	23	8	0	3	0	0	34	19:30	16	1	0	0	0	17		
7:45	46	7	0	1	0	0	54	19:45	7	3	0	0	0	10		
8:00	31	9	1	3	0	0	44	20:00	6	0	0	0	0	6		
8:15	25	5	1	2	0	0	33	20:15	10	2	1	0	0	13		
8:30	32	4	0	3	0	0	39	20:30	7	2	0	0	0	9		
8:45	20	4	1	6	0	0	31	20:45	9	2	0	2	0	13		
9:00	20	4	1	2	0	0	27	21:00	11	1	0	1	0	13		
9:15	12	7	0	5	0	0	25	21:15	12	0	0	0	0	12		
9:30	13	3	0	2	0	0	19	21:30	8	2	0	0	0	10		
9:45	10	7	0	3	0	0	20	21:45	9	1	0	0	0	11		
10:00	13	4	1	2	0	0	20	22:00	6	0	0	0	0	6		
10:15	11	8	2	4	0	0	25	22:15	4	2	0	0	0	6		
10:30	13	3	0	3	0	0	20	22:30	4	0	0	1	0	5		
10:45	16	6	2	1	0	0	25	22:45	2	1	0	0	0	3		
11:00	13	5	2	3	0	0	23	23:00	5	0	0	1	0	6		
11:15	13	4	0	5	0	0	22	23:15	5	0	0	0	0	5		
11:30	18	9	2	6	0	0	35	23:30	5	0	0	1	0	6		
11:45	20	4	2	3	0	0	30	23:45	2	0	0	2	0	4		
<b>TOTAL</b>	<b>855</b>	<b>189</b>	<b>25</b>	<b>83</b>	<b>0</b>	<b>6</b>	<b>1,158</b>	<b>TOTAL</b>	<b>1,067</b>	<b>174</b>	<b>17</b>	<b>53</b>	<b>0</b>	<b>1,314</b>		
								<b>AM PEAK HOUR</b>							<b>AM PEAK HOUR</b>	
								5:45 AM							4:45 PM	
								238							234	

CLASS	AM + PM	% OF TOTAL
CLASS 1 PASSENGER VEHICLES	1,922	77.8%
CLASS 2 2-AXLE TRUCKS	363	14.7%
CLASS 3 3-AXLE TRUCKS	42	1.7%
CLASS 4 4 OR MORE AXLE TRUCKS	0	0.0%
CLASS 5 RV	9	0.4%
CLASS 6 BUS	0	0.0%
<b>TOTAL</b>	<b>2,472</b>	<b>100.0%</b>

**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AimTD LLC tel: 714 253 7888 cs@aimtd.com

DATE: Wednesday, February 06, 2019

CITY: Chino

LOCATION: CLASS10 Merrill between Grove and Flight

JOB #: SC2074

AM TIME	AM						TOTAL	PM Time	PM						TOTAL	
	1	2	3	4	5	6			1	2	3	4	5	6		
0:00							6	12:00	29	6	4	1	0	0	40	
0:15	5	1	0	0	0	0	6	12:15	37	2	1	5	0	0	45	
0:30	9	0	0	0	0	0	9	12:30	51	1	2	8	0	0	62	
0:45	6	1	0	0	0	0	7	12:45	49	9	0	8	0	0	66	
1:00	4	1	0	1	0	0	6	13:00	59	4	0	6	0	1	70	
1:15	2	0	0	1	0	0	3	13:15	72	1	1	8	0	1	82	
1:30	3	0	0	1	0	0	4	13:30	75	1	2	7	0	1	86	
1:45	4	1	0	0	0	0	5	13:45	80	1	1	7	0	0	89	
2:00	1	1	0	2	0	0	4	14:00	93	4	1	5	0	0	103	
2:15	5	2	0	4	0	0	11	14:15	97	1	2	5	0	0	105	
2:30	2	1	0	3	0	0	6	14:30	101	0	2	4	0	0	107	
2:45	2	0	0	1	0	0	3	14:45	117	3	1	4	0	0	123	
3:00	2	1	1	3	0	0	7	15:00	101	1	5	5	0	0	112	
3:15	7	0	0	0	0	0	7	15:15	88	2	0	5	0	1	96	
3:30	17	0	0	2	0	0	19	15:30	107	4	1	2	0	0	114	
3:45	16	6	0	0	0	0	22	15:45	121	2	1	2	0	0	126	
4:00	3	0	0	2	0	0	5	16:00	104	6	1	5	0	0	116	
4:15	7	5	0	1	0	0	13	16:15	118	4	1	7	0	0	130	
4:30	9	1	0	0	0	0	10	16:30	122	8	2	3	0	0	135	
4:45	25	7	0	2	0	0	34	16:45	131	5	0	4	0	0	140	
5:00	20	1	0	2	0	0	23	17:00	123	6	1	4	0	1	135	
5:15	26	3	0	0	0	0	29	17:15	132	4	0	8	0	0	144	
5:30	46	3	1	1	0	0	51	17:30	110	0	3	4	0	0	117	
5:45	78	7	3	0	0	0	88	17:45	120	2	4	5	0	0	131	
6:00	57	5	0	2	0	0	64	18:00	115	2	2	3	0	0	122	
6:15	47	6	0	3	0	1	57	18:15	107	1	2	1	0	0	111	
6:30	49	6	0	4	0	0	59	18:30	91	3	3	0	0	0	97	
6:45	62	4	3	3	0	1	73	18:45	84	5	2	4	0	0	95	
7:00	37	7	1	4	0	0	49	19:00	76	4	1	6	0	0	87	
7:15	41	4	2	3	0	0	50	19:15	67	6	0	0	0	0	73	
7:30	53	9	1	5	0	0	68	19:30	59	4	0	2	0	0	65	
7:45	53	3	1	6	0	0	63	19:45	47	3	0	1	0	0	51	
8:00	51	8	2	4	0	0	65	20:00	33	3	0	2	0	0	38	
8:15	51	3	1	7	0	0	62	20:15	30	8	0	2	0	1	41	
8:30	49	5	3	4	0	0	61	20:30	19	5	0	1	0	0	25	
8:45	42	2	1	3	0	1	49	20:45	25	2	0	3	0	0	30	
9:00	48	0	0	7	0	0	55	21:00	29	6	0	2	0	0	37	
9:15	34	1	2	4	0	0	41	21:15	20	3	0	0	0	0	23	
9:30	27	3	0	1	0	1	32	21:30	24	4	0	1	0	0	29	
9:45	37	1	2	7	0	0	47	21:45	25	2	1	0	0	0	28	
10:00	39	1	1	2	0	0	43	22:00	9	2	0	1	0	0	12	
10:15	28	5	1	5	0	0	39	22:15	15	4	0	1	0	0	20	
10:30	34	1	0	4	0	1	40	22:30	6	0	0	3	0	0	9	
10:45	37	3	0	1	0	0	41	22:45	9	3	0	0	0	0	13	
11:00	24	5	0	2	0	0	31	23:00	11	1	0	1	0	0	13	
11:15	21	3	1	2	0	0	27	23:15	9	0	0	1	0	0	9	
11:30	25	9	0	1	0	0	35	23:30	16	1	0	0	0	0	18	
11:45	23	5	1	5	0	0	34	23:45	9	0	0	2	0	0	11	
<b>TOTAL</b>	<b>1,272</b>	<b>141</b>	<b>28</b>	<b>118</b>	<b>0</b>	<b>5</b>	<b>1,564</b>	<b>TOTAL</b>	<b>3,172</b>	<b>149</b>	<b>47</b>	<b>158</b>	<b>0</b>	<b>5</b>	<b>3,533</b>	
								<b>AM PEAK HOUR</b>							<b>AM PEAK HOUR</b>	
								5:45 AM							4:30 PM	
								<b>AM PEAK VOLUME</b>							<b>AM PEAK VOLUME</b>	
								268							554	

CLASS	AM+PM	% OF TOTAL	AM	% OF TOTAL
CLASS 1 PASSENGER VEHICLES	4,744	87.2%	276	5.4%
CLASS 2 2-AXLE TRUCKS	75	1.5%	0	0.0%
CLASS 3 3-AXLE TRUCKS	0	0.0%	0	0.2%
CLASS 4 4 OR MORE AXLE TRUCKS	0	0.0%	0	0.0%
CLASS 5 RV	8,970	86.7%	586	5.7%
CLASS 6 Buses	611	5.9%	129	1.2%
<b>TOTAL: ALL</b>	<b>5,444</b>	<b>100.0%</b>	<b>1,095</b>	<b>100.0%</b>
<b>TOTAL: AM+PM</b>	<b>4,744</b>	<b>87.2%</b>	<b>276</b>	<b>5.4%</b>
<b>% OF TOTAL</b>	<b>87.2%</b>	<b>1.5%</b>	<b>5.4%</b>	<b>0.2%</b>
<b>TOTAL: ALL</b>	<b>8,970</b>	<b>86.7%</b>	<b>586</b>	<b>5.7%</b>
<b>% OF TOTAL</b>	<b>86.7%</b>	<b>1.2%</b>	<b>5.7%</b>	<b>0.4%</b>



**24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)**

Prepared by AlimTD LLC tel. 714-253-7888 cs@alimtd.com

**DATE:** Wednesday, February 06, 2019  
**JOB #:** SC2074

**CITY:** Chino  
**LOCATION:** CLASS10 Merrill between Grove and Flight

AM TIME	AM						TOTAL	PM						TOTAL	
	1	2	3	4	5	6		1	2	3	4	5	6		
0:00	1	0	0	0	0	0	1	12:00	34	5	0	7	0	2	48
0:15	2	1	0	0	0	0	3	12:15	37	4	0	13	0	4	58
0:30	5	7	2	0	0	0	14	12:30	22	3	0	6	0	1	32
0:45	9	2	1	0	0	0	12	12:45	25	1	0	9	0	1	36
1:00	3	2	0	0	0	0	5	13:00	33	2	2	6	0	0	43
1:15	3	0	0	0	0	0	3	13:15	28	4	0	5	0	0	37
1:30	2	0	1	1	0	0	4	13:30	48	2	0	5	0	1	56
1:45	5	0	0	3	0	0	8	13:45	46	4	0	8	0	1	59
2:00	3	0	0	0	0	0	3	14:00	74	5	0	6	0	0	85
2:15	4	0	0	0	0	0	4	14:15	76	0	3	6	0	0	85
2:30	3	1	0	0	2	0	6	14:30	92	2	0	8	0	0	102
2:45	4	0	0	0	0	0	4	14:45	86	1	2	6	0	1	96
3:00	3	1	0	0	3	0	7	15:00	78	2	1	5	0	6	92
3:15	3	0	0	0	3	0	6	15:15	64	4	1	6	0	0	75
3:30	7	5	0	2	0	0	14	15:30	87	4	1	4	0	2	98
3:45	14	4	0	1	0	0	19	15:45	68	8	0	4	0	0	80
4:00	20	0	1	1	5	0	26	16:00	62	2	2	6	0	0	72
4:15	26	0	1	2	0	0	29	16:15	59	5	3	1	0	1	69
4:30	27	6	1	2	0	0	36	16:30	83	4	0	3	0	0	90
4:45	34	4	0	3	0	0	41	16:45	65	3	1	2	0	0	71
5:00	48	6	0	3	0	0	57	17:00	90	6	2	3	0	1	102
5:15	66	4	0	2	0	0	72	17:15	65	9	3	9	0	1	87
5:30	91	5	0	5	0	1	102	17:30	60	3	0	1	0	1	65
5:45	92	0	1	5	0	0	98	17:45	65	5	1	3	0	0	74
6:00	80	6	0	3	0	0	89	18:00	60	2	0	2	0	0	64
6:15	87	9	1	2	0	0	100	18:15	57	1	0	4	0	0	62
6:30	109	2	1	5	0	0	118	18:30	62	3	0	2	0	0	67
6:45	139	7	1	4	0	1	152	18:45	54	6	0	1	0	0	61
7:00	135	5	3	6	0	0	149	19:00	39	4	1	2	0	0	46
7:15	146	2	2	8	0	0	159	19:15	24	2	0	4	0	0	30
7:30	140	6	0	4	0	0	150	19:30	22	0	0	5	0	0	28
7:45	155	8	1	6	0	0	170	19:45	19	3	0	2	0	0	24
8:00	119	6	2	8	0	0	136	20:00	11	0	2	1	0	0	14
8:15	126	9	0	4	0	0	139	20:15	17	2	1	0	0	0	20
8:30	112	5	3	7	0	0	128	20:30	7	0	0	1	0	0	8
8:45	105	4	2	5	0	0	116	20:45	16	1	0	1	0	0	18
9:00	80	3	1	4	0	0	88	21:00	13	0	0	0	0	0	14
9:15	72	2	1	2	0	0	81	21:15	15	1	0	1	0	0	16
9:30	58	2	1	6	0	0	68	21:30	11	0	0	3	0	0	14
9:45	62	8	0	7	0	0	78	21:45	12	2	0	0	0	0	14
10:00	53	5	0	2	0	0	61	22:00	13	1	0	0	0	0	14
10:15	51	8	0	4	0	0	64	22:15	9	1	0	0	0	0	10
10:30	55	7	0	3	0	0	66	22:30	6	2	0	1	0	0	9
10:45	64	5	0	2	0	0	72	22:45	6	2	0	0	0	0	8
11:00	39	9	0	2	0	0	50	23:00	13	3	0	1	0	0	17
11:15	26	7	1	1	0	0	35	23:15	6	1	1	0	0	0	8
11:30	38	6	0	4	0	0	48	23:30	10	5	1	0	0	0	16
11:45	42	7	0	3	0	0	52	23:45	9	4	0	1	0	0	14
<b>TOTAL</b>	<b>2,568</b>	<b>186</b>	<b>26</b>	<b>146</b>	<b>0</b>	<b>13</b>	<b>2,939</b>	<b>TOTAL</b>	<b>1,958</b>	<b>135</b>	<b>28</b>	<b>164</b>	<b>0</b>	<b>23</b>	<b>2,308</b>
<b>AM PEAK HOUR</b>								<b>AM PEAK HOUR</b>							
<b>7:00 AM</b>								<b>2:15 PM</b>							
628								375							

CLASS	AM + PM	% OF TOTAL
CLASS 1 PASSENGER VEHICLES	4,526	86.3%
CLASS 2 2-AXLE TRUCKS	321	6.1%
CLASS 3 3-AXLE TRUCKS	54	1.0%
CLASS 4 4 OR MORE AXLE TRUCKS	0	0.0%
CLASS 5 RV	36	0.7%
CLASS 6 BUS	5,247	100.0%

**INTERSECTION TURNING MOVEMENT COUNTS**

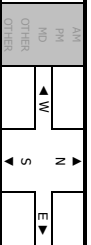
PREPARED BY: AlimTD LLC Tel: 714 253 7888 c@alimtd.com

PROJECT #: SC02/4  
LOCATION #: 37  
CONTROL: STOP S

DATE: Wed Jan 30, 19  
LOCATION: NORTH & SOUTH:  
EAST & WEST:

Chino  
Walker  
Eucalyptus

NOTES:



Add U-turns to Left Turns

		NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND		RTOR	
		Walker		Walker		Eucalyptus		Eucalyptus			
LANES:		NL	NT	SL	ST	EL	ET	ER	WL	WT	WR

7:00 AM	0	0	0	1	7	0	3	0	0	8	2	21
7:15 AM	0	0	0	16	0	5	8	0	0	8	40	66
7:30 AM	0	0	0	35	0	8	4	0	0	14	3	66
7:45 AM	0	0	0	24	0	8	9	0	0	14	3	71
8:00 AM	0	0	0	19	0	1	7	0	0	12	4	46
8:15 AM	0	0	0	27	0	3	2	0	0	10	4	51
8:30 AM	0	0	0	23	0	4	5	0	0	8	4	53
8:45 AM	0	0	0	21	0	0	0	0	0	8	4	38
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	166	49	11	52	0	0	82	26	386
APPROACH %	0%	0%	0%	77%	23%	17%	83%	0%	0%	76%	24%	131
APPROX/DEPART	0	37	215	/	0	63	/	218	108	/	131	0
BEGIN PEAK HR	0	7:30 AM	0	105	0	33	7	25	0	50	14	234
VOLUMES	0	0	0	76%	24%	22%	78%	0%	0%	78%	22%	0.824
APPROACH %	0%	0%	0%	0.767	0.850	0.800	0.800	0	0	0.941	0.824	0.824
APPROX/DEPART	0	/	21	138	/	32	/	130	64	/	83	0

		NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND			
		Walker		Walker		Eucalyptus		Eucalyptus			
U-TURNS		NB	SB	EB	WB	TTL	NB	SB	EB	WB	TTL

		NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
		Walker		Walker		Eucalyptus		Eucalyptus	
RTOR		NR	SR	ER	WR	NR	SR	ER	WR

03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	4	0	2	8	0	0	3	3	22
4:15 PM	0	0	0	5	0	10	16	0	0	6	4	41
4:30 PM	0	0	0	4	0	1	8	0	0	6	7	34
4:45 PM	0	0	0	3	0	2	11	0	0	7	2	34
5:00 PM	0	0	0	3	0	0	9	0	0	5	6	40
5:15 PM	0	0	0	2	0	3	8	0	0	3	3	32
5:30 PM	0	0	0	2	0	2	5	0	0	2	4	32
5:45 PM	0	0	0	2	0	0	8	0	0	5	1	27
VOLUMES	0	0	0	22	0	10	80	0	0	27	4	177
APPROACH %	0%	0%	0%	69%	0%	29%	36%	0%	0%	55%	20%	2/8
APPROX/DEPART	0	4:15 PM	87	35	/	0	146	114	67	/	49	0
BEGIN PEAK HR	0	4:15 PM	13	0	3	38	52	19	0	24	19	150
VOLUMES	0	0%	0%	76%	0%	42%	58%	0%	0%	56%	44%	0.915
APPROACH %	0%	0%	0%	0.767	0.850	0.865	0.865	0	0	0.827	0.824	0.915
APPROX/DEPART	0	/	58	17	/	90	/	65	43	/	27	0

		NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND			
		Walker		Walker		Eucalyptus		Eucalyptus			
U-TURNS		NB	SB	EB	WB	TTL	NB	SB	EB	WB	TTL

		NORTHBOUND		SOUTHBOUND		EASTBOUND		WESTBOUND	
		Walker		Walker		Eucalyptus		Eucalyptus	
RTOR		NR	SR	ER	WR	NR	SR	ER	WR

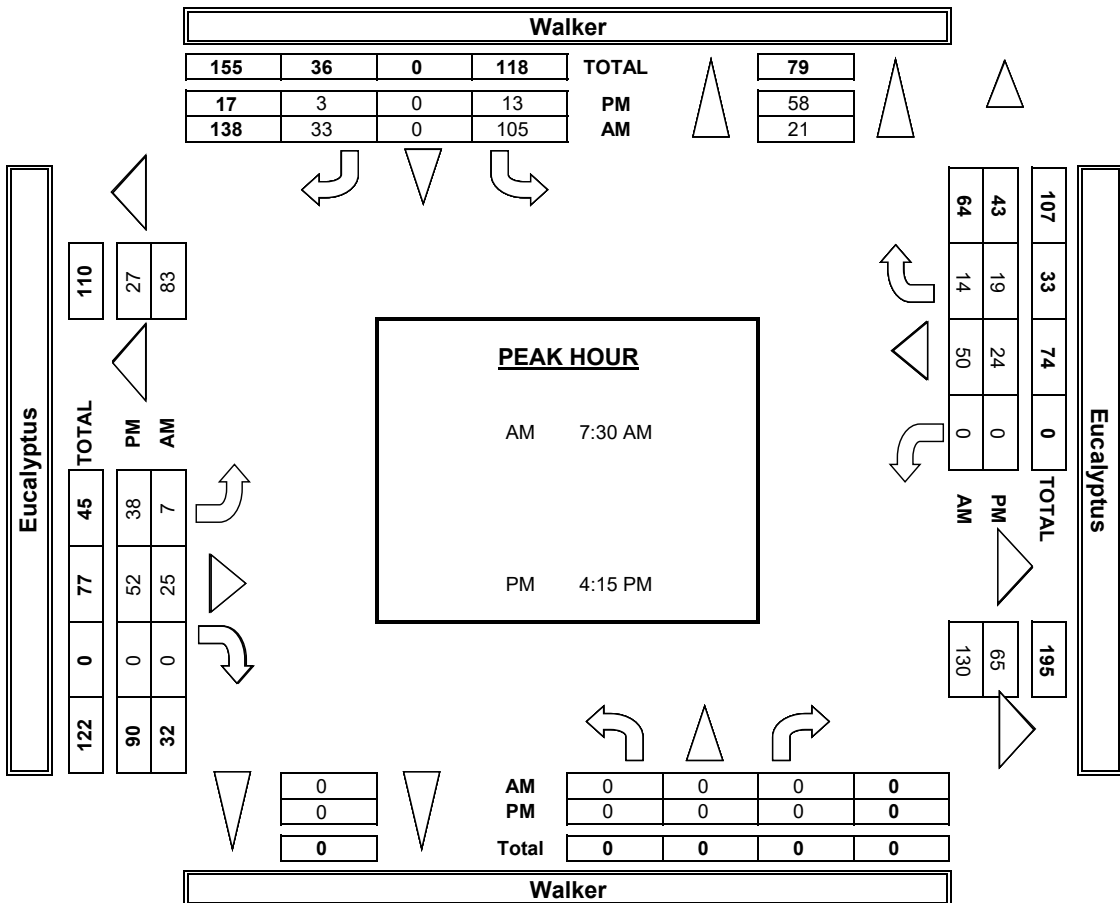
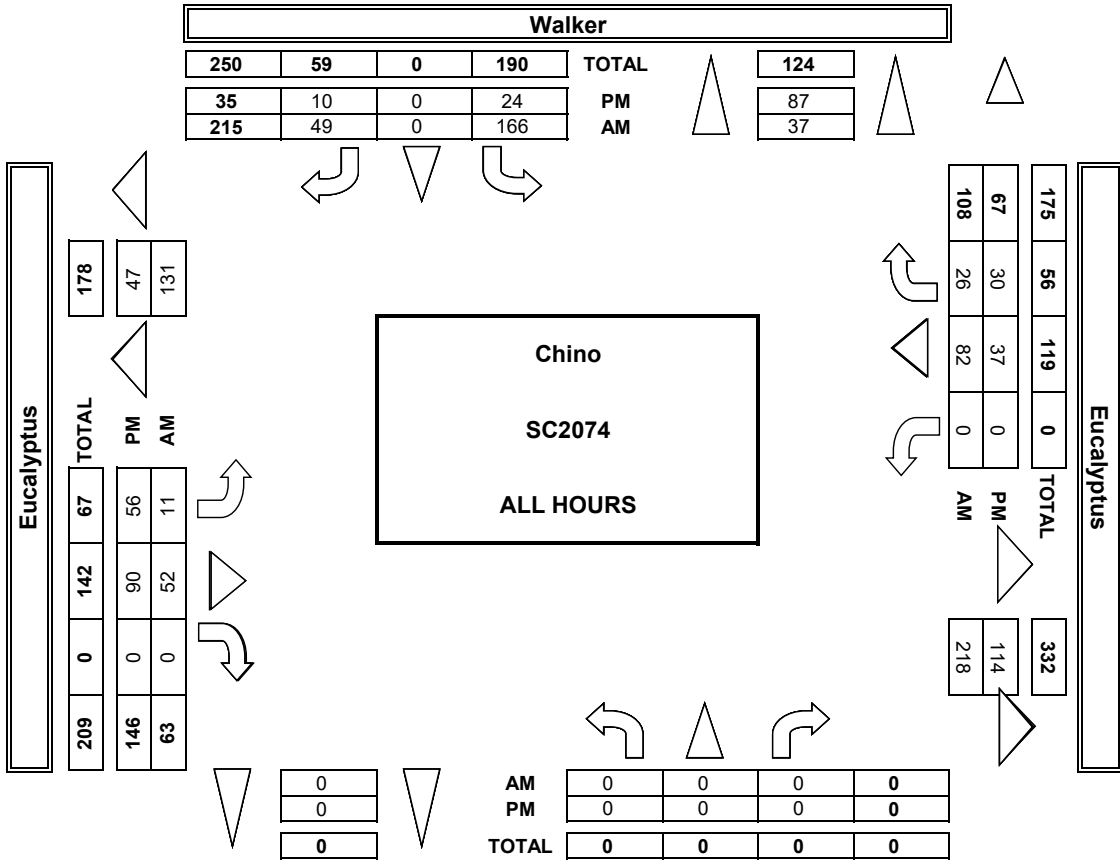


		WEST SIDE		SOUTH SIDE		EAST SIDE		NORTH SIDE	
		Walker		Walker		Eucalyptus		Eucalyptus	
LANES:		ES	WS	SS	NS	ES	WS	SS	NS

		WEST SIDE		SOUTH SIDE		EAST SIDE		NORTH SIDE	
		Walker		Walker		Eucalyptus		Eucalyptus	
BICYCLE CROSSINGS		ES	WS	SS	NS	ES	WS	SS	NS

		WEST SIDE		SOUTH SIDE		EAST SIDE		NORTH SIDE	
		Walker		Walker		Eucalyptus		Eucalyptus	
PEDESTRIAN CROSSINGS		ES	WS	SS	NS	ES	WS	SS	NS

**AimTD LLC**  
TURNING MOVEMENT COUNTS











**INTERSECTION TURNING MOVEMENT COUNTS**

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: 1/30/19 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	Chino Walker Eucalyptus	PROJECT #: LOCATION #: CONTROL:	SC2074 37 STOP S
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<b>CLASS 5:</b>	<b>NOTES:</b>	AM	▲	N	
RV		PM	◀	W	E ▶
		MD		S	
		OTHER		▼	

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

U-TURNS				
NB	SB	EB	WB	TTL

RTOR			
NRR	SRR	ERR	WRR

7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0	0
BEGIN PEAK HR	7:00 AM													
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0	0
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0	0
BEGIN PEAK HR	3:00 PM													
VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEAK HR FACTOR	0.000			0.000			0.000			0.000			0.000	
APP/DEPART	0	/	0	0	/	0	0	/	0	0	/	0	0	0

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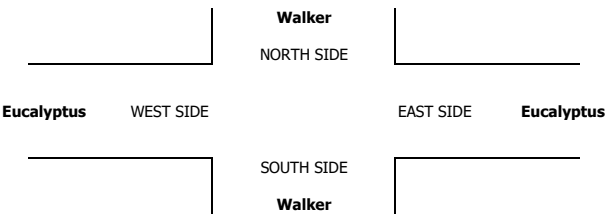
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**APPENDIX 3.2:**

**EXISTING (2021) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**

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Volume Development  
AM Peak Hour

	1: SR-60 WB Ramps & Euclid Av.													
	PHF:	0.939		7:15					Count Date: 1/30/2019					
		<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2021 Adj PCE:		345	938	0	0	935	488	0	0	0	594	6	424	3,731
	2: SR-60 EB Ramps & Euclid Av.													
	PHF:	0.953		7:30					Count Date: 1/30/2019					
		<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2021 Adj PCE:		0	865	682	378	1,222	0	420	2	300	0	0	0	3,868
	3: Euclid Av. & Walnut Av.													
	PHF:	0.954		7:15					Count Date: 1/30/2019					
		<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2021 Adj PCE:		138	1,167	50	165	1,173	65	118	300	113	73	319	212	3,894
	4: Euclid Av. & Riverside Dr													
	PHF:	0.946		7:30					Count Date: 1/22/2019					
		<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2021 Adj PCE:		73	945	170	191	978	168	159	323	50	195	507	120	3,879
	5: Euclid Av. & Chino Av.													
	PHF:	0.941		7:15					Count Date: 1/24/2019					
		<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2021 Adj PCE:		51	1,028	142	61	1,047	101	108	172	38	74	157	53	3,031
	6: Euclid Av. & Schaefer Av.													
	PHF:	0.933		7:15					Count Date: 1/22/2019					
		<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2021 Adj PCE:		112	1,049	39	32	951	134	159	75	60	146	184	11	2,952
	7: Euclid Av. & Edison Av.													
	PHF:	0.956		7:15					Count Date: 1/23/2019					
		<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2021 Adj PCE:		229	904	41	69	831	184	162	247	101	34	433	65	3,299
	8: Euclid Av. & Eucalyptus Av.													
	PHF:	0.976		7:15					Count Date: 1/22/2019					
		<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2021 Adj PCE:		186	1,103	13	24	1,006	44	69	26	156	33	157	38	2,855
	9: Euclid Av. & Merrill Av.													
	PHF:	0.965		7:15					Count Date: 1/22/2019					
		<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2021 Adj PCE:		11	1,061	154	132	1,020	42	4	8	17	234	49	237	2,969
	10: Sultana Av. & Eucalyptus Av.													
	PHF:								Count Date:					
		<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2021 Adj PCE:		0	0	0	0	0	0	0	64	0	0	248	0	312
	11: Sultana Av. & Driveway 1													
	PHF:								Count Date:					
		<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2021 Adj PCE:		0	0	0	0	0	0	0	0	0	0	0	0	0
	12: Sultana Av. & Driveway 2													
	PHF:								Count Date:					
		<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2021 Adj PCE:		0	0	0	0	0	0	0	0	0	0	0	0	0
	13: Sultana Av. & Driveway 3													
	PHF:								Count Date:					
		<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2021 Adj PCE:		0	0	0	0	0	0	0	0	0	0	0	0	0
	14: Sultana Av. & Driveway 4													
	PHF:								Count Date:					

Volume Development  
AM Peak Hour

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2021 Adj PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0
15: Sultana Av. & Driveway 5													
PHF: _____													
	Count Date: _____												
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	0	0	0	0	0	0
16: Sultana Av. & Driveway 6													
PHF: _____													
	Count Date: _____												
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	0	0	0	0	0	0
17: Sultana Av. & Driveway 7													
PHF: _____													
	Count Date: _____												
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	0	0	0	0	0	0
18: Sultana Av. & Merrill Av.													
PHF: _____													
	Count Date: _____												
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	304	0	0	600	0	904
19: Driveway 8 & Merrill Av.													
PHF: _____													
	Count Date: _____												
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	304	0	0	600	0	904
20: Driveway 9 & Eucalyptus Av.													
PHF: _____													
	Count Date: _____												
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	64	0	0	248	0	312
21: Driveway 10 & Eucalyptus Av.													
PHF: _____													
	Count Date: _____												
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	64	0	0	248	0	312
22: Driveway 11 & Merrill Av.													
PHF: _____													
	Count Date: _____												
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	304	0	0	600	0	904
23: Campus Av. & Eucalyptus Av.													
PHF: _____													
	Count Date: _____												
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	64	0	0	248	0	312
24: Campus Av. & Driveway 12													
PHF: _____													
	Count Date: _____												
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	0	0	0	0	0	0
25: Campus Av. & Driveway 13													
PHF: _____													
	Count Date: _____												
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	0	0	0	0	0	0
26: Campus Av. & Driveway 14													
PHF: _____													
	Count Date: _____												
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	0	0	0	0	0	0
27: Campus Av. & Driveway 15													
PHF: _____													
	Count Date: _____												
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	0	0	0	0	0	0

Volume Development  
AM Peak Hour

	PHF:								Count Date:				TOTAL
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
28: Campus Av. & Driveway 16									Count Date:				
2021 Adj PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0
29: Campus Av. & Driveway 17									Count Date:				
2021 Adj PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0
30: Campus Av. & Driveway 18									Count Date:				
2021 Adj PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0
31: Campus Av. & Merrill Av.									Count Date:				
2021 Adj PCE:	0	0	0	0	0	0	0	304	0	0	600	0	904
32: Bon View Av. & Eucalyptus Av.	PHF: 0.925 7:15								Count Date: 1/30/2019				
2021 Adj PCE:	17	57	3	30	57	49	18	43	3	1	182	20	478
33: Bon View Av. & Merrill Av.	PHF: 0.938 7:15								Count Date: 1/30/2019				
2021 Adj PCE:	0	0	0	24	0	37	21	283	0	0	563	56	984
34: Grove Av. & Eucalyptus Av.	PHF: 0.912 7:15								Count Date: 1/30/2019				
2021 Adj PCE:	62	238	11	15	217	49	24	37	14	12	91	12	783
35: Grove Av. & Merrill Av.	PHF: 0.972 7:45								Count Date: 1/30/2019				
2021 Adj PCE:	0	0	0	147	0	96	80	227	0	0	523	231	1,304
36: Walker Av. & Edison Av.	PHF: 0.977 7:30								Count Date: 1/30/2019				
2021 Adj PCE:	4	19	8	26	18	12	17	239	9	115	408	144	1,019
37: Walker Av. & Eucalyptus Av.	PHF: 0.824 7:30AM								Count Date: 1/30/2019				
2021 Adj PCE:	0	0	0	126	0	38	10	47	0	0	80	23	325
38: Walker Av./Flight Av. & Merrill Av.	PHF: 0.970 7:30								Count Date: 1/30/2019				
2021 Adj PCE:	174	0	98	0	0	0	0	257	96	105	530	0	1,261
39: Baker Av./Van Vliet Av. & Merrill Av.	PHF: 0.906 7:30								Count Date: 1/30/2019				
2021 Adj PCE:	10	0	26	0	0	0	0	326	28	25	643	0	1,058
40: Vineyard Av. & Edison Av.	PHF: 0.920								Count Date:				
2021 Adj PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0
41: Vineyard Av./Hellman Av. & Merrill Av.	PHF: 0.934 7:45								Count Date: 1/30/2019				
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>

Volume Development  
AM Peak Hour

2021 Adj PCE:	0	0	0	0	0	0	0	360	0	0	654	0	1,014
<b>42: Carpenter Av. &amp; Merrill Av.</b>													
	PHF:	0.940		7:30		Count Date: 1/30/2019							
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	20	0	110	118	0	10	9	302	25	182	608	42	1,425
<b>43: Hellman Av. &amp; Edison Av.</b>													
	PHF:	0.920		7:00		Count Date: 1/30/2019							
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>44: Archibald Av. &amp; Edison Av./Ontario Ranch Rd.</b>													
	PHF:	0.973		7:00		Count Date: 1/22/2019							
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	163	970	378	69	379	97	23	198	41	349	468	138	3,273
<b>45: Archibald Av. &amp; Eucalyptus Av.</b>													
	PHF:	0.934		7:00		Count Date: 1/22/2019							
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	1,496	9	25	743	0	0	0	0	11	0	16	2,300
<b>46: Archibald Av. &amp; Merrill Av.</b>													
	PHF:	0.970		7:00		Count Date: 1/22/2019							
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	421	1,141	40	41	498	221	186	20	93	75	43	125	2,901
<b>47: Archibald Av. &amp; Limonite Av.</b>													
	PHF:	0.959		7:00		Count Date: 1/22/2019							
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	819	288	191	474	0	0	0	0	283	0	804	2,859
<b>48: Turner Av. &amp; Edison Av./Ontario Ranch Rd.</b>													
	PHF:	0.902		7:00		Count Date: 1/30/2019							
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	58	24	37	34	16	58	27	549	34	43	1,018	18	1,917
<b>49: Haven Av. &amp; Ontario Ranch Rd.</b>													
	PHF:	0.938		7:00		Count Date: 2/6/2019							
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	63	191	79	119	58	69	134	582	29	21	845	82	2,271
<b>50: Hamner Av. &amp; Ontario Ranch Rd./Cantu-Galleano Ranch Rd.</b>													
	PHF:	0.882		7:00		Count Date: 1/30/2019							
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	171	701	504	154	208	82	96	542	82	275	790	203	3,807
<b>51: I-215 SB Ramps &amp; Cantu-Galleano Ranch Rd.</b>													
	PHF:	0.896		7:00		Count Date: 1/30/2019							
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	323	0	1,092	0	979	330	0	531	182	3,437
<b>52: I-215 NB Ramps &amp; Cantu-Galleano Ranch Rd.</b>													
	PHF:	0.914		7:00		Count Date: 1/30/2019							
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	253	0	300	0	0	0	0	498	803	366	460	0	2,681

Volume Development  
PM Peak Hour

	PHF:									Count Date:				
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>	
<b>1: SR-60 WB Ramps &amp; Euclid Av.</b>														
	0.962			4:30						1/30/2019				
2021 Adj PCE:	242	1,075	0	0	1,000	492	0	0	0	599	6	407	3,822	
<b>2: SR-60 EB Ramps &amp; Euclid Av.</b>														
	0.977			4:30						1/30/2019				
2021 Adj PCE:	0	899	573	375	1,234	0	416	3	318	0	0	0	3,818	
<b>3: Euclid Av. &amp; Walnut Av.</b>														
	0.941			4:45						1/30/2019				
2021 Adj PCE:	196	1,204	77	279	1,103	155	107	370	138	69	370	140	4,209	
<b>4: Euclid Av. &amp; Riverside Dr</b>														
	0.958			5:00						1/22/2019				
2021 Adj PCE:	69	1,014	253	147	916	203	151	458	74	185	409	64	3,942	
<b>5: Euclid Av. &amp; Chino Av.</b>														
	0.930			4:45						1/24/2019				
2021 Adj PCE:	42	1,230	241	26	1,039	76	96	284	48	78	112	9	3,284	
<b>6: Euclid Av. &amp; Schaefer Av.</b>														
	0.986			4:45						1/22/2019				
2021 Adj PCE:	90	1,198	88	31	1,057	122	291	287	185	79	67	25	3,518	
<b>7: Euclid Av. &amp; Edison Av.</b>														
	0.950			4:45						1/23/2019				
2021 Adj PCE:	153	1,084	75	90	1,136	192	275	481	290	41	262	35	4,113	
<b>8: Euclid Av. &amp; Eucalyptus Av.</b>														
	0.890			4:45						1/22/2019				
2021 Adj PCE:	112	1,203	19	49	1,289	68	38	163	210	8	21	9	3,189	
<b>9: Euclid Av. &amp; Merrill Av.</b>														
	0.905			4:30						1/22/2019				
2021 Adj PCE:	4	1,181	247	276	1,230	1	11	30	12	190	2	141	3,328	
<b>10: Sultana Av. &amp; Eucalyptus Av.</b>														
2021 Adj PCE:	0	0	0	0	0	0	0	240	0	0	75	0	315	
<b>11: Sultana Av. &amp; Driveway 1</b>														
2021 Adj PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>12: Sultana Av. &amp; Driveway 2</b>														
2021 Adj PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>13: Sultana Av. &amp; Driveway 3</b>														
2021 Adj PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>14: Sultana Av. &amp; Driveway 4</b>														
2021 Adj PCE:														



Volume Development  
PM Peak Hour

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2021 Adj PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>15: Sultana Av. &amp; Driveway 5</b>													
PHF: _____ Count Date: _____													
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>16: Sultana Av. &amp; Driveway 6</b>													
PHF: _____ Count Date: _____													
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>17: Sultana Av. &amp; Driveway 7</b>													
PHF: _____ Count Date: _____													
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>18: Sultana Av. &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	700	0	0	370	0	1,070
<b>19: Driveway 8 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	700	0	0	370	0	1,070
<b>20: Driveway 9 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	240	0	0	75	0	315
<b>21: Driveway 10 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	240	0	0	75	0	315
<b>22: Driveway 11 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	700	0	0	370	0	1,070
<b>23: Campus Av. &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	240	0	0	75	0	315
<b>24: Campus Av. &amp; Driveway 12</b>													
PHF: _____ Count Date: _____													
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>25: Campus Av. &amp; Driveway 13</b>													
PHF: _____ Count Date: _____													
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>26: Campus Av. &amp; Driveway 14</b>													
PHF: _____ Count Date: _____													
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>27: Campus Av. &amp; Driveway 15</b>													
PHF: _____ Count Date: _____													
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	0	0	0	0	0	0

Volume Development  
PM Peak Hour

	PHF: _____										Count Date: _____			
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>	
28: Campus Av. & Driveway 16	PHF: _____										Count Date: _____			
2021 Adj PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0	
29: Campus Av. & Driveway 17	PHF: _____										Count Date: _____			
2021 Adj PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0	
30: Campus Av. & Driveway 18	PHF: _____										Count Date: _____			
2021 Adj PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0	
31: Campus Av. & Merrill Av.	PHF: _____										Count Date: _____			
2021 Adj PCE:	0	0	0	0	0	0	0	700	0	0	370	0	1,070	
32: Bon View Av. & Eucalyptus Av.	PHF: <u>0.866</u> 4:45										Count Date: <u>1/30/2019</u>			
2021 Adj PCE:	5	97	7	21	65	14	16	221	4	2	56	9	516	
33: Bon View Av. & Merrill Av.	PHF: <u>0.938</u> 4:30										Count Date: <u>1/30/2019</u>			
2021 Adj PCE:	0	0	0	38	0	32	81	619	0	0	338	28	1,137	
34: Grove Av. & Eucalyptus Av.	PHF: <u>0.897</u> 4:45										Count Date: <u>1/30/2019</u>			
2021 Adj PCE:	15	336	4	12	220	32	92	86	70	5	20	14	906	
35: Grove Av. & Merrill Av.	PHF: <u>0.959</u> 4:30										Count Date: <u>1/30/2019</u>			
2021 Adj PCE:	0	0	0	173	0	84	179	478	0	0	281	168	1,364	
36: Walker Av. & Edison Av.	PHF: <u>0.951</u> 4:30										Count Date: <u>1/30/2019</u>			
2021 Adj PCE:	3	20	50	66	14	10	21	680	1	15	366	31	1,277	
37: Walker Av. & Eucalyptus Av.	PHF: <u>0.915</u> 4:15pm										Count Date: <u>1/30/2019</u>			
2021 Adj PCE:	0	0	0	24	0	5	61	85	0	0	39	33	247	
38: Walker Av./Flight Av. & Merrill Av.	PHF: <u>0.913</u> 4:30										Count Date: <u>1/30/2019</u>			
2021 Adj PCE:	106	0	120	0	0	0	0	532	112	86	329	0	1,284	
39: Baker Av./Van Vliet Av. & Merrill Av.	PHF: <u>0.882</u> 5:00										Count Date: <u>1/30/2019</u>			
2021 Adj PCE:	11	0	13	0	0	0	0	677	5	9	385	0	1,101	
40: Vineyard Av. & Edison Av.	PHF: <u>0.920</u>										Count Date: _____			
2021 Adj PCE:	0	0	0	0	0	0	0	0	0	0	0	0	0	
41: Vineyard Av./Hellman Av. & Merrill Av.	PHF: <u>0.903</u> 5:00										Count Date: <u>1/30/2019</u>			
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>	

Volume Development  
PM Peak Hour

2021 Adj PCE:	0	0	0	0	0	0	0	696	0	0	398	0	1,094
<b>42: Carpenter Av. &amp; Merrill Av.</b>													
	PHF: 0.902		4:30		Count Date: 1/30/2019								
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	33	4	103	54	5	1	4	664	21	26	348	7	1,272
<b>43: Hellman Av. &amp; Edison Av.</b>													
	PHF: 0.920		5:00		Count Date: 1/30/2019								
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>44: Archibald Av. &amp; Edison Av./Ontario Ranch Rd.</b>													
	PHF: 0.970		5:00		Count Date: 1/22/2019								
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	73	544	303	144	793	76	86	555	125	285	208	73	3,265
<b>45: Archibald Av. &amp; Eucalyptus Av.</b>													
	PHF: 0.938		5:00		Count Date: 1/22/2019								
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	910	1	10	1,193	0	0	0	0	2	0	10	2,127
<b>46: Archibald Av. &amp; Merrill Av.</b>													
	PHF: 0.973		4:45		Count Date: 1/22/2019								
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	120	581	42	74	977	172	243	69	411	45	23	53	2,810
<b>47: Archibald Av. &amp; Limonite Av.</b>													
	PHF: 0.983		4:45		Count Date: 1/22/2019								
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	537	353	568	865	0	0	0	0	320	0	250	2,893
<b>48: Turner Av. &amp; Edison Av./Ontario Ranch Rd.</b>													
	PHF: 0.905		4:30		Count Date: 1/30/2019								
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	26	7	40	28	7	21	43	1,050	40	32	590	13	1,896
<b>49: Haven Av. &amp; Ontario Ranch Rd.</b>													
	PHF: 0.955		5:00		Count Date: 2/6/2019								
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	29	89	23	169	263	110	119	850	67	62	512	131	2,424
<b>50: Hamner Av. &amp; Ontario Ranch Rd./Cantu-Galleano Ranch Rd.</b>													
	PHF: 0.960		4:45		Count Date: 1/30/2019								
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	202	387	242	469	821	111	91	766	273	603	439	111	4,515
<b>51: I-215 SB Ramps &amp; Cantu-Galleano Ranch Rd.</b>													
	PHF: 0.972		5:00		Count Date: 1/30/2019								
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	301	0	977	0	1,062	510	0	460	434	3,745
<b>52: I-215 NB Ramps &amp; Cantu-Galleano Ranch Rd.</b>													
	PHF: 0.950		5:00		Count Date: 1/30/2019								
2021 Adj PCE:	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	199	0	238	0	0	0	0	661	735	303	700	0	2,836

Timings  
1: Euclid Av. (SR-83) & SR-60 WB Ramps



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↔	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	594	6	424	345	938	935	488
Future Volume (vph)	594	6	424	345	938	935	488
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	10.0	10.0	10.0
Minimum Split (s)	11.0	11.0	11.0	9.5	22.5	22.5	22.5
Total Split (s)	32.0	32.0	32.0	28.0	58.0	30.0	30.0
Total Split (%)	35.6%	35.6%	35.6%	31.1%	64.4%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.5	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	23.6	23.6	23.6	21.1	55.9	30.2	30.2
Actuated g/C Ratio	0.26	0.26	0.26	0.23	0.62	0.34	0.34
v/c Ratio	0.84	0.84	0.71	0.87	0.45	0.82	0.59
Control Delay	48.5	46.6	27.7	38.5	18.5	36.7	5.6
Queue Delay	0.0	0.0	0.0	0.0	1.1	0.0	0.0
Total Delay	48.5	46.6	27.7	38.5	19.6	36.7	5.6
LOS	D	D	C	D	B	D	A
Approach Delay		41.3			24.7	26.1	
Approach LOS		D			C	C	

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 63 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 29.8  
 Intersection LOS: C  
 Intersection Capacity Utilization 96.6%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 1: Euclid Av. (SR-83) & SR-60 WB Ramps



HCM 6th Signalized Intersection Summary  
 1: Euclid Av. (SR-83) & SR-60 WB Ramps

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↔	↗	↖	↕			↕	↗
Traffic Volume (veh/h)	0	0	0	594	6	424	345	938	0	0	935	488
Future Volume (veh/h)	0	0	0	594	6	424	345	938	0	0	935	488
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No		No			
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				707	0	157	367	998	0	0	995	291
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				812	0	361	394	2379	0	0	1413	630
Arrive On Green				0.22	0.00	0.22	0.44	1.00	0.00	0.00	0.39	0.39
Sat Flow, veh/h				3619	0	1610	1810	3705	0	0	3705	1610
Grp Volume(v), veh/h				707	0	157	367	998	0	0	995	291
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1810	1805	0	0	1805	1610
Q Serve(g_s), s				16.9	0.0	7.5	17.3	0.0	0.0	0.0	20.8	12.1
Cycle Q Clear(g_c), s				16.9	0.0	7.5	17.3	0.0	0.0	0.0	20.8	12.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				812	0	361	394	2379	0	0	1413	630
V/C Ratio(X)				0.87	0.00	0.43	0.93	0.42	0.00	0.00	0.70	0.46
Avail Cap(c_a), veh/h				1086	0	483	472	2379	0	0	1413	630
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.51	0.51	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.6	0.0	30.0	24.8	0.0	0.0	0.0	23.0	20.4
Incr Delay (d2), s/veh				4.9	0.0	0.3	13.1	0.3	0.0	0.0	3.0	2.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.5	0.0	2.8	6.5	0.1	0.0	0.0	8.7	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				38.6	0.0	30.3	37.9	0.3	0.0	0.0	26.0	22.8
LnGrp LOS				D	A	C	D	A	A	A	C	C
Approach Vol, veh/h					864			1365			1286	
Approach Delay, s/veh					37.1			10.4			25.3	
Approach LOS					D			B			C	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		64.8			24.1	40.7		25.2				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.0				
Max Green Setting (Gmax), s		52.5			23.5	24.5		27.0				
Max Q Clear Time (g_c+I1), s		2.0			19.3	22.8		18.9				
Green Ext Time (p_c), s		12.7			0.2	1.3		1.2				

Intersection Summary

HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

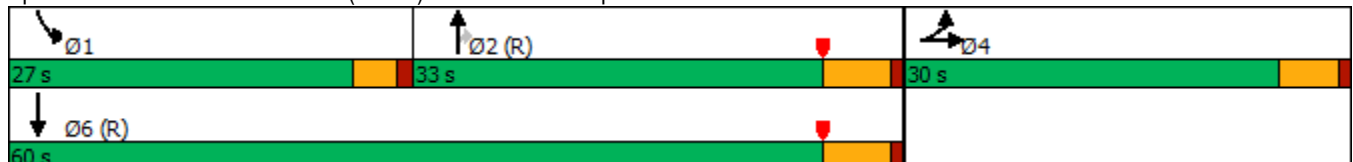


Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	420	2	865	682	378	1222
Future Volume (vph)	420	2	865	682	378	1222
Turn Type	Split	NA	NA	Perm	Prot	NA
Protected Phases	4	4	2		1	6
Permitted Phases				2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0	10.0	5.0	10.0
Minimum Split (s)	11.0	11.0	22.5	22.5	9.0	22.5
Total Split (s)	30.0	30.0	33.0	33.0	27.0	60.0
Total Split (%)	33.3%	33.3%	36.7%	36.7%	30.0%	66.7%
Yellow Time (s)	4.0	4.0	4.5	4.5	3.0	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)	23.2	23.2	30.5	30.5	21.8	56.3
Actuated g/C Ratio	0.26	0.26	0.34	0.34	0.24	0.63
v/c Ratio	0.90	0.81	0.75	0.76	0.91	0.57
Control Delay	57.2	40.4	32.0	10.4	54.0	4.8
Queue Delay	1.7	0.7	0.0	0.0	0.0	0.5
Total Delay	58.9	41.1	32.0	10.4	54.0	5.3
LOS	E	D	C	B	D	A
Approach Delay		50.4	22.5			16.8
Approach LOS		D	C			B

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 25.4  
 Intersection LOS: C  
 Intersection Capacity Utilization 96.6%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 2: Euclid Av. (SR-83) & SR-60 EB Ramps



HCM 6th Signalized Intersection Summary  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	420	2	300	0	0	0	0	865	682	378	1222	0
Future Volume (veh/h)	420	2	300	0	0	0	0	865	682	378	1222	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	353	127	261				0	911	519	398	1286	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	457	140	288				0	1262	548	429	2278	0
Arrive On Green	0.25	0.25	0.25				0.00	0.35	0.35	0.31	0.84	0.00
Sat Flow, veh/h	1810	555	1140				0	3705	1567	1810	3705	0
Grp Volume(v), veh/h	353	0	388				0	911	519	398	1286	0
Grp Sat Flow(s),veh/h/ln	1810	0	1695				0	1805	1567	1810	1805	0
Q Serve(g_s), s	16.3	0.0	20.0				0.0	19.8	29.0	19.2	9.8	0.0
Cycle Q Clear(g_c), s	16.3	0.0	20.0				0.0	19.8	29.0	19.2	9.8	0.0
Prop In Lane	1.00		0.67				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	457	0	428				0	1262	548	429	2278	0
V/C Ratio(X)	0.77	0.00	0.91				0.00	0.72	0.95	0.93	0.56	0.00
Avail Cap(c_a), veh/h	503	0	471				0	1262	548	462	2278	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.76	0.76	0.45	0.45	0.00
Uniform Delay (d), s/veh	31.2	0.0	32.6				0.0	25.5	28.5	30.1	3.5	0.0
Incr Delay (d2), s/veh	5.7	0.0	19.1				0.0	2.7	22.8	13.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	0.0	9.9				0.0	8.4	13.5	8.7	2.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.0	0.0	51.7				0.0	28.2	51.2	43.1	3.9	0.0
LnGrp LOS	D	A	D				A	C	D	D	A	A
Approach Vol, veh/h		741						1430			1684	
Approach Delay, s/veh		44.7						36.6			13.2	
Approach LOS		D						D			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	25.3	37.0	27.7	62.3								
Change Period (Y+Rc), s	4.0	5.5	5.0	5.5								
Max Green Setting (Gmax), s	23.0	27.5	25.0	54.5								
Max Q Clear Time (g_c+I1), s	21.2	31.0	22.0	11.8								
Green Ext Time (p_c), s	0.1	0.0	0.7	17.7								

Intersection Summary

HCM 6th Ctrl Delay	27.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
3: Euclid Av. (SR-83) & Walnut Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

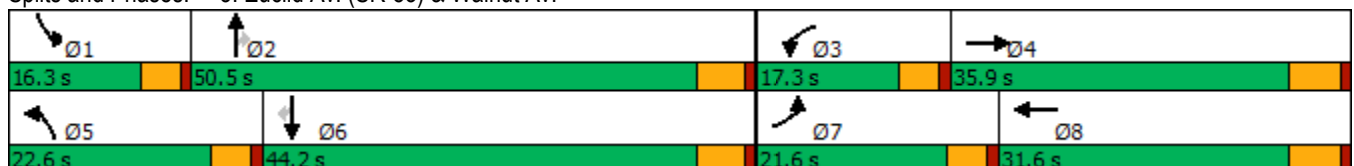


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙↕	↕↗	↗
Traffic Volume (vph)	118	300	73	319	138	1167	50	165	1173	65
Future Volume (vph)	118	300	73	319	138	1167	50	165	1173	65
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.8	9.6	29.8	9.6	27.4	27.4	9.6	29.4	29.4
Total Split (s)	21.6	35.9	17.3	31.6	22.6	50.5	50.5	16.3	44.2	44.2
Total Split (%)	18.0%	29.9%	14.4%	26.3%	18.8%	42.1%	42.1%	13.6%	36.8%	36.8%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.4	4.4	3.6	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.4	5.4	4.6	5.4	5.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	12.4	25.9	9.3	20.5	13.6	45.5	45.5	10.0	42.0	42.0
Actuated g/C Ratio	0.11	0.24	0.09	0.19	0.12	0.42	0.42	0.09	0.39	0.39
v/c Ratio	0.68	0.54	0.56	0.80	0.72	0.60	0.08	0.64	0.65	0.10
Control Delay	66.3	36.1	65.8	42.6	67.6	27.6	0.2	60.7	31.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.3	36.1	65.8	42.6	67.6	27.6	0.2	60.7	31.6	0.3
LOS	E	D	E	D	E	C	A	E	C	A
Approach Delay		42.8		45.4		30.7			33.6	
Approach LOS		D		D		C			C	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 109  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.80  
 Intersection Signal Delay: 35.7  
 Intersection LOS: D  
 Intersection Capacity Utilization 73.6%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 3: Euclid Av. (SR-83) & Walnut Av.



























HCM 6th Signalized Intersection Summary  
 3: Euclid Av. (SR-83) & Walnut Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	300	113	73	319	212	138	1167	50	165	1173	65
Future Volume (veh/h)	118	300	113	73	319	212	138	1167	50	165	1173	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	124	316	83	77	336	183	145	1228	35	174	1235	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	150	605	156	96	412	220	173	2159	670	229	2017	626
Arrive On Green	0.09	0.22	0.22	0.06	0.19	0.19	0.11	0.44	0.44	0.08	0.41	0.41
Sat Flow, veh/h	1619	2689	696	1619	2151	1148	1619	4914	1524	2956	4914	1524
Grp Volume(v), veh/h	124	199	200	77	266	253	145	1228	35	174	1235	47
Grp Sat Flow(s),veh/h/ln	1619	1710	1675	1619	1710	1589	1619	1638	1524	1478	1638	1524
Q Serve(g_s), s	7.7	10.5	10.8	4.8	15.3	15.7	9.0	19.2	1.4	5.9	20.3	1.9
Cycle Q Clear(g_c), s	7.7	10.5	10.8	4.8	15.3	15.7	9.0	19.2	1.4	5.9	20.3	1.9
Prop In Lane	1.00		0.42	1.00		0.72	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	385	377	96	328	304	173	2159	670	229	2017	626
V/C Ratio(X)	0.83	0.52	0.53	0.80	0.81	0.83	0.84	0.57	0.05	0.76	0.61	0.08
Avail Cap(c_a), veh/h	268	501	491	200	430	399	284	2159	670	337	2017	626
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	34.9	35.0	47.7	39.7	39.9	45.0	21.5	16.5	46.4	23.8	18.4
Incr Delay (d2), s/veh	4.3	1.1	1.2	5.7	8.6	10.9	5.1	1.1	0.1	2.7	1.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	4.3	4.3	2.0	6.9	6.8	3.8	7.1	0.5	2.2	7.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.1	36.0	36.2	53.4	48.3	50.8	50.1	22.6	16.7	49.1	25.2	18.6
LnGrp LOS	D	D	D	D	D	D	D	C	B	D	C	B
Approach Vol, veh/h		523			596			1408			1456	
Approach Delay, s/veh		39.4			50.0			25.3			27.9	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	50.5	10.7	28.9	15.5	47.5	14.1	25.5				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.8	4.6	5.4	4.6	5.8				
Max Green Setting (Gmax), s	11.7	45.1	12.7	30.1	18.0	38.8	17.0	25.8				
Max Q Clear Time (g_c+I1), s	7.9	21.2	6.8	12.8	11.0	22.3	9.7	17.7				
Green Ext Time (p_c), s	0.1	9.2	0.0	1.9	0.1	7.8	0.1	1.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			31.8									
HCM 6th LOS			C									

Timings  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/23/2021

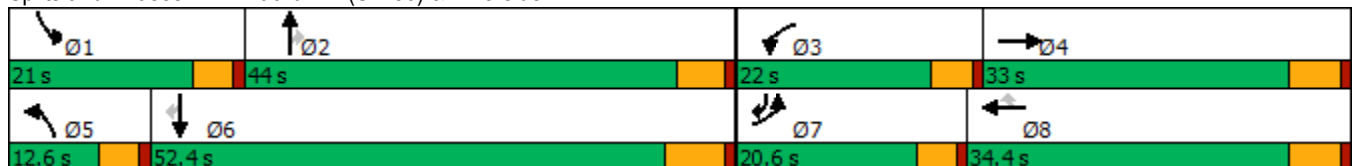


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	159	323	195	507	120	73	945	170	191	978	168
Future Volume (vph)	159	323	195	507	120	73	945	170	191	978	168
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8		5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	20.6	33.0	22.0	34.4	34.4	12.6	44.0	44.0	21.0	52.4	20.6
Total Split (%)	17.2%	27.5%	18.3%	28.7%	28.7%	10.5%	36.7%	36.7%	17.5%	43.7%	17.2%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	None
Act Effct Green (s)	14.6	27.2	16.7	29.2	29.2	7.6	38.6	38.6	16.0	45.9	62.5
Actuated g/C Ratio	0.12	0.23	0.14	0.25	0.25	0.06	0.32	0.32	0.13	0.39	0.53
v/c Ratio	0.84	0.96	0.91	0.64	0.26	0.75	0.90	0.29	0.93	0.78	0.21
Control Delay	84.3	81.8	90.8	44.5	4.1	94.2	50.2	6.9	96.1	37.3	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.3	81.8	90.8	44.5	4.1	94.2	50.2	6.9	96.1	37.3	6.4
LOS	F	F	F	D	A	F	D	A	F	D	A
Approach Delay		82.5		49.6			46.7			41.8	
Approach LOS		F		D			D			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 118.9  
 Natural Cycle: 100  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 50.5  
 Intersection LOS: D  
 Intersection Capacity Utilization 89.6%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.



HCM 6th Signalized Intersection Summary  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	159	323	50	195	507	120	73	945	170	191	978	168
Future Volume (veh/h)	159	323	50	195	507	120	73	945	170	191	978	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	167	340	37	205	534	97	77	995	139	201	1029	118
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	191	359	39	228	850	379	95	1093	488	220	1357	785
Arrive On Green	0.12	0.23	0.23	0.14	0.25	0.25	0.06	0.32	0.32	0.14	0.40	0.40
Sat Flow, veh/h	1619	1595	174	1619	3420	1525	1619	3420	1525	1619	3420	1524
Grp Volume(v), veh/h	167	0	377	205	534	97	77	995	139	201	1029	118
Grp Sat Flow(s),veh/h/ln	1619	0	1769	1619	1710	1525	1619	1710	1525	1619	1710	1524
Q Serve(g_s), s	12.2	0.0	25.3	15.0	16.8	6.2	5.7	33.7	8.2	14.8	31.3	4.9
Cycle Q Clear(g_c), s	12.2	0.0	25.3	15.0	16.8	6.2	5.7	33.7	8.2	14.8	31.3	4.9
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	0	399	228	850	379	95	1093	488	220	1357	785
V/C Ratio(X)	0.87	0.00	0.95	0.90	0.63	0.26	0.81	0.91	0.28	0.91	0.76	0.15
Avail Cap(c_a), veh/h	215	0	399	233	850	379	107	1093	488	220	1357	785
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.4	0.0	46.0	51.0	40.4	36.4	56.1	39.4	30.7	51.5	31.4	15.4
Incr Delay (d2), s/veh	26.6	0.0	31.5	31.8	1.5	0.4	28.9	12.7	1.5	37.3	4.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	0.0	14.2	7.9	7.0	2.3	3.0	15.1	3.1	8.2	13.2	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.9	0.0	77.6	82.8	41.9	36.8	85.0	52.1	32.2	88.7	35.4	15.8
LnGrp LOS	E	A	E	F	D	D	F	D	C	F	D	B
Approach Vol, veh/h		544			836			1211			1348	
Approach Delay, s/veh		78.0			51.3			51.9			41.7	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	45.1	21.6	33.0	11.7	54.4	18.8	35.8				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	16.4	* 39	17.4	27.2	8.0	45.9	16.0	28.6				
Max Q Clear Time (g_c+I1), s	16.8	35.7	17.0	27.3	7.7	33.3	14.2	18.8				
Green Ext Time (p_c), s	0.0	1.7	0.0	0.0	0.0	5.8	0.0	2.5				

Intersection Summary

HCM 6th Ctrl Delay	51.9
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
5: Euclid Av. (SR-83) & Chino Av.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↘		↔	↙	↑↑	↘	↙	↑↑	↘
Traffic Volume (vph)	108	172	38	74	157	51	1028	142	61	1047	101
Future Volume (vph)	108	172	38	74	157	51	1028	142	61	1047	101
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	28.8	28.8	28.8	33.8	33.8	9.6	24.2	24.2	9.6	31.5	31.5
Total Split (s)	44.0	44.0	44.0	44.0	44.0	15.0	60.0	60.0	16.0	61.0	61.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	12.5%	50.0%	50.0%	13.3%	50.8%	50.8%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.6	4.2	4.2	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8		5.8	4.6	5.2	5.2	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	25.9	25.9	25.9		25.9	7.8	56.2	56.2	8.3	55.5	55.5
Actuated g/C Ratio	0.25	0.25	0.25		0.25	0.08	0.54	0.54	0.08	0.53	0.53
v/c Ratio	0.62	0.41	0.09		0.89	0.45	0.59	0.18	0.50	0.61	0.13
Control Delay	50.9	35.4	1.8		65.1	61.6	20.4	9.8	62.8	21.1	3.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.9	35.4	1.8		65.1	61.6	20.4	9.8	62.8	21.1	3.9
LOS	D	D	A		E	E	C	A	E	C	A
Approach Delay		36.7			65.1		20.9			21.8	
Approach LOS		D			E		C			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 103.9	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 27.0	Intersection LOS: C
Intersection Capacity Utilization 80.0%	ICU Level of Service D
Analysis Period (min) 15	























Splits and Phases: 5: Euclid Av. (SR-83) & Chino Av.



HCM 6th Signalized Intersection Summary  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	172	38	74	157	53	51	1028	142	61	1047	101
Future Volume (veh/h)	108	172	38	74	157	53	51	1028	142	61	1047	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	115	183	24	79	167	44	54	1094	127	65	1114	76
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	224	455	385	115	210	50	67	1822	813	81	1852	809
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.04	0.53	0.53	0.05	0.54	0.54
Sat Flow, veh/h	1123	1800	1524	279	829	198	1619	3420	1525	1619	3420	1494
Grp Volume(v), veh/h	115	183	24	290	0	0	54	1094	127	65	1114	76
Grp Sat Flow(s),veh/h/ln	1123	1800	1524	1307	0	0	1619	1710	1525	1619	1710	1494
Q Serve(g_s), s	0.0	8.7	1.2	14.0	0.0	0.0	3.4	22.6	4.4	4.1	22.8	2.5
Cycle Q Clear(g_c), s	21.0	8.7	1.2	22.7	0.0	0.0	3.4	22.6	4.4	4.1	22.8	2.5
Prop In Lane	1.00		1.00	0.27		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	224	455	385	375	0	0	67	1822	813	81	1852	809
V/C Ratio(X)	0.51	0.40	0.06	0.77	0.00	0.00	0.81	0.60	0.16	0.80	0.60	0.09
Avail Cap(c_a), veh/h	358	669	566	558	0	0	164	1822	813	179	1852	809
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	32.0	29.2	38.1	0.0	0.0	48.9	16.5	12.2	48.3	16.0	11.4
Incr Delay (d2), s/veh	1.8	0.6	0.1	3.9	0.0	0.0	8.2	1.5	0.4	6.7	1.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	3.7	0.4	7.1	0.0	0.0	1.5	7.9	1.4	1.7	7.9	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.4	32.5	29.2	42.0	0.0	0.0	57.1	18.0	12.7	55.0	17.5	11.6
LnGrp LOS	D	C	C	D	A	A	E	B	B	E	B	B
Approach Vol, veh/h		322			290			1275			1255	
Approach Delay, s/veh		34.4			42.0			19.1			19.1	
Approach LOS		C			D			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	61.3		31.8	8.9	62.2		31.8				
Change Period (Y+Rc), s	4.6	* 6.5		5.8	4.6	6.5		5.8				
Max Green Setting (Gmax), s	11.4	* 55		38.2	10.4	54.5		38.2				
Max Q Clear Time (g_c+I1), s	6.1	24.6		23.0	5.4	24.8		24.7				
Green Ext Time (p_c), s	0.0	8.3		1.2	0.0	8.3		1.3				

Intersection Summary

HCM 6th Ctrl Delay	22.8
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

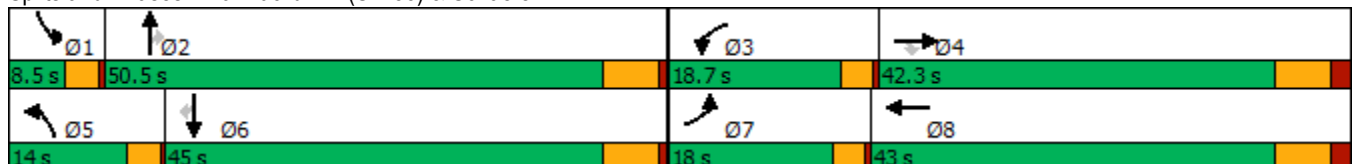


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	159	75	60	146	184	112	1049	39	32	951	134
Future Volume (vph)	159	75	60	146	184	112	1049	39	32	951	134
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.0	42.0	13.5	43.0	8.5	33.0	33.0	8.5	28.0	28.0
Total Split (s)	18.0	42.3	42.3	18.7	43.0	14.0	50.5	50.5	8.5	45.0	45.0
Total Split (%)	15.0%	35.3%	35.3%	15.6%	35.8%	11.7%	42.1%	42.1%	7.1%	37.5%	37.5%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	7.0	7.0	3.5	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.9	17.3	17.3	18.1	18.2	10.2	44.6	44.6	5.1	35.4	35.4
Actuated g/C Ratio	0.14	0.18	0.18	0.18	0.19	0.10	0.45	0.45	0.05	0.36	0.36
v/c Ratio	0.75	0.26	0.18	0.53	0.63	0.72	0.73	0.06	0.40	0.83	0.23
Control Delay	64.7	36.6	1.0	49.9	45.5	70.2	27.7	0.2	65.2	36.7	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.7	36.6	1.0	49.9	45.5	70.2	27.7	0.2	65.2	36.7	6.7
LOS	E	D	A	D	D	E	C	A	E	D	A
Approach Delay		44.5			47.4		30.7			33.9	
Approach LOS		D			D		C			C	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 98.2  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 35.2  
 Intersection LOS: D  
 Intersection Capacity Utilization 74.9%  
 ICU Level of Service D  
 Analysis Period (min) 15
























Splits and Phases: 6: Euclid Av. (SR-83) & Schaefer Av.



HCM 6th Signalized Intersection Summary  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	75	60	146	184	11	112	1049	39	32	951	134
Future Volume (veh/h)	159	75	60	146	184	11	112	1049	39	32	951	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	171	81	46	157	198	10	120	1128	32	34	1023	110
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	205	289	245	199	267	13	148	1466	654	54	1267	564
Arrive On Green	0.13	0.16	0.16	0.12	0.16	0.16	0.09	0.43	0.43	0.03	0.37	0.37
Sat Flow, veh/h	1619	1800	1525	1619	1698	86	1619	3420	1525	1619	3420	1521
Grp Volume(v), veh/h	171	81	46	157	0	208	120	1128	32	34	1023	110
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	0	1784	1619	1710	1525	1619	1710	1521
Q Serve(g_s), s	8.1	3.1	2.1	7.4	0.0	8.7	5.7	22.1	1.0	1.6	21.1	3.9
Cycle Q Clear(g_c), s	8.1	3.1	2.1	7.4	0.0	8.7	5.7	22.1	1.0	1.6	21.1	3.9
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	205	289	245	199	0	280	148	1466	654	54	1267	564
V/C Ratio(X)	0.83	0.28	0.19	0.79	0.00	0.74	0.81	0.77	0.05	0.63	0.81	0.20
Avail Cap(c_a), veh/h	299	808	685	313	0	817	216	1935	863	103	1696	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	29.0	28.6	33.5	0.0	31.6	35.1	19.2	13.1	37.5	22.2	16.8
Incr Delay (d2), s/veh	8.5	0.4	0.3	2.7	0.0	2.9	8.6	1.4	0.0	4.4	2.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	1.3	0.7	2.9	0.0	3.7	2.4	7.4	0.3	0.7	7.5	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.1	29.4	28.8	36.2	0.0	34.5	43.7	20.6	13.1	42.0	24.4	17.0
LnGrp LOS	D	C	C	D	A	C	D	C	B	D	C	B
Approach Vol, veh/h		298			365			1280			1167	
Approach Delay, s/veh		36.6			35.2			22.5			24.2	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.1	39.7	13.2	19.6	10.7	35.1	13.5	19.4				
Change Period (Y+Rc), s	3.5	6.0	3.5	7.0	3.5	6.0	3.5	7.0				
Max Green Setting (Gmax), s	5.0	44.5	15.2	35.3	10.5	39.0	14.5	36.0				
Max Q Clear Time (g_c+I1), s	3.6	24.1	9.4	5.1	7.7	23.1	10.1	10.7				
Green Ext Time (p_c), s	0.0	7.2	0.1	0.4	0.0	6.0	0.1	0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			26.0									
HCM 6th LOS			C									



Timings  
7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

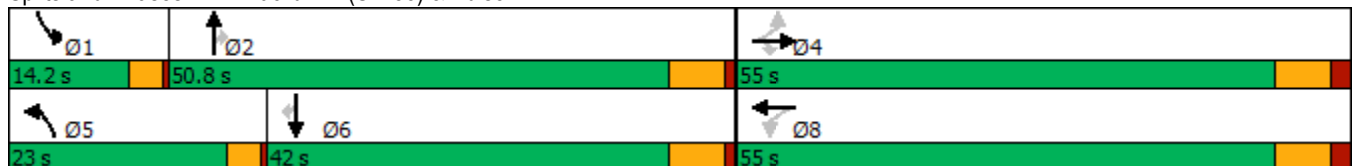


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	162	247	101	34	433	229	904	41	69	831	184
Future Volume (vph)	162	247	101	34	433	229	904	41	69	831	184
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.0	46.0	46.0	49.0	49.0	8.5	29.0	29.0	8.5	40.0	40.0
Total Split (s)	55.0	55.0	55.0	55.0	55.0	23.0	50.8	50.8	14.2	42.0	42.0
Total Split (%)	45.8%	45.8%	45.8%	45.8%	45.8%	19.2%	42.3%	42.3%	11.8%	35.0%	35.0%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	47.7	47.7	47.7	47.7	47.7	18.8	45.6	45.6	8.8	33.6	33.6
Actuated g/C Ratio	0.41	0.41	0.41	0.41	0.41	0.16	0.39	0.39	0.08	0.29	0.29
v/c Ratio	0.93	0.35	0.15	0.09	0.72	0.92	0.71	0.07	0.60	0.88	0.35
Control Delay	86.9	26.2	4.9	23.4	35.8	88.0	34.2	2.5	73.0	51.0	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.9	26.2	4.9	23.4	35.8	88.0	34.2	2.5	73.0	51.0	9.3
LOS	F	C	A	C	D	F	C	A	E	D	A
Approach Delay		41.3			35.0		43.6			45.3	
Approach LOS		D			C		D			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 116.7  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 42.4  
 Intersection LOS: D  
 Intersection Capacity Utilization 97.0%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 7: Euclid Av. (SR-83) & Edison Av.




























HCM 6th Signalized Intersection Summary  
 7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	247	101	34	433	65	229	904	41	69	831	184
Future Volume (veh/h)	162	247	101	34	433	65	229	904	41	69	831	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	169	257	50	35	451	63	239	942	35	72	866	141
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	206	742	628	385	637	89	263	1336	596	90	970	422
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.16	0.39	0.39	0.06	0.28	0.28
Sat Flow, veh/h	850	1800	1524	1028	1545	216	1619	3420	1525	1619	3420	1488
Grp Volume(v), veh/h	169	257	50	35	0	514	239	942	35	72	866	141
Grp Sat Flow(s),veh/h/ln	850	1800	1524	1028	0	1761	1619	1710	1525	1619	1710	1488
Q Serve(g_s), s	19.8	11.4	2.3	2.8	0.0	28.2	16.9	27.0	1.7	5.1	28.3	8.7
Cycle Q Clear(g_c), s	48.0	11.4	2.3	14.2	0.0	28.2	16.9	27.0	1.7	5.1	28.3	8.7
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	206	742	628	385	0	726	263	1336	596	90	970	422
V/C Ratio(X)	0.82	0.35	0.08	0.09	0.00	0.71	0.91	0.71	0.06	0.80	0.89	0.33
Avail Cap(c_a), veh/h	206	742	628	385	0	726	271	1336	596	149	1057	460
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	23.5	20.8	28.3	0.0	28.4	47.9	29.8	22.1	54.4	40.0	33.0
Incr Delay (d2), s/veh	22.2	0.3	0.1	0.1	0.0	3.2	30.6	1.7	0.0	6.2	9.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	4.7	0.8	0.7	0.0	11.8	8.7	10.5	0.6	2.2	12.4	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.9	23.7	20.8	28.4	0.0	31.6	78.5	31.5	22.2	60.5	49.3	33.5
LnGrp LOS	E	C	C	C	A	C	E	C	C	E	D	C
Approach Vol, veh/h		476			549			1216			1079	
Approach Delay, s/veh		40.5			31.4			40.5			48.0	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.9	51.5		55.0	22.4	39.0		55.0				
Change Period (Y+Rc), s	3.5	6.0		7.0	3.5	6.0		7.0				
Max Green Setting (Gmax), s	10.7	44.8		48.0	19.5	36.0		48.0				
Max Q Clear Time (g_c+1), s	7.1	29.0		50.0	18.9	30.3		30.2				
Green Ext Time (p_c), s	0.0	5.3		0.0	0.0	2.7		2.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				41.4								
HCM 6th LOS				D								

Timings  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	69	26	156	33	157	186	1103	13	24	1006	44
Future Volume (vph)	69	26	156	33	157	186	1103	13	24	1006	44
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.8	46.8	46.8	46.8	46.8	8.5	30.7	30.7	8.5	37.7	37.7
Total Split (s)	46.8	46.8	46.8	46.8	46.8	24.0	63.5	63.5	9.7	49.2	49.2
Total Split (%)	39.0%	39.0%	39.0%	39.0%	39.0%	20.0%	52.9%	52.9%	8.1%	41.0%	41.0%
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	3.0	4.7	4.7	3.0	4.7	4.7
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.8	4.8	3.5	5.7	5.7	3.5	5.7	5.7
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	17.1	17.1	17.1	17.1	17.1	14.9	46.2	46.2	6.2	30.5	30.5
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.19	0.59	0.59	0.08	0.39	0.39
v/c Ratio	0.36	0.07	0.35	0.12	0.51	0.61	0.55	0.01	0.19	0.77	0.07
Control Delay	33.2	26.4	7.0	27.4	31.1	43.1	13.6	0.0	47.6	26.9	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	26.4	7.0	27.4	31.1	43.1	13.6	0.0	47.6	26.9	1.5
LOS	C	C	A	C	C	D	B	A	D	C	A
Approach Delay		16.2			30.5		17.7			26.3	
Approach LOS		B			C		B			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 77.8	
Natural Cycle: 95	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 21.8	Intersection LOS: C
Intersection Capacity Utilization 72.4%	ICU Level of Service C
Analysis Period (min) 15	

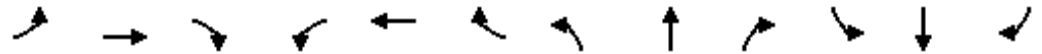
Splits and Phases: 8: Euclid Av. (SR-83) & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
 8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	26	156	33	157	38	186	1103	13	24	1006	44
Future Volume (veh/h)	69	26	156	33	157	38	186	1103	13	24	1006	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	70	27	73	34	160	31	190	1126	12	24	1027	34
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	241	358	304	357	292	57	236	1811	808	45	1408	627
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.15	0.53	0.53	0.03	0.41	0.41
Sat Flow, veh/h	1144	1800	1525	1242	1465	284	1619	3420	1525	1619	3420	1524
Grp Volume(v), veh/h	70	27	73	34	0	191	190	1126	12	24	1027	34
Grp Sat Flow(s),veh/h/ln	1144	1800	1525	1242	0	1749	1619	1710	1525	1619	1710	1524
Q Serve(g_s), s	3.4	0.7	2.3	1.3	0.0	5.6	6.5	13.3	0.2	0.8	14.5	0.8
Cycle Q Clear(g_c), s	9.0	0.7	2.3	2.0	0.0	5.6	6.5	13.3	0.2	0.8	14.5	0.8
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	241	358	304	357	0	348	236	1811	808	45	1408	627
V/C Ratio(X)	0.29	0.08	0.24	0.10	0.00	0.55	0.81	0.62	0.01	0.54	0.73	0.05
Avail Cap(c_a), veh/h	848	1315	1114	1018	0	1278	577	3438	1534	175	2588	1153
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	18.7	19.4	19.5	0.0	20.7	23.8	9.5	6.4	27.6	14.2	10.2
Incr Delay (d2), s/veh	0.5	0.1	0.3	0.1	0.0	1.0	4.8	0.4	0.0	7.2	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.3	0.7	0.3	0.0	2.1	2.4	3.0	0.0	0.4	4.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.2	18.8	19.7	19.6	0.0	21.7	28.6	9.8	6.4	34.8	15.0	10.2
LnGrp LOS	C	B	B	B	A	C	C	A	A	C	B	B
Approach Vol, veh/h		170			225			1328			1085	
Approach Delay, s/veh		21.8			21.4			12.5			15.2	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	36.2		16.2	11.9	29.4		16.2				
Change Period (Y+Rc), s	3.5	5.7		4.8	3.5	5.7		4.8				
Max Green Setting (Gmax), s	6.2	57.8		42.0	20.5	43.5		42.0				
Max Q Clear Time (g_c+I1), s	2.8	15.3		11.0	8.5	16.5		7.6				
Green Ext Time (p_c), s	0.0	8.7		0.5	0.3	7.1		0.9				

Intersection Summary

HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Timings  
9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

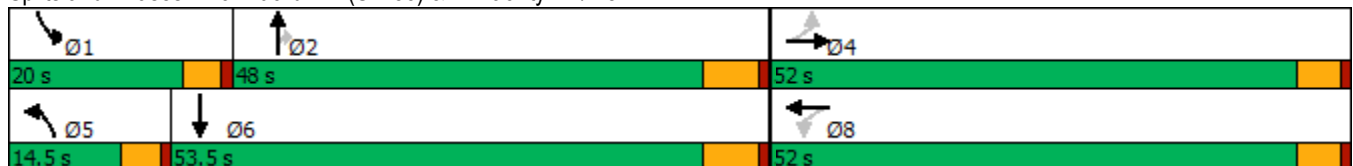


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	4	8	234	49	11	1061	154	132	1020
Future Volume (vph)	4	8	234	49	11	1061	154	132	1020
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	52.0	52.0	52.0	52.0	14.5	48.0	48.0	20.0	53.5
Total Split (%)	43.3%	43.3%	43.3%	43.3%	12.1%	40.0%	40.0%	16.7%	44.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)		42.6		42.6	10.2	39.5	39.5	13.4	54.7
Actuated g/C Ratio		0.38		0.38	0.09	0.36	0.36	0.12	0.49
v/c Ratio		0.05		0.94	0.07	0.90	0.26	0.70	0.65
Control Delay		13.1		57.6	52.1	46.2	12.3	68.9	25.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		13.1		57.6	52.1	46.2	12.3	68.9	25.0
LOS		B		E	D	D	B	E	C
Approach Delay		13.1		57.6		42.0			29.8
Approach LOS		B		E		D			C

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 111.2  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 39.5  
 Intersection LOS: D  
 Intersection Capacity Utilization 90.8%  
 ICU Level of Service E  
 Analysis Period (min) 15





















Splits and Phases: 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 6th Signalized Intersection Summary  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	8	17	234	49	237	11	1061	154	132	1020	42
Future Volume (veh/h)	4	8	17	234	49	237	11	1061	154	132	1020	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	4	8	17	241	51	217	11	1094	116	136	1052	29
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	186	339	312	56	233	43	1274	568	164	1520	42
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.03	0.37	0.37	0.10	0.45	0.45
Sat Flow, veh/h	144	511	929	705	154	638	1619	3420	1525	1619	3397	94
Grp Volume(v), veh/h	29	0	0	509	0	0	11	1094	116	136	530	551
Grp Sat Flow(s),veh/h/ln	1585	0	0	1497	0	0	1619	1710	1525	1619	1710	1781
Q Serve(g_s), s	0.0	0.0	0.0	30.3	0.0	0.0	0.6	28.3	5.0	7.9	23.8	23.8
Cycle Q Clear(g_c), s	1.1	0.0	0.0	31.4	0.0	0.0	0.6	28.3	5.0	7.9	23.8	23.8
Prop In Lane	0.14		0.59	0.47		0.43	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	620	0	0	601	0	0	43	1274	568	164	765	797
V/C Ratio(X)	0.05	0.00	0.00	0.85	0.00	0.00	0.26	0.86	0.20	0.83	0.69	0.69
Avail Cap(c_a), veh/h	810	0	0	787	0	0	169	1496	667	261	846	881
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	0.0	0.0	29.3	0.0	0.0	45.8	27.8	20.5	42.3	21.2	21.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	5.4	0.0	0.0	1.2	4.6	0.2	5.8	2.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	11.0	0.0	0.0	0.3	11.0	1.6	3.2	8.7	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.7	0.0	0.0	34.6	0.0	0.0	47.0	32.4	20.6	48.1	23.4	23.3
LnGrp LOS	B	A	A	C	A	A	D	C	C	D	C	C
Approach Vol, veh/h		29			509			1221			1217	
Approach Delay, s/veh		19.7			34.6			31.4			26.1	
Approach LOS		B			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.2	41.8		40.0	7.0	49.0		40.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	15.5	42.0		47.0	10.0	47.5		47.0				
Max Q Clear Time (g_c+1), s	9.9	30.3		3.1	2.6	25.8		33.4				
Green Ext Time (p_c), s	0.1	5.4		0.1	0.0	6.2		1.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.7								
HCM 6th LOS				C								

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	43	3	1	182	20	17	57	3	30	57	49
Future Vol, veh/h	18	43	3	1	182	20	17	57	3	30	57	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	20	47	3	1	198	22	18	62	3	33	62	53
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	9.2	8.4	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	28%	0%	22%
Vol Thru, %	74%	67%	90%	42%
Vol Right, %	4%	5%	10%	36%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	77	64	203	136
LT Vol	17	18	1	30
Through Vol	57	43	182	57
RT Vol	3	3	20	49
Lane Flow Rate	84	70	221	148
Geometry Grp	1	1	1	1
Degree of Util (X)	0.111	0.091	0.274	0.185
Departure Headway (Hd)	4.768	4.724	4.466	4.504
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	750	757	803	795
Service Time	2.807	2.763	2.497	2.538
HCM Lane V/C Ratio	0.112	0.092	0.275	0.186
HCM Control Delay	8.4	8.2	9.2	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.3	1.1	0.7

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	21	283	563	56	24	37
Future Vol, veh/h	21	283	563	56	24	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	23	308	612	61	26	40

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	673	0	-	0	997 643
Stage 1	-	-	-	-	643 -
Stage 2	-	-	-	-	354 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	927	-	-	-	273 477
Stage 1	-	-	-	-	527 -
Stage 2	-	-	-	-	715 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	927	-	-	-	265 477
Mov Cap-2 Maneuver	-	-	-	-	265 -
Stage 1	-	-	-	-	511 -
Stage 2	-	-	-	-	715 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	17.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	927	-	-	-	363
HCM Lane V/C Ratio	0.025	-	-	-	0.183
HCM Control Delay (s)	9	0	-	-	17.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	24	37	14	12	91	12	62	238	11	15	217	49
Future Vol, veh/h	24	37	14	12	91	12	62	238	11	15	217	49
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	26	41	15	13	100	13	68	262	12	16	238	54
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.6	10	12.3	11.4
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	32%	10%	5%
Vol Thru, %	77%	49%	79%	77%
Vol Right, %	4%	19%	10%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	311	75	115	281
LT Vol	62	24	12	15
Through Vol	238	37	91	217
RT Vol	11	14	12	49
Lane Flow Rate	342	82	126	309
Geometry Grp	1	1	1	1
Degree of Util (X)	0.47	0.13	0.197	0.419
Departure Headway (Hd)	4.952	5.695	5.61	4.888
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	731	629	639	741
Service Time	2.961	3.735	3.647	2.898
HCM Lane V/C Ratio	0.468	0.13	0.197	0.417
HCM Control Delay	12.3	9.6	10	11.4
HCM Lane LOS	B	A	A	B
HCM 95th-tile Q	2.5	0.4	0.7	2.1



Intersection	
Intersection Delay, s/veh	54.8
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	80	227	523	231	147	96
Future Vol, veh/h	80	227	523	231	147	96
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	82	234	539	238	152	99
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left			WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	14.7	84.2	14.4
HCM LOS	B	F	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	26%	0%	60%
Vol Thru, %	74%	69%	0%
Vol Right, %	0%	31%	40%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	307	754	243
LT Vol	80	0	147
Through Vol	227	523	0
RT Vol	0	231	96
Lane Flow Rate	316	777	251
Geometry Grp	1	1	1
Degree of Util (X)	0.498	1.096	0.433
Departure Headway (Hd)	5.922	5.074	6.521
Convergence, Y/N	Yes	Yes	Yes
Cap	614	723	556
Service Time	3.922	3.074	4.521
HCM Lane V/C Ratio	0.515	1.075	0.451
HCM Control Delay	14.7	84.2	14.4
HCM Lane LOS	B	F	B
HCM 95th-tile Q	2.8	21.9	2.2

Intersection

Intersection Delay, s/veh19.7

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	239	9	115	408	144	4	19	8	26	18	12
Future Vol, veh/h	17	239	9	115	408	144	4	19	8	26	18	12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	17	244	9	117	416	147	4	19	8	27	18	12
Number of Lanes	0	1	0	0	1	0	0	0	1	0	0	1

Approach	EB	WB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB	WB
Opposing Lanes	1	1	1	1	1
Conflicting Approach Left SB	NB	EB	WB	WB	WB
Conflicting Lanes Left	1	1	1	1	1
Conflicting Approach Right NB	SB	WB	WB	EB	EB
Conflicting Lanes Right	1	1	1	1	1
HCM Control Delay	10.7	24.6	9.4	9.4	9.7
HCM LOS	B	C	A	A	A

Lane NBLn1 EBLn1WBLn1 SBLn1

Vol Left, %	13%	6%	17%	46%
Vol Thru, %	61%	90%	61%	32%
Vol Right, %	26%	3%	22%	21%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	265	667	56
LT Vol	4	17	115	26
Through Vol	19	239	408	18
RT Vol	8	9	144	12
Lane Flow Rate	32	270	681	57
Geometry Grp	1	1	1	1
Degree of Util (X)	0.053	0.365	0.826	0.096
Departure Headway (Hd)	6.05	4.857	4.371	6.075
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	595	736	824	593
Service Time	4.052	2.926	2.422	4.077
HCM Lane V/C Ratio	0.054	0.367	0.826	0.096
HCM Control Delay	9.4	10.7	24.6	9.7
HCM Lane LOS	A	B	C	A
HCM 95th-tile Q	0.2	1.7	9.3	0.3

Intersection						
Int Delay, s/veh	5.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	10	47	80	23	126	38
Future Vol, veh/h	10	47	80	23	126	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	51	87	25	137	41

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	112	0	-	0	173
Stage 1	-	-	-	-	100
Stage 2	-	-	-	-	73
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1490	-	-	-	822
Stage 1	-	-	-	-	929
Stage 2	-	-	-	-	955
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1490	-	-	-	815
Mov Cap-2 Maneuver	-	-	-	-	815
Stage 1	-	-	-	-	922
Stage 2	-	-	-	-	955

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1490	-	-	-	845
HCM Lane V/C Ratio	0.007	-	-	-	0.211
HCM Control Delay (s)	7.4	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.8

Intersection												
Int Delay, s/veh	6.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↘	↑			↕				
Traffic Vol, veh/h	0	257	96	105	530	0	174	0	98	0	0	0
Future Vol, veh/h	0	257	96	105	530	0	174	0	98	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	75	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	265	99	108	546	0	179	0	101	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	364	0	0	1027	1027	265
Stage 1	-	-	-	-	-	-	265	265	-
Stage 2	-	-	-	-	-	-	762	762	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1206	-	0	262	236	779
Stage 1	0	-	-	-	-	0	784	693	-
Stage 2	0	-	-	-	-	0	464	416	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1206	-	-	238	0	779
Mov Cap-2 Maneuver	-	-	-	-	-	-	343	0	-
Stage 1	-	-	-	-	-	-	784	0	-
Stage 2	-	-	-	-	-	-	422	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	27.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	430	-	-	1206	-
HCM Lane V/C Ratio	0.652	-	-	0.09	-
HCM Control Delay (s)	27.7	-	-	8.3	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	4.5	-	-	0.3	-

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑			↑↓				
Traffic Vol, veh/h	0	326	28	25	643	0	10	0	26	0	0	0
Future Vol, veh/h	0	326	28	25	643	0	10	0	26	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	358	31	27	707	0	11	0	29	0	0	0

Major/Minor	Major1		Major2		Minor1				
Conflicting Flow All	-	0	0	389	0	0	1135	1135	195
Stage 1	-	-	-	-	-	-	374	374	-
Stage 2	-	-	-	-	-	-	761	761	-
Critical Hdwy	-	-	-	4.1	-	-	6.6	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1181	-	0	212	204	820
Stage 1	0	-	-	-	-	0	672	621	-
Stage 2	0	-	-	-	-	0	465	417	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1181	-	-	207	0	820
Mov Cap-2 Maneuver	-	-	-	-	-	-	336	0	-
Stage 1	-	-	-	-	-	-	672	0	-
Stage 2	-	-	-	-	-	-	454	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	586	-	-	1181	-
HCM Lane V/C Ratio	0.068	-	-	0.023	-
HCM Control Delay (s)	11.6	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑		↑		↑			
Traffic Vol, veh/h	0	360	0	0	654	0	0	0	0	0	0	0
Future Vol, veh/h	0	360	0	0	654	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	200	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	387	0	0	703	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	387	0	0	1090	-	194
Stage 1	-	-	-	-	-	-	387	-	-
Stage 2	-	-	-	-	-	-	703	-	-
Critical Hdwy	-	-	-	4.1	-	-	6.6	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	-	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	-	3.3
Pot Cap-1 Maneuver	0	-	-	1183	-	0	226	0	821
Stage 1	0	-	-	-	-	0	662	0	-
Stage 2	0	-	-	-	-	0	495	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1183	-	-	226	0	821
Mov Cap-2 Maneuver	-	-	-	-	-	-	358	0	-
Stage 1	-	-	-	-	-	-	662	0	-
Stage 2	-	-	-	-	-	-	495	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	1183	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	81.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	9	302	25	182	608	42	20	0	110	118	0	10
Future Vol, veh/h	9	302	25	182	608	42	20	0	110	118	0	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	321	27	194	647	45	21	0	117	126	0	11
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	3
HCM Control Delay	18.8	128.2	13.4	15.1
HCM LOS	C	F	B	C

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	15%	100%	0%	0%	100%	0%	92%
Vol Thru, %	0%	0%	100%	0%	0%	94%	0%
Vol Right, %	85%	0%	0%	100%	0%	6%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	130	9	302	25	182	650	128
LT Vol	20	9	0	0	182	0	118
Through Vol	0	0	302	0	0	608	0
RT Vol	110	0	0	25	0	42	10
Lane Flow Rate	138	10	321	27	194	691	136
Geometry Grp	7	7	7	7	8	8	7
Degree of Util (X)	0.278	0.019	0.598	0.044	0.388	1.278	0.307
Departure Headway (Hd)	7.729	7.6	7.087	6.37	7.207	6.651	8.622
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	467	474	514	565	498	546	419
Service Time	5.429	5.3	4.787	4.07	4.97	4.414	6.322
HCM Lane V/C Ratio	0.296	0.021	0.625	0.048	0.39	1.266	0.325
HCM Control Delay	13.4	10.4	19.8	9.4	14.5	160.1	15.1
HCM Lane LOS	B	B	C	A	B	F	C
HCM 95th-tile Q	1.1	0.1	3.9	0.1	1.8	27.9	1.3

Timings

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

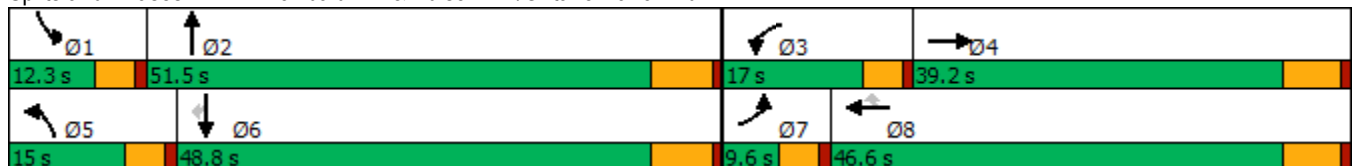
08/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	198	41	349	468	138	163	970	378	69	379	97
Future Volume (vph)	23	198	41	349	468	138	163	970	378	69	379	97
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	39.2		17.0	46.6	46.6	15.0	51.5		12.3	48.8	48.8
Total Split (%)	8.0%	32.7%		14.2%	38.8%	38.8%	12.5%	42.9%		10.3%	40.7%	40.7%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.3	21.5	98.9	13.2	34.6	34.6	11.0	36.6	98.9	7.5	29.9	29.9
Actuated g/C Ratio	0.05	0.22	1.00	0.13	0.35	0.35	0.11	0.37	1.00	0.08	0.30	0.30
v/c Ratio	0.15	0.27	0.03	0.92	0.77	0.23	0.93	0.79	0.26	0.59	0.38	0.18
Control Delay	55.8	33.7	0.0	75.7	40.9	5.7	101.7	34.6	0.4	71.3	28.0	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	33.7	0.0	75.7	40.9	5.7	101.7	34.6	0.4	71.3	28.0	1.5
LOS	E	C	A	E	D	A	F	C	A	E	C	A
Approach Delay		30.4			48.6			33.3			28.8	
Approach LOS		C			D			C			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 98.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.93	
Intersection Signal Delay: 36.8	Intersection LOS: D
Intersection Capacity Utilization 81.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 44: Archibald Av. & Edison Av./Ontario Ranch Rd.





HCM 6th Signalized Intersection Summary  
 44: Archibald Av. & Edison Av./Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖	↕	↖	↖	↕	↖
Traffic Volume (veh/h)	23	198	41	349	468	138	163	970	378	69	379	97
Future Volume (veh/h)	23	198	41	349	468	138	163	970	378	69	379	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	24	204	0	360	482	88	168	1000	0	71	391	67
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	651		420	553	469	195	1228		88	1003	447
Arrive On Green	0.03	0.19	0.00	0.14	0.31	0.31	0.12	0.36	0.00	0.05	0.29	0.29
Sat Flow, veh/h	2956	3420	1525	2956	1800	1525	1619	3420	1525	1619	3420	1525
Grp Volume(v), veh/h	24	204	0	360	482	88	168	1000	0	71	391	67
Grp Sat Flow(s),veh/h/ln	1478	1710	1525	1478	1800	1525	1619	1710	1525	1619	1710	1525
Q Serve(g_s), s	0.7	4.4	0.0	10.3	21.9	3.7	8.8	22.9	0.0	3.7	7.9	2.8
Cycle Q Clear(g_c), s	0.7	4.4	0.0	10.3	21.9	3.7	8.8	22.9	0.0	3.7	7.9	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	75	651		420	553	469	195	1228		88	1003	447
V/C Ratio(X)	0.32	0.31		0.86	0.87	0.19	0.86	0.81		0.80	0.39	0.15
Avail Cap(c_a), veh/h	171	1308		425	843	714	195	1783		144	1676	748
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.3	30.1	0.0	36.2	28.3	22.0	37.2	25.0	0.0	40.3	24.3	22.5
Incr Delay (d2), s/veh	0.9	0.3	0.0	14.9	6.5	0.2	29.1	2.0	0.0	6.3	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.7	0.0	4.3	9.4	1.2	4.8	8.4	0.0	1.5	2.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.2	30.4	0.0	51.1	34.8	22.2	66.3	27.0	0.0	46.6	24.6	22.7
LnGrp LOS	D	C		D	C	C	E	C		D	C	C
Approach Vol, veh/h		228	A		930			1168	A		529	
Approach Delay, s/veh		31.6			39.9			32.6			27.3	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	37.5	16.9	22.6	15.0	31.8	6.8	32.7				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.7	45.0	12.4	33.0	10.4	42.3	5.0	40.4				
Max Q Clear Time (g_c+I1), s	5.7	24.9	12.3	6.4	10.8	9.9	2.7	23.9				
Green Ext Time (p_c), s	0.0	6.1	0.0	1.1	0.0	2.5	0.0	2.6				

Intersection Summary

HCM 6th Ctrl Delay	33.9
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖↗	↑↑	↖	↗	↑↑
Traffic Volume (vph)	11	16	1496	9	25	743
Future Volume (vph)	11	16	1496	9	25	743
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		8		2		
Detector Phase	3	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.5	9.5	32.5	32.5	9.6	16.5
Total Split (s)	9.5	9.5	41.4	41.4	9.6	51.0
Total Split (%)	13.6%	13.6%	59.1%	59.1%	13.7%	72.9%
Yellow Time (s)	3.5	3.5	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	5.1	5.1	54.7	54.7	5.1	56.4
Actuated g/C Ratio	0.08	0.08	0.90	0.90	0.08	0.93
v/c Ratio	0.05	0.04	0.52	0.01	0.20	0.25
Control Delay	26.4	0.2	6.4	4.8	29.8	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	0.2	6.4	4.8	29.8	2.0
LOS	C	A	A	A	C	A
Approach Delay			6.4			2.9
Approach LOS			A			A

Intersection Summary

Cycle Length: 70	
Actuated Cycle Length: 60.8	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.52	
Intersection Signal Delay: 5.3	Intersection LOS: A
Intersection Capacity Utilization 57.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 45: Archibald Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖↗		↖↗		↕	↖↗	↖↗	↖↗	↖↗
Traffic Volume (veh/h)	0	0	0	11	0	16	0	1496	9	25	743	0
Future Volume (veh/h)	0	0	0	11	0	16	0	1496	9	25	743	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1700	0	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				12	0	6	0	1609	7	27	799	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				68	0	58	0	2301	1026	49	2682	0
Arrive On Green				0.02	0.00	0.02	0.00	0.67	0.67	0.03	0.78	0.00
Sat Flow, veh/h				3141	0	2685	0	3510	1525	1619	3510	0
Grp Volume(v), veh/h				12	0	6	0	1609	7	27	799	0
Grp Sat Flow(s),veh/h/ln				1570	0	1342	0	1710	1525	1619	1710	0
Q Serve(g_s), s				0.2	0.0	0.1	0.0	16.5	0.1	0.9	3.7	0.0
Cycle Q Clear(g_c), s				0.2	0.0	0.1	0.0	16.5	0.1	0.9	3.7	0.0
Prop In Lane				1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h				68	0	58	0	2301	1026	49	2682	0
V/C Ratio(X)				0.18	0.00	0.10	0.00	0.70	0.01	0.55	0.30	0.00
Avail Cap(c_a), veh/h				277	0	237	0	2301	1026	143	2682	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				27.3	0.0	27.2	0.0	5.7	3.1	27.1	1.7	0.0
Incr Delay (d2), s/veh				1.2	0.0	0.8	0.0	1.8	0.0	3.5	0.3	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.1	0.0	0.0	0.0	2.3	0.0	0.4	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				28.5	0.0	28.0	0.0	7.5	3.1	30.6	2.0	0.0
LnGrp LOS				C	A	C	A	A	A	C	A	A
Approach Vol, veh/h					18			1616			826	
Approach Delay, s/veh					28.3			7.5			2.9	
Approach LOS					C			A			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	6.3	44.7				51.0		5.7				
Change Period (Y+Rc), s	4.6	6.5				6.5		4.5				
Max Green Setting (Gmax), s	5.0	34.9				44.5		5.0				
Max Q Clear Time (g_c+1), s	2.9	18.5				5.7		2.2				
Green Ext Time (p_c), s	0.0	9.7				5.3		0.0				

Intersection Summary

HCM 6th Ctrl Delay	6.1
HCM 6th LOS	A

Timings  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

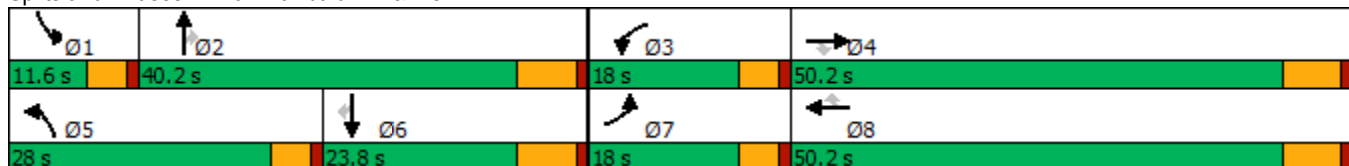


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	186	20	93	75	43	125	421	1141	40	41	498	221
Future Volume (vph)	186	20	93	75	43	125	421	1141	40	41	498	221
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	18.0	50.2	50.2	18.0	50.2	50.2	28.0	40.2	40.2	11.6	23.8	23.8
Total Split (%)	15.0%	41.8%	41.8%	15.0%	41.8%	41.8%	23.3%	33.5%	33.5%	9.7%	19.8%	19.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.6	22.4	22.4	8.6	15.3	15.3	23.8	39.7	39.7	5.8	17.6	17.6
Actuated g/C Ratio	0.15	0.24	0.24	0.09	0.17	0.17	0.26	0.43	0.43	0.06	0.19	0.19
v/c Ratio	0.81	0.05	0.20	0.51	0.15	0.34	1.05	0.56	0.06	0.23	0.79	0.55
Control Delay	66.1	28.1	1.3	54.2	32.0	5.0	92.6	24.1	0.1	47.6	47.1	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.1	28.1	1.3	54.2	32.0	5.0	92.6	24.1	0.1	47.6	47.1	18.9
LOS	E	C	A	D	C	A	F	C	A	D	D	B
Approach Delay		43.4			24.9			41.5			38.9	
Approach LOS		D			C			D			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 92.6	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 39.7	Intersection LOS: D
Intersection Capacity Utilization 73.2%	ICU Level of Service D
Analysis Period (min) 15	

























Splits and Phases: 46: Archibald Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	20	93	75	43	125	421	1141	40	41	498	221
Future Volume (veh/h)	186	20	93	75	43	125	421	1141	40	41	498	221
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	192	21	41	77	44	34	434	1176	22	42	513	162
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	225	363	308	96	220	186	463	2123	659	111	628	280
Arrive On Green	0.14	0.20	0.20	0.06	0.12	0.12	0.29	0.43	0.43	0.04	0.18	0.18
Sat Flow, veh/h	1619	1800	1525	1619	1800	1525	1619	4914	1525	2956	3420	1525
Grp Volume(v), veh/h	192	21	41	77	44	34	434	1176	22	42	513	162
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	1800	1525	1619	1638	1525	1478	1710	1525
Q Serve(g_s), s	9.4	0.8	1.8	3.8	1.8	1.6	21.3	14.5	0.7	1.1	11.7	7.9
Cycle Q Clear(g_c), s	9.4	0.8	1.8	3.8	1.8	1.6	21.3	14.5	0.7	1.1	11.7	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	225	363	308	96	220	186	463	2123	659	111	628	280
V/C Ratio(X)	0.85	0.06	0.13	0.80	0.20	0.18	0.94	0.55	0.03	0.38	0.82	0.58
Avail Cap(c_a), veh/h	267	973	825	267	973	825	466	2123	659	254	727	324
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	26.2	26.6	37.8	32.1	32.1	28.3	17.3	13.3	38.2	31.9	30.3
Incr Delay (d2), s/veh	17.6	0.1	0.2	5.7	0.4	0.5	26.2	0.3	0.0	0.8	6.4	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.3	0.6	1.6	0.8	0.6	10.6	4.6	0.2	0.4	4.9	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	26.3	26.8	43.5	32.6	32.5	54.5	17.6	13.3	39.0	38.3	32.2
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	D	C
Approach Vol, veh/h		254			155			1632			717	
Approach Delay, s/veh		45.7			38.0			27.3			37.0	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	41.6	9.4	22.6	27.9	21.4	15.9	16.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.0	33.7	13.4	44.0	23.4	17.3	13.4	44.0				
Max Q Clear Time (g_c+I1), s	3.1	16.5	5.8	3.8	23.3	13.7	11.4	3.8				
Green Ext Time (p_c), s	0.0	6.8	0.0	0.2	0.0	1.2	0.0	0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			32.1									
HCM 6th LOS			C									

Timings  
47: Archibald Av. & Limonite Av.



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖ ↗	↖	↑	↖	↖	↑
Traffic Volume (vph)	283	804	819	288	191	474
Future Volume (vph)	283	804	819	288	191	474
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	27.0	56.7	36.3	27.0	83.7
Total Split (%)	30.3%	22.5%	47.3%	30.3%	22.5%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min
Act Effct Green (s)	14.9	37.3	51.7	71.9	22.1	79.1
Actuated g/C Ratio	0.14	0.36	0.50	0.69	0.21	0.76
v/c Ratio	0.59	1.35	0.91	0.25	0.52	0.34
Control Delay	46.2	193.7	40.2	1.5	43.7	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	193.7	40.2	1.5	43.7	5.9
LOS	D	F	D	A	D	A
Approach Delay	155.3		30.1			16.8
Approach LOS	F		C			B

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 104.4  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.35  
 Intersection Signal Delay: 74.6  
 Intersection LOS: E  
 Intersection Capacity Utilization 101.5%  
 ICU Level of Service G  
 Analysis Period (min) 15

Splits and Phases: 47: Archibald Av. & Limonite Av.



HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↔	↑	↔	↔	↓
Traffic Volume (veh/h)	283	804	819	288	191	474
Future Volume (veh/h)	283	804	819	288	191	474
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	295	782	853	253	199	494
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	968	650	869	1181	232	1197
Arrive On Green	0.28	0.28	0.46	0.46	0.13	0.63
Sat Flow, veh/h	3510	1610	1900	1610	1810	1900
Grp Volume(v), veh/h	295	782	853	253	199	494
Grp Sat Flow(s),veh/h/ln	1755	1610	1900	1610	1810	1900
Q Serve(g_s), s	7.5	31.0	49.7	5.6	12.1	14.6
Cycle Q Clear(g_c), s	7.5	31.0	49.7	5.6	12.1	14.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	968	650	869	1181	232	1197
V/C Ratio(X)	0.30	1.20	0.98	0.21	0.86	0.41
Avail Cap(c_a), veh/h	968	650	869	1181	354	1331
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	33.5	30.0	4.7	48.0	10.4
Incr Delay (d2), s/veh	0.1	105.4	26.0	0.1	12.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	35.2	26.6	4.0	6.0	5.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.2	138.9	56.0	4.9	60.4	10.5
LnGrp LOS	C	F	E	A	E	B
Approach Vol, veh/h	1077		1106			693
Approach Delay, s/veh	109.7		44.3			24.8
Approach LOS	F		D			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	19.4	56.7			76.1	36.3
Change Period (Y+Rc), s	5.0	5.3			* 5.3	5.3
Max Green Setting (Gmax), s	22.0	51.4			* 79	31.0
Max Q Clear Time (g_c+I1), s	14.1	51.7			16.6	33.0
Green Ext Time (p_c), s	0.3	0.0			1.6	0.0

Intersection Summary

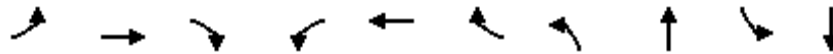
HCM 6th Ctrl Delay	64.1
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

48: Turner Av. & Ontario Ranch Rd.

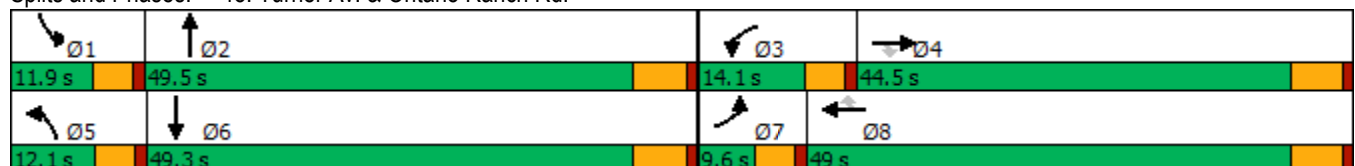


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗	↘	↗
Traffic Volume (vph)	27	549	34	43	1018	18	58	24	34	16
Future Volume (vph)	27	549	34	43	1018	18	58	24	34	16
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	25.8	25.8	9.6	45.8	9.6	47.8
Total Split (s)	9.6	44.5	44.5	14.1	49.0	49.0	12.1	49.5	11.9	49.3
Total Split (%)	8.0%	37.1%	37.1%	11.8%	40.8%	40.8%	10.1%	41.3%	9.9%	41.1%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	5.2	49.0	49.0	7.0	50.6	50.6	7.0	18.0	6.4	15.1
Actuated g/C Ratio	0.06	0.57	0.57	0.08	0.59	0.59	0.08	0.21	0.07	0.17
v/c Ratio	0.31	0.31	0.04	0.37	0.56	0.02	0.49	0.18	0.32	0.25
Control Delay	54.7	17.6	0.1	51.3	19.9	0.1	56.8	16.4	51.5	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	17.6	0.1	51.3	19.9	0.1	56.8	16.4	51.5	13.3
LOS	D	B	A	D	B	A	E	B	D	B
Approach Delay		18.3			20.8			36.0		25.4
Approach LOS		B			C			D		C

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 86.4  
 Natural Cycle: 105  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.56  
 Intersection Signal Delay: 21.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 57.6%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 48: Turner Av. & Ontario Ranch Rd.





HCM 6th Signalized Intersection Summary  
48: Turner Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗		↘	↗	
Traffic Volume (veh/h)	27	549	34	43	1018	18	58	24	37	34	16	58
Future Volume (veh/h)	27	549	34	43	1018	18	58	24	37	34	16	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	30	610	27	48	1131	11	64	27	28	38	18	41
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	49	1811	808	66	1847	824	79	108	112	58	59	134
Arrive On Green	0.03	0.53	0.53	0.04	0.54	0.54	0.05	0.13	0.13	0.04	0.12	0.12
Sat Flow, veh/h	1619	3420	1525	1619	3420	1525	1619	809	839	1619	488	1112
Grp Volume(v), veh/h	30	610	27	48	1131	11	64	0	55	38	0	59
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1525	1619	0	1649	1619	0	1600
Q Serve(g_s), s	1.5	8.2	0.7	2.3	18.2	0.3	3.1	0.0	2.4	1.9	0.0	2.7
Cycle Q Clear(g_c), s	1.5	8.2	0.7	2.3	18.2	0.3	3.1	0.0	2.4	1.9	0.0	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.51	1.00		0.69
Lane Grp Cap(c), veh/h	49	1811	808	66	1847	824	79	0	221	58	0	193
V/C Ratio(X)	0.61	0.34	0.03	0.72	0.61	0.01	0.81	0.00	0.25	0.66	0.00	0.31
Avail Cap(c_a), veh/h	101	1811	808	192	1847	824	152	0	901	148	0	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.3	10.8	9.0	37.9	12.6	8.5	37.7	0.0	31.0	38.1	0.0	32.1
Incr Delay (d2), s/veh	4.5	0.5	0.1	5.4	1.5	0.0	7.2	0.0	0.6	4.7	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.7	0.2	1.0	6.0	0.1	1.3	0.0	0.9	0.8	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.8	11.3	9.1	43.4	14.2	8.6	44.9	0.0	31.6	42.8	0.0	33.0
LnGrp LOS	D	B	A	D	B	A	D	A	C	D	A	C
Approach Vol, veh/h		667			1190			119				97
Approach Delay, s/veh		12.6			15.3			38.8				36.8
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	16.5	7.9	48.2	8.5	15.5	7.0	49.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	7.3	43.7	9.5	38.7	7.5	43.5	5.0	43.2				
Max Q Clear Time (g_c+1), s	3.9	4.4	4.3	10.2	5.1	4.7	3.5	20.2				
Green Ext Time (p_c), s	0.0	0.2	0.0	4.1	0.0	0.3	0.0	8.1				

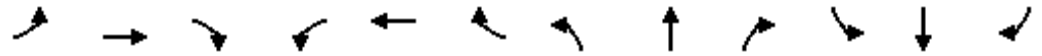
Intersection Summary

HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Timings

49: Haven Av. & Ontario Ranch Rd.

08/23/2021

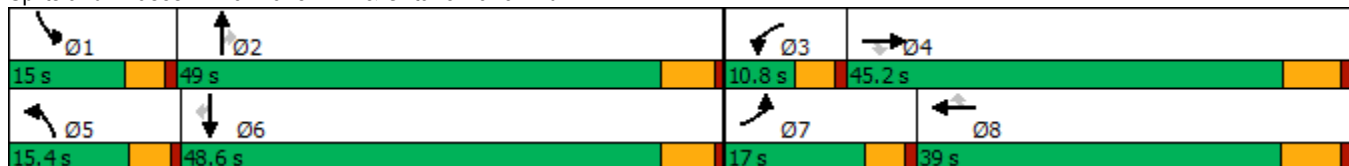


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (vph)	134	582	29	21	845	82	63	191	79	119	58	69
Future Volume (vph)	134	582	29	21	845	82	63	191	79	119	58	69
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	17.0	45.2	45.2	10.8	39.0	39.0	15.4	49.0	49.0	15.0	48.6	48.6
Total Split (%)	14.2%	37.7%	37.7%	9.0%	32.5%	32.5%	12.8%	40.8%	40.8%	12.5%	40.5%	40.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	11.8	45.9	45.9	5.7	33.0	33.0	8.0	18.8	18.8	10.4	23.4	23.4
Actuated g/C Ratio	0.12	0.48	0.48	0.06	0.34	0.34	0.08	0.20	0.20	0.11	0.24	0.24
v/c Ratio	0.72	0.26	0.04	0.23	0.42	0.14	0.50	0.58	0.20	0.73	0.14	0.15
Control Delay	63.5	18.2	0.1	53.5	26.4	0.6	57.8	40.6	1.0	68.1	30.3	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.5	18.2	0.1	53.5	26.4	0.6	57.8	40.6	1.0	68.1	30.3	0.6
LOS	E	B	A	D	C	A	E	D	A	E	C	A
Approach Delay		25.6			24.8			34.5			40.3	
Approach LOS		C			C			C			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 95.8	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 28.2	Intersection LOS: C
Intersection Capacity Utilization 57.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 49: Haven Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
49: Haven Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	582	29	21	845	82	63	191	79	119	58	69
Future Volume (veh/h)	134	582	29	21	845	82	63	191	79	119	58	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	143	619	18	22	899	42	67	203	34	127	62	40
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	173	2332	724	39	2424	597	83	264	223	155	344	291
Arrive On Green	0.11	0.47	0.47	0.02	0.39	0.39	0.05	0.15	0.15	0.10	0.19	0.19
Sat Flow, veh/h	1619	4914	1525	1619	6192	1525	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	143	619	18	22	899	42	67	203	34	127	62	40
Grp Sat Flow(s),veh/h/ln	1619	1638	1525	1619	1548	1525	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	7.2	6.3	0.5	1.1	8.6	1.4	3.4	9.0	1.6	6.4	2.4	1.8
Cycle Q Clear(g_c), s	7.2	6.3	0.5	1.1	8.6	1.4	3.4	9.0	1.6	6.4	2.4	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	173	2332	724	39	2424	597	83	264	223	155	344	291
V/C Ratio(X)	0.82	0.27	0.02	0.57	0.37	0.07	0.81	0.77	0.15	0.82	0.18	0.14
Avail Cap(c_a), veh/h	242	2332	724	121	2424	597	211	937	794	203	928	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.3	13.1	11.6	40.1	18.0	15.8	39.0	34.1	30.9	36.8	28.1	27.9
Incr Delay (d2), s/veh	10.7	0.3	0.1	4.8	0.4	0.2	6.7	4.7	0.3	13.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	2.0	0.2	0.5	2.7	0.5	1.4	4.0	0.6	3.0	1.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.0	13.4	11.7	44.8	18.4	16.0	45.6	38.8	31.2	50.7	28.4	28.1
LnGrp LOS	D	B	B	D	B	B	D	D	C	D	C	C
Approach Vol, veh/h		780			963			304			229	
Approach Delay, s/veh		19.5			18.9			39.5			40.7	
Approach LOS		B			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	18.0	6.6	45.9	8.9	21.7	13.5	39.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	10.4	43.2	6.2	* 39	10.8	42.8	12.4	32.5				
Max Q Clear Time (g_c+I1), s	8.4	11.0	3.1	8.3	5.4	4.4	9.2	10.6				
Green Ext Time (p_c), s	0.0	1.1	0.0	4.0	0.0	0.4	0.0	5.6				

Intersection Summary

HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

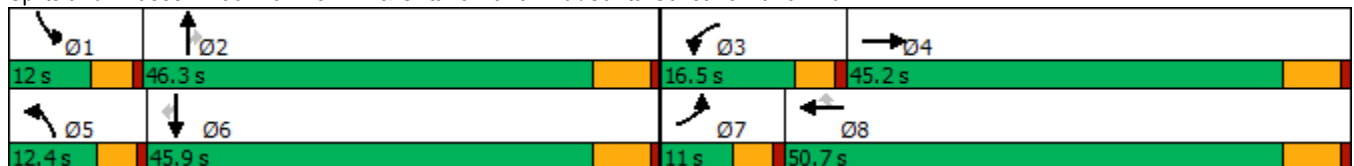


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙↘	↑↑↑	↙↘	↑↑	↗	↙↘	↑↑↑	↗	↙↘	↑↑	↗
Traffic Volume (vph)	96	542	275	790	203	171	701	504	154	208	82
Future Volume (vph)	96	542	275	790	203	171	701	504	154	208	82
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.2	9.6	49.2	49.2	9.6	44.2	44.2	9.6	45.2	45.2
Total Split (s)	11.0	45.2	16.5	50.7	50.7	12.4	46.3	46.3	12.0	45.9	45.9
Total Split (%)	9.2%	37.7%	13.8%	42.3%	42.3%	10.3%	38.6%	38.6%	10.0%	38.3%	38.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.4	29.4	12.2	35.2	35.2	8.0	34.6	34.6	7.6	34.1	34.1
Actuated g/C Ratio	0.06	0.28	0.12	0.33	0.33	0.08	0.33	0.33	0.07	0.32	0.32
v/c Ratio	0.62	0.41	0.92	0.79	0.36	0.87	0.50	0.89	0.83	0.21	0.16
Control Delay	67.9	30.3	82.3	37.9	7.9	86.9	30.2	38.8	82.4	27.3	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.9	30.3	82.3	37.9	7.9	86.9	30.2	38.8	82.4	27.3	0.9
LOS	E	C	F	D	A	F	C	D	F	C	A
Approach Delay		35.3		42.7			40.4			41.6	
Approach LOS		D		D			D			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 105.8  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 40.3  
 Intersection LOS: D  
 Intersection Capacity Utilization 64.7%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	542	82	275	790	203	171	701	504	154	208	82
Future Volume (veh/h)	96	542	82	275	790	203	171	701	504	154	208	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	109	616	93	312	898	231	194	797	566	175	236	93
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	156	1421	209	322	1077	480	211	1803	560	200	1243	554
Arrive On Green	0.05	0.26	0.26	0.11	0.31	0.31	0.07	0.37	0.37	0.07	0.36	0.36
Sat Flow, veh/h	2956	5492	806	2956	3420	1525	2956	4914	1525	2956	3420	1524
Grp Volume(v), veh/h	109	518	191	312	898	231	194	797	566	175	236	93
Grp Sat Flow(s),veh/h/ln	1478	1548	1655	1478	1710	1525	1478	1638	1525	1478	1710	1524
Q Serve(g_s), s	4.0	10.2	10.6	11.5	26.7	13.4	7.1	13.4	40.1	6.4	5.2	4.5
Cycle Q Clear(g_c), s	4.0	10.2	10.6	11.5	26.7	13.4	7.1	13.4	40.1	6.4	5.2	4.5
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	1201	428	322	1077	480	211	1803	560	200	1243	554
V/C Ratio(X)	0.70	0.43	0.45	0.97	0.83	0.48	0.92	0.44	1.01	0.87	0.19	0.17
Avail Cap(c_a), veh/h	173	1658	591	322	1393	621	211	1803	560	200	1243	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	33.8	33.9	48.5	34.8	30.2	50.4	26.1	34.6	50.5	23.8	23.6
Incr Delay (d2), s/veh	8.1	0.2	0.7	41.5	3.5	0.7	39.6	0.2	40.8	31.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.6	4.1	5.9	10.9	4.7	3.7	4.9	20.0	3.1	2.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	34.0	34.7	90.0	38.3	31.0	90.0	26.3	75.4	81.5	23.9	23.7
LnGrp LOS	E	C	C	F	D	C	F	C	F	F	C	C
Approach Vol, veh/h		818			1441			1557			504	
Approach Delay, s/veh		37.5			48.3			52.1			43.8	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	46.3	16.5	34.5	12.4	45.9	10.4	40.6				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	7.4	40.1	11.9	39.0	7.8	39.7	6.4	44.5				
Max Q Clear Time (g_c+I1), s	8.4	42.1	13.5	12.6	9.1	7.2	6.0	28.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.2	0.0	1.6	0.0	5.8				

Intersection Summary

HCM 6th Ctrl Delay	47.1
HCM 6th LOS	D

Timings  
51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021

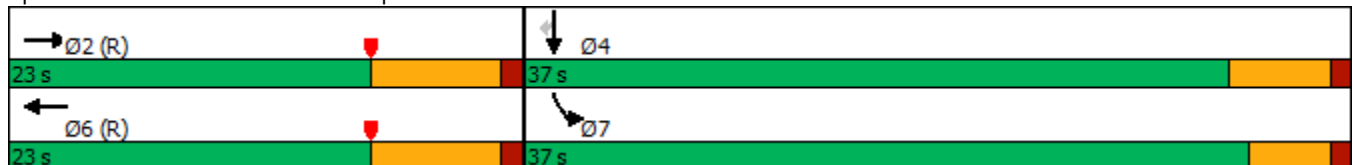


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑	↔	↑
Traffic Volume (vph)	979	330	531	182	323	0	1092
Future Volume (vph)	979	330	531	182	323	0	1092
Turn Type	NA	Free	NA	Free	Prot	NA	Perm
Protected Phases	2		6		7	4	
Permitted Phases		Free		Free			4
Detector Phase	2		6		7	4	4
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5	10.5
Total Split (s)	23.0		23.0		37.0	37.0	37.0
Total Split (%)	38.3%		38.3%		61.7%	61.7%	61.7%
Yellow Time (s)	5.8		5.8		3.6	4.5	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max		C-Min		None	Min	Min
Act Effct Green (s)	16.2	60.0	16.2	60.0	32.4	31.5	31.5
Actuated g/C Ratio	0.27	1.00	0.27	1.00	0.54	0.52	0.52
v/c Ratio	0.78	0.23	0.61	0.13	0.35	0.78	0.74
Control Delay	24.9	0.3	19.2	0.2	9.2	18.9	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.9	0.3	19.2	0.2	9.2	18.9	16.6
LOS	C	A	B	A	A	B	B
Approach Delay	18.7		14.4			16.0	
Approach LOS	B		B			B	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 16.7  
 Intersection LOS: B  
 Intersection Capacity Utilization 70.0%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑	↗				↘	↔	↗
Traffic Volume (veh/h)	0	979	330	0	531	182	0	0	0	323	0	1092
Future Volume (veh/h)	0	979	330	0	531	182	0	0	0	323	0	1092
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1088	0	0	590	0				239	0	1043
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2137		0	1487					720	0	1282
Arrive On Green	0.00	0.41	0.00	0.00	0.41	0.00				0.40	0.00	0.40
Sat Flow, veh/h	0	5358	1610	0	3705	1610				1810	0	3220
Grp Volume(v), veh/h	0	1088	0	0	590	0				239	0	1043
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610				1810	0	1610
Q Serve(g_s), s	0.0	9.4	0.0	0.0	6.9	0.0				5.5	0.0	17.3
Cycle Q Clear(g_c), s	0.0	9.4	0.0	0.0	6.9	0.0				5.5	0.0	17.3
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2137		0	1487					720	0	1282
V/C Ratio(X)	0.00	0.51		0.00	0.40					0.33	0.00	0.81
Avail Cap(c_a), veh/h	0	2137		0	1487					977	0	1739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.71	0.00	0.00	0.93	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.1	0.0	0.0	12.4	0.0				12.5	0.0	16.1
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.7	0.0				0.3	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.9	0.0	0.0	2.3	0.0				1.8	0.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.7	0.0	0.0	13.1	0.0				12.8	0.0	18.3
LnGrp LOS	A	B		A	B					B	A	B
Approach Vol, veh/h		1088	A		590	A					1282	
Approach Delay, s/veh		13.7			13.1						17.3	
Approach LOS		B			B						B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		31.5		28.5		31.5						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		16.2		32.4		16.2						
Max Q Clear Time (g_c+I1), s		11.4		19.3		8.9						
Green Ext Time (p_c), s		2.7		4.6		2.0						

Intersection Summary

HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B

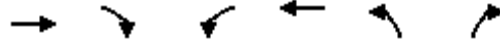
Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	498	803	366	460	253	300
Future Volume (vph)	498	803	366	460	253	300
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	32.0	15.0	13.0	45.0	15.0	15.0
Total Split (%)	53.3%	25.0%	21.7%	75.0%	25.0%	25.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max
Act Effct Green (s)	24.7	41.0	7.0	37.7	9.0	9.0
Actuated g/C Ratio	0.41	0.68	0.12	0.63	0.15	0.15
v/c Ratio	0.26	0.80	0.99	0.15	0.67	0.50
Control Delay	8.5	13.2	71.7	4.7	22.6	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.5	13.2	71.7	4.7	22.6	9.4
LOS	A	B	E	A	C	A
Approach Delay	11.4			34.4	18.5	
Approach LOS	B			C	B	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 19.9  
 Intersection LOS: B  
 Intersection Capacity Utilization 70.2%  
 ICU Level of Service C  
 Analysis Period (min) 15

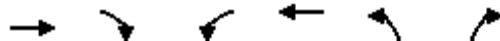
Splits and Phases: 52: I-15 NB Ramps & Cantu Galleano Ranch Rd.





HCM 6th Signalized Intersection Summary  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↓	↑↑↑	↑↓	↑
Traffic Volume (veh/h)	498	803	366	460	253	300
Future Volume (veh/h)	498	803	366	460	253	300
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	547	548	402	505	305	154
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2135	904	410	3259	543	242
Arrive On Green	0.69	0.69	0.12	0.63	0.15	0.15
Sat Flow, veh/h	5358	1610	3510	5358	3619	1610
Grp Volume(v), veh/h	547	548	402	505	305	154
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1810	1610
Q Serve(g_s), s	2.4	11.0	6.9	2.4	4.7	5.4
Cycle Q Clear(g_c), s	2.4	11.0	6.9	2.4	4.7	5.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2135	904	410	3259	543	242
V/C Ratio(X)	0.26	0.61	0.98	0.15	0.56	0.64
Avail Cap(c_a), veh/h	2135	904	410	3259	543	242
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.9	4.3	26.4	4.6	23.7	24.0
Incr Delay (d2), s/veh	0.2	2.1	40.1	0.0	4.2	12.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.7	4.8	0.5	2.1	2.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.1	6.4	66.5	4.6	27.8	36.2
LnGrp LOS	A	A	E	A	C	D
Approach Vol, veh/h	1095			907	459	
Approach Delay, s/veh	6.2			32.1	30.6	
Approach LOS	A			C	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.0	32.0			45.0	15.0
Change Period (Y+Rc), s	6.0	7.3			7.3	6.0
Max Green Setting (Gmax), s	7.0	24.7			37.7	9.0
Max Q Clear Time (g_c+I1), s	8.9	13.0			4.4	7.4
Green Ext Time (p_c), s	0.0	4.2			3.2	0.3

Intersection Summary

HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
1: Euclid Av. (SR-83) & SR-60 WB Ramps

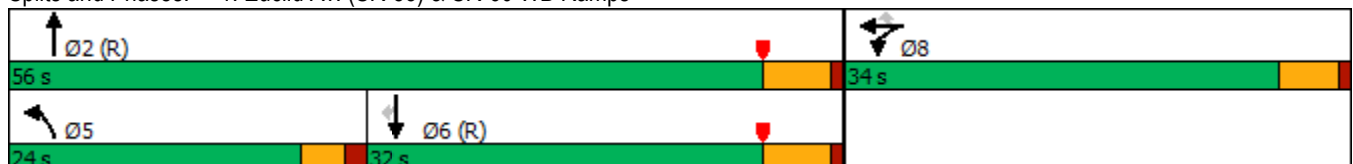


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↔	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	599	6	407	242	1075	1000	492
Future Volume (vph)	599	6	407	242	1075	1000	492
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	10.0	10.0	10.0
Minimum Split (s)	11.0	11.0	11.0	9.5	22.5	22.5	22.5
Total Split (s)	34.0	34.0	34.0	24.0	56.0	32.0	32.0
Total Split (%)	37.8%	37.8%	37.8%	26.7%	62.2%	35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.5	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effect Green (s)	24.0	24.0	24.0	16.1	55.5	35.0	35.0
Actuated g/C Ratio	0.27	0.27	0.27	0.18	0.62	0.39	0.39
v/c Ratio	0.79	0.82	0.71	0.78	0.50	0.74	0.55
Control Delay	43.3	44.3	30.1	39.3	20.5	30.5	4.9
Queue Delay	0.0	0.0	0.0	0.0	2.1	0.0	0.0
Total Delay	43.3	44.3	30.1	39.3	22.6	30.5	4.9
LOS	D	D	C	D	C	C	A
Approach Delay		39.5			25.7	22.1	
Approach LOS		D			C	C	

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 63 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 27.9  
 Intersection LOS: C  
 Intersection Capacity Utilization 89.9%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 1: Euclid Av. (SR-83) & SR-60 WB Ramps



HCM 6th Signalized Intersection Summary  
 1: Euclid Av. (SR-83) & SR-60 WB Ramps

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↔	↗	↖	↕			↕	↗
Traffic Volume (veh/h)	0	0	0	599	6	407	242	1075	0	0	1000	492
Future Volume (veh/h)	0	0	0	599	6	407	242	1075	0	0	1000	492
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				702	0	164	252	1120	0	0	1042	307
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				811	0	360	283	2380	0	0	1634	729
Arrive On Green				0.22	0.00	0.22	0.31	1.00	0.00	0.00	0.45	0.45
Sat Flow, veh/h				3619	0	1608	1810	3705	0	0	3705	1610
Grp Volume(v), veh/h				702	0	164	252	1120	0	0	1042	307
Grp Sat Flow(s),veh/h/ln				1810	0	1608	1810	1805	0	0	1805	1610
Q Serve(g_s), s				16.8	0.0	7.9	11.9	0.0	0.0	0.0	20.0	11.6
Cycle Q Clear(g_c), s				16.8	0.0	7.9	11.9	0.0	0.0	0.0	20.0	11.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				811	0	360	283	2380	0	0	1634	729
V/C Ratio(X)				0.87	0.00	0.46	0.89	0.47	0.00	0.00	0.64	0.42
Avail Cap(c_a), veh/h				1166	0	518	392	2380	0	0	1634	729
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.55	0.55	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.6	0.0	30.2	30.2	0.0	0.0	0.0	18.9	16.7
Incr Delay (d2), s/veh				3.6	0.0	0.3	8.3	0.4	0.0	0.0	1.9	1.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.3	0.0	2.9	4.8	0.1	0.0	0.0	8.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				37.2	0.0	30.5	38.5	0.4	0.0	0.0	20.9	18.4
LnGrp LOS				D	A	C	D	A	A	A	C	B
Approach Vol, veh/h					866			1372			1349	
Approach Delay, s/veh					35.9			7.4			20.3	
Approach LOS					D			A			C	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		64.8			18.6	46.2		25.2				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.0				
Max Green Setting (Gmax), s		50.5			19.5	26.5		29.0				
Max Q Clear Time (g_c+I1), s		2.0			13.9	22.0		18.8				
Green Ext Time (p_c), s		15.0			0.2	3.4		1.4				

Intersection Summary

HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

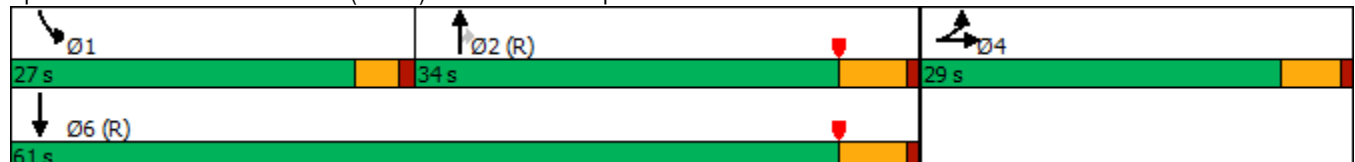


Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	416	3	899	573	375	1234
Future Volume (vph)	416	3	899	573	375	1234
Turn Type	Split	NA	NA	Perm	Prot	NA
Protected Phases	4	4	2		1	6
Permitted Phases				2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0	10.0	5.0	10.0
Minimum Split (s)	11.0	11.0	22.5	22.5	9.0	22.5
Total Split (s)	29.0	29.0	34.0	34.0	27.0	61.0
Total Split (%)	32.2%	32.2%	37.8%	37.8%	30.0%	67.8%
Yellow Time (s)	4.0	4.0	4.5	4.5	3.0	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)	22.3	22.3	31.8	31.8	21.4	57.2
Actuated g/C Ratio	0.25	0.25	0.35	0.35	0.24	0.64
v/c Ratio	0.90	0.84	0.72	0.63	0.89	0.55
Control Delay	58.1	43.6	30.1	5.6	51.7	4.7
Queue Delay	13.4	5.8	0.0	0.0	0.0	0.4
Total Delay	71.6	49.4	30.1	5.6	51.7	5.1
LOS	E	D	C	A	D	A
Approach Delay		60.7	20.6			16.0
Approach LOS		E	C			B

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 26.4  
 Intersection LOS: C  
 Intersection Capacity Utilization 89.9%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 2: Euclid Av. (SR-83) & SR-60 EB Ramps



HCM 6th Signalized Intersection Summary  
 2: Euclid Av. (SR-83) & SR-60 EB Ramps

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	416	3	318	0	0	0	0	899	573	375	1234	0
Future Volume (veh/h)	416	3	318	0	0	0	0	899	573	375	1234	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	342	118	257				0	917	391	383	1259	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	442	130	283				0	1331	580	409	2306	0
Arrive On Green	0.24	0.24	0.24				0.00	0.37	0.37	0.45	1.00	0.00
Sat Flow, veh/h	1810	532	1159				0	3705	1572	1810	3705	0
Grp Volume(v), veh/h	342	0	375				0	917	391	383	1259	0
Grp Sat Flow(s),veh/h/ln	1810	0	1691				0	1805	1572	1810	1805	0
Q Serve(g_s), s	15.8	0.0	19.4				0.0	19.3	18.8	18.1	0.0	0.0
Cycle Q Clear(g_c), s	15.8	0.0	19.4				0.0	19.3	18.8	18.1	0.0	0.0
Prop In Lane	1.00		0.69				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	442	0	414				0	1331	580	409	2306	0
V/C Ratio(X)	0.77	0.00	0.91				0.00	0.69	0.67	0.94	0.55	0.00
Avail Cap(c_a), veh/h	483	0	451				0	1331	580	462	2306	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.67	0.67	0.57	0.57	0.00
Uniform Delay (d), s/veh	31.7	0.0	33.0				0.0	24.0	23.9	24.1	0.0	0.0
Incr Delay (d2), s/veh	6.1	0.0	19.8				0.0	2.0	4.2	16.3	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	0.0	9.7				0.0	8.0	7.1	7.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	0.0	52.9				0.0	26.0	28.1	40.4	0.5	0.0
LnGrp LOS	D	A	D				A	C	C	D	A	A
Approach Vol, veh/h		717						1308			1642	
Approach Delay, s/veh		45.6						26.6			9.8	
Approach LOS		D						C			A	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	24.3	38.7	27.0	63.0								
Change Period (Y+Rc), s	4.0	5.5	5.0	5.5								
Max Green Setting (Gmax), s	23.0	28.5	24.0	55.5								
Max Q Clear Time (g_c+I1), s	20.1	21.3	21.4	2.0								
Green Ext Time (p_c), s	0.2	5.0	0.6	18.5								

Intersection Summary

HCM 6th Ctrl Delay	22.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings

3: Euclid Av. (SR-83) & Walnut Av.

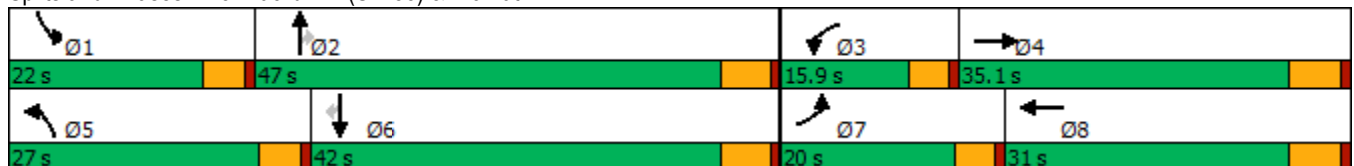


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕↕↕	↙	↙↙	↕↕↕	↙
Traffic Volume (vph)	107	370	69	370	196	1204	77	279	1103	155
Future Volume (vph)	107	370	69	370	196	1204	77	279	1103	155
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.8	9.6	29.8	9.6	27.4	27.4	9.6	29.4	29.4
Total Split (s)	20.0	35.1	15.9	31.0	27.0	47.0	47.0	22.0	42.0	42.0
Total Split (%)	16.7%	29.3%	13.3%	25.8%	22.5%	39.2%	39.2%	18.3%	35.0%	35.0%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.4	4.4	3.6	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.4	5.4	4.6	5.4	5.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	11.6	26.4	8.8	21.3	17.8	41.9	41.9	14.6	38.8	38.8
Actuated g/C Ratio	0.11	0.24	0.08	0.19	0.16	0.38	0.38	0.13	0.35	0.35
v/c Ratio	0.67	0.66	0.57	0.82	0.80	0.68	0.13	0.76	0.68	0.26
Control Delay	68.0	40.3	67.9	50.7	68.1	32.2	2.8	60.2	34.6	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.0	40.3	67.9	50.7	68.1	32.2	2.8	60.2	34.6	5.8
LOS	E	D	E	D	E	C	A	E	C	A
Approach Delay		45.1		52.7		35.5			36.3	
Approach LOS		D		D		D			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 110.1  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 39.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 74.7%  
 ICU Level of Service D  
 Analysis Period (min) 15






























Splits and Phases: 3: Euclid Av. (SR-83) & Walnut Av.



HCM 6th Signalized Intersection Summary  
 3: Euclid Av. (SR-83) & Walnut Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  		 	  	
Traffic Volume (veh/h)	107	370	138	69	370	140	196	1204	77	279	1103	155
Future Volume (veh/h)	107	370	138	69	370	140	196	1204	77	279	1103	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	114	394	124	73	394	123	209	1281	55	297	1173	111
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	139	563	175	91	488	150	238	1989	616	356	1857	576
Arrive On Green	0.09	0.22	0.22	0.06	0.19	0.19	0.15	0.40	0.40	0.12	0.38	0.38
Sat Flow, veh/h	1619	2558	795	1619	2559	788	1619	4914	1523	2956	4914	1524
Grp Volume(v), veh/h	114	262	256	73	262	255	209	1281	55	297	1173	111
Grp Sat Flow(s),veh/h/ln	1619	1710	1643	1619	1710	1637	1619	1638	1523	1478	1638	1524
Q Serve(g_s), s	7.1	14.5	14.8	4.6	15.0	15.4	13.0	21.6	2.3	10.1	20.0	5.0
Cycle Q Clear(g_c), s	7.1	14.5	14.8	4.6	15.0	15.4	13.0	21.6	2.3	10.1	20.0	5.0
Prop In Lane	1.00		0.48	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	377	362	91	326	312	238	1989	616	356	1857	576
V/C Ratio(X)	0.82	0.69	0.71	0.80	0.80	0.82	0.88	0.64	0.09	0.83	0.63	0.19
Avail Cap(c_a), veh/h	243	487	468	178	419	401	353	1989	616	500	1857	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.2	36.9	37.0	47.9	39.7	39.9	42.9	24.6	18.9	44.2	26.1	21.5
Incr Delay (d2), s/veh	4.5	2.9	3.4	6.0	8.4	10.0	11.2	1.6	0.3	6.0	1.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.1	6.0	1.9	6.8	6.8	5.8	8.2	0.8	3.9	7.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	39.8	40.4	53.9	48.1	49.9	54.2	26.3	19.2	50.2	27.8	22.2
LnGrp LOS	D	D	D	D	D	D	D	C	B	D	C	C
Approach Vol, veh/h		632			590			1545			1581	
Approach Delay, s/veh		42.0			49.6			29.8			31.6	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	47.0	10.4	28.4	19.7	44.2	13.4	25.4				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.8	4.6	5.4	4.6	5.8				
Max Green Setting (Gmax), s	17.4	41.6	11.3	29.3	22.4	36.6	15.4	25.2				
Max Q Clear Time (g_c+I1), s	12.1	23.6	6.6	16.8	15.0	22.0	9.1	17.4				
Green Ext Time (p_c), s	0.3	8.5	0.0	2.3	0.2	7.0	0.1	1.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			34.9									
HCM 6th LOS			C									

Timings  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/23/2021

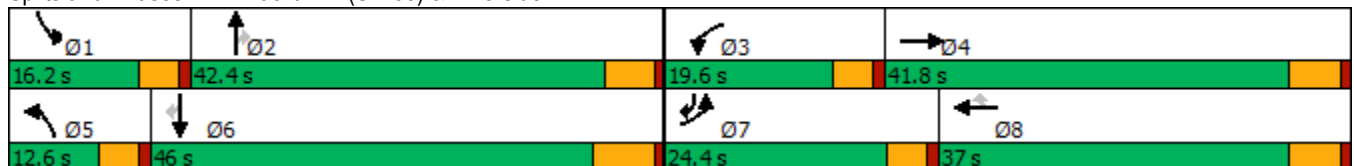


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗	↘	↕	↗	↘	↕	↗	↘	↕	↗
Traffic Volume (vph)	151	458	185	409	64	69	1014	253	147	916	203
Future Volume (vph)	151	458	185	409	64	69	1014	253	147	916	203
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8		5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	24.4	41.8	19.6	37.0	37.0	12.6	42.4	42.4	16.2	46.0	24.4
Total Split (%)	20.3%	34.8%	16.3%	30.8%	30.8%	10.5%	35.3%	35.3%	13.5%	38.3%	20.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	None
Act Effct Green (s)	15.4	36.0	15.0	35.6	35.6	7.6	37.0	37.0	11.6	42.0	59.4
Actuated g/C Ratio	0.13	0.30	0.12	0.30	0.30	0.06	0.31	0.31	0.10	0.35	0.50
v/c Ratio	0.76	1.04	0.96	0.42	0.12	0.71	1.00	0.42	0.98	0.80	0.26
Control Delay	72.4	90.5	106.6	36.3	0.4	90.2	69.9	8.6	121.7	41.9	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.4	90.5	106.6	36.3	0.4	90.2	69.9	8.6	121.7	41.9	5.2
LOS	E	F	F	D	A	F	E	A	F	D	A
Approach Delay		86.5		52.6			59.3			45.3	
Approach LOS		F		D			E			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.04  
 Intersection Signal Delay: 58.4  
 Intersection LOS: E  
 Intersection Capacity Utilization 97.3%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.




























HCM 6th Signalized Intersection Summary  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	458	74	185	409	64	69	1014	253	147	916	203
Future Volume (veh/h)	151	458	74	185	409	64	69	1014	253	147	916	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	157	477	52	193	426	51	72	1056	210	153	954	120
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	181	474	52	201	1057	471	89	1045	466	155	1184	692
Arrive On Green	0.11	0.30	0.30	0.12	0.31	0.31	0.06	0.31	0.31	0.10	0.35	0.35
Sat Flow, veh/h	1619	1595	174	1619	3420	1524	1619	3420	1525	1619	3420	1506
Grp Volume(v), veh/h	157	0	529	193	426	51	72	1056	210	153	954	120
Grp Sat Flow(s),veh/h/ln	1619	0	1769	1619	1710	1524	1619	1710	1525	1619	1710	1506
Q Serve(g_s), s	11.5	0.0	36.0	14.4	11.9	2.9	5.3	37.0	13.4	11.4	30.6	5.7
Cycle Q Clear(g_c), s	11.5	0.0	36.0	14.4	11.9	2.9	5.3	37.0	13.4	11.4	30.6	5.7
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	181	0	526	201	1057	471	89	1045	466	155	1184	692
V/C Ratio(X)	0.87	0.00	1.01	0.96	0.40	0.11	0.81	1.01	0.45	0.99	0.81	0.17
Avail Cap(c_a), veh/h	265	0	526	201	1057	471	107	1045	466	155	1184	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.9	0.0	42.6	52.8	33.0	29.9	56.6	42.0	33.9	54.7	35.9	19.3
Incr Delay (d2), s/veh	13.2	0.0	40.8	52.3	0.2	0.1	25.8	30.5	3.1	67.9	5.9	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.0	21.0	8.6	4.8	1.1	2.7	19.0	5.2	7.5	13.3	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.0	0.0	83.3	105.1	33.3	30.0	82.4	72.5	37.0	122.6	41.8	19.9
LnGrp LOS	E	A	F	F	C	C	F	F	D	F	D	B
Approach Vol, veh/h		686			670			1338			1227	
Approach Delay, s/veh		79.4			53.7			67.5			49.7	
Approach LOS		E			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	43.5	19.6	41.8	11.3	48.4	18.2	43.2				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	11.6	* 37	15.0	36.0	8.0	39.5	19.8	31.2				
Max Q Clear Time (g_c+I1), s	13.4	39.0	16.4	38.0	7.3	32.6	13.5	13.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.6	0.1	2.4				

Intersection Summary

HCM 6th Ctrl Delay	61.6
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

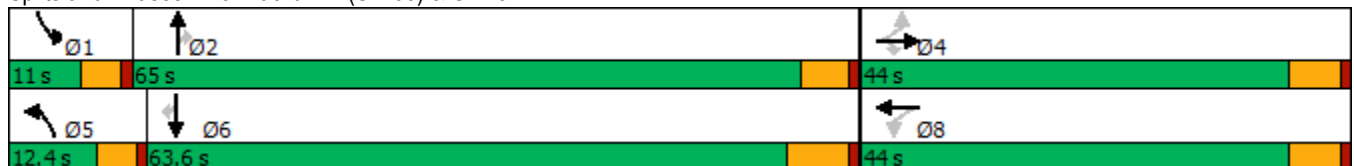


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	96	284	48	78	112	42	1230	241	26	1039	76
Future Volume (vph)	96	284	48	78	112	42	1230	241	26	1039	76
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	28.8	28.8	28.8	33.8	33.8	9.6	24.2	24.2	9.6	31.5	31.5
Total Split (s)	44.0	44.0	44.0	44.0	44.0	12.4	65.0	65.0	11.0	63.6	63.6
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	10.3%	54.2%	54.2%	9.2%	53.0%	53.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.6	4.2	4.2	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8		5.8	4.6	5.2	5.2	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	26.4	26.4	26.4		26.4	6.8	62.6	62.6	5.9	58.3	58.3
Actuated g/C Ratio	0.25	0.25	0.25		0.25	0.06	0.59	0.59	0.06	0.55	0.55
v/c Ratio	0.44	0.68	0.12		1.10	0.44	0.66	0.28	0.31	0.60	0.10
Control Delay	39.7	44.2	3.8		131.3	65.3	19.5	11.0	62.0	20.1	4.0
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	44.2	3.8		131.3	65.3	19.5	11.0	62.0	20.1	4.0
LOS	D	D	A		F	E	B	B	E	C	A
Approach Delay		38.6			131.3		19.4			20.0	
Approach LOS		D			F		B			C	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 106.3  
 Natural Cycle: 80  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.10  
 Intersection Signal Delay: 28.9  
 Intersection LOS: C  
 Intersection Capacity Utilization 80.1%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 5: Euclid Av. (SR-83) & Chino Av.



HCM 6th Signalized Intersection Summary  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘		↔		↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	96	284	48	78	112	9	42	1230	241	26	1039	76
Future Volume (veh/h)	96	284	48	78	112	9	42	1230	241	26	1039	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	103	305	29	84	120	6	45	1323	188	28	1117	49
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	272	507	430	121	156	7	55	1846	806	42	1817	794
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.03	0.54	0.54	0.03	0.53	0.53
Sat Flow, veh/h	1213	1800	1525	269	552	24	1619	3420	1494	1619	3420	1494
Grp Volume(v), veh/h	103	305	29	210	0	0	45	1323	188	28	1117	49
Grp Sat Flow(s),veh/h/ln	1213	1800	1525	846	0	0	1619	1710	1494	1619	1710	1494
Q Serve(g_s), s	0.0	16.2	1.5	12.4	0.0	0.0	3.1	32.2	7.3	1.9	25.2	1.8
Cycle Q Clear(g_c), s	13.9	16.2	1.5	28.6	0.0	0.0	3.1	32.2	7.3	1.9	25.2	1.8
Prop In Lane	1.00		1.00	0.40		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	272	507	430	284	0	0	55	1846	806	42	1817	794
V/C Ratio(X)	0.38	0.60	0.07	0.74	0.00	0.00	0.81	0.72	0.23	0.66	0.61	0.06
Avail Cap(c_a), veh/h	349	620	526	372	0	0	114	1846	806	94	1817	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	34.4	29.1	41.9	0.0	0.0	53.2	19.2	13.4	53.5	18.1	12.6
Incr Delay (d2), s/veh	0.9	1.1	0.1	5.5	0.0	0.0	10.0	2.4	0.7	6.5	1.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	7.0	0.6	5.9	0.0	0.0	1.3	11.6	2.3	0.8	9.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.4	35.6	29.2	47.4	0.0	0.0	63.1	21.6	14.1	60.0	19.6	12.7
LnGrp LOS	C	D	C	D	A	A	E	C	B	E	B	B
Approach Vol, veh/h		437			210			1556			1194	
Approach Delay, s/veh		34.9			47.4			21.9			20.3	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	66.3		37.0	8.4	65.4		37.0				
Change Period (Y+Rc), s	4.6	* 6.5		5.8	4.6	6.5		5.8				
Max Green Setting (Gmax), s	6.4	* 60		38.2	7.8	57.1		38.2				
Max Q Clear Time (g_c+I1), s	3.9	34.2		18.2	5.1	27.2		30.6				
Green Ext Time (p_c), s	0.0	10.5		1.9	0.0	8.2		0.6				

Intersection Summary

HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

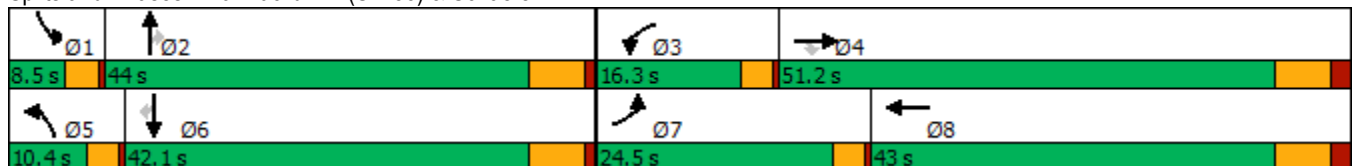


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	291	287	185	79	67	90	1198	88	31	1057	122
Future Volume (vph)	291	287	185	79	67	90	1198	88	31	1057	122
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.0	42.0	13.5	43.0	8.5	33.0	33.0	8.5	28.0	28.0
Total Split (s)	24.5	51.2	51.2	16.3	43.0	10.4	44.0	44.0	8.5	42.1	42.1
Total Split (%)	20.4%	42.7%	42.7%	13.6%	35.8%	8.7%	36.7%	36.7%	7.1%	35.1%	35.1%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	7.0	7.0	3.5	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	21.4	23.9	23.9	10.8	13.0	7.0	42.6	42.6	5.1	36.8	36.8
Actuated g/C Ratio	0.22	0.25	0.25	0.11	0.14	0.07	0.45	0.45	0.05	0.38	0.38
v/c Ratio	0.81	0.64	0.36	0.44	0.38	0.77	0.79	0.12	0.36	0.81	0.18
Control Delay	56.8	39.3	6.0	51.9	34.9	85.9	31.2	1.9	61.0	34.6	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.8	39.3	6.0	51.9	34.9	85.9	31.2	1.9	61.0	34.6	5.1
LOS	E	D	A	D	C	F	C	A	E	C	A
Approach Delay		37.9			42.8		32.9			32.3	
Approach LOS		D			D		C			C	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 95.6  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.81  
 Intersection Signal Delay: 34.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 80.9%  
 ICU Level of Service D  
 Analysis Period (min) 15
























Splits and Phases: 6: Euclid Av. (SR-83) & Schaefer Av.



HCM 6th Signalized Intersection Summary  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	291	287	185	79	67	25	90	1198	88	31	1057	122
Future Volume (veh/h)	291	287	185	79	67	25	90	1198	88	31	1057	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	294	290	146	80	68	20	91	1210	71	31	1068	93
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	330	358	303	169	132	39	113	1418	633	50	1286	574
Arrive On Green	0.20	0.20	0.20	0.10	0.10	0.10	0.07	0.41	0.41	0.03	0.38	0.38
Sat Flow, veh/h	1619	1800	1525	1619	1336	393	1619	3420	1525	1619	3420	1525
Grp Volume(v), veh/h	294	290	146	80	0	88	91	1210	71	31	1068	93
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	0	1729	1619	1710	1525	1619	1710	1525
Q Serve(g_s), s	14.1	12.3	6.8	3.7	0.0	3.8	4.4	25.5	2.3	1.5	22.6	3.2
Cycle Q Clear(g_c), s	14.1	12.3	6.8	3.7	0.0	3.8	4.4	25.5	2.3	1.5	22.6	3.2
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	330	358	303	169	0	171	113	1418	633	50	1286	574
V/C Ratio(X)	0.89	0.81	0.48	0.47	0.00	0.51	0.81	0.85	0.11	0.61	0.83	0.16
Avail Cap(c_a), veh/h	427	999	847	260	0	782	140	1632	728	102	1551	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	30.5	28.3	33.6	0.0	34.1	36.5	21.1	14.3	38.1	22.5	16.5
Incr Delay (d2), s/veh	14.6	3.3	0.9	0.8	0.0	1.8	19.1	4.1	0.1	4.4	3.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	5.2	2.4	1.4	0.0	1.6	2.2	9.2	0.7	0.6	8.2	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	33.8	29.1	34.4	0.0	35.8	55.6	25.2	14.4	42.5	25.9	16.6
LnGrp LOS	D	C	C	C	A	D	E	C	B	D	C	B
Approach Vol, veh/h		730			168			1372			1192	
Approach Delay, s/veh		37.5			35.1			26.7			25.6	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	39.0	11.8	22.8	9.1	35.9	19.7	14.9				
Change Period (Y+Rc), s	3.5	6.0	3.5	7.0	3.5	6.0	3.5	7.0				
Max Green Setting (Gmax), s	5.0	38.0	12.8	44.2	6.9	36.1	21.0	36.0				
Max Q Clear Time (g_c+I1), s	3.5	27.5	5.7	14.3	6.4	24.6	16.1	5.8				
Green Ext Time (p_c), s	0.0	5.5	0.0	1.6	0.0	5.2	0.2	0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.0								
HCM 6th LOS				C								

Timings  
7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

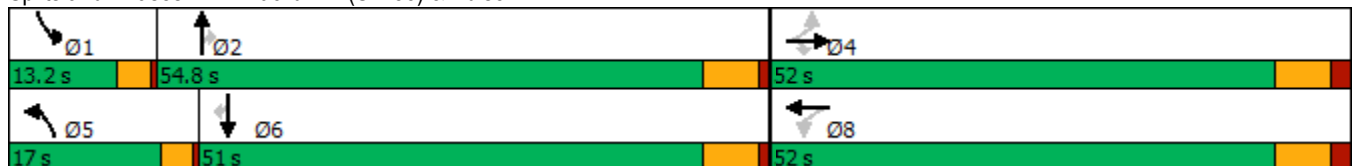


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	275	481	290	41	262	153	1084	75	90	1136	192
Future Volume (vph)	275	481	290	41	262	153	1084	75	90	1136	192
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.0	46.0	46.0	49.0	49.0	8.5	29.0	29.0	8.5	40.0	40.0
Total Split (s)	52.0	52.0	52.0	52.0	52.0	17.0	54.8	54.8	13.2	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	14.2%	45.7%	45.7%	11.0%	42.5%	42.5%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	45.0	45.0	45.0	45.0	45.0	13.2	48.1	48.1	9.1	44.1	44.1
Actuated g/C Ratio	0.38	0.38	0.38	0.38	0.38	0.11	0.40	0.40	0.08	0.37	0.37
v/c Ratio	0.97	0.74	0.43	0.27	0.47	0.90	0.82	0.12	0.77	0.94	0.31
Control Delay	83.8	40.1	10.7	32.1	30.4	98.7	37.7	7.2	90.3	51.3	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.8	40.1	10.7	32.1	30.4	98.7	37.7	7.2	90.3	51.3	10.2
LOS	F	D	B	C	C	F	D	A	F	D	B
Approach Delay		43.4			30.6		43.1			48.2	
Approach LOS		D			C		D			D	

Intersection Summary
























Cycle Length: 120	
Actuated Cycle Length: 118.8	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 43.9	Intersection LOS: D
Intersection Capacity Utilization 96.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 7: Euclid Av. (SR-83) & Edison Av.



HCM 6th Signalized Intersection Summary  
 7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)  
 08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	275	481	290	41	262	35	153	1084	75	90	1136	192
Future Volume (veh/h)	275	481	290	41	262	35	153	1084	75	90	1136	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	289	506	223	43	276	31	161	1141	71	95	1196	170
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	314	680	576	154	599	67	183	1411	628	116	1268	565
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.11	0.41	0.41	0.07	0.37	0.37
Sat Flow, veh/h	1029	1800	1525	697	1587	178	1619	3420	1522	1619	3420	1525
Grp Volume(v), veh/h	289	506	223	43	0	307	161	1141	71	95	1196	170
Grp Sat Flow(s),veh/h/ln	1029	1800	1525	697	0	1765	1619	1710	1522	1619	1710	1525
Q Serve(g_s), s	29.4	29.0	12.7	6.8	0.0	15.6	11.7	35.1	3.4	6.9	40.3	9.4
Cycle Q Clear(g_c), s	45.0	29.0	12.7	35.8	0.0	15.6	11.7	35.1	3.4	6.9	40.3	9.4
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	680	576	154	0	667	183	1411	628	116	1268	565
V/C Ratio(X)	0.92	0.74	0.39	0.28	0.00	0.46	0.88	0.81	0.11	0.82	0.94	0.30
Avail Cap(c_a), veh/h	314	680	576	154	0	667	183	1411	628	132	1291	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	32.1	27.0	47.6	0.0	27.9	52.0	30.9	21.6	54.6	36.3	26.6
Incr Delay (d2), s/veh	31.0	4.5	0.4	1.0	0.0	0.5	33.9	3.6	0.1	26.2	13.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	12.8	4.5	1.2	0.0	6.4	6.3	13.9	1.2	3.5	17.8	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.7	36.6	27.5	48.6	0.0	28.4	85.9	34.5	21.7	80.7	49.9	26.9
LnGrp LOS	E	D	C	D	A	C	F	C	C	F	D	C
Approach Vol, veh/h		1018			350			1373			1461	
Approach Delay, s/veh		46.3			30.9			39.9			49.2	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	55.2		52.0	17.0	50.2		52.0				
Change Period (Y+Rc), s	3.5	6.0		7.0	3.5	6.0		7.0				
Max Green Setting (Gmax), s	9.7	48.8		45.0	13.5	45.0		45.0				
Max Q Clear Time (g_c+I1), s	8.9	37.1		47.0	13.7	42.3		37.8				
Green Ext Time (p_c), s	0.0	5.6		0.0	0.0	1.8		1.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				43.9								
HCM 6th LOS				D								



Timings  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	38	163	210	8	21	112	1203	19	49	1289	68
Future Volume (vph)	38	163	210	8	21	112	1203	19	49	1289	68
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.8	46.8	46.8	46.8	46.8	8.5	30.7	30.7	8.5	37.7	37.7
Total Split (s)	46.8	46.8	46.8	46.8	46.8	14.0	63.2	63.2	10.0	59.2	59.2
Total Split (%)	39.0%	39.0%	39.0%	39.0%	39.0%	11.7%	52.7%	52.7%	8.3%	49.3%	49.3%
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	3.0	4.7	4.7	3.0	4.7	4.7
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.8	4.8	3.5	5.7	5.7	3.5	5.7	5.7
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	17.3	17.3	17.3	17.3	17.3	10.7	52.1	52.1	6.5	45.5	45.5
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.12	0.59	0.59	0.07	0.52	0.52
v/c Ratio	0.18	0.52	0.58	0.05	0.10	0.64	0.67	0.02	0.46	0.82	0.09
Control Delay	31.5	37.3	19.8	29.5	23.0	58.1	16.9	0.8	58.8	24.2	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	37.3	19.8	29.5	23.0	58.1	16.9	0.8	58.8	24.2	3.9
LOS	C	D	B	C	C	E	B	A	E	C	A
Approach Delay		27.8			24.4		20.2			24.5	
Approach LOS		C			C		C			C	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 88.1  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 23.1  
 Intersection LOS: C  
 Intersection Capacity Utilization 68.3%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 8: Euclid Av. (SR-83) & Eucalyptus Av.





HCM 6th Signalized Intersection Summary  
 8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	38	163	210	8	21	9	112	1203	19	49	1289	68
Future Volume (veh/h)	38	163	210	8	21	9	112	1203	19	49	1289	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	43	183	120	9	24	7	126	1352	20	55	1448	64
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	280	260	221	159	194	57	157	2030	906	78	1864	814
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.10	0.59	0.59	0.05	0.55	0.55
Sat Flow, veh/h	1322	1800	1525	1033	1339	391	1619	3420	1525	1619	3420	1494
Grp Volume(v), veh/h	43	183	120	9	0	31	126	1352	20	55	1448	64
Grp Sat Flow(s),veh/h/ln	1322	1800	1525	1033	0	1730	1619	1710	1525	1619	1710	1494
Q Serve(g_s), s	1.9	6.4	4.8	0.5	0.0	1.0	5.0	17.4	0.4	2.2	21.9	1.3
Cycle Q Clear(g_c), s	2.9	6.4	4.8	6.9	0.0	1.0	5.0	17.4	0.4	2.2	21.9	1.3
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	280	260	221	159	0	250	157	2030	906	78	1864	814
V/C Ratio(X)	0.15	0.70	0.54	0.06	0.00	0.12	0.80	0.67	0.02	0.70	0.78	0.08
Avail Cap(c_a), veh/h	936	1152	977	671	0	1107	259	2997	1337	160	2789	1218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	26.7	26.0	30.0	0.0	24.4	29.0	9.0	5.5	30.8	11.8	7.1
Incr Delay (d2), s/veh	0.2	2.6	1.5	0.1	0.0	0.2	7.0	0.4	0.0	8.3	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.7	1.7	0.1	0.0	0.4	2.0	3.9	0.1	0.9	5.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	29.3	27.6	30.1	0.0	24.6	36.0	9.3	5.5	39.0	12.6	7.1
LnGrp LOS	C	C	C	C	A	C	D	A	A	D	B	A
Approach Vol, veh/h		346			40			1498			1567	
Approach Delay, s/veh		28.3			25.8			11.5			13.3	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	44.6		14.3	9.9	41.5		14.3				
Change Period (Y+Rc), s	3.5	5.7		4.8	3.5	5.7		4.8				
Max Green Setting (Gmax), s	6.5	57.5		42.0	10.5	53.5		42.0				
Max Q Clear Time (g_c+1), s	4.2	19.4		8.4	7.0	23.9		8.9				
Green Ext Time (p_c), s	0.0	11.4		1.2	0.1	11.8		0.1				

Intersection Summary

HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B

Timings  
9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↙	↙	↕
Traffic Volume (vph)	11	30	190	2	4	1181	247	276	1230
Future Volume (vph)	11	30	190	2	4	1181	247	276	1230
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	49.0	49.0	25.0	59.5
Total Split (%)	38.3%	38.3%	38.3%	38.3%	12.1%	40.8%	40.8%	20.8%	49.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)		31.2		31.2	10.1	43.2	43.2	20.6	65.7
Actuated g/C Ratio		0.28		0.28	0.09	0.39	0.39	0.19	0.59
v/c Ratio		0.13		0.89	0.03	0.97	0.41	1.01	0.67
Control Delay		23.5		59.0	50.2	53.2	18.5	100.7	19.8
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		23.5		59.0	50.2	53.2	18.5	100.7	19.8
LOS		C		E	D	D	B	F	B
Approach Delay		23.5		59.0		47.2			34.6
Approach LOS		C		E		D			C

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 110.6  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.01  
 Intersection Signal Delay: 42.3  
 Intersection LOS: D  
 Intersection Capacity Utilization 91.5%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 6th Signalized Intersection Summary  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕	↗	↗	↗	↕
Traffic Volume (veh/h)	11	30	12	190	2	141	4	1181	247	276	1230	1
Future Volume (veh/h)	11	30	12	190	2	141	4	1181	247	276	1230	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	12	33	12	209	2	145	4	1298	206	303	1352	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	106	271	90	281	2	158	17	1365	609	311	1986	0
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.01	0.40	0.40	0.19	0.58	0.00
Sat Flow, veh/h	247	1030	341	862	8	598	1619	3420	1525	1619	3510	0
Grp Volume(v), veh/h	57	0	0	356	0	0	4	1298	206	303	1352	0
Grp Sat Flow(s),veh/h/ln	1618	0	0	1469	0	0	1619	1710	1525	1619	1710	0
Q Serve(g_s), s	0.0	0.0	0.0	22.4	0.0	0.0	0.3	39.2	10.0	19.8	29.2	0.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	25.1	0.0	0.0	0.3	39.2	10.0	19.8	29.2	0.0
Prop In Lane	0.21		0.21	0.59		0.41	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	467	0	0	441	0	0	17	1365	609	311	1986	0
V/C Ratio(X)	0.12	0.00	0.00	0.81	0.00	0.00	0.24	0.95	0.34	0.97	0.68	0.00
Avail Cap(c_a), veh/h	660	0	0	615	0	0	152	1379	615	311	1986	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.9	0.0	0.0	37.9	0.0	0.0	52.4	31.0	22.3	42.8	15.5	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	3.7	0.0	0.0	2.6	14.2	0.3	43.6	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	8.9	0.0	0.0	0.1	17.1	3.3	11.2	9.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.0	0.0	0.0	41.6	0.0	0.0	55.0	45.2	22.6	86.4	16.5	0.0
LnGrp LOS	C	A	A	D	A	A	D	D	C	F	B	A
Approach Vol, veh/h		57			356			1508			1655	
Approach Delay, s/veh		30.0			41.6			42.2			29.3	
Approach LOS		C			D			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.0	48.6		33.1	5.6	67.9		33.1				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	20.5	43.0		41.0	10.0	53.5		41.0				
Max Q Clear Time (g_c+I1), s	21.8	41.2		4.7	2.3	31.2		27.1				
Green Ext Time (p_c), s	0.0	1.4		0.2	0.0	9.3		1.0				

Intersection Summary

HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	221	4	2	56	9	5	97	7	21	65	14
Future Vol, veh/h	16	221	4	2	56	9	5	97	7	21	65	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	17	240	4	2	61	10	5	105	8	23	71	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.8	8.2	8.7	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	7%	3%	21%
Vol Thru, %	89%	92%	84%	65%
Vol Right, %	6%	2%	13%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	109	241	67	100
LT Vol	5	16	2	21
Through Vol	97	221	56	65
RT Vol	7	4	9	14
Lane Flow Rate	118	262	73	109
Geometry Grp	1	1	1	1
Degree of Util (X)	0.158	0.33	0.095	0.145
Departure Headway (Hd)	4.791	4.538	4.681	4.79
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	746	791	762	747
Service Time	2.834	2.575	2.728	2.835
HCM Lane V/C Ratio	0.158	0.331	0.096	0.146
HCM Control Delay	8.7	9.8	8.2	8.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	1.4	0.3	0.5

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	81	619	338	28	38	32
Future Vol, veh/h	81	619	338	28	38	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	88	673	367	30	41	35

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	397	0	-	0	1231 382
Stage 1	-	-	-	-	382 -
Stage 2	-	-	-	-	849 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1173	-	-	-	198 670
Stage 1	-	-	-	-	694 -
Stage 2	-	-	-	-	423 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1173	-	-	-	174 670
Mov Cap-2 Maneuver	-	-	-	-	174 -
Stage 1	-	-	-	-	611 -
Stage 2	-	-	-	-	423 -

Approach	EB	WB	SB
HCM Control Delay, s	1	0	24.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1173	-	-	-	263
HCM Lane V/C Ratio	0.075	-	-	-	0.289
HCM Control Delay (s)	8.3	0	-	-	24.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	1.2

Intersection	
Intersection Delay, s/veh	359.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	92	86	70	5	20	14	15	336	4	12	220	32
Future Vol, veh/h	92	86	70	5	20	14	15	336	4	12	220	32
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.25	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	102	96	78	6	22	16	17	1344	4	13	244	36
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	19.1	13.4	512.5	16.8
HCM LOS	C	B	F	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	37%	13%	5%
Vol Thru, %	95%	35%	51%	83%
Vol Right, %	1%	28%	36%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	355	248	39	264
LT Vol	15	92	5	12
Through Vol	336	86	20	220
RT Vol	4	70	14	32
Lane Flow Rate	1365	276	43	293
Geometry Grp	1	1	1	1
Degree of Util (X)	2.097	0.486	0.085	0.48
Departure Headway (Hd)	5.529	8.405	9.476	7.277
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	669	433	380	499
Service Time	3.531	6.405	7.476	5.277
HCM Lane V/C Ratio	2.04	0.637	0.113	0.587
HCM Control Delay	512.5	19.1	13.4	16.8
HCM Lane LOS	F	C	B	C
HCM 95th-tile Q	94.7	2.6	0.3	2.6

Intersection	
Intersection Delay, s/veh	48.5
Intersection LOS	E

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	179	478	281	168	173	84
Future Vol, veh/h	179	478	281	168	173	84
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	186	498	293	175	180	88
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left			WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	79	22.4	16.2
HCM LOS	F	C	C

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	0%	67%
Vol Thru, %	73%	63%	0%
Vol Right, %	0%	37%	33%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	657	449	257
LT Vol	179	0	173
Through Vol	478	281	0
RT Vol	0	168	84
Lane Flow Rate	684	468	268
Geometry Grp	1	1	1
Degree of Util (X)	1.07	0.725	0.489
Departure Headway (Hd)	5.631	5.749	6.812
Convergence, Y/N	Yes	Yes	Yes
Cap	643	631	533
Service Time	3.675	3.749	4.812
HCM Lane V/C Ratio	1.064	0.742	0.503
HCM Control Delay	79	22.4	16.2
HCM Lane LOS	F	C	C
HCM 95th-tile Q	19	6.2	2.7

Intersection

Intersection Delay, s/veh46.7

Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	21	680	1	15	366	31	3	20	50	66	14	10
Future Vol, veh/h	21	680	1	15	366	31	3	20	50	66	14	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	22	716	1	16	385	33	3	21	53	69	15	11
Number of Lanes	0	1	0	0	1	0	0	0	1	0	0	1

Approach	EB	WB	WB	NB	SB
Opposing Approach	WB	EB		SB	NB
Opposing Lanes	1	1		1	1
Conflicting Approach Left SB		NB		EB	WB
Conflicting Lanes Left	1	1		1	1
Conflicting Approach Right NB		SB		WB	EB
Conflicting Lanes Right	1	1		1	1
HCM Control Delay	71.6	18.2		10.8	11.7
HCM LOS	F	C		B	B

Lane NBLn1EBLn1WBLn1SBLn1

Vol Left, %	4%	3%	4%	73%
Vol Thru, %	27%	97%	89%	16%
Vol Right, %	68%	0%	8%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	73	702	412	90
LT Vol	3	21	15	66
Through Vol	20	680	366	14
RT Vol	50	1	31	10
Lane Flow Rate	77	739	434	95
Geometry Grp	1	1	1	1
Degree of Util (X)	0.139	1.055	0.65	0.182
Departure Headway (Hd)	6.76	5.139	5.525	7.161
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	534	709	659	504
Service Time	4.76	3.165	3.525	5.161
HCM Lane V/C Ratio	0.144	1.042	0.659	0.188
HCM Control Delay	10.8	71.6	18.2	11.7
HCM Lane LOS	B	F	C	B
HCM 95th-tile Q	0.5	19.2	4.8	0.7



Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	61	85	39	33	24	5
Future Vol, veh/h	61	85	39	33	24	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	66	92	42	36	26	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	78	0	-	0	284 60
Stage 1	-	-	-	-	60 -
Stage 2	-	-	-	-	224 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1533	-	-	-	710 1011
Stage 1	-	-	-	-	968 -
Stage 2	-	-	-	-	818 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1533	-	-	-	678 1011
Mov Cap-2 Maneuver	-	-	-	-	678 -
Stage 1	-	-	-	-	924 -
Stage 2	-	-	-	-	818 -

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1533	-	-	-	719
HCM Lane V/C Ratio	0.043	-	-	-	0.044
HCM Control Delay (s)	7.5	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑			↕				
Traffic Vol, veh/h	0	532	112	86	329	0	106	0	120	0	0	0
Future Vol, veh/h	0	532	112	86	329	0	106	0	120	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	75	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	25	91	91	91	91	91	97
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	585	123	95	362	0	116	0	132	0	0	0

Major/Minor	Major1		Major2		Minor1				
Conflicting Flow All	-	0	0	708	0	0	1137	1137	585
Stage 1	-	-	-	-	-	-	585	585	-
Stage 2	-	-	-	-	-	-	552	552	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	900	-	0	225	203	515
Stage 1	0	-	-	-	-	0	561	501	-
Stage 2	0	-	-	-	-	0	581	518	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	900	-	-	201	0	515
Mov Cap-2 Maneuver	-	-	-	-	-	-	338	0	-
Stage 1	-	-	-	-	-	-	561	0	-
Stage 2	-	-	-	-	-	-	519	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	26
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	413	-	-	900	-
HCM Lane V/C Ratio	0.601	-	-	0.105	-
HCM Control Delay (s)	26	-	-	9.5	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	3.8	-	-	0.4	-

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑			↑↑				
Traffic Vol, veh/h	0	677	5	9	385	0	11	0	13	0	0	0
Future Vol, veh/h	0	677	5	9	385	0	11	0	13	0	0	0
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	769	6	10	438	0	13	0	15	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	776	0	0	1231	1231	389
Stage 1	-	-	-	-	-	-	773	773	-
Stage 2	-	-	-	-	-	-	458	458	-
Critical Hdwy	-	-	-	4.1	-	-	6.6	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	849	-	0	185	179	615
Stage 1	0	-	-	-	-	0	421	412	-
Stage 2	0	-	-	-	-	0	641	570	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	848	-	-	183	0	614
Mov Cap-2 Maneuver	-	-	-	-	-	-	309	0	-
Stage 1	-	-	-	-	-	-	421	0	-
Stage 2	-	-	-	-	-	-	633	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	423	-	-	848	-
HCM Lane V/C Ratio	0.064	-	-	0.012	-
HCM Control Delay (s)	14.1	-	-	9.3	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑		↑		↑			
Traffic Vol, veh/h	0	696	0	0	398	0	0	0	0	0	0	0
Future Vol, veh/h	0	696	0	0	398	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	200	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	773	0	0	442	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	774	0	0	1216	-	388
Stage 1	-	-	-	-	-	-	774	-	-
Stage 2	-	-	-	-	-	-	442	-	-
Critical Hdwy	-	-	-	4.1	-	-	6.6	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	-	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	-	3.3
Pot Cap-1 Maneuver	0	-	-	851	-	0	189	0	616
Stage 1	0	-	-	-	-	0	421	0	-
Stage 2	0	-	-	-	-	0	652	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	850	-	-	189	0	615
Mov Cap-2 Maneuver	-	-	-	-	-	-	314	0	-
Stage 1	-	-	-	-	-	-	421	0	-
Stage 2	-	-	-	-	-	-	652	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	850	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	86
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	4	664	21	26	348	7	33	4	103	54	5	1
Future Vol, veh/h	4	664	21	26	348	7	33	4	103	54	5	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	738	23	29	387	8	37	4	114	60	6	1
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	3
HCM Control Delay	138.6	28.9	13.8	13.2
HCM LOS	F	D	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	24%	100%	0%	0%	100%	0%	90%
Vol Thru, %	3%	0%	100%	0%	0%	98%	8%
Vol Right, %	74%	0%	0%	100%	0%	2%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	140	4	664	21	26	355	60
LT Vol	33	4	0	0	26	0	54
Through Vol	4	0	664	0	0	348	5
RT Vol	103	0	0	21	0	7	1
Lane Flow Rate	156	4	738	23	29	394	67
Geometry Grp	7	7	7	7	8	8	7
Degree of Util (X)	0.311	0.008	1.243	0.035	0.06	0.762	0.154
Departure Headway (Hd)	7.694	6.575	6.067	5.355	7.967	7.442	8.908
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	470	544	598	667	452	489	405
Service Time	5.394	4.319	3.81	3.098	5.667	5.142	6.608
HCM Lane V/C Ratio	0.332	0.007	1.234	0.034	0.064	0.806	0.165
HCM Control Delay	13.8	9.4	143.5	8.3	11.2	30.2	13.2
HCM Lane LOS	B	A	F	A	B	D	B
HCM 95th-tile Q	1.3	0	27.8	0.1	0.2	6.6	0.5

Timings

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

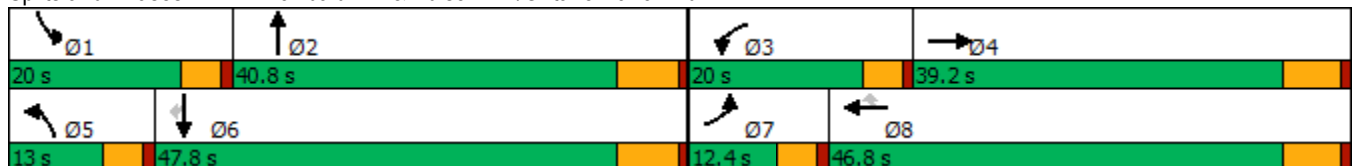
08/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	555	125	285	208	73	73	544	303	144	793	76
Future Volume (vph)	86	555	125	285	208	73	73	544	303	144	793	76
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	12.4	39.2		20.0	46.8	46.8	13.0	40.8		20.0	47.8	47.8
Total Split (%)	10.3%	32.7%		16.7%	39.0%	39.0%	10.8%	34.0%		16.7%	39.8%	39.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	7.0	22.5	95.5	13.4	31.7	31.7	7.8	24.0	95.5	12.7	31.9	31.9
Actuated g/C Ratio	0.07	0.24	1.00	0.14	0.33	0.33	0.08	0.25	1.00	0.13	0.33	0.33
v/c Ratio	0.42	0.71	0.08	0.71	0.36	0.12	0.57	0.65	0.21	0.69	0.72	0.13
Control Delay	54.1	40.0	0.1	52.3	29.1	0.4	65.7	36.9	0.3	60.6	33.7	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.1	40.0	0.1	52.3	29.1	0.4	65.7	36.9	0.3	60.6	33.7	0.4
LOS	D	D	A	D	C	A	E	D	A	E	C	A
Approach Delay		35.1			37.1			27.1			35.1	
Approach LOS		D			D			C			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 95.5  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.72  
 Intersection Signal Delay: 33.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 72.1%  
 ICU Level of Service C  
 Analysis Period (min) 15






























Splits and Phases: 44: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
 44: Archibald Av. & Edison Av./Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 				 			 	
Traffic Volume (veh/h)	86	555	125	285	208	73	73	544	303	144	793	76
Future Volume (veh/h)	86	555	125	285	208	73	73	544	303	144	793	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	89	572	0	294	214	41	75	561	0	148	818	56
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	162	761		371	528	447	93	890		180	1074	468
Arrive On Green	0.05	0.22	0.00	0.13	0.29	0.29	0.06	0.26	0.00	0.11	0.31	0.31
Sat Flow, veh/h	2956	3420	1525	2956	1800	1525	1619	3420	1525	1619	3420	1491
Grp Volume(v), veh/h	89	572	0	294	214	41	75	561	0	148	818	56
Grp Sat Flow(s),veh/h/ln	1478	1710	1525	1478	1800	1525	1619	1710	1525	1619	1710	1491
Q Serve(g_s), s	2.3	12.2	0.0	7.5	7.4	1.5	3.6	11.3	0.0	7.0	16.8	2.1
Cycle Q Clear(g_c), s	2.3	12.2	0.0	7.5	7.4	1.5	3.6	11.3	0.0	7.0	16.8	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	162	761		371	528	447	93	890		180	1074	468
V/C Ratio(X)	0.55	0.75		0.79	0.41	0.09	0.81	0.63		0.82	0.76	0.12
Avail Cap(c_a), veh/h	295	1445		583	936	793	174	1502		319	1808	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	28.3	0.0	33.2	22.1	20.0	36.4	25.6	0.0	33.9	24.2	19.1
Incr Delay (d2), s/veh	1.1	1.5	0.0	1.6	0.5	0.1	6.0	0.7	0.0	3.5	1.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	4.6	0.0	2.6	2.9	0.5	1.4	4.1	0.0	2.7	6.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.1	29.9	0.0	34.8	22.6	20.1	42.4	26.3	0.0	37.4	25.3	19.2
LnGrp LOS	D	C		C	C	C	D	C		D	C	B
Approach Vol, veh/h		661	A		549			636	A		1022	
Approach Delay, s/veh		30.8			28.9			28.2			26.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	26.8	14.4	23.6	9.1	31.0	8.9	29.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	15.4	34.3	15.4	33.0	8.4	41.3	7.8	40.6				
Max Q Clear Time (g_c+I1), s	9.0	13.3	9.5	14.2	5.6	18.8	4.3	9.4				
Green Ext Time (p_c), s	0.1	3.1	0.3	3.2	0.0	5.2	0.0	1.2				

Intersection Summary

HCM 6th Ctrl Delay	28.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
45: Archibald Av. & Eucalyptus Av.



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖↗	↕↕	↖	↗	↕↕
Traffic Volume (vph)	2	10	910	1	10	1193
Future Volume (vph)	2	10	910	1	10	1193
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		8		2		
Detector Phase	3	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.5	9.5	32.5	32.5	9.6	16.5
Total Split (s)	10.0	10.0	40.0	40.0	10.0	50.0
Total Split (%)	14.3%	14.3%	57.1%	57.1%	14.3%	71.4%
Yellow Time (s)	3.5	3.5	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	5.5	5.5	57.0	57.0	5.2	58.8
Actuated g/C Ratio	0.09	0.09	0.90	0.90	0.08	0.92
v/c Ratio	0.01	0.03	0.32	0.00	0.08	0.40
Control Delay	27.0	0.1	4.2	6.0	28.6	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	0.1	4.2	6.0	28.6	2.7
LOS	C	A	A	A	C	A
Approach Delay			4.2			3.0
Approach LOS			A			A

Intersection Summary

Cycle Length: 70  
 Actuated Cycle Length: 63.6  
 Natural Cycle: 65  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.40  
 Intersection Signal Delay: 3.5  
 Intersection LOS: A  
 Intersection Capacity Utilization 47.2%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 45: Archibald Av. & Eucalyptus Av.





HCM 6th Signalized Intersection Summary  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔		↔		↕	↗	↘	↕	
Traffic Volume (veh/h)	0	0	0	2	0	10	0	910	1	10	1193	0
Future Volume (veh/h)	0	0	0	2	0	10	0	910	1	10	1193	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1700	0	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				2	0	2	0	968	1	11	1269	0
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				17	0	14	0	2380	1061	23	2715	0
Arrive On Green				0.01	0.00	0.01	0.00	0.70	0.70	0.01	0.79	0.00
Sat Flow, veh/h				3141	0	2685	0	3510	1524	1619	3510	0
Grp Volume(v), veh/h				2	0	2	0	968	1	11	1269	0
Grp Sat Flow(s),veh/h/ln				1570	0	1342	0	1710	1524	1619	1710	0
Q Serve(g_s), s				0.0	0.0	0.0	0.0	6.6	0.0	0.4	6.7	0.0
Cycle Q Clear(g_c), s				0.0	0.0	0.0	0.0	6.6	0.0	0.4	6.7	0.0
Prop In Lane				1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h				17	0	14	0	2380	1061	23	2715	0
V/C Ratio(X)				0.12	0.00	0.14	0.00	0.41	0.00	0.48	0.47	0.00
Avail Cap(c_a), veh/h				315	0	269	0	2380	1061	160	2715	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				27.1	0.0	27.1	0.0	3.5	2.5	26.8	1.9	0.0
Incr Delay (d2), s/veh				3.1	0.0	4.3	0.0	0.5	0.0	5.8	0.6	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	0.0	0.0	0.0	0.6	0.0	0.2	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				30.2	0.0	31.4	0.0	4.1	2.5	32.6	2.4	0.0
LnGrp LOS				C	A	C	A	A	A	C	A	A
Approach Vol, veh/h					4			969			1280	
Approach Delay, s/veh					30.8			4.1			2.7	
Approach LOS					C			A			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	5.4	44.6				50.0		4.8				
Change Period (Y+Rc), s	4.6	6.5				6.5		4.5				
Max Green Setting (Gmax), s	5.4	33.5				43.5		5.5				
Max Q Clear Time (g_c+I1), s	2.4	8.6				8.7		2.0				
Green Ext Time (p_c), s	0.0	6.3				10.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				3.3								
HCM 6th LOS				A								

Timings  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

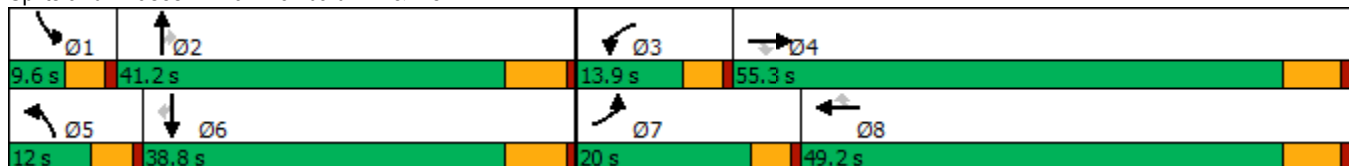


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑↑	↗	↘↗	↑↑	↗
Traffic Volume (vph)	243	69	411	45	23	53	120	581	42	74	977	172
Future Volume (vph)	243	69	411	45	23	53	120	581	42	74	977	172
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	20.0	55.3	55.3	13.9	49.2	49.2	12.0	41.2	41.2	9.6	38.8	38.8
Total Split (%)	16.7%	46.1%	46.1%	11.6%	41.0%	41.0%	10.0%	34.3%	34.3%	8.0%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	15.9	26.2	26.2	7.0	16.8	16.8	7.6	38.2	38.2	5.1	33.3	33.3
Actuated g/C Ratio	0.17	0.29	0.29	0.08	0.18	0.18	0.08	0.42	0.42	0.06	0.36	0.36
v/c Ratio	0.90	0.14	0.71	0.37	0.07	0.14	0.93	0.29	0.06	0.46	0.81	0.27
Control Delay	75.4	25.2	20.6	54.0	30.1	0.7	108.2	22.3	0.2	56.6	35.7	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.4	25.2	20.6	54.0	30.1	0.7	108.2	22.3	0.2	56.6	35.7	7.8
LOS	E	C	C	D	C	A	F	C	A	E	D	A
Approach Delay		39.5			26.0			34.9			33.0	
Approach LOS		D			C			C			C	

Intersection Summary

























Cycle Length: 120  
 Actuated Cycle Length: 91.9  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 34.9  
 Intersection LOS: C  
 Intersection Capacity Utilization 74.0%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 46: Archibald Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	243	69	411	45	23	53	120	581	42	74	977	172
Future Volume (veh/h)	243	69	411	45	23	53	120	581	42	74	977	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	251	71	239	46	24	16	124	599	29	76	1007	119
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	284	464	393	64	220	186	146	1893	580	148	1180	526
Arrive On Green	0.18	0.26	0.26	0.04	0.12	0.12	0.09	0.39	0.39	0.05	0.35	0.35
Sat Flow, veh/h	1619	1800	1525	1619	1800	1525	1619	4914	1506	2956	3420	1525
Grp Volume(v), veh/h	251	71	239	46	24	16	124	599	29	76	1007	119
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	1800	1525	1619	1638	1506	1478	1710	1525
Q Serve(g_s), s	12.4	2.5	11.3	2.3	1.0	0.8	6.2	7.0	1.0	2.1	22.4	4.5
Cycle Q Clear(g_c), s	12.4	2.5	11.3	2.3	1.0	0.8	6.2	7.0	1.0	2.1	22.4	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	284	464	393	64	220	186	146	1893	580	148	1180	526
V/C Ratio(X)	0.88	0.15	0.61	0.72	0.11	0.09	0.85	0.32	0.05	0.51	0.85	0.23
Avail Cap(c_a), veh/h	304	1078	913	184	944	800	146	2080	637	180	1347	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.0	23.5	26.8	38.9	32.0	31.9	36.7	17.6	15.8	38.0	24.9	19.1
Incr Delay (d2), s/veh	22.7	0.2	1.5	5.5	0.2	0.2	33.4	0.1	0.0	1.0	5.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	1.0	4.1	1.0	0.4	0.3	3.6	2.3	0.3	0.7	8.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	23.7	28.3	44.4	32.3	32.1	70.2	17.7	15.8	39.0	29.9	19.3
LnGrp LOS	E	C	C	D	C	C	E	B	B	D	C	B
Approach Vol, veh/h		561			86			752			1202	
Approach Delay, s/veh		39.9			38.7			26.3			29.4	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	38.1	7.8	27.3	12.0	34.8	19.0	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	34.7	9.3	49.1	7.4	32.3	15.4	43.0				
Max Q Clear Time (g_c+I1), s	4.1	9.0	4.3	13.3	8.2	24.4	14.4	3.0				
Green Ext Time (p_c), s	0.0	3.7	0.0	1.1	0.0	3.9	0.0	0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			31.1									
HCM 6th LOS			C									



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖ ↗	↖	↖	↖	↖ ↗	↖
Traffic Volume (vph)	320	250	537	353	568	865
Future Volume (vph)	320	250	537	353	568	865
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	37.0	46.7	36.3	37.0	83.7
Total Split (%)	30.3%	30.8%	38.9%	30.3%	30.8%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min
Act Effct Green (s)	15.2	53.3	32.7	47.9	32.7	70.8
Actuated g/C Ratio	0.16	0.55	0.34	0.50	0.34	0.73
v/c Ratio	0.59	0.27	0.85	0.44	0.95	0.63
Control Delay	42.7	6.6	44.0	11.4	60.5	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.7	6.6	44.0	11.4	60.5	10.3
LOS	D	A	D	B	E	B
Approach Delay	26.9		31.1			30.2
Approach LOS	C		C			C

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 96.5	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 29.8	Intersection LOS: C
Intersection Capacity Utilization 81.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 47: Archibald Av. & Limonite Av.



HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↔	↑	↔	↔	↑
Traffic Volume (veh/h)	320	250	537	353	568	865
Future Volume (veh/h)	320	250	537	353	568	865
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	327	205	548	339	580	883
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	424	748	662	743	622	1429
Arrive On Green	0.12	0.12	0.35	0.35	0.34	0.75
Sat Flow, veh/h	3510	1610	1900	1576	1810	1900
Grp Volume(v), veh/h	327	205	548	339	580	883
Grp Sat Flow(s),veh/h/ln	1755	1610	1900	1576	1810	1900
Q Serve(g_s), s	7.5	6.5	22.0	12.1	25.8	17.9
Cycle Q Clear(g_c), s	7.5	6.5	22.0	12.1	25.8	17.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	424	748	662	743	622	1429
V/C Ratio(X)	0.77	0.27	0.83	0.46	0.93	0.62
Avail Cap(c_a), veh/h	1307	1153	945	979	696	1796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.5	13.7	24.9	15.0	26.4	4.8
Incr Delay (d2), s/veh	1.1	0.1	4.7	0.5	18.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	2.0	9.5	5.0	12.7	2.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.6	13.8	29.5	15.5	44.8	5.0
LnGrp LOS	D	B	C	B	D	A
Approach Vol, veh/h	532		887			1463
Approach Delay, s/veh	27.8		24.2			20.8
Approach LOS	C		C			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	33.6	34.3			67.9	15.4
Change Period (Y+Rc), s	5.0	5.3			* 5.3	5.3
Max Green Setting (Gmax), s	32.0	41.4			* 79	31.0
Max Q Clear Time (g_c+I1), s	27.8	24.0			19.9	9.5
Green Ext Time (p_c), s	0.8	5.0			3.6	0.5

Intersection Summary

HCM 6th Ctrl Delay	23.1
HCM 6th LOS	C

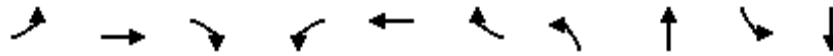
Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

48: Turner Av. & Ontario Ranch Rd.

08/23/2021

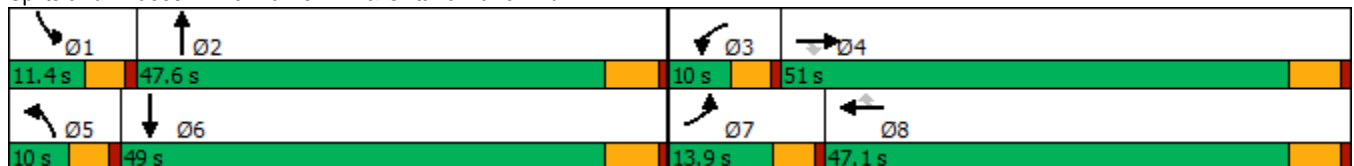


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗	↘	↗
Traffic Volume (vph)	43	1050	40	32	590	13	26	7	28	7
Future Volume (vph)	43	1050	40	32	590	13	26	7	28	7
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	25.8	25.8	9.6	45.8	9.6	47.8
Total Split (s)	13.9	51.0	51.0	10.0	47.1	47.1	10.0	47.6	11.4	49.0
Total Split (%)	11.6%	42.5%	42.5%	8.3%	39.3%	39.3%	8.3%	39.7%	9.5%	40.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	6.9	57.9	57.9	5.5	56.5	56.5	5.5	14.9	6.1	17.4
Actuated g/C Ratio	0.08	0.68	0.68	0.06	0.67	0.67	0.06	0.18	0.07	0.20
v/c Ratio	0.36	0.49	0.04	0.33	0.28	0.01	0.28	0.17	0.27	0.09
Control Delay	51.0	17.0	0.1	54.8	15.3	0.0	53.1	12.9	50.9	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.0	17.0	0.1	54.8	15.3	0.0	53.1	12.9	50.9	15.0
LOS	D	B	A	D	B	A	D	B	D	B
Approach Delay		17.7			17.0			27.3		33.0
Approach LOS		B			B			C		C

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 84.9	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 18.3	Intersection LOS: B
Intersection Capacity Utilization 59.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 48: Turner Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
48: Turner Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	43	1050	40	32	590	13	26	7	40	28	7	21
Future Volume (veh/h)	43	1050	40	32	590	13	26	7	40	28	7	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	47	1154	32	35	648	11	29	8	25	31	8	9
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	65	1908	851	54	1885	841	48	46	144	50	94	106
Arrive On Green	0.04	0.56	0.56	0.03	0.55	0.55	0.03	0.12	0.12	0.03	0.12	0.12
Sat Flow, veh/h	1619	3420	1525	1619	3420	1525	1619	381	1191	1619	773	870
Grp Volume(v), veh/h	47	1154	32	35	648	11	29	0	33	31	0	17
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1525	1619	0	1572	1619	0	1643
Q Serve(g_s), s	2.3	18.2	0.8	1.7	8.5	0.3	1.4	0.0	1.5	1.5	0.0	0.7
Cycle Q Clear(g_c), s	2.3	18.2	0.8	1.7	8.5	0.3	1.4	0.0	1.5	1.5	0.0	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	1.00		0.53
Lane Grp Cap(c), veh/h	65	1908	851	54	1885	841	48	0	190	50	0	201
V/C Ratio(X)	0.72	0.60	0.04	0.64	0.34	0.01	0.61	0.00	0.17	0.62	0.00	0.08
Avail Cap(c_a), veh/h	186	1908	851	108	1885	841	108	0	811	136	0	876
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.4	11.9	8.1	38.7	10.1	8.2	38.8	0.0	32.0	38.8	0.0	31.5
Incr Delay (d2), s/veh	5.5	1.4	0.1	4.6	0.5	0.0	4.5	0.0	0.4	4.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	5.9	0.2	0.7	2.7	0.1	0.6	0.0	0.6	0.6	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.9	13.4	8.2	43.3	10.6	8.2	43.4	0.0	32.4	43.3	0.0	31.7
LnGrp LOS	D	B	A	D	B	A	D	A	C	D	A	C
Approach Vol, veh/h		1233			694			62				48
Approach Delay, s/veh		14.4			12.2			37.5				39.2
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	15.6	7.3	51.0	7.0	15.7	7.9	50.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.8	41.8	5.4	45.2	5.4	43.2	9.3	41.3				
Max Q Clear Time (g_c+I1), s	3.5	3.5	3.7	20.2	3.4	2.7	4.3	10.5				
Green Ext Time (p_c), s	0.0	0.1	0.0	8.6	0.0	0.0	0.0	4.4				

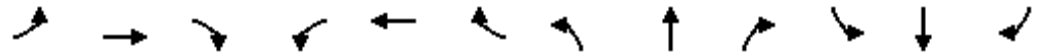
Intersection Summary

HCM 6th Ctrl Delay	14.9
HCM 6th LOS	B

Timings

49: Haven Av. & Ontario Ranch Rd.

08/23/2021

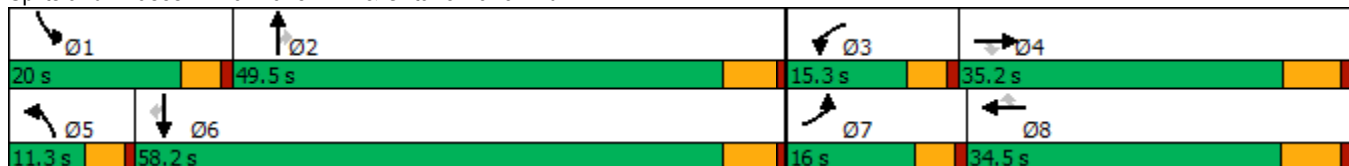


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (vph)	119	850	67	62	512	131	29	89	23	169	263	110
Future Volume (vph)	119	850	67	62	512	131	29	89	23	169	263	110
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	16.0	35.2	35.2	15.3	34.5	34.5	11.3	49.5	49.5	20.0	58.2	58.2
Total Split (%)	13.3%	29.3%	29.3%	12.8%	28.8%	28.8%	9.4%	41.3%	41.3%	16.7%	48.5%	48.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	10.6	34.9	34.9	7.8	29.1	29.1	6.0	15.6	15.6	14.6	26.7	26.7
Actuated g/C Ratio	0.12	0.40	0.40	0.09	0.33	0.33	0.07	0.18	0.18	0.17	0.30	0.30
v/c Ratio	0.64	0.45	0.10	0.45	0.26	0.22	0.27	0.29	0.06	0.66	0.50	0.21
Control Delay	57.0	25.3	0.3	53.4	25.1	5.4	51.6	34.4	0.3	51.0	28.3	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	25.3	0.3	53.4	25.1	5.4	51.6	34.4	0.3	51.0	28.3	5.5
LOS	E	C	A	D	C	A	D	C	A	D	C	A
Approach Delay		27.3			24.0			32.3			30.7	
Approach LOS		C			C			C			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 87.9	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 27.4	Intersection LOS: C
Intersection Capacity Utilization 58.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 49: Haven Av. & Ontario Ranch Rd.





HCM 6th Signalized Intersection Summary  
49: Haven Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (veh/h)	119	850	67	62	512	131	29	89	23	169	263	110
Future Volume (veh/h)	119	850	67	62	512	131	29	89	23	169	263	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	124	885	39	65	533	62	30	93	10	176	274	42
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	153	2013	625	80	2259	556	50	235	199	211	414	351
Arrive On Green	0.09	0.41	0.41	0.05	0.36	0.36	0.03	0.13	0.13	0.13	0.23	0.23
Sat Flow, veh/h	1619	4914	1525	1619	6192	1525	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	124	885	39	65	533	62	30	93	10	176	274	42
Grp Sat Flow(s),veh/h/ln	1619	1638	1525	1619	1548	1525	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	5.8	10.0	1.2	3.1	4.6	2.1	1.4	3.6	0.4	8.1	10.6	1.7
Cycle Q Clear(g_c), s	5.8	10.0	1.2	3.1	4.6	2.1	1.4	3.6	0.4	8.1	10.6	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	153	2013	625	80	2259	556	50	235	199	211	414	351
V/C Ratio(X)	0.81	0.44	0.06	0.81	0.24	0.11	0.60	0.40	0.05	0.83	0.66	0.12
Avail Cap(c_a), veh/h	240	2013	625	226	2259	556	141	1025	869	325	1229	1041
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.1	16.3	13.7	36.1	16.9	16.1	36.7	30.6	29.2	32.6	26.9	23.4
Incr Delay (d2), s/veh	5.2	0.7	0.2	7.1	0.2	0.4	4.3	1.1	0.1	6.2	1.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	3.3	0.4	1.3	1.4	0.7	0.6	1.5	0.2	3.3	4.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	17.0	13.9	43.2	17.2	16.5	41.0	31.7	29.3	38.8	28.7	23.6
LnGrp LOS	D	B	B	D	B	B	D	C	C	D	C	C
Approach Vol, veh/h		1048			660			133			492	
Approach Delay, s/veh		19.5			19.7			33.6			31.9	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	15.8	8.4	37.9	7.0	23.4	11.9	34.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	15.4	43.7	10.7	* 29	6.7	52.4	11.4	28.0				
Max Q Clear Time (g_c+I1), s	10.1	5.6	5.1	12.0	3.4	12.6	7.8	6.6				
Green Ext Time (p_c), s	0.1	0.5	0.0	5.2	0.0	1.6	0.0	3.2				

Intersection Summary

HCM 6th Ctrl Delay	23.0
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

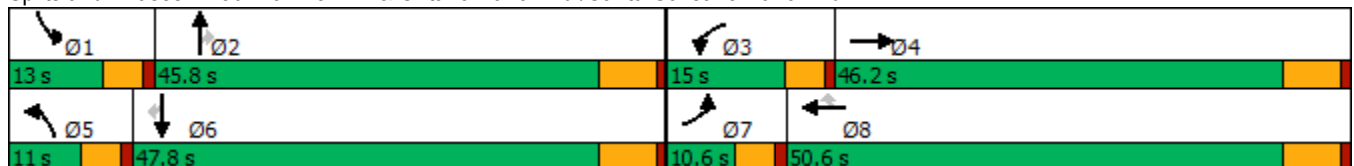


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	91	766	603	439	111	202	387	242	469	821	111
Future Volume (vph)	91	766	603	439	111	202	387	242	469	821	111
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.2	9.6	49.2	49.2	9.6	44.2	44.2	9.6	45.2	45.2
Total Split (s)	10.6	46.2	15.0	50.6	50.6	11.0	45.8	45.8	13.0	47.8	47.8
Total Split (%)	8.8%	38.5%	12.5%	42.2%	42.2%	9.2%	38.2%	38.2%	10.8%	39.8%	39.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.0	25.3	10.6	30.0	30.0	6.5	28.3	28.3	8.6	30.3	30.3
Actuated g/C Ratio	0.06	0.27	0.11	0.32	0.32	0.07	0.30	0.30	0.09	0.32	0.32
v/c Ratio	0.51	0.66	1.90	0.42	0.21	1.03	0.28	0.45	1.84	0.78	0.21
Control Delay	57.6	30.7	443.8	27.4	5.7	119.1	26.3	13.4	417.7	35.4	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	30.7	443.8	27.4	5.7	119.1	26.3	13.4	417.7	35.4	6.2
LOS	E	C	F	C	A	F	C	B	F	D	A
Approach Delay		32.8		243.0			45.1			161.2	
Approach LOS		C		F			D			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 94.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.90	
Intersection Signal Delay: 128.6	Intersection LOS: F
Intersection Capacity Utilization 86.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

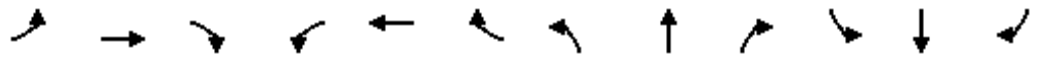


HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔
Traffic Volume (veh/h)	91	766	273	603	439	111	202	387	242	469	821	111
Future Volume (veh/h)	91	766	273	603	439	111	202	387	242	469	821	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	95	798	227	628	457	82	210	403	173	489	855	61
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	151	1208	334	349	1079	481	215	1437	446	282	1078	480
Arrive On Green	0.05	0.25	0.25	0.12	0.32	0.32	0.07	0.29	0.29	0.10	0.32	0.32
Sat Flow, veh/h	2956	4860	1343	2956	3420	1525	2956	4914	1524	2956	3420	1524
Grp Volume(v), veh/h	95	762	263	628	457	82	210	403	173	489	855	61
Grp Sat Flow(s),veh/h/ln	1478	1548	1558	1478	1710	1525	1478	1638	1524	1478	1710	1524
Q Serve(g_s), s	2.8	13.0	13.5	10.4	9.3	3.4	6.2	5.6	8.0	8.4	20.1	2.5
Cycle Q Clear(g_c), s	2.8	13.0	13.5	10.4	9.3	3.4	6.2	5.6	8.0	8.4	20.1	2.5
Prop In Lane	1.00		0.86	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	151	1154	387	349	1079	481	215	1437	446	282	1078	480
V/C Ratio(X)	0.63	0.66	0.68	1.80	0.42	0.17	0.98	0.28	0.39	1.73	0.79	0.13
Avail Cap(c_a), veh/h	201	2110	708	349	1725	769	215	2211	686	282	1616	720
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	29.7	29.9	38.8	23.8	21.8	40.7	24.0	24.9	39.8	27.5	21.5
Incr Delay (d2), s/veh	1.6	0.7	2.1	370.4	0.3	0.2	54.5	0.1	0.6	344.5	1.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	4.4	4.8	21.5	3.5	1.1	3.8	2.0	2.7	16.4	7.6	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	30.4	32.0	409.2	24.1	22.0	95.2	24.1	25.4	384.3	29.2	21.6
LnGrp LOS	D	C	C	F	C	C	F	C	C	F	C	C
Approach Vol, veh/h		1120			1167			786			1405	
Approach Delay, s/veh		31.8			231.2			43.4			152.4	
Approach LOS		C			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	31.9	15.0	28.1	11.0	33.9	9.1	34.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	8.4	39.6	10.4	40.0	6.4	41.6	6.0	44.4				
Max Q Clear Time (g_c+I1), s	10.4	10.0	12.4	15.5	8.2	22.1	4.8	11.3				
Green Ext Time (p_c), s	0.0	3.0	0.0	6.4	0.0	5.4	0.0	3.1				

Intersection Summary

HCM 6th Ctrl Delay	123.6
HCM 6th LOS	F

Timings  
51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

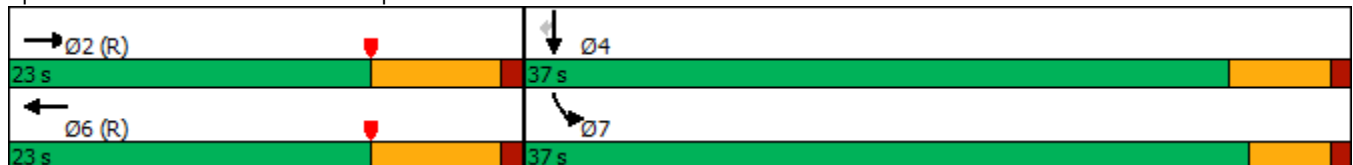


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑	↔	↑
Traffic Volume (vph)	1062	510	460	434	301	0	977
Future Volume (vph)	1062	510	460	434	301	0	977
Turn Type	NA	Free	NA	Free	Prot	NA	Perm
Protected Phases	2		6		7	4	
Permitted Phases		Free		Free			4
Detector Phase	2		6		7	4	4
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5	10.5
Total Split (s)	23.0		23.0		37.0	37.0	37.0
Total Split (%)	38.3%		38.3%		61.7%	61.7%	61.7%
Yellow Time (s)	5.8		5.8		3.6	4.5	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max		C-Min		None	Min	Min
Act Effct Green (s)	16.2	60.0	16.2	60.0	32.4	31.5	31.5
Actuated g/C Ratio	0.27	1.00	0.27	1.00	0.54	0.52	0.52
v/c Ratio	0.78	0.33	0.49	0.28	0.30	0.63	0.60
Control Delay	25.1	0.5	16.3	0.9	8.7	12.1	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	0.5	16.3	0.9	8.7	12.1	11.2
LOS	C	A	B	A	A	B	B
Approach Delay	17.1		8.9			11.0	
Approach LOS	B		A			B	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 45  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 13.1  
 Intersection LOS: B  
 Intersection Capacity Utilization 63.3%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑	↑				↑	↑	↑
Traffic Volume (veh/h)	0	1062	510	0	460	434	0	0	0	301	0	977
Future Volume (veh/h)	0	1062	510	0	460	434	0	0	0	301	0	977
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1095	0	0	474	0				207	0	786
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2562		0	1783					572	0	1018
Arrive On Green	0.00	0.49	0.00	0.00	0.49	0.00				0.32	0.00	0.32
Sat Flow, veh/h	0	5358	1610	0	3705	1610				1810	0	3220
Grp Volume(v), veh/h	0	1095	0	0	474	0				207	0	786
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610				1810	0	1610
Q Serve(g_s), s	0.0	8.1	0.0	0.0	4.6	0.0				5.3	0.0	13.2
Cycle Q Clear(g_c), s	0.0	8.1	0.0	0.0	4.6	0.0				5.3	0.0	13.2
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2562		0	1783					572	0	1018
V/C Ratio(X)	0.00	0.43		0.00	0.27					0.36	0.00	0.77
Avail Cap(c_a), veh/h	0	2562		0	1783					977	0	1739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.22	0.00	0.00	0.96	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.7	0.0	0.0	8.8	0.0				15.8	0.0	18.6
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.4	0.0				0.4	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.2	0.0	0.0	1.4	0.0				1.9	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.9	0.0	0.0	9.2	0.0				16.2	0.0	19.8
LnGrp LOS	A	A		A	A					B	A	B
Approach Vol, veh/h		1095	A		474	A					993	
Approach Delay, s/veh		9.9			9.2						19.1	
Approach LOS		A			A						B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		36.4		23.6		36.4						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		16.2		32.4		16.2						
Max Q Clear Time (g_c+I1), s		10.1		15.2		6.6						
Green Ext Time (p_c), s		3.3		3.7		1.9						

Intersection Summary

HCM 6th Ctrl Delay	13.3
HCM 6th LOS	B

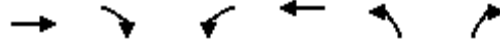
Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021

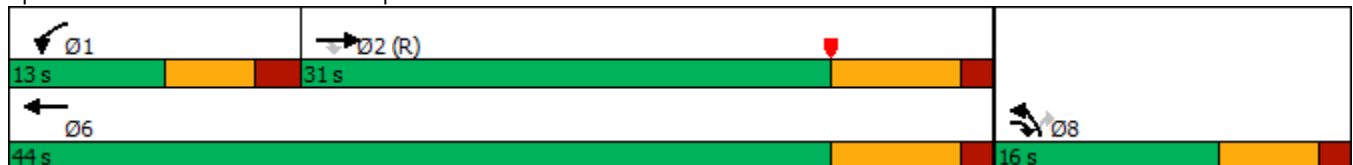


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↙↘	↑↑↑	↙↘	↑
Traffic Volume (vph)	661	735	303	700	199	238
Future Volume (vph)	661	735	303	700	199	238
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	31.0	16.0	13.0	44.0	16.0	16.0
Total Split (%)	51.7%	26.7%	21.7%	73.3%	26.7%	26.7%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max
Act Effct Green (s)	23.7	41.0	7.0	36.7	10.0	10.0
Actuated g/C Ratio	0.40	0.68	0.12	0.61	0.17	0.17
v/c Ratio	0.34	0.70	0.78	0.23	0.48	0.40
Control Delay	9.1	8.4	41.6	5.5	17.7	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.1	8.4	41.6	5.5	17.7	8.4
LOS	A	A	D	A	B	A
Approach Delay	8.7			16.4	14.8	
Approach LOS	A			B	B	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 12.4  
 Intersection LOS: B  
 Intersection Capacity Utilization 64.2%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 52: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↘↘	↑↑↑	↘↘	↑
Traffic Volume (veh/h)	661	735	303	700	199	238
Future Volume (veh/h)	661	735	303	700	199	238
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	696	558	319	737	236	119
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2049	904	410	3173	603	268
Arrive On Green	0.66	0.66	0.12	0.61	0.17	0.17
Sat Flow, veh/h	5358	1610	3510	5358	3619	1610
Grp Volume(v), veh/h	696	558	319	737	236	119
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1810	1610
Q Serve(g_s), s	3.5	12.2	5.3	3.9	3.5	4.0
Cycle Q Clear(g_c), s	3.5	12.2	5.3	3.9	3.5	4.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2049	904	410	3173	603	268
V/C Ratio(X)	0.34	0.62	0.78	0.23	0.39	0.44
Avail Cap(c_a), veh/h	2049	904	410	3173	603	268
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	4.7	25.7	5.3	22.3	22.5
Incr Delay (d2), s/veh	0.3	2.1	13.6	0.0	1.9	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.0	2.7	0.8	1.5	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.1	6.9	39.4	5.3	24.2	27.7
LnGrp LOS	A	A	D	A	C	C
Approach Vol, veh/h	1254			1056	355	
Approach Delay, s/veh	7.0			15.6	25.4	
Approach LOS	A			B	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.0	31.0			44.0	16.0
Change Period (Y+Rc), s	6.0	7.3			7.3	6.0
Max Green Setting (Gmax), s	7.0	23.7			36.7	10.0
Max Q Clear Time (g_c+I1), s	7.3	14.2			5.9	6.0
Green Ext Time (p_c), s	0.0	4.4			4.9	0.5

Intersection Summary

HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

**APPENDIX 3.3:**

**EXISTING (2021) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**



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**Figure 4C-4. Warrant 3, Peak Hour (70% Factor)**

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2021) Conditions - Weekday PM Peak Hour**

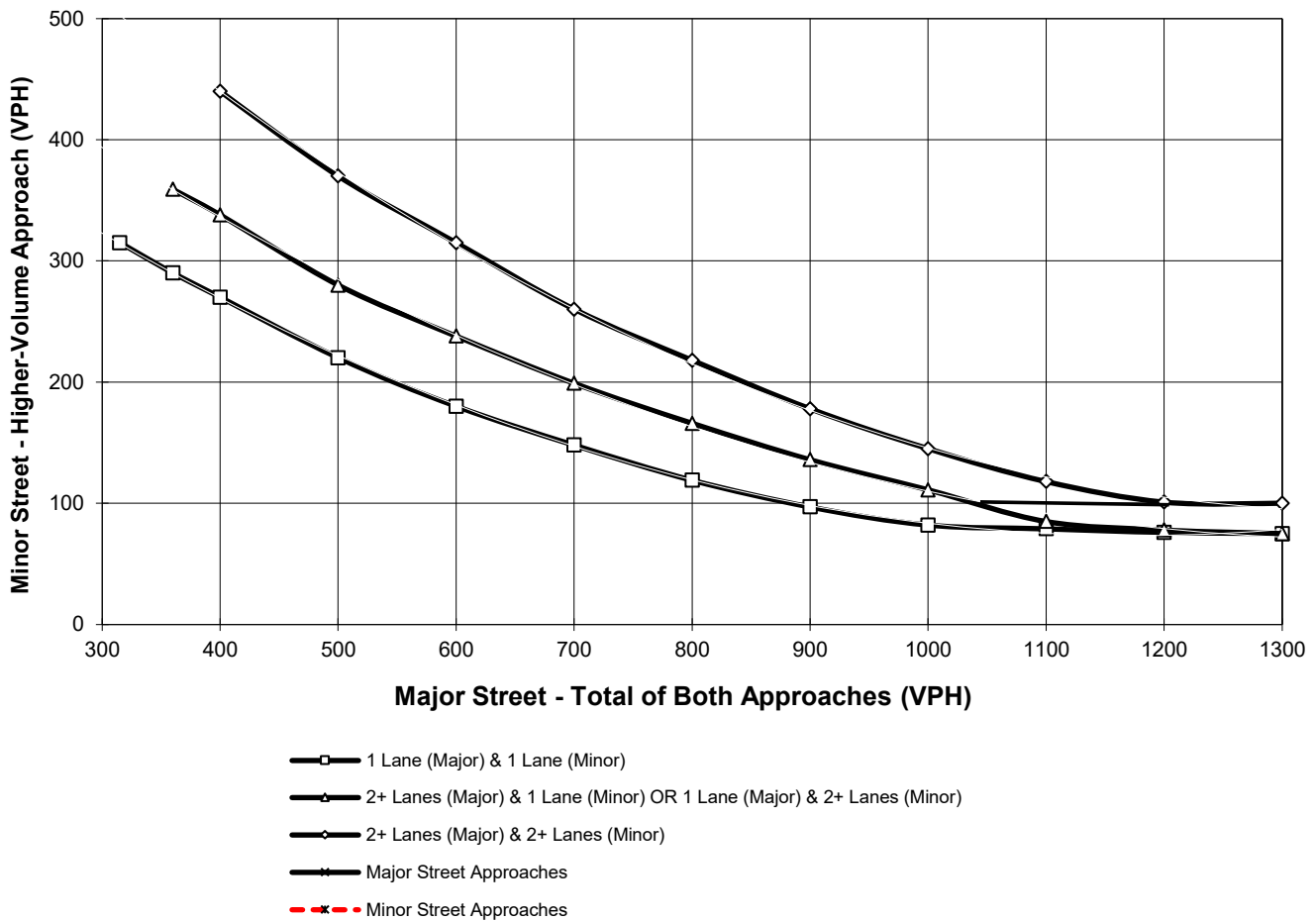
Major Street Name = **Eucalyptus Av.**

Total of Both Approaches (VPH) = **281**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Bon View Av.**

High Volume Approach (VPH) = **97**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2021) Conditions - Weekday PM Peak Hour**

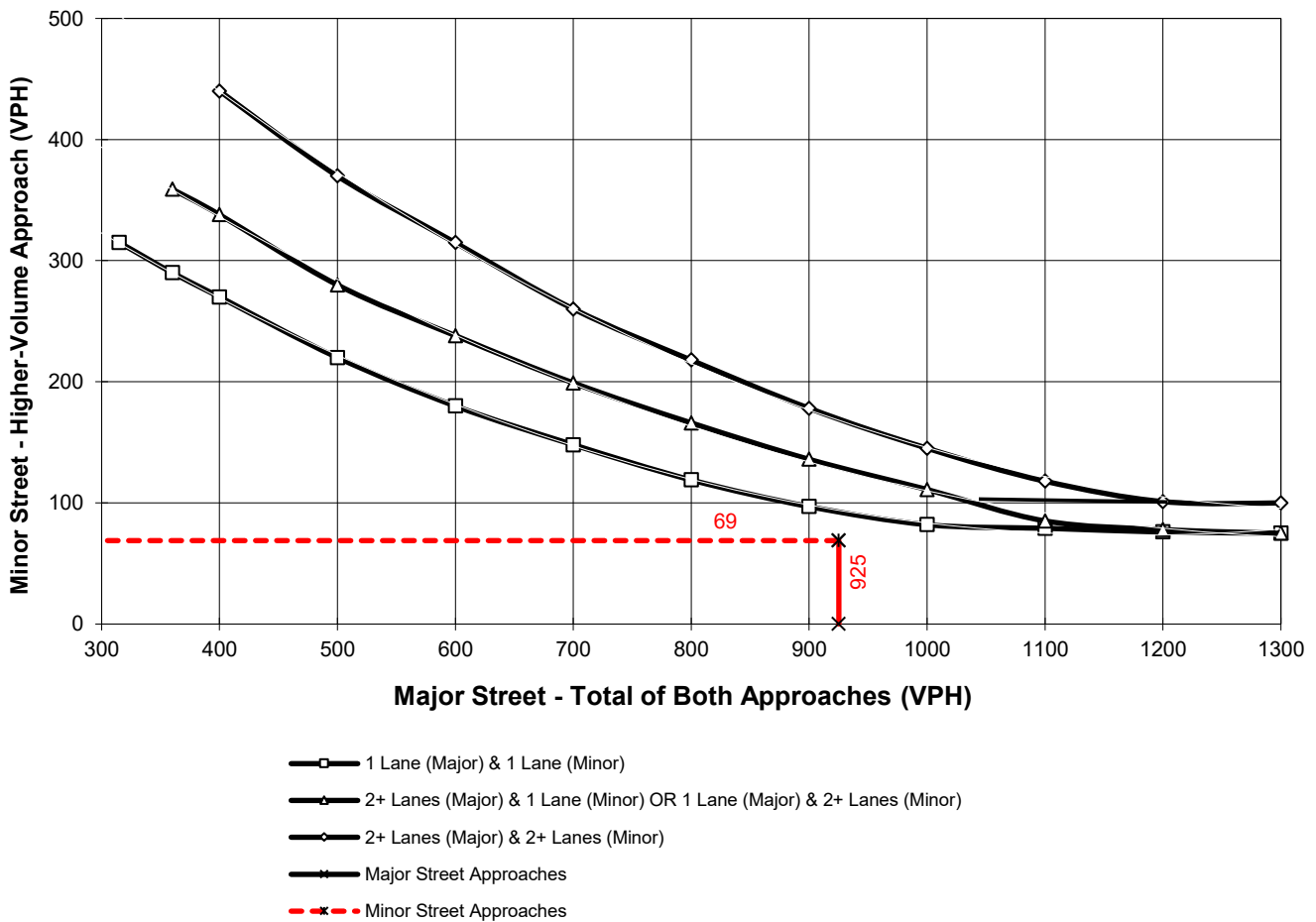
Major Street Name = **Merrill Av.**

Total of Both Approaches (VPH) = **925**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Bon View Av.**

High Volume Approach (VPH) = **69**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

**Figure 4C-4. Warrant 3, Peak Hour (70% Factor)**

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2021) Conditions - Weekday PM Peak Hour**

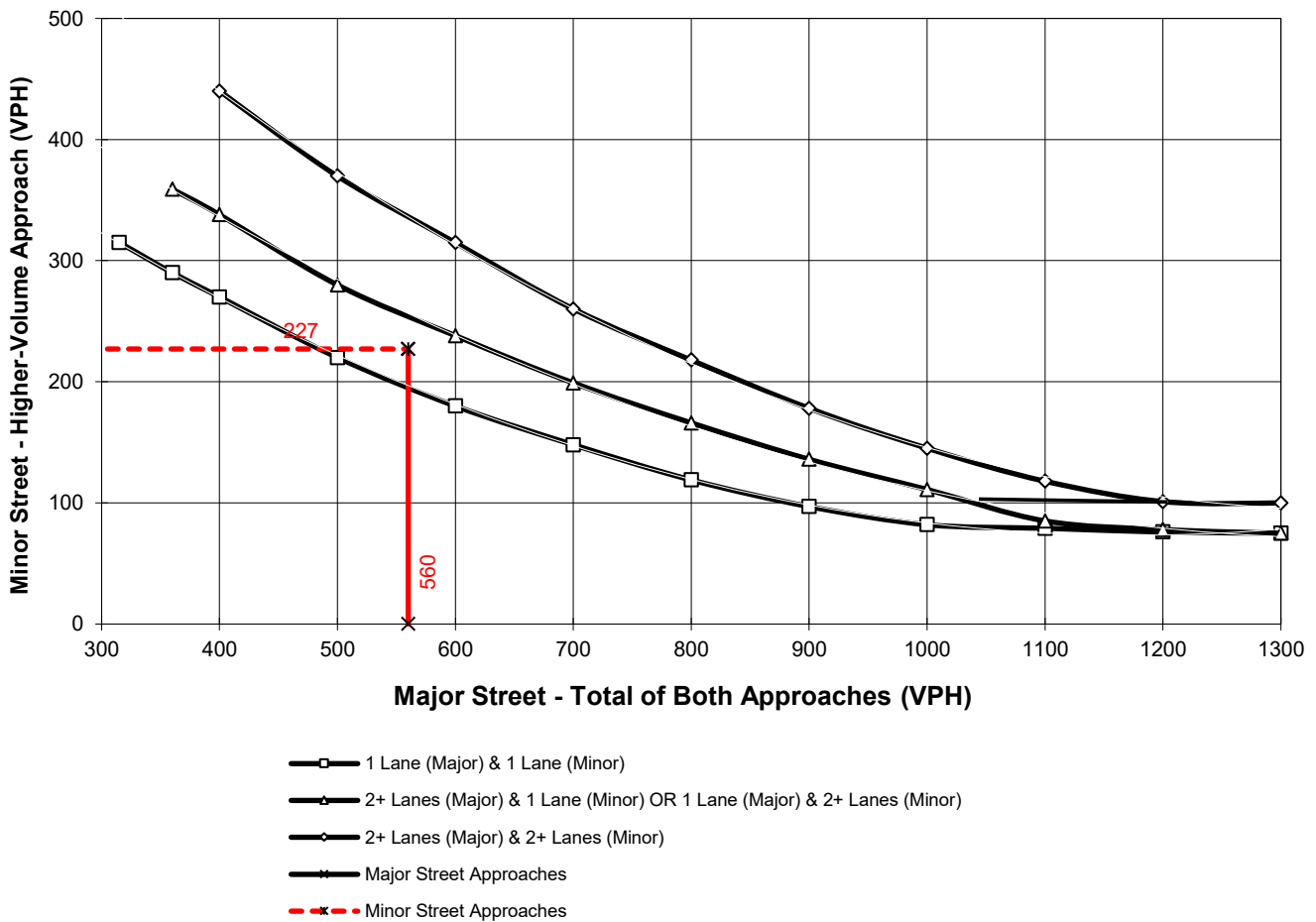
Major Street Name = **Grove Av.**

Total of Both Approaches (VPH) = **560**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Eucalyptus Av.**

High Volume Approach (VPH) = **227**  
 Number of Approach Lanes Minor Street = **1**

**WARRANTED FOR A SIGNAL**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2021) Conditions - Weekday PM Peak Hour**

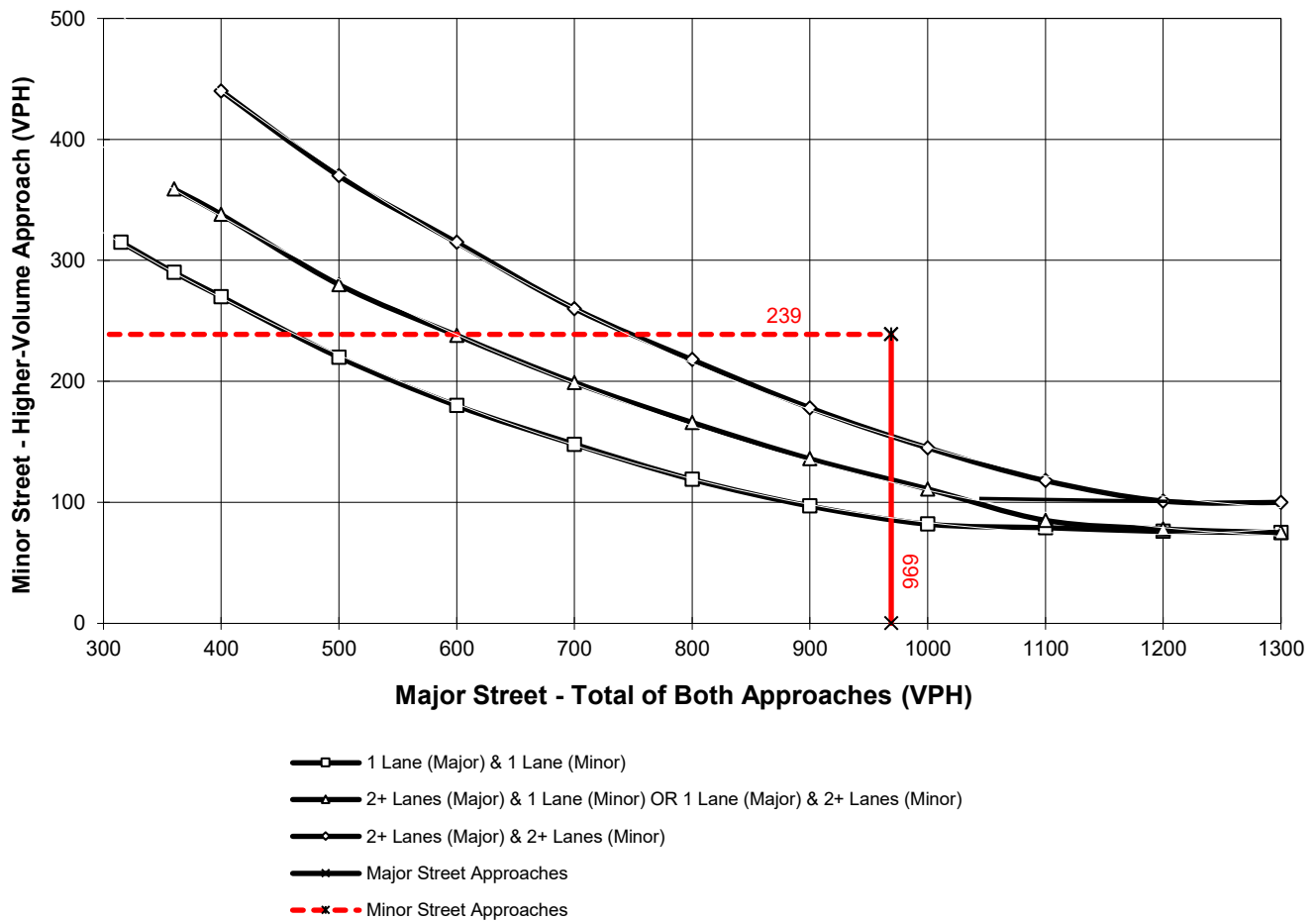
Major Street Name = **Merrill Av.**

Total of Both Approaches (VPH) = **969**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Grove Av.**

High Volume Approach (VPH) = **239**  
 Number of Approach Lanes Minor Street = **1**

**WARRANTED FOR A SIGNAL**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

**Figure 4C-4. Warrant 3, Peak Hour (70% Factor)**

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2021) Conditions - Weekday PM Peak Hour**

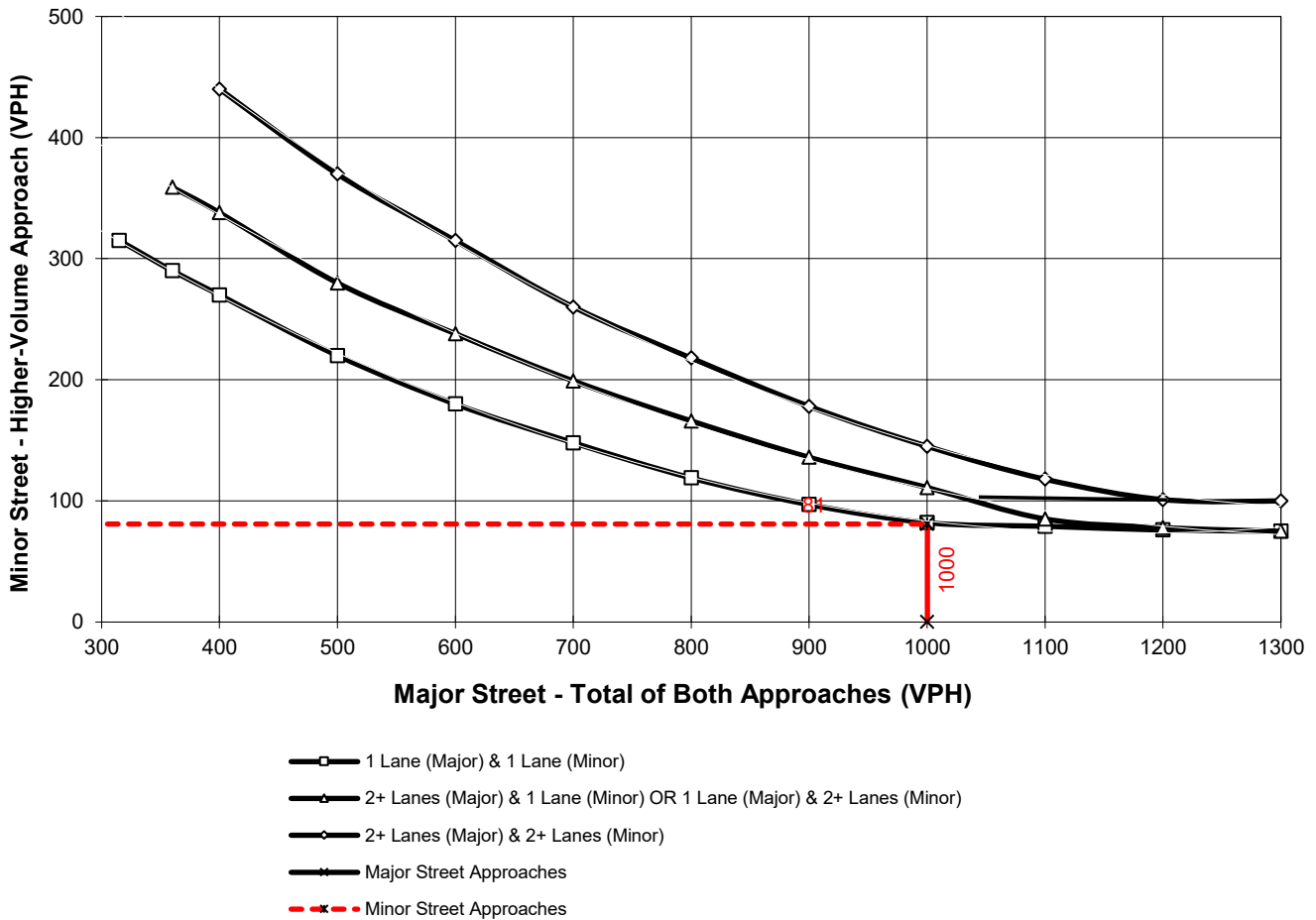
Major Street Name = **Edison Av.**

Total of Both Approaches (VPH) = **1000**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Walker Av.**

High Volume Approach (VPH) = **81**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2021) Conditions - Weekday PM Peak Hour**

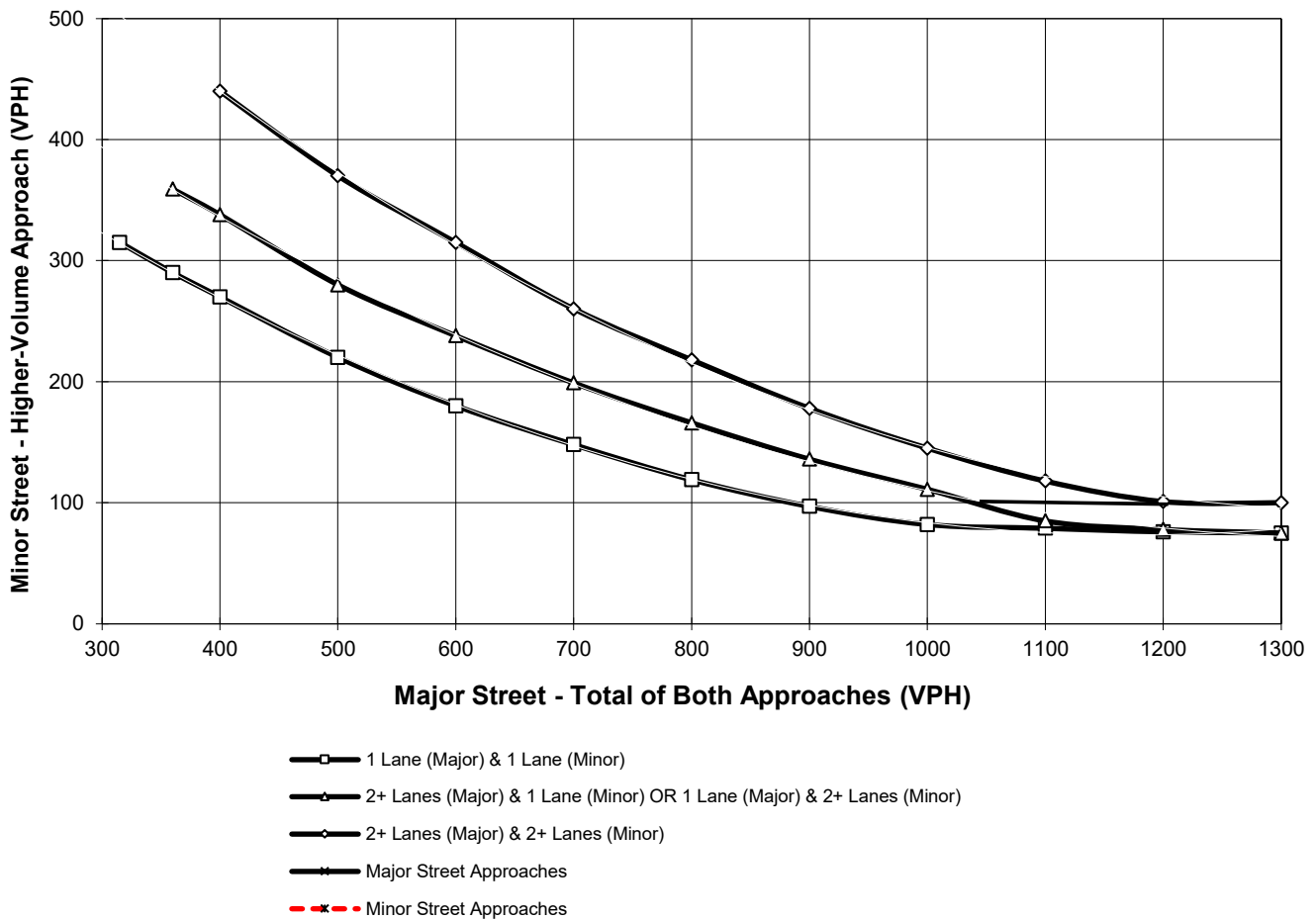
Major Street Name = **Eucalyptus Av.**

Total of Both Approaches (VPH) = **138**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Walker**

High Volume Approach (VPH) = **17**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = Existing (2019) Conditions - Weekday AM Peak Hour

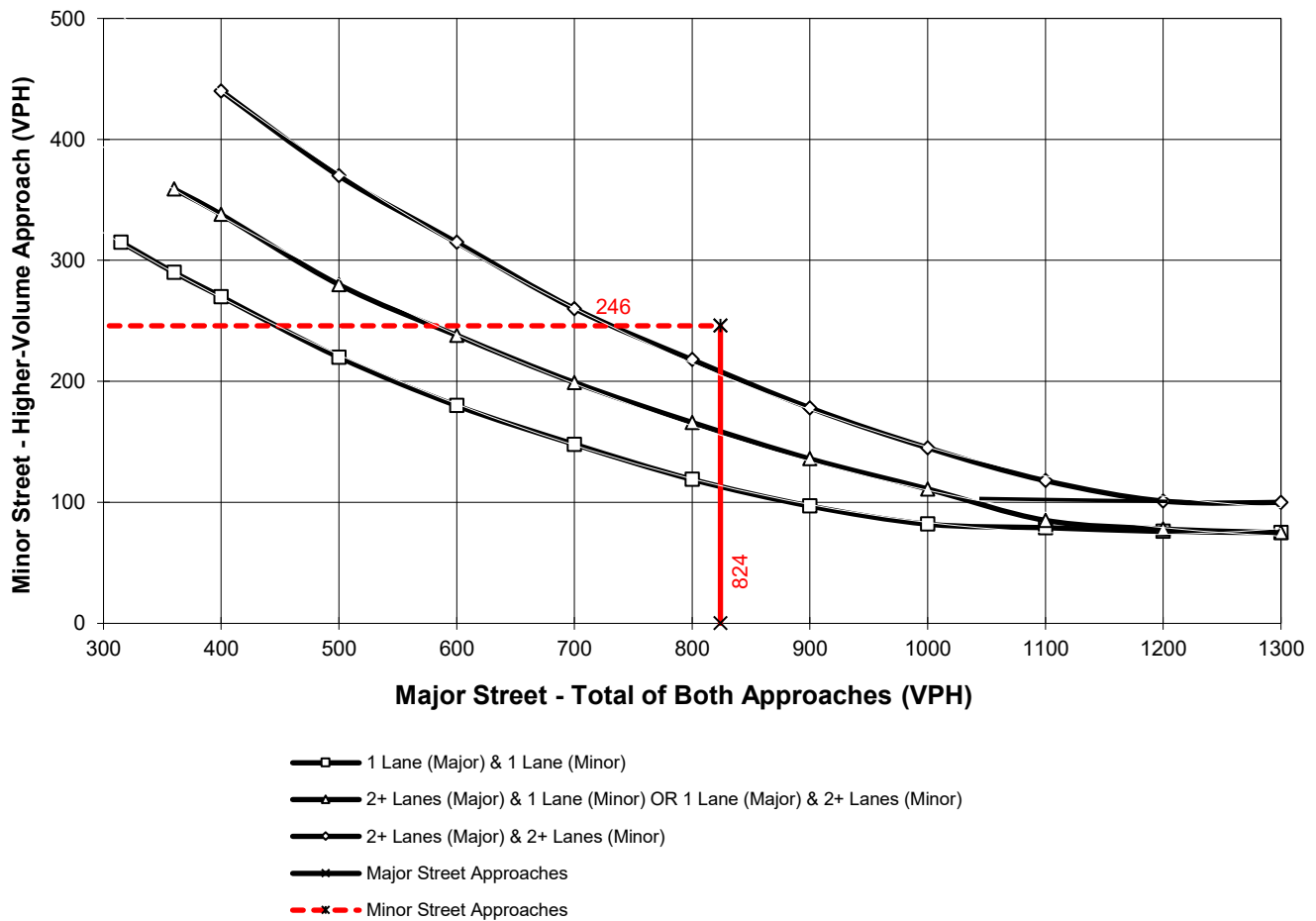
Major Street Name = Merrill Av.

Total of Both Approaches (VPH) = 824  
 Number of Approach Lanes Major Street = 1

Minor Street Name = Walker Av.

High Volume Approach (VPH) = 246  
 Number of Approach Lanes Minor Street = 1

WARRANTED FOR A SIGNAL



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane



### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2021) Conditions - Weekday AM Peak Hour**

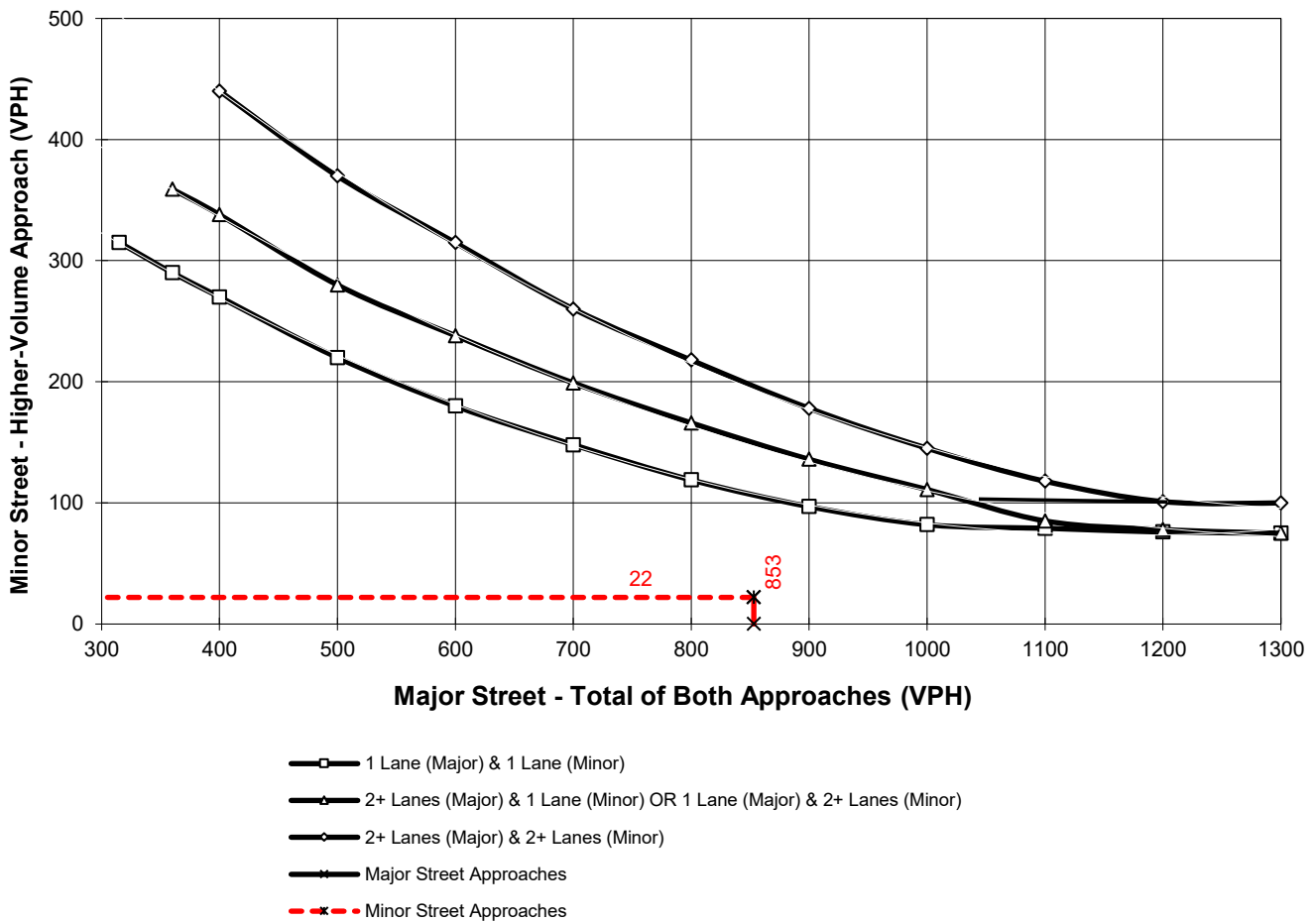
Major Street Name = **Merrill Av.**

Total of Both Approaches (VPH) = **853**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Baker Av.**

High Volume Approach (VPH) = **22**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = Existing (2021) Conditions - Weekday PM Peak Hour

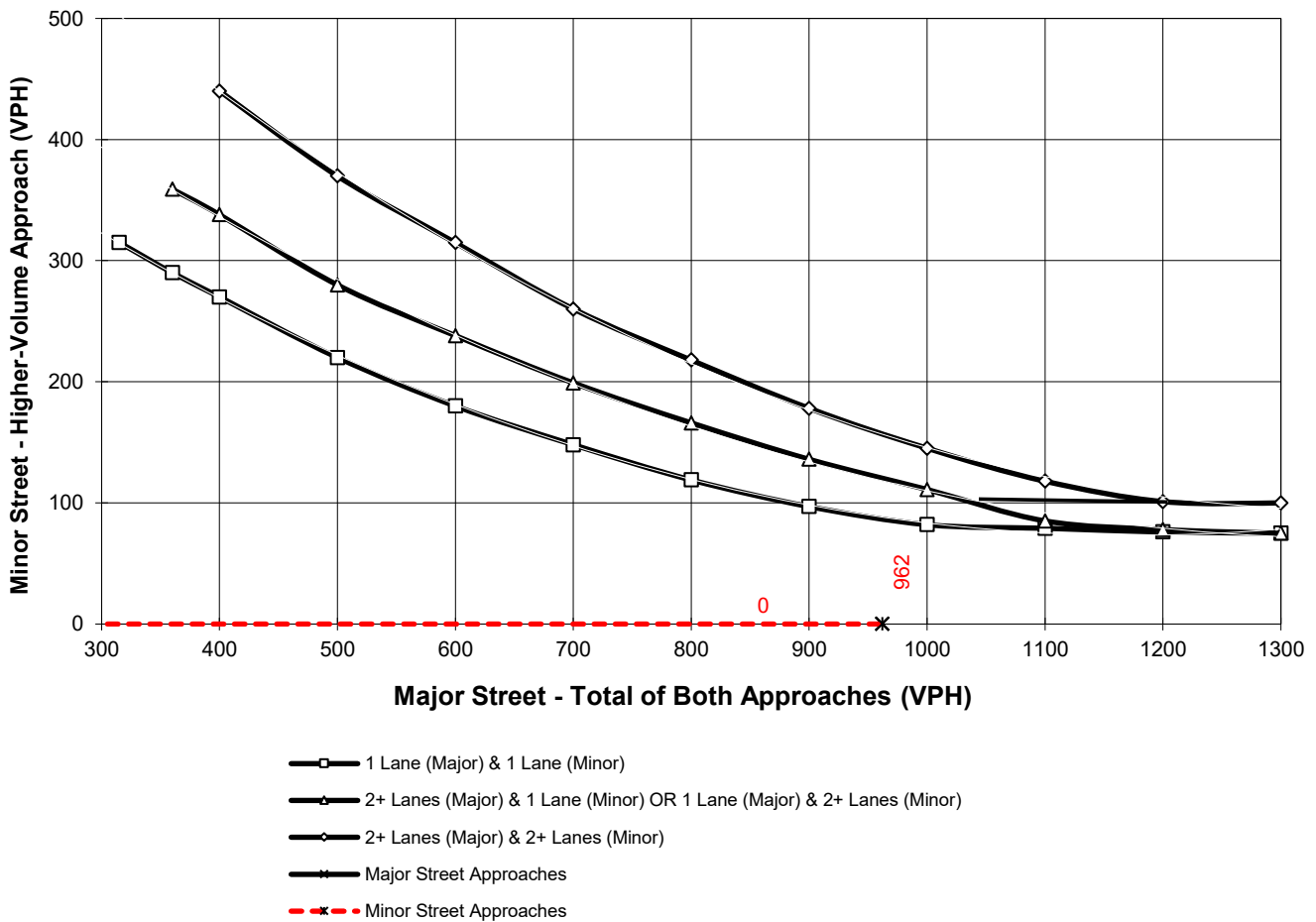
Major Street Name = Merrill Av.

Total of Both Approaches (VPH) = 962  
 Number of Approach Lanes Major Street = 1

Minor Street Name = Hellman Av.

High Volume Approach (VPH) = 0  
 Number of Approach Lanes Minor Street = 1

SIGNAL WARRANT NOT SATISFIED



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing (2021) Conditions - Weekday AM Peak Hour**

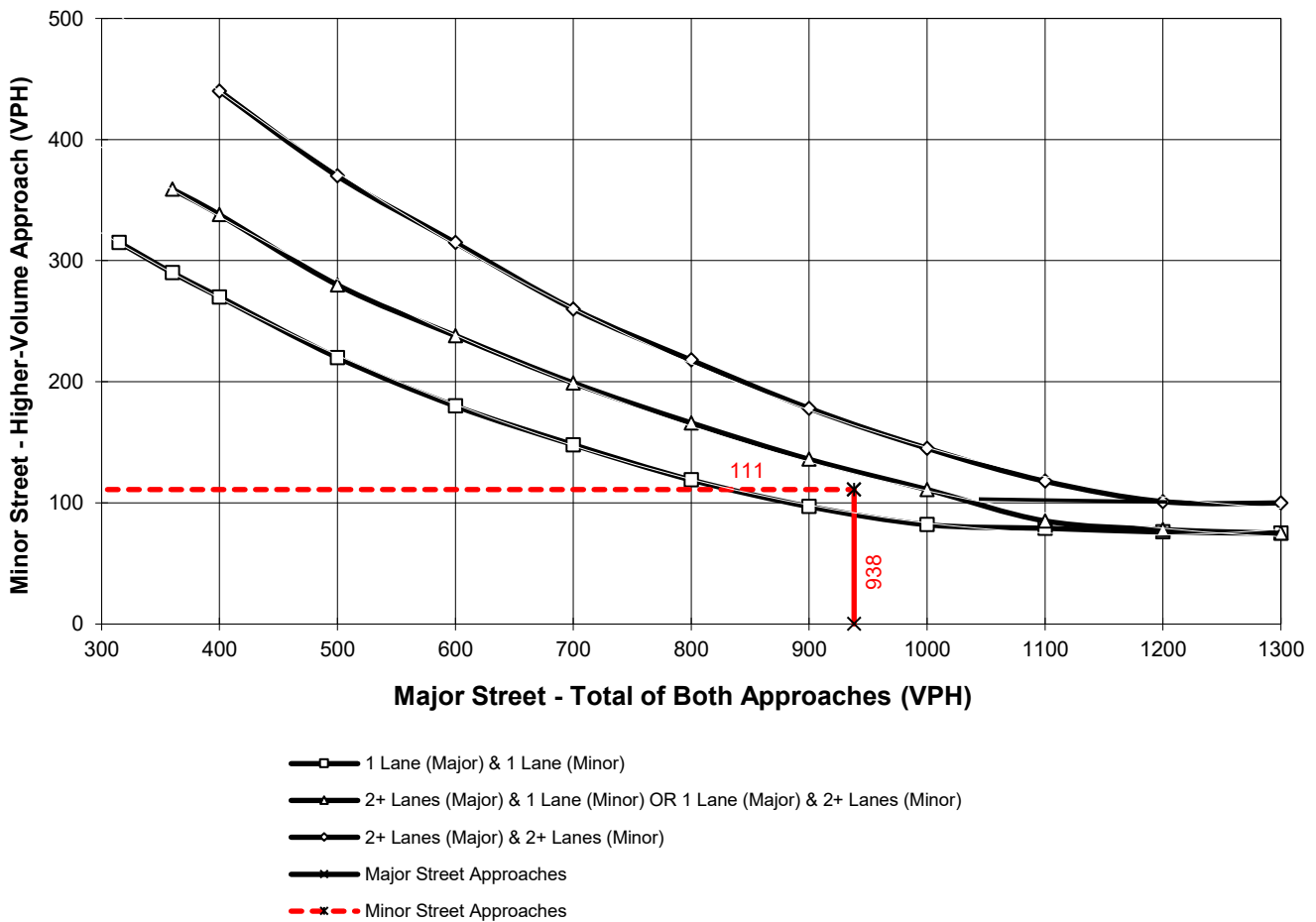
Major Street Name = **Merrill Av.**

Total of Both Approaches (VPH) = **938**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Carpenter Av.**

High Volume Approach (VPH) = **111**  
 Number of Approach Lanes Minor Street = **1**

**WARRANTED FOR A SIGNAL**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

**APPENDIX 3.4:**

**EXISTING (2021) CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS**

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Queues

1: Euclid Av. (SR-83) & SR-60 WB Ramps



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	379	367	343	367	998	995	519
v/c Ratio	0.84	0.84	0.71	0.87	0.45	0.82	0.59
Control Delay	48.5	46.6	27.7	38.5	18.5	36.7	5.6
Queue Delay	0.0	0.0	0.0	0.0	1.1	0.0	0.0
Total Delay	48.5	46.6	27.7	38.5	19.6	36.7	5.6
Queue Length 50th (ft)	206	195	118	176	276	290	0
Queue Length 95th (ft)	#323	#331	216	m#271	354	#440	78
Internal Link Dist (ft)		1410			396	1540	
Turn Bay Length (ft)	400		400	285			
Base Capacity (vph)	514	496	539	471	2240	1212	887
Starvation Cap Reductn	0	0	0	0	932	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.74	0.64	0.78	0.76	0.82	0.59

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues  
2: Euclid Av. (SR-83) & SR-60 EB Ramps



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	398	362	911	718	398	1286
v/c Ratio	0.90	0.81	0.75	0.76	0.91	0.57
Control Delay	57.2	40.4	32.0	10.4	54.0	4.8
Queue Delay	1.7	0.7	0.0	0.0	0.0	0.5
Total Delay	58.9	41.1	32.0	10.4	54.0	5.3
Queue Length 50th (ft)	223	164	251	37	167	56
Queue Length 95th (ft)	#386	#303	327	184	m#315	99
Internal Link Dist (ft)		1071	1048			396
Turn Bay Length (ft)	900					
Base Capacity (vph)	476	479	1222	946	461	2259
Starvation Cap Reductn	0	0	0	0	0	493
Spillback Cap Reductn	19	18	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.79	0.75	0.76	0.86	0.73

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1088	367	590	202	323	630	619
v/c Ratio	0.78	0.23	0.61	0.13	0.35	0.78	0.74
Control Delay	24.9	0.3	19.2	0.2	9.2	18.9	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.9	0.3	19.2	0.2	9.2	18.9	16.6
Queue Length 50th (ft)	132	0	106	0	63	162	147
Queue Length 95th (ft)	176	0	155	m0	110	#371	#280
Internal Link Dist (ft)	2023		797			1504	
Turn Bay Length (ft)					620		470
Base Capacity (vph)	1400	1615	974	1615	926	810	838
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.23	0.61	0.13	0.35	0.78	0.74

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

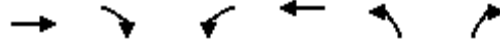


## Queues

Ontario Ranch Business Park (JN 13941)

52: I-15 NB Ramps &amp; Cantu Galleano Ranch Rd.

08/24/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	547	882	402	505	417	191
v/c Ratio	0.26	0.80	0.99	0.15	0.67	0.50
Control Delay	8.5	13.2	71.7	4.7	22.6	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.5	13.2	71.7	4.7	22.6	9.4
Queue Length 50th (ft)	23	146	76	23	51	0
Queue Length 95th (ft)	m46	#243	#155	34	91	52
Internal Link Dist (ft)	797			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2135	1106	408	3259	618	382
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.80	0.99	0.15	0.67	0.50

## Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

1: Euclid Av. (SR-83) & SR-60 WB Ramps



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	362	361	331	252	1120	1042	513
v/c Ratio	0.79	0.82	0.71	0.78	0.50	0.74	0.55
Control Delay	43.3	44.3	30.1	39.3	20.5	30.5	4.9
Queue Delay	0.0	0.0	0.0	0.0	2.1	0.0	0.0
Total Delay	43.3	44.3	30.1	39.3	22.6	30.5	4.9
Queue Length 50th (ft)	196	196	130	129	335	273	0
Queue Length 95th (ft)	287	294	217	m180	431	#445	74
Internal Link Dist (ft)		1410			396	1540	
Turn Bay Length (ft)				285			400
Base Capacity (vph)	552	528	545	391	2227	1402	940
Starvation Cap Reductn	0	0	0	0	916	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.68	0.61	0.64	0.85	0.74	0.55

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues  
2: Euclid Av. (SR-83) & SR-60 EB Ramps



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	382	369	917	585	383	1259
v/c Ratio	0.90	0.84	0.72	0.63	0.89	0.55
Control Delay	58.1	43.6	30.1	5.6	51.7	4.7
Queue Delay	13.4	5.8	0.0	0.0	0.0	0.4
Total Delay	71.6	49.4	30.1	5.6	51.7	5.1
Queue Length 50th (ft)	215	167	249	0	133	46
Queue Length 95th (ft)	#375	#315	324	78	m#332	92
Internal Link Dist (ft)		1071	1048			396
Turn Bay Length (ft)	900					
Base Capacity (vph)	457	468	1277	934	461	2294
Starvation Cap Reductn	0	0	0	0	0	515
Spillback Cap Reductn	64	59	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.90	0.72	0.63	0.83	0.71

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

## Queues

Ontario Ranch Business Park (JN 13941)

51: I-15 SB Ramps &amp; Cantu Galleano Ranch Rd.

08/24/2021



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1095	526	474	447	279	524	514
v/c Ratio	0.78	0.33	0.49	0.28	0.30	0.63	0.60
Control Delay	25.1	0.5	16.3	0.9	8.7	12.1	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	0.5	16.3	0.9	8.7	12.1	11.2
Queue Length 50th (ft)	133	0	46	0	52	103	93
Queue Length 95th (ft)	178	0	93	0	94	204	183
Internal Link Dist (ft)	2023		797			1504	
Turn Bay Length (ft)					620		470
Base Capacity (vph)	1400	1615	974	1615	926	828	856
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.33	0.49	0.28	0.30	0.63	0.60

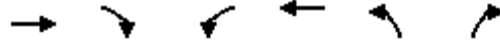
## Intersection Summary

## Queues

Ontario Ranch Business Park (JN 13941)

52: I-15 NB Ramps &amp; Cantu Galleano Ranch Rd.

08/24/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	696	774	319	737	314	146
v/c Ratio	0.34	0.70	0.78	0.23	0.48	0.40
Control Delay	9.1	8.4	41.6	5.5	17.7	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.1	8.4	41.6	5.5	17.7	8.4
Queue Length 50th (ft)	29	111	59	37	35	0
Queue Length 95th (ft)	m58	m136	#115	53	67	45
Internal Link Dist (ft)	797			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2048	1112	408	3172	652	366
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.70	0.78	0.23	0.48	0.40

## Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

**APPENDIX 4.1:**  
**POST PROCESSING WORKSHEETS**

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Euclid Av. & SR-60 Westbound Ramps  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	865	1,158	293	34%	899	980	81	9%
	Right	682	655	-27	-4%	573	540	-33	-6%
	<b>NB Total</b>	<b>1,547</b>	<b>1,813</b>	<b>266</b>	<b>17%</b>	<b>1,473</b>	<b>1,520</b>	<b>47</b>	<b>3%</b>
SOUTH BOUND	Left	378	433	55	15%	375	418	43	11%
	Through	1,222	1,484	262	21%	1,234	1,511	277	22%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	<b>SB Total</b>	<b>1,600</b>	<b>1,917</b>	<b>317</b>	<b>20%</b>	<b>1,609</b>	<b>1,929</b>	<b>320</b>	<b>20%</b>
EAST BOUND	Left	420	466	46	11%	416	427	11	3%
	Through	2	2	0	-4%	3	3	0	-4%
	Right	300	253	-47	-16%	318	310	-8	-2%
	<b>EB Total</b>	<b>722</b>	<b>721</b>	<b>-1</b>	<b>0%</b>	<b>737</b>	<b>740</b>	<b>3</b>	<b>0%</b>
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	<b>WB Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>
<b>TOTAL ENTERING VOLUME</b>		<b>3,868</b>	<b>4,451</b>	<b>582.7928</b>	<b>15%</b>	<b>3,818</b>	<b>4,189</b>	<b>371</b>	<b>10%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,917	1,929			
North Leg	Outbound	1,624	1,407			
<b>North Leg</b>	<b>TOTAL</b>	<b>3,541</b>	<b>3,336</b>	<b>10%</b>	<b>9%</b>	<b>36,643</b>
South Leg	Inbound	1,813	1,520			
South Leg	Outbound	1,737	1,821			
<b>South Leg</b>	<b>TOTAL</b>	<b>3,550</b>	<b>3,341</b>	<b>10%</b>	<b>9%</b>	<b>35,842</b>
East Leg	Inbound	0	0			
East Leg	Outbound	1,090	961			
<b>East Leg</b>	<b>TOTAL</b>	<b>1,090</b>	<b>961</b>	<b>16%</b>	<b>14%</b>	<b>6,974</b>
West Leg	Inbound	721	740			
West Leg	Outbound	0	0			
<b>West Leg</b>	<b>TOTAL</b>	<b>721</b>	<b>740</b>	<b>9%</b>	<b>9%</b>	<b>8,386</b>
<b>OVERALL TOTAL</b>		<b>8,902</b>	<b>8,378</b>	<b>10%</b>	<b>10%</b>	<b>87,845</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Euclid Av. & SR-60 Eastbound Ramps  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	138	135	-3	-2%	196	190	-6	-3%
	Through	1,167	1,358	191	16%	1,204	1,232	28	2%
	Right	50	40	-10	-19%	77	60	-17	-22%
	<b>NB Total</b>	<b>1,355</b>	<b>1,533</b>	<b>178</b>	<b>13%</b>	<b>1,478</b>	<b>1,482</b>	<b>4</b>	<b>0%</b>
SOUTH BOUND	Left	165	170	5	3%	279	261	-18	-6%
	Through	1,173	1,310	137	12%	1,103	1,346	243	22%
	Right	65	82	17	26%	155	182	27	17%
	<b>SB Total</b>	<b>1,403</b>	<b>1,562</b>	<b>159</b>	<b>11%</b>	<b>1,537</b>	<b>1,789</b>	<b>252</b>	<b>16%</b>
EAST BOUND	Left	118	163	45	39%	107	156	49	46%
	Through	300	289	-11	-4%	370	406	36	10%
	Right	113	118	5	4%	138	198	60	43%
	<b>EB Total</b>	<b>531</b>	<b>570</b>	<b>39</b>	<b>7%</b>	<b>615</b>	<b>760</b>	<b>145</b>	<b>23%</b>
WEST BOUND	Left	73	62	-11	-15%	69	71	2	3%
	Through	319	303	-16	-5%	370	364	-6	-2%
	Right	212	239	27	13%	140	145	5	4%
	<b>WB Total</b>	<b>605</b>	<b>604</b>	<b>-1</b>	<b>0%</b>	<b>579</b>	<b>580</b>	<b>1</b>	<b>0%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>3,894</b>	<b>4,269</b>	<b>375.20715</b>	<b>10%</b>	<b>4,209</b>	<b>4,611</b>	<b>402</b>	<b>10%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,562	1,789			
North Leg	Outbound	1,760	1,533			
<b>North Leg</b>	<b>TOTAL</b>	<b>3,322</b>	<b>3,322</b>	<b>9%</b>	<b>9%</b>	<b>35,842</b>
South Leg	Inbound	1,533	1,482			
South Leg	Outbound	1,490	1,615			
<b>South Leg</b>	<b>TOTAL</b>	<b>3,023</b>	<b>3,097</b>	<b>8%</b>	<b>8%</b>	<b>38,142</b>
East Leg	Inbound	604	580			
East Leg	Outbound	499	727			
<b>East Leg</b>	<b>TOTAL</b>	<b>1,103</b>	<b>1,307</b>	<b>17%</b>	<b>20%</b>	<b>6,678</b>
West Leg	Inbound	570	760			
West Leg	Outbound	520	736			
<b>West Leg</b>	<b>TOTAL</b>	<b>1,090</b>	<b>1,496</b>	<b>13%</b>	<b>18%</b>	<b>8,223</b>
<b>OVERALL TOTAL</b>		<b>8,538</b>	<b>9,222</b>	<b>10%</b>	<b>10%</b>	<b>88,885</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Euclid Av. & Walnut Av.  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	73	81	8	11%	69	107	38	55%
	Through	945	1,031	86	9%	1,014	1,030	16	2%
	Right	170	116	-54	-32%	253	196	-57	-23%
	<b>NB Total</b>	<b>1,188</b>	<b>1,228</b>	<b>40</b>	<b>3%</b>	<b>1,336</b>	<b>1,333</b>	<b>-3</b>	<b>0%</b>
SOUTH BOUND	Left	191	179	-12	-6%	147	119	-28	-19%
	Through	978	1,049	71	7%	916	1,098	182	20%
	Right	168	257	89	53%	203	329	126	62%
	<b>SB Total</b>	<b>1,337</b>	<b>1,485</b>	<b>148</b>	<b>11%</b>	<b>1,266</b>	<b>1,546</b>	<b>280</b>	<b>22%</b>
EAST BOUND	Left	159	264	105	66%	151	206	55	37%
	Through	323	335	12	4%	458	477	19	4%
	Right	50	60	10	19%	74	114	40	54%
	<b>EB Total</b>	<b>533</b>	<b>659</b>	<b>126</b>	<b>24%</b>	<b>683</b>	<b>797</b>	<b>114</b>	<b>17%</b>
WEST BOUND	Left	195	111	-84	-43%	185	154	-31	-17%
	Through	507	412	-95	-19%	409	461	52	13%
	Right	120	95	-25	-21%	64	47	-17	-27%
	<b>WB Total</b>	<b>821</b>	<b>618</b>	<b>-203</b>	<b>-25%</b>	<b>658</b>	<b>662</b>	<b>4</b>	<b>1%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>3,879</b>	<b>3,990</b>	<b>110.775</b>	<b>3%</b>	<b>3,942</b>	<b>4,338</b>	<b>396</b>	<b>10%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,485	1,546			
North Leg	Outbound	1,390	1,283			
<b>North Leg</b>	<b>TOTAL</b>	<b>2,875</b>	<b>2,829</b>	<b>8%</b>	<b>7%</b>	<b>38,142</b>
South Leg	Inbound	1,228	1,333			
South Leg	Outbound	1,220	1,366			
<b>South Leg</b>	<b>TOTAL</b>	<b>2,448</b>	<b>2,699</b>	<b>7%</b>	<b>8%</b>	<b>32,886</b>
East Leg	Inbound	618	662			
East Leg	Outbound	630	792			
<b>East Leg</b>	<b>TOTAL</b>	<b>1,248</b>	<b>1,454</b>	<b>11%</b>	<b>12%</b>	<b>11,850</b>
West Leg	Inbound	659	797			
West Leg	Outbound	750	897			
<b>West Leg</b>	<b>TOTAL</b>	<b>1,409</b>	<b>1,694</b>	<b>14%</b>	<b>17%</b>	<b>10,155</b>
<b>OVERALL TOTAL</b>		<b>7,980</b>	<b>8,676</b>	<b>9%</b>	<b>9%</b>	<b>93,033</b>

Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Euclid Avenue (SR-83) & Riverside Drive  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	51	144	93	184%	42	199	157	369%
	Through	1,028	1,082	54	5%	1,230	1,146	-84	-7%
	Right	142	184	42	30%	241	218	-23	-10%
	<b>NB Total</b>	<b>1,220</b>	<b>1,410</b>	<b>190</b>	<b>16%</b>	<b>1,514</b>	<b>1,563</b>	<b>49</b>	<b>3%</b>
SOUTH BOUND	Left	61	39	-22	-36%	26	16	-10	-40%
	Through	1,047	1,054	7	1%	1,039	1,110	71	7%
	Right	101	139	38	37%	76	232	156	205%
	<b>SB Total</b>	<b>1,210</b>	<b>1,232</b>	<b>22</b>	<b>2%</b>	<b>1,141</b>	<b>1,358</b>	<b>217</b>	<b>19%</b>
EAST BOUND	Left	108	149	41	38%	96	191	95	98%
	Through	172	294	122	71%	284	546	262	92%
	Right	38	104	66	174%	48	169	121	249%
	<b>EB Total</b>	<b>317</b>	<b>547</b>	<b>230</b>	<b>72%</b>	<b>429</b>	<b>906</b>	<b>477</b>	<b>111%</b>
WEST BOUND	Left	74	66	-8	-11%	78	41	-37	-47%
	Through	157	192	35	22%	112	168	56	50%
	Right	53	24	-29	-54%	9	3	-6	-68%
	<b>WB Total</b>	<b>284</b>	<b>282</b>	<b>-2</b>	<b>-1%</b>	<b>200</b>	<b>212</b>	<b>12</b>	<b>6%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>3,031</b>	<b>3,471</b>	<b>440.2932</b>	<b>15%</b>	<b>3,284</b>	<b>4,039</b>	<b>755</b>	<b>23%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,232	1,358			
North Leg	Outbound	1,255	1,340			
<b>North Leg</b>	<b>TOTAL</b>	<b>2,487</b>	<b>2,698</b>	<b>8%</b>	<b>8%</b>	<b>31,838</b>
South Leg	Inbound	1,410	1,563			
South Leg	Outbound	1,224	1,320			
<b>South Leg</b>	<b>TOTAL</b>	<b>2,634</b>	<b>2,883</b>	<b>6%</b>	<b>6%</b>	<b>46,642</b>
East Leg	Inbound	282	212			
East Leg	Outbound	517	780			
<b>East Leg</b>	<b>TOTAL</b>	<b>799</b>	<b>992</b>	<b>5%</b>	<b>6%</b>	<b>17,656</b>
West Leg	Inbound	547	906			
West Leg	Outbound	475	599			
<b>West Leg</b>	<b>TOTAL</b>	<b>1,022</b>	<b>1,505</b>	<b>6%</b>	<b>9%</b>	<b>16,597</b>
<b>OVERALL TOTAL</b>		<b>6,942</b>	<b>8,078</b>	<b>6%</b>	<b>7%</b>	<b>112,733</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Euclid Avenue (SR-83) & Chino Avenue  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	112	134	22	20%	90	100	10	11%
	Through	1,049	1,229	180	17%	1,198	1,154	-44	-4%
	Right	39	81	42	110%	88	128	40	46%
	<b>NB Total</b>	<b>1,200</b>	<b>1,444</b>	<b>244</b>	<b>20%</b>	<b>1,375</b>	<b>1,382</b>	<b>7</b>	<b>1%</b>
SOUTH BOUND	Left	32	65	33	103%	31	51	20	65%
	Through	951	901	-50	-5%	1,057	1,134	77	7%
	Right	134	155	21	16%	122	154	32	26%
	<b>SB Total</b>	<b>1,117</b>	<b>1,121</b>	<b>4</b>	<b>0%</b>	<b>1,210</b>	<b>1,339</b>	<b>129</b>	<b>11%</b>
EAST BOUND	Left	159	182	23	14%	291	331	40	14%
	Through	75	154	79	104%	287	493	206	72%
	Right	60	57	-3	-6%	185	207	22	12%
	<b>EB Total</b>	<b>295</b>	<b>393</b>	<b>98</b>	<b>33%</b>	<b>762</b>	<b>1,031</b>	<b>269</b>	<b>35%</b>
WEST BOUND	Left	146	201	55	38%	79	155	76	97%
	Through	184	311	127	69%	67	154	87	131%
	Right	11	19	8	66%	25	51	26	100%
	<b>WB Total</b>	<b>341</b>	<b>531</b>	<b>190</b>	<b>56%</b>	<b>171</b>	<b>360</b>	<b>189</b>	<b>111%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>2,952</b>	<b>3,489</b>	<b>536.7591</b>	<b>18%</b>	<b>3,518</b>	<b>4,112</b>	<b>594</b>	<b>17%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,121	1,339			
North Leg	Outbound	1,430	1,536			
<b>North Leg</b>	<b>TOTAL</b>	<b>2,551</b>	<b>2,875</b>	<b>6%</b>	<b>6%</b>	<b>46,149</b>
South Leg	Inbound	1,444	1,382			
South Leg	Outbound	1,159	1,496			
<b>South Leg</b>	<b>TOTAL</b>	<b>2,603</b>	<b>2,878</b>	<b>6%</b>	<b>6%</b>	<b>44,774</b>
East Leg	Inbound	531	360			
East Leg	Outbound	300	672			
<b>East Leg</b>	<b>TOTAL</b>	<b>831</b>	<b>1,032</b>	<b>9%</b>	<b>12%</b>	<b>8,948</b>
West Leg	Inbound	393	1,031			
West Leg	Outbound	600	408			
<b>West Leg</b>	<b>TOTAL</b>	<b>993</b>	<b>1,439</b>	<b>10%</b>	<b>15%</b>	<b>9,480</b>
<b>OVERALL TOTAL</b>		<b>6,978</b>	<b>8,224</b>	<b>6%</b>	<b>8%</b>	<b>109,351</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Euclid Avenue (SR-83) / Schaefer Avenue  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	226	225	22500%	1	228	227	22700%
	Through	4	1,002	998	24950%	4	943	939	23475%
	Right	1	19	18	1800%	1	100	99	9900%
	<b>NB Total</b>	<b>6</b>	<b>1,247</b>	<b>1,241</b>	<b>20683%</b>	<b>6</b>	<b>1,271</b>	<b>1,265</b>	<b>21083%</b>
SOUTH BOUND	Left	1	39	38	3800%	1	199	198	19800%
	Through	4	973	969	24225%	4	1,004	1,000	25000%
	Right	1	457	456	45600%	1	455	454	45400%
	<b>SB Total</b>	<b>6</b>	<b>1,469</b>	<b>1,463</b>	<b>24383%</b>	<b>6</b>	<b>1,658</b>	<b>1,652</b>	<b>27533%</b>
EAST BOUND	Left	1	182	181	18100%	1	487	486	48600%
	Through	2	32	30	1500%	2	463	461	23050%
	Right	1	88	87	8700%	1	260	259	25900%
	<b>EB Total</b>	<b>4</b>	<b>302</b>	<b>298</b>	<b>7450%</b>	<b>4</b>	<b>1,210</b>	<b>1,206</b>	<b>30150%</b>
WEST BOUND	Left	1	89	88	8800%	1	39	38	3800%
	Through	2	377	375	18750%	2	158	156	7800%
	Right	1	186	185	18500%	1	73	72	7200%
	<b>WB Total</b>	<b>4</b>	<b>652</b>	<b>648</b>	<b>16200%</b>	<b>4</b>	<b>270</b>	<b>266</b>	<b>6650%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>20</b>	<b>3,670</b>	<b>3650</b>	<b>18250%</b>	<b>20</b>	<b>4,409</b>	<b>4389</b>	<b>21945%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,469	1,658			
North Leg	Outbound	1,370	1,503			
<b>North Leg</b>	<b>TOTAL</b>	<b>2,839</b>	<b>3,161</b>	<b>6%</b>	<b>7%</b>	<b>44,269</b>
South Leg	Inbound	1,247	1,271			
South Leg	Outbound	1,150	1,303			
<b>South Leg</b>	<b>TOTAL</b>	<b>2,397</b>	<b>2,574</b>	<b>6%</b>	<b>7%</b>	<b>38,681</b>
East Leg	Inbound	652	270			
East Leg	Outbound	90	762			
<b>East Leg</b>	<b>TOTAL</b>	<b>742</b>	<b>1,032</b>	<b>27%</b>	<b>37%</b>	<b>2,775</b>
West Leg	Inbound	302	1,210			
West Leg	Outbound	1,060	841			
<b>West Leg</b>	<b>TOTAL</b>	<b>1,362</b>	<b>2,051</b>	<b>10%</b>	<b>15%</b>	<b>13,750</b>
<b>OVERALL TOTAL</b>		<b>7,340</b>	<b>8,818</b>	<b>7%</b>	<b>9%</b>	<b>99,475</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Euclid Avenue (SR-83) / Edison Avenue  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	186	102	-84	-45%	112	109	-3	-3%
	Through	1,103	1,022	-81	-7%	1,203	1,099	-104	-9%
	Right	13	179	166	1253%	19	152	133	711%
	<b>NB Total</b>	<b>1,302</b>	<b>1,303</b>	<b>1</b>	<b>0%</b>	<b>1,334</b>	<b>1,360</b>	<b>26</b>	<b>2%</b>
SOUTH BOUND	Left	24	245	221	934%	49	279	230	475%
	Through	1,006	814	-192	-19%	1,289	1,176	-113	-9%
	Right	44	19	-25	-57%	68	47	-21	-31%
	<b>SB Total</b>	<b>1,073</b>	<b>1,078</b>	<b>5</b>	<b>0%</b>	<b>1,405</b>	<b>1,502</b>	<b>97</b>	<b>7%</b>
EAST BOUND	Left	69	92	23	33%	38	27	-11	-30%
	Through	26	506	480	1845%	163	1,009	846	520%
	Right	156	236	80	52%	210	207	-3	-2%
	<b>EB Total</b>	<b>251</b>	<b>834</b>	<b>583</b>	<b>233%</b>	<b>411</b>	<b>1,243</b>	<b>832</b>	<b>202%</b>
WEST BOUND	Left	33	300	267	801%	8	287	279	3578%
	Through	157	739	582	370%	21	594	573	2685%
	Right	38	305	267	692%	9	244	235	2506%
	<b>WB Total</b>	<b>229</b>	<b>1,344</b>	<b>1,115</b>	<b>487%</b>	<b>38</b>	<b>1,125</b>	<b>1,087</b>	<b>2822%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>2,855</b>	<b>4,559</b>	<b>1704.205</b>	<b>60%</b>	<b>3,189</b>	<b>5,230</b>	<b>2041</b>	<b>64%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,078	1,502			
North Leg	Outbound	1,419	1,370			
<b>North Leg</b>	<b>TOTAL</b>	<b>2,497</b>	<b>2,872</b>	<b>7%</b>	<b>8%</b>	<b>38,168</b>
South Leg	Inbound	1,303	1,360			
South Leg	Outbound	1,350	1,670			
<b>South Leg</b>	<b>TOTAL</b>	<b>2,653</b>	<b>3,030</b>	<b>7%</b>	<b>8%</b>	<b>38,478</b>
East Leg	Inbound	1,344	1,125			
East Leg	Outbound	930	1,440			
<b>East Leg</b>	<b>TOTAL</b>	<b>2,274</b>	<b>2,565</b>	<b>5%</b>	<b>5%</b>	<b>49,894</b>
West Leg	Inbound	834	1,243			
West Leg	Outbound	860	750			
<b>West Leg</b>	<b>TOTAL</b>	<b>1,694</b>	<b>1,993</b>	<b>4%</b>	<b>5%</b>	<b>39,712</b>
<b>OVERALL TOTAL</b>		<b>9,118</b>	<b>10,460</b>	<b>5%</b>	<b>6%</b>	<b>166,252</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Euclid Avenue (SR-83) & Eucalyptus Avenue  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	70	69	6900%	1	69	68	6800%
	Through	4	1,006	1,002	25050%	4	910	906	22650%
	Right	1	133	132	13200%	1	383	382	38200%
	<b>NB Total</b>	<b>6</b>	<b>1,209</b>	<b>1,203</b>	<b>20050%</b>	<b>6</b>	<b>1,362</b>	<b>1,356</b>	<b>22600%</b>
SOUTH BOUND	Left	1	67	66	6600%	1	252	251	25100%
	Through	4	1,076	1,072	26800%	4	1,158	1,154	28850%
	Right	1	36	35	3500%	1	45	44	4400%
	<b>SB Total</b>	<b>6</b>	<b>1,179</b>	<b>1,173</b>	<b>19550%</b>	<b>6</b>	<b>1,455</b>	<b>1,449</b>	<b>24150%</b>
EAST BOUND	Left	1	26	25	2500%	1	46	45	4500%
	Through	1	30	29	2900%	1	175	174	17400%
	Right	1	54	53	5300%	1	89	88	8800%
	<b>EB Total</b>	<b>3</b>	<b>110</b>	<b>107</b>	<b>3567%</b>	<b>3</b>	<b>310</b>	<b>307</b>	<b>10233%</b>
WEST BOUND	Left	1	385	384	38400%	1	413	412	41200%
	Through	1	115	114	11400%	1	146	145	14500%
	Right	1	182	181	18100%	1	214	213	21300%
	<b>WB Total</b>	<b>3</b>	<b>682</b>	<b>679</b>	<b>22633%</b>	<b>3</b>	<b>773</b>	<b>770</b>	<b>25667%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>18</b>	<b>3,180</b>	<b>3162</b>	<b>17567%</b>	<b>18</b>	<b>3,900</b>	<b>3882</b>	<b>21567%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,179	1,455			
North Leg	Outbound	1,214	1,170			
<b>North Leg</b>	<b>TOTAL</b>	<b>2,393</b>	<b>2,625</b>	<b>6%</b>	<b>7%</b>	<b>38,478</b>
South Leg	Inbound	1,209	1,362			
South Leg	Outbound	1,515	1,660			
<b>South Leg</b>	<b>TOTAL</b>	<b>2,724</b>	<b>3,022</b>	<b>7%</b>	<b>7%</b>	<b>40,597</b>
East Leg	Inbound	682	773			
East Leg	Outbound	230	810			
<b>East Leg</b>	<b>TOTAL</b>	<b>912</b>	<b>1,583</b>	<b>11%</b>	<b>20%</b>	<b>7,941</b>
West Leg	Inbound	110	310			
West Leg	Outbound	221	260			
<b>West Leg</b>	<b>TOTAL</b>	<b>331</b>	<b>570</b>	<b>6%</b>	<b>10%</b>	<b>5,795</b>
<b>OVERALL TOTAL</b>		<b>6,360</b>	<b>7,800</b>	<b>7%</b>	<b>8%</b>	<b>92,811</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Euclid Avenue (SR-83) & Merrill Avenue  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	5	1,158	1,153	23060%	5	1,310	1,305	26100%
	Right	2	267	265	13250%	2	735	733	36650%
	<b>NB Total</b>	<b>8</b>	<b>1,425</b>	<b>1,417</b>	<b>17713%</b>	<b>8</b>	<b>2,045</b>	<b>2,037</b>	<b>25463%</b>
SOUTH BOUND	Left	2	63	61	3050%	2	105	103	5150%
	Through	5	1,510	1,505	30100%	5	1,647	1,642	32840%
	Right	1	0	-1	-100%	1	0	-1	-100%
	<b>SB Total</b>	<b>8</b>	<b>1,573</b>	<b>1,565</b>	<b>19563%</b>	<b>8</b>	<b>1,752</b>	<b>1,744</b>	<b>21800%</b>
EAST BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	1	0	-1	-100%	1	0	-1	-100%
	Right	1	0	-1	-100%	1	0	-1	-100%
	<b>EB Total</b>	<b>3</b>	<b>0</b>	<b>-3</b>	<b>-100%</b>	<b>3</b>	<b>0</b>	<b>-3</b>	<b>-100%</b>
WEST BOUND	Left	2	340	338	16900%	2	443	441	22050%
	Through	1	0	-1	-100%	1	0	-1	-100%
	Right	2	62	60	3000%	2	50	48	2400%
	<b>WB Total</b>	<b>5</b>	<b>402</b>	<b>397</b>	<b>7940%</b>	<b>5</b>	<b>493</b>	<b>488</b>	<b>9760%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>24</b>	<b>3,400</b>	<b>3376</b>	<b>14067%</b>	<b>24</b>	<b>4,290</b>	<b>4266</b>	<b>17775%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,573	1,752			
North Leg	Outbound	1,220	1,360			
<b>North Leg</b>	<b>TOTAL</b>	<b>2,793</b>	<b>3,112</b>	<b>7%</b>	<b>8%</b>	<b>40,597</b>
South Leg	Inbound	1,425	2,045			
South Leg	Outbound	1,850	2,090			
<b>South Leg</b>	<b>TOTAL</b>	<b>3,275</b>	<b>4,135</b>	<b>7%</b>	<b>9%</b>	<b>46,812</b>
East Leg	Inbound	402	493			
East Leg	Outbound	330	840			
<b>East Leg</b>	<b>TOTAL</b>	<b>732</b>	<b>1,333</b>	<b>6%</b>	<b>12%</b>	<b>11,557</b>
West Leg	Inbound	0	0			
West Leg	Outbound	0	0			
<b>West Leg</b>	<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>-</b>
<b>OVERALL TOTAL</b>		<b>6,800</b>	<b>8,580</b>	<b>7%</b>	<b>9%</b>	<b>98,966</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Bon View Av. & Eucalyptus Av.  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	0	-1	-100%	1	2	1	100%
	Through	1	0	-1	-100%	1	5	4	400%
	Right	1	0	-1	-100%	1	3	2	200%
	<b>NB Total</b>	<b>3</b>	<b>0</b>	<b>-3</b>	<b>-100%</b>	<b>3</b>	<b>10</b>	<b>7</b>	<b>233%</b>
SOUTH BOUND	Left	1	46	45	4500%	1	110	109	10900%
	Through	1	61	60	6000%	1	4	3	300%
	Right	1	166	165	16500%	1	65	64	6400%
	<b>SB Total</b>	<b>3</b>	<b>273</b>	<b>270</b>	<b>9000%</b>	<b>3</b>	<b>179</b>	<b>176</b>	<b>5867%</b>
EAST BOUND	Left	1	38	37	3700%	1	110	109	10900%
	Through	2	64	62	3100%	2	607	605	30250%
	Right	1	9	8	800%	1	3	2	200%
	<b>EB Total</b>	<b>4</b>	<b>111</b>	<b>107</b>	<b>2675%</b>	<b>4</b>	<b>720</b>	<b>716</b>	<b>17900%</b>
WEST BOUND	Left	1	20	19	1900%	1	3	2	200%
	Through	2	484	482	24100%	2	373	371	18550%
	Right	1	82	81	8100%	1	114	113	11300%
	<b>WB Total</b>	<b>4</b>	<b>586</b>	<b>582</b>	<b>14550%</b>	<b>4</b>	<b>490</b>	<b>486</b>	<b>12150%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>14</b>	<b>970</b>	<b>956</b>	<b>6829%</b>	<b>14</b>	<b>1,399</b>	<b>1385</b>	<b>9893%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	273	179			
North Leg	Outbound	120	229			
<b>North Leg</b>	<b>TOTAL</b>	<b>393</b>	<b>408</b>	<b>9%</b>	<b>9%</b>	<b>4,540</b>
South Leg	Inbound	0	10			
South Leg	Outbound	90	10			
<b>South Leg</b>	<b>TOTAL</b>	<b>90</b>	<b>20</b>	<b>11%</b>	<b>2%</b>	<b>852</b>
East Leg	Inbound	586	490			
East Leg	Outbound	110	720			
<b>East Leg</b>	<b>TOTAL</b>	<b>696</b>	<b>1,210</b>	<b>15%</b>	<b>25%</b>	<b>4,768</b>
West Leg	Inbound	111	720			
West Leg	Outbound	650	440			
<b>West Leg</b>	<b>TOTAL</b>	<b>761</b>	<b>1,160</b>	<b>15%</b>	<b>22%</b>	<b>5,218</b>
<b>OVERALL TOTAL</b>		<b>1,940</b>	<b>2,798</b>	<b>13%</b>	<b>18%</b>	<b>15,378</b>

Z:\Shared\UcJobs\13600-14000\13900\13941\02\_LOS\Post Processing\[32 Bon View\_Euclayptus-SEMI.xls]Output (3)

Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Bon View Av. & Merrill Av.  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	<b>NB Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>
SOUTH BOUND	Left	1	54	53	5300%	1	6	5	500%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	1	37	36	3600%	1	4	3	300%
	<b>SB Total</b>	<b>2</b>	<b>91</b>	<b>89</b>	<b>4450%</b>	<b>2</b>	<b>10</b>	<b>8</b>	<b>400%</b>
EAST BOUND	Left	1	0	-1	-100%	1	6	5	500%
	Through	2	351	349	17450%	2	924	922	46100%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	<b>EB Total</b>	<b>3</b>	<b>351</b>	<b>348</b>	<b>11600%</b>	<b>3</b>	<b>930</b>	<b>927</b>	<b>30900%</b>
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	2	449	447	22350%	2	476	474	23700%
	Right	1	0	-1	-100%	1	4	3	300%
	<b>WB Total</b>	<b>3</b>	<b>449</b>	<b>446</b>	<b>14867%</b>	<b>3</b>	<b>480</b>	<b>477</b>	<b>15900%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>8</b>	<b>891</b>	<b>883</b>	<b>11038%</b>	<b>8</b>	<b>1,420</b>	<b>1412</b>	<b>17650%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	91	10			
North Leg	Outbound	0	10			
<b>North Leg</b>	<b>TOTAL</b>	<b>91</b>	<b>20</b>	<b>11%</b>	<b>2%</b>	<b>852</b>
South Leg	Inbound	0	0			
South Leg	Outbound	0	0			
<b>South Leg</b>	<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>-</b>
East Leg	Inbound	449	480			
East Leg	Outbound	405	930			
<b>East Leg</b>	<b>TOTAL</b>	<b>854</b>	<b>1,410</b>	<b>6%</b>	<b>11%</b>	<b>13,289</b>
West Leg	Inbound	351	930			
West Leg	Outbound	486	480			
<b>West Leg</b>	<b>TOTAL</b>	<b>837</b>	<b>1,410</b>	<b>6%</b>	<b>11%</b>	<b>13,040</b>
<b>OVERALL TOTAL</b>		<b>1,782</b>	<b>2,840</b>	<b>7%</b>	<b>10%</b>	<b>27,181</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Grove Av. & Eucalyptus Av.  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	62	14	-48	-78%	15	43	28	185%
	Through	238	382	144	61%	336	709	373	111%
	Right	11	23	12	101%	4	13	9	212%
	<b>NB Total</b>	<b>312</b>	<b>419</b>	<b>107</b>	<b>34%</b>	<b>355</b>	<b>765</b>	<b>410</b>	<b>116%</b>
SOUTH BOUND	Left	15	211	196	1299%	12	65	53	443%
	Through	217	529	312	143%	220	379	159	72%
	Right	49	77	28	57%	32	162	130	402%
	<b>SB Total</b>	<b>281</b>	<b>817</b>	<b>536</b>	<b>190%</b>	<b>264</b>	<b>606</b>	<b>342</b>	<b>129%</b>
EAST BOUND	Left	24	45	21	84%	92	118	26	28%
	Through	37	86	49	133%	86	160	74	85%
	Right	14	5	-9	-63%	70	42	-28	-40%
	<b>EB Total</b>	<b>75</b>	<b>136</b>	<b>61</b>	<b>82%</b>	<b>249</b>	<b>320</b>	<b>71</b>	<b>29%</b>
WEST BOUND	Left	12	26	14	117%	5	21	16	304%
	Through	91	128	37	41%	20	237	217	1099%
	Right	12	123	111	885%	14	121	107	795%
	<b>WB Total</b>	<b>115</b>	<b>277</b>	<b>162</b>	<b>140%</b>	<b>38</b>	<b>379</b>	<b>341</b>	<b>885%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>783</b>	<b>1,649</b>	<b>865.5788</b>	<b>110%</b>	<b>906</b>	<b>2,070</b>	<b>1164</b>	<b>128%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	817	606			
North Leg	Outbound	550	948			
<b>North Leg</b>	<b>TOTAL</b>	<b>1,367</b>	<b>1,554</b>	<b>9%</b>	<b>10%</b>	<b>14,894</b>
South Leg	Inbound	419	765			
South Leg	Outbound	560	442			
<b>South Leg</b>	<b>TOTAL</b>	<b>979</b>	<b>1,207</b>	<b>8%</b>	<b>10%</b>	<b>11,780</b>
East Leg	Inbound	277	379			
East Leg	Outbound	320	238			
<b>East Leg</b>	<b>TOTAL</b>	<b>597</b>	<b>617</b>	<b>6%</b>	<b>7%</b>	<b>9,246</b>
West Leg	Inbound	136	320			
West Leg	Outbound	219	442			
<b>West Leg</b>	<b>TOTAL</b>	<b>355</b>	<b>762</b>	<b>8%</b>	<b>16%</b>	<b>4,639</b>
<b>OVERALL TOTAL</b>		<b>3,298</b>	<b>4,140</b>	<b>8%</b>	<b>10%</b>	<b>40,559</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Grove Av. & Merrill Av.  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	NB Total	0	0	0	#DIV/0!	0	0	0	#DIV/0!
SOUTH BOUND	Left	147	405	258	176%	173	243	70	41%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	96	156	60	62%	84	120	36	42%
	SB Total	243	561	318	131%	257	363	106	41%
EAST BOUND	Left	80	122	42	52%	179	359	180	100%
	Through	227	449	222	98%	478	587	109	23%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	EB Total	307	571	264	86%	658	946	288	44%
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	523	474	-49	-9%	281	420	139	49%
	Right	231	274	43	18%	168	401	233	139%
	WB Total	754	748	-6	-1%	449	821	372	83%
TOTAL ENTERING VOLUME		1,304	1,880	575.8586	44%	1,364	2,130	766	56%

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	561	363			
North Leg	Outbound	396	760			
<b>North Leg</b>	<b>TOTAL</b>	<b>957</b>	<b>1,123</b>	<b>8%</b>	<b>10%</b>	<b>11,780</b>
South Leg	Inbound	0	0			
South Leg	Outbound	0	0			
<b>South Leg</b>	<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>-</b>
East Leg	Inbound	748	821			
East Leg	Outbound	854	830			
<b>East Leg</b>	<b>TOTAL</b>	<b>1,602</b>	<b>1,651</b>	<b>10%</b>	<b>10%</b>	<b>15,732</b>
West Leg	Inbound	571	946			
West Leg	Outbound	630	540			
<b>West Leg</b>	<b>TOTAL</b>	<b>1,201</b>	<b>1,486</b>	<b>9%</b>	<b>11%</b>	<b>13,387</b>
<b>OVERALL TOTAL</b>		<b>3,760</b>	<b>4,260</b>	<b>9%</b>	<b>10%</b>	<b>40,899</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Walker Av. & Edison Av.  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	4	84	80	1918%	3	16	13	413%
	Through	19	243	224	1198%	20	55	35	171%
	Right	8	103	95	1220%	50	86	36	70%
	<b>NB Total</b>	<b>31</b>	<b>430</b>	<b>399</b>	<b>1301%</b>	<b>74</b>	<b>157</b>	<b>83</b>	<b>113%</b>
SOUTH BOUND	Left	26	67	41	158%	66	168	102	154%
	Through	18	36	18	104%	14	292	278	2059%
	Right	12	47	35	293%	10	74	64	649%
	<b>SB Total</b>	<b>56</b>	<b>150</b>	<b>94</b>	<b>169%</b>	<b>89</b>	<b>534</b>	<b>445</b>	<b>497%</b>
EAST BOUND	Left	17	62	45	261%	21	97	76	366%
	Through	239	881	642	269%	680	1,981	1,301	191%
	Right	9	28	19	199%	1	26	25	2399%
	<b>EB Total</b>	<b>265</b>	<b>971</b>	<b>706</b>	<b>266%</b>	<b>702</b>	<b>2,104</b>	<b>1,402</b>	<b>200%</b>
WEST BOUND	Left	115	196	81	70%	15	160	145	961%
	Through	408	1,331	923	226%	366	1,344	978	268%
	Right	144	302	158	110%	31	61	30	99%
	<b>WB Total</b>	<b>667</b>	<b>1,829</b>	<b>1,162</b>	<b>174%</b>	<b>411</b>	<b>1,565</b>	<b>1,154</b>	<b>280%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>1,019</b>	<b>3,380</b>	<b>2361.4484</b>	<b>232%</b>	<b>1,277</b>	<b>4,360</b>	<b>3083</b>	<b>241%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	150	534			
North Leg	Outbound	607	213			
<b>North Leg</b>	<b>TOTAL</b>	<b>757</b>	<b>747</b>	<b>7%</b>	<b>7%</b>	<b>10,506</b>
South Leg	Inbound	430	157			
South Leg	Outbound	260	478			
<b>South Leg</b>	<b>TOTAL</b>	<b>690</b>	<b>635</b>	<b>6%</b>	<b>5%</b>	<b>12,354</b>
East Leg	Inbound	1,829	1,565			
East Leg	Outbound	1,051	2,235			
<b>East Leg</b>	<b>TOTAL</b>	<b>2,880</b>	<b>3,800</b>	<b>6%</b>	<b>9%</b>	<b>44,576</b>
West Leg	Inbound	971	2,104			
West Leg	Outbound	1,462	1,434			
<b>West Leg</b>	<b>TOTAL</b>	<b>2,433</b>	<b>3,538</b>	<b>5%</b>	<b>8%</b>	<b>45,164</b>
<b>OVERALL TOTAL</b>		<b>6,760</b>	<b>8,720</b>	<b>6%</b>	<b>8%</b>	<b>112,600</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: RV  
 Date: 8/18/21

LOCATION: Walker Av. & Eucalyptus Av.  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	1	0	-1	-100%	1	0	-1	-100%
	Right	1	0	-1	-100%	1	0	-1	-100%
	<b>NB Total</b>	<b>3</b>	<b>0</b>	<b>-3</b>	<b>-100%</b>	<b>3</b>	<b>0</b>	<b>-3</b>	<b>-100%</b>
SOUTH BOUND	Left	1	102	101	10100%	1	140	139	13900%
	Through	1	0	-1	-100%	1	0	-1	-100%
	Right	1	308	307	30700%	1	110	109	10900%
	<b>SB Total</b>	<b>3</b>	<b>410</b>	<b>407</b>	<b>13567%</b>	<b>3</b>	<b>250</b>	<b>247</b>	<b>8233%</b>
EAST BOUND	Left	1	41	40	4000%	1	410	409	40900%
	Through	1	39	38	3800%	1	300	299	29900%
	Right	1	0	-1	-100%	1	0	-1	-100%
	<b>EB Total</b>	<b>3</b>	<b>80</b>	<b>77</b>	<b>2567%</b>	<b>3</b>	<b>710</b>	<b>707</b>	<b>23567%</b>
WEST BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	1	319	318	31800%	1	120	119	11900%
	Right	1	111	110	11000%	1	210	209	20900%
	<b>WB Total</b>	<b>3</b>	<b>430</b>	<b>427</b>	<b>14233%</b>	<b>3</b>	<b>330</b>	<b>327</b>	<b>10900%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>12</b>	<b>920</b>	<b>908</b>	<b>7567%</b>	<b>12</b>	<b>1,290</b>	<b>1278</b>	<b>10650%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	410	250			
North Leg	Outbound	152	620			
<b>North Leg</b>	<b>TOTAL</b>	<b>562</b>	<b>870</b>	<b>8%</b>	<b>12%</b>	<b>7,026</b>
South Leg	Inbound	0	0			
South Leg	Outbound	0	0			
<b>South Leg</b>	<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>-</b>
East Leg	Inbound	430	330			
East Leg	Outbound	141	440			
<b>East Leg</b>	<b>TOTAL</b>	<b>571</b>	<b>770</b>	<b>12%</b>	<b>16%</b>	<b>4,855</b>
West Leg	Inbound	80	710			
West Leg	Outbound	627	230			
<b>West Leg</b>	<b>TOTAL</b>	<b>707</b>	<b>940</b>	<b>12%</b>	<b>15%</b>	<b>6,089</b>
<b>OVERALL TOTAL</b>		<b>1,840</b>	<b>2,580</b>	<b>10%</b>	<b>14%</b>	<b>17,970</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Walker Av. & Merrill Av.  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	1	0	-1	-100%	1	0	-1	-100%
	Right	1	0	-1	-100%	1	0	-1	-100%
	<b>NB Total</b>	<b>3</b>	<b>0</b>	<b>-3</b>	<b>-100%</b>	<b>3</b>	<b>0</b>	<b>-3</b>	<b>-100%</b>
SOUTH BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	1	0	-1	-100%	1	0	-1	-100%
	Right	1	0	-1	-100%	1	0	-1	-100%
	<b>SB Total</b>	<b>3</b>	<b>0</b>	<b>-3</b>	<b>-100%</b>	<b>3</b>	<b>0</b>	<b>-3</b>	<b>-100%</b>
EAST BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	2	590	588	29400%	2	930	928	46400%
	Right	1	0	-1	-100%	1	0	-1	-100%
	<b>EB Total</b>	<b>4</b>	<b>590</b>	<b>586</b>	<b>14650%</b>	<b>4</b>	<b>930</b>	<b>926</b>	<b>23150%</b>
WEST BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	2	500	498	24900%	2	550	548	27400%
	Right	1	0	-1	-100%	1	0	-1	-100%
	<b>WB Total</b>	<b>4</b>	<b>500</b>	<b>496</b>	<b>12400%</b>	<b>4</b>	<b>550</b>	<b>546</b>	<b>13650%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>14</b>	<b>1,090</b>	<b>1076</b>	<b>7686%</b>	<b>14</b>	<b>1,480</b>	<b>1466</b>	<b>10471%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	0	0			
North Leg	Outbound	0	0			
<b>North Leg</b>	<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>-</b>
South Leg	Inbound	0	0			
South Leg	Outbound	0	0			
<b>South Leg</b>	<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>-</b>
East Leg	Inbound	500	550			
East Leg	Outbound	590	930			
<b>East Leg</b>	<b>TOTAL</b>	<b>1,090</b>	<b>1,480</b>	<b>7%</b>	<b>9%</b>	<b>16,211</b>
West Leg	Inbound	590	930			
West Leg	Outbound	500	550			
<b>West Leg</b>	<b>TOTAL</b>	<b>1,090</b>	<b>1,480</b>	<b>7%</b>	<b>9%</b>	<b>16,211</b>
<b>OVERALL TOTAL</b>		<b>2,180</b>	<b>2,960</b>	<b>7%</b>	<b>9%</b>	<b>32,422</b>

Z:\Shared\UcJobs\13600-14000\13900\13941\02\_LOS\Post Processing\[37 Walker\_Merrill-SEMI.xls]Output (3)

Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Vineyard Av. & Edison Av.  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	0	-1	-100%	1	22	21	2100%
	Through	1	0	-1	-100%	1	4	3	300%
	Right	1	0	-1	-100%	1	35	34	3400%
	<b>NB Total</b>	<b>3</b>	<b>0</b>	<b>-3</b>	<b>-100%</b>	<b>3</b>	<b>61</b>	<b>58</b>	<b>1933%</b>
SOUTH BOUND	Left	1	18	17	1700%	1	6	5	500%
	Through	1	3	2	200%	1	1	0	0%
	Right	1	30	29	2900%	1	4	3	300%
	<b>SB Total</b>	<b>3</b>	<b>51</b>	<b>48</b>	<b>1600%</b>	<b>3</b>	<b>11</b>	<b>8</b>	<b>267%</b>
EAST BOUND	Left	1	5	4	400%	1	31	30	3000%
	Through	2	1,322	1,320	66000%	2	2,589	2,587	129350%
	Right	1	23	22	2200%	1	28	27	2700%
	<b>EB Total</b>	<b>4</b>	<b>1,350</b>	<b>1,346</b>	<b>33650%</b>	<b>4</b>	<b>2,648</b>	<b>2,644</b>	<b>66100%</b>
WEST BOUND	Left	1	24	23	2300%	1	31	30	3000%
	Through	2	2,380	2,378	118900%	2	1,775	1,773	88650%
	Right	1	5	4	400%	1	35	34	3400%
	<b>WB Total</b>	<b>4</b>	<b>2,409</b>	<b>2,405</b>	<b>60125%</b>	<b>4</b>	<b>1,841</b>	<b>1,837</b>	<b>45925%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>14</b>	<b>3,810</b>	<b>3796</b>	<b>27114%</b>	<b>14</b>	<b>4,561</b>	<b>4547</b>	<b>32479%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	51	11			
North Leg	Outbound	10	70			
<b>North Leg</b>	<b>TOTAL</b>	<b>61</b>	<b>81</b>	<b>5%</b>	<b>7%</b>	<b>1,115</b>
South Leg	Inbound	0	61			
South Leg	Outbound	50	60			
<b>South Leg</b>	<b>TOTAL</b>	<b>50</b>	<b>121</b>	<b>3%</b>	<b>7%</b>	<b>1,674</b>
East Leg	Inbound	2,409	1,841			
East Leg	Outbound	1,340	2,630			
<b>East Leg</b>	<b>TOTAL</b>	<b>3,749</b>	<b>4,471</b>	<b>8%</b>	<b>10%</b>	<b>44,557</b>
West Leg	Inbound	1,350	2,648			
West Leg	Outbound	2,410	1,801			
<b>West Leg</b>	<b>TOTAL</b>	<b>3,760</b>	<b>4,449</b>	<b>9%</b>	<b>10%</b>	<b>43,861</b>
<b>OVERALL TOTAL</b>		<b>7,620</b>	<b>9,122</b>	<b>8%</b>	<b>10%</b>	<b>91,207</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Vineyard Av. & Merrill Av.  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	1	0	-1	-100%	1	0	-1	-100%
	Right	1	0	-1	-100%	1	0	-1	-100%
	<b>NB Total</b>	<b>3</b>	<b>0</b>	<b>-3</b>	<b>-100%</b>	<b>3</b>	<b>0</b>	<b>-3</b>	<b>-100%</b>
SOUTH BOUND	Left	1	203	202	20200%	1	327	326	32600%
	Through	1	0	-1	-100%	1	0	-1	-100%
	Right	1	177	176	17600%	1	266	265	26500%
	<b>SB Total</b>	<b>3</b>	<b>380</b>	<b>377</b>	<b>12567%</b>	<b>3</b>	<b>593</b>	<b>590</b>	<b>19667%</b>
EAST BOUND	Left	1	243	242	24200%	1	431	430	43000%
	Through	2	347	345	17250%	2	503	501	25050%
	Right	1	0	-1	-100%	1	0	-1	-100%
	<b>EB Total</b>	<b>4</b>	<b>590</b>	<b>586</b>	<b>14650%</b>	<b>4</b>	<b>934</b>	<b>930</b>	<b>23250%</b>
WEST BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	2	323	321	16050%	2	284	282	14100%
	Right	1	257	256	25600%	1	299	298	29800%
	<b>WB Total</b>	<b>4</b>	<b>580</b>	<b>576</b>	<b>14400%</b>	<b>4</b>	<b>583</b>	<b>579</b>	<b>14475%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>14</b>	<b>1,550</b>	<b>1536</b>	<b>10971%</b>	<b>14</b>	<b>2,110</b>	<b>2096</b>	<b>14971%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	380	593			
North Leg	Outbound	500	730			
<b>North Leg</b>	<b>TOTAL</b>	<b>880</b>	<b>1,323</b>	<b>7%</b>	<b>10%</b>	<b>13,329</b>
South Leg	Inbound	0	0			
South Leg	Outbound	0	0			
<b>South Leg</b>	<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>-</b>
East Leg	Inbound	580	583			
East Leg	Outbound	550	830			
<b>East Leg</b>	<b>TOTAL</b>	<b>1,130</b>	<b>1,413</b>	<b>6%</b>	<b>8%</b>	<b>17,822</b>
West Leg	Inbound	590	934			
West Leg	Outbound	500	550			
<b>West Leg</b>	<b>TOTAL</b>	<b>1,090</b>	<b>1,484</b>	<b>7%</b>	<b>9%</b>	<b>16,210</b>
<b>OVERALL TOTAL</b>		<b>3,100</b>	<b>4,220</b>	<b>7%</b>	<b>9%</b>	<b>47,361</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Hellman Av. & Edison Av.  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	55	54	5400%	1	54	53	5300%
	Through	1	10	9	900%	1	9	8	800%
	Right	1	46	45	4500%	1	97	96	9600%
	<b>NB Total</b>	<b>3</b>	<b>111</b>	<b>108</b>	<b>3600%</b>	<b>3</b>	<b>160</b>	<b>157</b>	<b>5233%</b>
SOUTH BOUND	Left	1	20	19	1900%	1	58	57	5700%
	Through	1	7	6	600%	1	10	9	900%
	Right	1	24	23	2300%	1	32	31	3100%
	<b>SB Total</b>	<b>3</b>	<b>51</b>	<b>48</b>	<b>1600%</b>	<b>3</b>	<b>100</b>	<b>97</b>	<b>3233%</b>
EAST BOUND	Left	1	32	31	3100%	1	27	26	2600%
	Through	2	1,275	1,273	63650%	2	2,575	2,573	128650%
	Right	1	52	51	5100%	1	49	48	4800%
	<b>EB Total</b>	<b>4</b>	<b>1,359</b>	<b>1,355</b>	<b>33875%</b>	<b>4</b>	<b>2,651</b>	<b>2,647</b>	<b>66175%</b>
WEST BOUND	Left	1	80	79	7900%	1	61	60	6000%
	Through	2	2,352	2,350	117500%	2	1,754	1,752	87600%
	Right	1	48	47	4700%	1	34	33	3300%
	<b>WB Total</b>	<b>4</b>	<b>2,480</b>	<b>2,476</b>	<b>61900%</b>	<b>4</b>	<b>1,849</b>	<b>1,845</b>	<b>46125%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>14</b>	<b>4,001</b>	<b>3987</b>	<b>28479%</b>	<b>14</b>	<b>4,760</b>	<b>4746</b>	<b>33900%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	51	100			
North Leg	Outbound	90	70			
<b>North Leg</b>	<b>TOTAL</b>	<b>141</b>	<b>170</b>	<b>6%</b>	<b>8%</b>	<b>2,252</b>
South Leg	Inbound	111	160			
South Leg	Outbound	139	120			
<b>South Leg</b>	<b>TOTAL</b>	<b>250</b>	<b>280</b>	<b>5%</b>	<b>5%</b>	<b>5,498</b>
East Leg	Inbound	2,480	1,849			
East Leg	Outbound	1,341	2,730			
<b>East Leg</b>	<b>TOTAL</b>	<b>3,821</b>	<b>4,579</b>	<b>8%</b>	<b>10%</b>	<b>46,694</b>
West Leg	Inbound	1,359	2,651			
West Leg	Outbound	2,431	1,840			
<b>West Leg</b>	<b>TOTAL</b>	<b>3,790</b>	<b>4,491</b>	<b>8%</b>	<b>10%</b>	<b>44,592</b>
<b>OVERALL TOTAL</b>		<b>8,002</b>	<b>9,520</b>	<b>8%</b>	<b>10%</b>	<b>99,036</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (Post-2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Archibald Avenue / Ontario Ranch Road  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	502	501	50100%	1	397	396	39600%
	Through	3	826	823	27433%	3	441	438	14600%
	Right	1	172	171	17100%	1	274	273	27300%
	<b>NB Total</b>	<b>5</b>	<b>1,500</b>	<b>1,495</b>	<b>29900%</b>	<b>5</b>	<b>1,112</b>	<b>1,107</b>	<b>22140%</b>
SOUTH BOUND	Left	1	70	69	6900%	1	278	277	27700%
	Through	3	287	284	9467%	3	822	819	27300%
	Right	1	203	202	20200%	1	403	402	40200%
	<b>SB Total</b>	<b>5</b>	<b>560</b>	<b>555</b>	<b>11100%</b>	<b>5</b>	<b>1,503</b>	<b>1,498</b>	<b>29960%</b>
EAST BOUND	Left	1	436	435	43500%	1	322	321	32100%
	Through	2	818	816	40800%	2	1,798	1,796	89800%
	Right	1	375	374	37400%	1	591	590	59000%
	<b>EB Total</b>	<b>4</b>	<b>1,629</b>	<b>1,625</b>	<b>40625%</b>	<b>4</b>	<b>2,711</b>	<b>2,707</b>	<b>67675%</b>
WEST BOUND	Left	1	257	256	25600%	1	288	287	28700%
	Through	2	1,635	1,633	81650%	2	1,270	1,268	63400%
	Right	1	299	298	29800%	1	157	156	15600%
	<b>WB Total</b>	<b>4</b>	<b>2,191</b>	<b>2,187</b>	<b>54675%</b>	<b>4</b>	<b>1,715</b>	<b>1,711</b>	<b>42775%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>18</b>	<b>5,880</b>	<b>5862</b>	<b>32567%</b>	<b>18</b>	<b>7,041</b>	<b>7023</b>	<b>39017%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	560	1,503			
North Leg	Outbound	1,561	920			
<b>North Leg</b>	<b>TOTAL</b>	<b>2,121</b>	<b>2,423</b>	<b>7%</b>	<b>8%</b>	<b>30,364</b>
South Leg	Inbound	1,500	1,112			
South Leg	Outbound	919	1,701			
<b>South Leg</b>	<b>TOTAL</b>	<b>2,419</b>	<b>2,813</b>	<b>7%</b>	<b>8%</b>	<b>33,655</b>
East Leg	Inbound	2,191	1,715			
East Leg	Outbound	1,060	2,350			
<b>East Leg</b>	<b>TOTAL</b>	<b>3,251</b>	<b>4,065</b>	<b>9%</b>	<b>11%</b>	<b>36,644</b>
West Leg	Inbound	1,629	2,711			
West Leg	Outbound	2,340	2,070			
<b>West Leg</b>	<b>TOTAL</b>	<b>3,969</b>	<b>4,781</b>	<b>8%</b>	<b>9%</b>	<b>50,661</b>
<b>OVERALL TOTAL</b>		<b>11,760</b>	<b>14,082</b>	<b>8%</b>	<b>9%</b>	<b>151,324</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (Post-2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Archibald Avenue / Eucalyptus Avenue  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	237	236	23600%	1	89	88	8800%
	Through	3	1,296	1,293	43100%	3	833	830	27667%
	Right	1	84	83	8300%	1	160	159	15900%
	<b>NB Total</b>	<b>5</b>	<b>1,617</b>	<b>1,612</b>	<b>32240%</b>	<b>5</b>	<b>1,082</b>	<b>1,077</b>	<b>21540%</b>
SOUTH BOUND	Left	1	60	59	5900%	1	184	183	18300%
	Through	3	695	692	23067%	3	1,412	1,409	46967%
	Right	1	169	168	16800%	1	102	101	10100%
	<b>SB Total</b>	<b>5</b>	<b>924</b>	<b>919</b>	<b>18380%</b>	<b>5</b>	<b>1,698</b>	<b>1,693</b>	<b>33860%</b>
EAST BOUND	Left	1	47	46	4600%	1	207	206	20600%
	Through	2	27	25	1250%	2	358	356	17800%
	Right	1	36	35	3500%	1	305	304	30400%
	<b>EB Total</b>	<b>4</b>	<b>110</b>	<b>106</b>	<b>2650%</b>	<b>4</b>	<b>870</b>	<b>866</b>	<b>21650%</b>
WEST BOUND	Left	1	122	121	12100%	1	107	106	10600%
	Through	2	266	264	13200%	2	70	68	3400%
	Right	1	162	161	16100%	1	73	72	7200%
	<b>WB Total</b>	<b>4</b>	<b>550</b>	<b>546</b>	<b>13650%</b>	<b>4</b>	<b>250</b>	<b>246</b>	<b>6150%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>18</b>	<b>3,201</b>	<b>3183</b>	<b>17683%</b>	<b>18</b>	<b>3,900</b>	<b>3882</b>	<b>21567%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	924	1,698			
North Leg	Outbound	1,505	1,113			
<b>North Leg</b>	<b>TOTAL</b>	<b>2,429</b>	<b>2,811</b>	<b>7%</b>	<b>8%</b>	<b>33,655</b>
South Leg	Inbound	1,617	1,082			
South Leg	Outbound	853	1,824			
<b>South Leg</b>	<b>TOTAL</b>	<b>2,470</b>	<b>2,906</b>	<b>7%</b>	<b>8%</b>	<b>34,275</b>
East Leg	Inbound	550	250			
East Leg	Outbound	171	702			
<b>East Leg</b>	<b>TOTAL</b>	<b>721</b>	<b>952</b>	<b>9%</b>	<b>12%</b>	<b>7,897</b>
West Leg	Inbound	110	870			
West Leg	Outbound	672	261			
<b>West Leg</b>	<b>TOTAL</b>	<b>782</b>	<b>1,131</b>	<b>13%</b>	<b>19%</b>	<b>6,096</b>
<b>OVERALL TOTAL</b>		<b>6,402</b>	<b>7,800</b>	<b>8%</b>	<b>10%</b>	<b>81,923</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (Post-2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Archibald Avenue / Merrill Avenue  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	481	480	48000%	1	270	269	26900%
	Through	3	1,206	1,203	40100%	3	1,021	1,018	33933%
	Right	1	0	-1	-100%	1	0	-1	-100%
	<b>NB Total</b>	<b>5</b>	<b>1,687</b>	<b>1,682</b>	<b>33640%</b>	<b>5</b>	<b>1,291</b>	<b>1,286</b>	<b>25720%</b>
SOUTH BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	3	889	886	29533%	3	1,488	1,485	49500%
	Right	1	129	128	12800%	1	70	69	6900%
	<b>SB Total</b>	<b>5</b>	<b>1,018</b>	<b>1,013</b>	<b>20260%</b>	<b>5</b>	<b>1,558</b>	<b>1,553</b>	<b>31060%</b>
EAST BOUND	Left	1	74	73	7300%	1	99	98	9800%
	Through	2	0	-2	-100%	2	0	-2	-100%
	Right	1	201	200	20000%	1	552	551	55100%
	<b>EB Total</b>	<b>4</b>	<b>275</b>	<b>271</b>	<b>6775%</b>	<b>4</b>	<b>651</b>	<b>647</b>	<b>16175%</b>
WEST BOUND	Left	1	0	-1	-100%	1	0	-1	-100%
	Through	2	0	-2	-100%	2	0	-2	-100%
	Right	1	0	-1	-100%	1	0	-1	-100%
	<b>WB Total</b>	<b>4</b>	<b>0</b>	<b>-4</b>	<b>-100%</b>	<b>4</b>	<b>0</b>	<b>-4</b>	<b>-100%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>18</b>	<b>2,980</b>	<b>2962</b>	<b>16456%</b>	<b>18</b>	<b>3,500</b>	<b>3482</b>	<b>19344%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,018	1,558			
North Leg	Outbound	1,280	1,120			
<b>North Leg</b>	<b>TOTAL</b>	<b>2,298</b>	<b>2,678</b>	<b>7%</b>	<b>8%</b>	<b>32,491</b>
South Leg	Inbound	1,687	1,291			
South Leg	Outbound	1,090	2,040			
<b>South Leg</b>	<b>TOTAL</b>	<b>2,777</b>	<b>3,331</b>	<b>7%</b>	<b>8%</b>	<b>39,403</b>
East Leg	Inbound	0	0			
East Leg	Outbound	0	0			
<b>East Leg</b>	<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>-</b>
West Leg	Inbound	275	651			
West Leg	Outbound	610	340			
<b>West Leg</b>	<b>TOTAL</b>	<b>885</b>	<b>991</b>	<b>7%</b>	<b>8%</b>	<b>12,604</b>
<b>OVERALL TOTAL</b>		<b>5,960</b>	<b>7,000</b>	<b>7%</b>	<b>8%</b>	<b>84,498</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Archibald Avenue / Limonite Avenue  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	149	148	14800%	1	131	130	13000%
	Through	3	1,085	1,082	36067%	3	1,129	1,126	37533%
	Right	1	316	315	31500%	1	461	460	46000%
	<b>NB Total</b>	<b>5</b>	<b>1,550</b>	<b>1,545</b>	<b>30900%</b>	<b>5</b>	<b>1,721</b>	<b>1,716</b>	<b>34320%</b>
SOUTH BOUND	Left	1	406	405	40500%	1	968	967	96700%
	Through	3	753	750	25000%	3	1,447	1,444	48133%
	Right	1	191	190	19000%	1	275	274	27400%
	<b>SB Total</b>	<b>5</b>	<b>1,350</b>	<b>1,345</b>	<b>26900%</b>	<b>5</b>	<b>2,690</b>	<b>2,685</b>	<b>53700%</b>
EAST BOUND	Left	1	209	208	20800%	1	208	207	20700%
	Through	2	548	546	27300%	2	765	763	38150%
	Right	1	113	112	11200%	1	127	126	12600%
	<b>EB Total</b>	<b>4</b>	<b>870</b>	<b>866</b>	<b>21650%</b>	<b>4</b>	<b>1,100</b>	<b>1,096</b>	<b>27400%</b>
WEST BOUND	Left	1	354	353	35300%	1	419	418	41800%
	Through	2	810	808	40400%	2	716	714	35700%
	Right	1	656	655	65500%	1	686	685	68500%
	<b>WB Total</b>	<b>4</b>	<b>1,820</b>	<b>1,816</b>	<b>45400%</b>	<b>4</b>	<b>1,821</b>	<b>1,817</b>	<b>45425%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>18</b>	<b>5,590</b>	<b>5572</b>	<b>30956%</b>	<b>18</b>	<b>7,332</b>	<b>7314</b>	<b>40633%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,350	2,690			
North Leg	Outbound	1,950	2,023			
<b>North Leg</b>	<b>TOTAL</b>	<b>3,300</b>	<b>4,713</b>	<b>8%</b>	<b>11%</b>	<b>43,045</b>
South Leg	Inbound	1,550	1,721			
South Leg	Outbound	1,220	1,993			
<b>South Leg</b>	<b>TOTAL</b>	<b>2,770</b>	<b>3,714</b>	<b>8%</b>	<b>11%</b>	<b>32,939</b>
East Leg	Inbound	1,820	1,821			
East Leg	Outbound	1,270	2,194			
<b>East Leg</b>	<b>TOTAL</b>	<b>3,090</b>	<b>4,015</b>	<b>8%</b>	<b>10%</b>	<b>40,353</b>
West Leg	Inbound	870	1,100			
West Leg	Outbound	1,150	1,122			
<b>West Leg</b>	<b>TOTAL</b>	<b>2,020</b>	<b>2,222</b>	<b>8%</b>	<b>9%</b>	<b>25,789</b>
<b>OVERALL TOTAL</b>		<b>11,180</b>	<b>14,664</b>	<b>8%</b>	<b>10%</b>	<b>142,126</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (Post-2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Turner Avenue & Ontario Ranch Road  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	1	5	4	400%	1	4	3	300%
	Through	3	2	-1	-33%	3	3	0	0%
	Right	1	3	2	200%	1	4	3	300%
	<b>NB Total</b>	<b>5</b>	<b>10</b>	<b>5</b>	<b>100%</b>	<b>5</b>	<b>11</b>	<b>6</b>	<b>120%</b>
SOUTH BOUND	Left	1	96	95	9500%	1	126	125	12500%
	Through	3	3	0	0%	3	2	-1	-33%
	Right	1	201	200	20000%	1	122	121	12100%
	<b>SB Total</b>	<b>5</b>	<b>300</b>	<b>295</b>	<b>5900%</b>	<b>5</b>	<b>250</b>	<b>245</b>	<b>4900%</b>
EAST BOUND	Left	1	95	94	9400%	1	185	184	18400%
	Through	2	962	960	48000%	2	2,140	2,138	106900%
	Right	1	3	2	200%	1	4	3	300%
	<b>EB Total</b>	<b>4</b>	<b>1,060</b>	<b>1,056</b>	<b>26400%</b>	<b>4</b>	<b>2,329</b>	<b>2,325</b>	<b>58125%</b>
WEST BOUND	Left	1	3	2	200%	1	3	2	200%
	Through	2	1,984	1,982	99100%	2	1,585	1,583	79150%
	Right	1	93	92	9200%	1	142	141	14100%
	<b>WB Total</b>	<b>4</b>	<b>2,080</b>	<b>2,076</b>	<b>51900%</b>	<b>4</b>	<b>1,730</b>	<b>1,726</b>	<b>43150%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>18</b>	<b>3,450</b>	<b>3432</b>	<b>19067%</b>	<b>18</b>	<b>4,320</b>	<b>4302</b>	<b>23900%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	300	250			
North Leg	Outbound	190	330			
<b>North Leg</b>	<b>TOTAL</b>	<b>490</b>	<b>580</b>	<b>7%</b>	<b>8%</b>	<b>7,188</b>
South Leg	Inbound	10	11			
South Leg	Outbound	9	9			
<b>South Leg</b>	<b>TOTAL</b>	<b>19</b>	<b>20</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>-</b>
East Leg	Inbound	2,080	1,730			
East Leg	Outbound	1,061	2,270			
<b>East Leg</b>	<b>TOTAL</b>	<b>3,141</b>	<b>4,000</b>	<b>9%</b>	<b>11%</b>	<b>35,119</b>
West Leg	Inbound	1,060	2,329			
West Leg	Outbound	2,190	1,711			
<b>West Leg</b>	<b>TOTAL</b>	<b>3,250</b>	<b>4,040</b>	<b>9%</b>	<b>11%</b>	<b>36,644</b>
<b>OVERALL TOTAL</b>		<b>6,900</b>	<b>8,640</b>	<b>9%</b>	<b>11%</b>	<b>78,951</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Haven Av. & Ontario Ranch Rd.  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	63	78	15	24%	29	81	52	183%
	Through	191	173	-18	-9%	89	245	156	174%
	Right	79	78	-1	-1%	23	48	25	105%
	<b>NB Total</b>	<b>333</b>	<b>329</b>	<b>-4</b>	<b>-1%</b>	<b>141</b>	<b>374</b>	<b>233</b>	<b>164%</b>
SOUTH BOUND	Left	119	324	205	172%	169	272	103	61%
	Through	58	130	72	125%	263	240	-23	-9%
	Right	69	234	165	241%	110	246	136	123%
	<b>SB Total</b>	<b>246</b>	<b>688</b>	<b>442</b>	<b>180%</b>	<b>542</b>	<b>758</b>	<b>216</b>	<b>40%</b>
EAST BOUND	Left	134	238	104	78%	119	333	214	181%
	Through	582	1,130	548	94%	850	1,790	940	111%
	Right	29	46	17	61%	67	80	13	19%
	<b>EB Total</b>	<b>744</b>	<b>1,414</b>	<b>670</b>	<b>90%</b>	<b>1,036</b>	<b>2,203</b>	<b>1,167</b>	<b>113%</b>
WEST BOUND	Left	21	28	7	31%	62	70	8	13%
	Through	845	1,690	845	100%	512	1,423	911	178%
	Right	82	120	38	46%	131	351	220	169%
	<b>WB Total</b>	<b>948</b>	<b>1,838</b>	<b>890</b>	<b>94%</b>	<b>705</b>	<b>1,844</b>	<b>1,139</b>	<b>162%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>2,271</b>	<b>4,269</b>	<b>1997.8068</b>	<b>88%</b>	<b>2,424</b>	<b>5,179</b>	<b>2755</b>	<b>114%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	688	758			
North Leg	Outbound	531	929			
<b>North Leg</b>	<b>TOTAL</b>	<b>1,219</b>	<b>1,687</b>	<b>6%</b>	<b>9%</b>	<b>19,199</b>
South Leg	Inbound	329	374			
South Leg	Outbound	204	390			
<b>South Leg</b>	<b>TOTAL</b>	<b>533</b>	<b>764</b>	<b>6%</b>	<b>9%</b>	<b>8,960</b>
East Leg	Inbound	1,838	1,844			
East Leg	Outbound	1,532	2,110			
<b>East Leg</b>	<b>TOTAL</b>	<b>3,370</b>	<b>3,954</b>	<b>9%</b>	<b>11%</b>	<b>37,038</b>
West Leg	Inbound	1,414	2,203			
West Leg	Outbound	2,002	1,750			
<b>West Leg</b>	<b>TOTAL</b>	<b>3,416</b>	<b>3,953</b>	<b>10%</b>	<b>11%</b>	<b>35,119</b>
<b>OVERALL TOTAL</b>		<b>8,538</b>	<b>10,358</b>	<b>9%</b>	<b>10%</b>	<b>100,316</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: Hamner Avenue / Ontario Ranch Road  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFFERENCE	% CHANGE
NORTH BOUND	Left	171	51	-120	-70%	202	45	-157	-78%
	Through	701	444	-257	-37%	387	143	-244	-63%
	Right	504	505	1	0%	242	123	-119	-49%
	<b>NB Total</b>	<b>1,375</b>	<b>1,000</b>	<b>-375</b>	<b>-27%</b>	<b>831</b>	<b>311</b>	<b>-520</b>	<b>-63%</b>
SOUTH BOUND	Left	154	358	204	132%	469	1,367	898	192%
	Through	208	54	-154	-74%	821	450	-371	-45%
	Right	82	57	-25	-31%	111	141	30	27%
	<b>SB Total</b>	<b>444</b>	<b>469</b>	<b>25</b>	<b>6%</b>	<b>1,401</b>	<b>1,958</b>	<b>557</b>	<b>40%</b>
EAST BOUND	Left	96	110	14	14%	91	106	15	17%
	Through	542	977	435	80%	766	1,230	464	61%
	Right	82	16	-66	-81%	273	82	-191	-70%
	<b>EB Total</b>	<b>720</b>	<b>1,103</b>	<b>383</b>	<b>53%</b>	<b>1,129</b>	<b>1,418</b>	<b>289</b>	<b>26%</b>
WEST BOUND	Left	275	130	-145	-53%	603	478	-125	-21%
	Through	790	1,011	221	28%	439	804	365	83%
	Right	203	547	344	170%	111	341	230	206%
	<b>WB Total</b>	<b>1,267</b>	<b>1,688</b>	<b>421</b>	<b>33%</b>	<b>1,153</b>	<b>1,623</b>	<b>470</b>	<b>41%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>3,807</b>	<b>4,260</b>	<b>452.6562</b>	<b>12%</b>	<b>4,515</b>	<b>5,310</b>	<b>795</b>	<b>18%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	469	1,958			
North Leg	Outbound	1,101	590			
<b>North Leg</b>	<b>TOTAL</b>	<b>1,570</b>	<b>2,548</b>	<b>6%</b>	<b>10%</b>	<b>26,252</b>
South Leg	Inbound	1,000	311			
South Leg	Outbound	200	1,010			
<b>South Leg</b>	<b>TOTAL</b>	<b>1,200</b>	<b>1,321</b>	<b>11%</b>	<b>12%</b>	<b>11,119</b>
East Leg	Inbound	1,688	1,623			
East Leg	Outbound	1,840	2,720			
<b>East Leg</b>	<b>TOTAL</b>	<b>3,528</b>	<b>4,343</b>	<b>11%</b>	<b>13%</b>	<b>32,449</b>
West Leg	Inbound	1,103	1,418			
West Leg	Outbound	1,119	990			
<b>West Leg</b>	<b>TOTAL</b>	<b>2,222</b>	<b>2,408</b>	<b>10%</b>	<b>11%</b>	<b>21,502</b>
<b>OVERALL TOTAL</b>		<b>8,520</b>	<b>10,620</b>	<b>9%</b>	<b>12%</b>	<b>91,322</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (Post-2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: I-15 Southbound Ramps / Cantu Galleano Ranch Road  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	<b>NB Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>
SOUTH BOUND	Left	323	335	12	4%	301	537	236	78%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	1,092	1,188	96	9%	977	908	-69	-7%
	<b>SB Total</b>	<b>1,415</b>	<b>1,523</b>	<b>108</b>	<b>8%</b>	<b>1,279</b>	<b>1,445</b>	<b>166</b>	<b>13%</b>
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	979	1,415	436	45%	1,062	1,643	581	55%
	Right	330	530	200	60%	510	510	0	0%
	<b>EB Total</b>	<b>1,309</b>	<b>1,945</b>	<b>636</b>	<b>49%</b>	<b>1,572</b>	<b>2,153</b>	<b>581</b>	<b>37%</b>
WEST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	531	732	201	38%	460	902	442	96%
	Right	182	220	38	21%	434	510	76	17%
	<b>WB Total</b>	<b>713</b>	<b>952</b>	<b>239</b>	<b>33%</b>	<b>895</b>	<b>1,412</b>	<b>517</b>	<b>58%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>3,437</b>	<b>4,420</b>	<b>982.5184</b>	<b>29%</b>	<b>3,745</b>	<b>5,010</b>	<b>1265</b>	<b>34%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	1,523	1,445			
North Leg	Outbound	220	510			
<b>North Leg</b>	<b>TOTAL</b>	<b>1,743</b>	<b>1,955</b>	<b>16%</b>	<b>18%</b>	<b>11,067</b>
South Leg	Inbound	0	0			
South Leg	Outbound	530	510			
<b>South Leg</b>	<b>TOTAL</b>	<b>530</b>	<b>510</b>	<b>9%</b>	<b>8%</b>	<b>6,223</b>
East Leg	Inbound	952	1,412			
East Leg	Outbound	1,750	2,180			
<b>East Leg</b>	<b>TOTAL</b>	<b>2,702</b>	<b>3,592</b>	<b>13%</b>	<b>17%</b>	<b>20,908</b>
West Leg	Inbound	1,945	2,153			
West Leg	Outbound	1,920	1,810			
<b>West Leg</b>	<b>TOTAL</b>	<b>3,865</b>	<b>3,963</b>	<b>12%</b>	<b>12%</b>	<b>32,449</b>
<b>OVERALL TOTAL</b>		<b>8,840</b>	<b>10,020</b>	<b>13%</b>	<b>14%</b>	<b>70,647</b>

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Project: Ontario Ranch Business Center  
 Scenario: Horizon Year (Post-2040)

Job #: 13941  
 Analyst: MT  
 Date: 8/18/21

LOCATION: I-15 Northbound Ramps / Cantu Galleano Ranch Road  
 FORECAST YEAR: 2040

INDIVIDUAL TURN VOLUME GROWTH REVIEW									
APPROACH	TURNING MOVEMENT	AM PEAK HOUR INPUT DATA				PM PEAK HOUR INPUT DATA			
		EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE	EXISTING COUNT	FUTURE VOLUME	DIFF-ERENCE	% CHANGE
NORTH BOUND	Left	253	325	72	29%	199	353	154	77%
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	300	255	-45	-15%	238	287	49	21%
	<b>NB Total</b>	<b>553</b>	<b>580</b>	<b>27</b>	<b>5%</b>	<b>437</b>	<b>640</b>	<b>203</b>	<b>46%</b>
SOUTH BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	<b>SB Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>
EAST BOUND	Left	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	Through	498	605	107	21%	661	923	262	40%
	Right	803	1,144	341	42%	735	1,285	550	75%
	<b>EB Total</b>	<b>1,302</b>	<b>1,749</b>	<b>447</b>	<b>34%</b>	<b>1,396</b>	<b>2,208</b>	<b>812</b>	<b>58%</b>
WEST BOUND	Left	366	386	20	5%	303	355	52	17%
	Through	460	625	165	36%	700	957	257	37%
	Right	0	0	0	#DIV/0!	0	0	0	#DIV/0!
	<b>WB Total</b>	<b>827</b>	<b>1,011</b>	<b>184</b>	<b>22%</b>	<b>1,003</b>	<b>1,312</b>	<b>309</b>	<b>31%</b>
<b>TOTAL ENTERING VOLUME</b>		<b>2,681</b>	<b>3,340</b>	<b>658.8892</b>	<b>25%</b>	<b>2,836</b>	<b>4,160</b>	<b>1324</b>	<b>47%</b>

FORECAST PEAK HOUR TO ADT COMPARISON						
		VOLUMES		PERCENT OF ADT		ADT
		AM	PM	AM	PM	
North Leg	Inbound	0	0			
North Leg	Outbound	0	0			
<b>North Leg</b>	<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>#DIV/0!</b>	<b>#DIV/0!</b>	<b>-</b>
South Leg	Inbound	580	640			
South Leg	Outbound	1,530	1,640			
<b>South Leg</b>	<b>TOTAL</b>	<b>2,110</b>	<b>2,280</b>	<b>13%</b>	<b>14%</b>	<b>15,778</b>
East Leg	Inbound	1,011	1,312			
East Leg	Outbound	860	1,210			
<b>East Leg</b>	<b>TOTAL</b>	<b>1,871</b>	<b>2,522</b>	<b>19%</b>	<b>26%</b>	<b>9,816</b>
West Leg	Inbound	1,749	2,208			
West Leg	Outbound	950	1,310			
<b>West Leg</b>	<b>TOTAL</b>	<b>2,699</b>	<b>3,518</b>	<b>13%</b>	<b>17%</b>	<b>20,908</b>
<b>OVERALL TOTAL</b>		<b>6,680</b>	<b>8,320</b>	<b>14%</b>	<b>18%</b>	<b>46,502</b>

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**APPENDIX 5.1:**

**E+P CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**

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**Volume Development  
AM Peak Hour**

<b>1: SR-60 WB Ramps &amp; Euclid Av.</b>													
	PHF:	0.939		7:15						Count Date:	1/30/2019		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	355	939	0	0	937	488	0	0	0	623	6	424	3,773
<b>2: SR-60 EB Ramps &amp; Euclid Av.</b>													
	PHF:	0.953		7:30						Count Date:	1/30/2019		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	875	690	378	1,253	0	420	2	335	0	0	0	3,952
<b>3: Euclid Av. &amp; Walnut Av.</b>													
	PHF:	0.954		7:15						Count Date:	1/30/2019		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	139	1,186	50	165	1,239	65	118	300	117	73	319	212	3,984
<b>4: Euclid Av. &amp; Riverside Dr</b>													
	PHF:	0.946		7:30						Count Date:	1/22/2019		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	74	965	170	191	1,048	168	159	323	54	195	507	120	3,974
<b>5: Euclid Av. &amp; Chino Av.</b>													
	PHF:	0.941		7:15						Count Date:	1/24/2019		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	52	1,049	142	61	1,120	101	108	172	40	74	157	53	3,128
<b>6: Euclid Av. &amp; Schaefer Av.</b>													
	PHF:	0.933		7:15						Count Date:	1/22/2019		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	113	1,070	39	32	1,026	134	159	75	62	146	184	11	3,051
<b>7: Euclid Av. &amp; Edison Av.</b>													
	PHF:	0.956		7:15						Count Date:	1/23/2019		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	235	926	41	69	908	184	162	247	123	34	433	65	3,426
<b>8: Euclid Av. &amp; Eucalyptus Av.</b>													
	PHF:	0.976		7:15						Count Date:	1/22/2019		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	186	1,115	13	83	1,046	44	69	28	156	33	158	54	2,985
<b>9: Euclid Av. &amp; Merrill Av.</b>													
	PHF:	0.965		7:15						Count Date:	1/22/2019		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	11	1,061	187	172	1,020	42	4	8	17	243	49	249	3,063
<b>10: Sultana Av. &amp; Eucalyptus Av.</b>													
	PHF:									Count Date:			
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	5	0	11	0	0	0	0	109	16	27	260	0	428
<b>11: Sultana Av. &amp; Driveway 1</b>													
	PHF:									Count Date:			
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	13	10	7	36	0	0	0	0	3	0	2	71
<b>12: Sultana Av. &amp; Driveway 2</b>													
	PHF:									Count Date:			
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	22	11	5	34	0	0	0	0	3	0	2	77
<b>13: Sultana Av. &amp; Driveway 3</b>													
	PHF:									Count Date:			
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	31	8	7	30	0	0	0	0	2	0	2	80
<b>14: Sultana Av. &amp; Driveway 4</b>													
	PHF:									Count Date:			

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	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	0	37	4	5	26	0	0	0	0	1	0	2	75
<b>15: Sultana Av. &amp; Driveway 5</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	39	8	5	22	0	0	0	0	2	0	2	78
<b>16: Sultana Av. &amp; Driveway 6</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	46	12	6	18	0	0	0	0	4	0	2	88
<b>17: Sultana Av. &amp; Driveway 7</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	56	2	6	16	0	0	0	0	0	0	2	82
<b>18: Sultana Av. &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	5	0	12	41	336	0	0	609	17	1,020
<b>19: Driveway 8 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	2	0	1	2	338	0	0	625	6	974
<b>20: Driveway 9 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	3	0	5	0	0	0	0	108	11	17	284	0	428
<b>21: Driveway 10 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	3	0	4	0	0	0	0	101	12	16	298	0	434
<b>22: Driveway 11 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	2	0	1	2	338	0	0	630	6	979
<b>23: Campus Av. &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	15	0	4	0	0	0	0	78	28	14	299	0	438
<b>24: Campus Av. &amp; Driveway 12</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	12	17	0	0	36	5	2	0	3	0	0	0	75
<b>25: Campus Av. &amp; Driveway 13</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	11	27	0	0	34	5	2	0	3	0	0	0	82
<b>26: Campus Av. &amp; Driveway 14</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	10	37	0	0	31	5	2	0	3	0	0	0	88
<b>27: Campus Av. &amp; Driveway 15</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	6	46	0	0	31	4	1	0	2	0	0	0	90

**Volume Development  
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<b>28: Campus Av. &amp; Driveway 16</b>													
PHF: _____													
Count Date: _____													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	8	50	0	0	27	5	2	0	2	0	0	0	94
<b>29: Campus Av. &amp; Driveway 17</b>													
PHF: _____													
Count Date: _____													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	12	56	0	0	23	6	2	0	4	0	0	0	103
<b>30: Campus Av. &amp; Driveway 18</b>													
PHF: _____													
Count Date: _____													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	4	68	0	0	23	4	1	0	1	0	0	0	101
<b>31: Campus Av. &amp; Merrill Av.</b>													
PHF: _____													
Count Date: _____													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	0	0	0	12	0	12	29	311	0	0	624	42	1,030
<b>32: Bon View Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.925</u> 7:15													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	17	57	3	30	57	51	19	64	3	1	246	20	566
<b>33: Bon View Av. &amp; Merrill Av.</b>													
PHF: <u>0.938</u> 7:15													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	0	0	0	24	0	37	21	302	0	0	630	56	1,070
<b>34: Grove Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.912</u> 7:15													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	62	238	11	15	217	68	29	49	14	12	135	12	863
<b>35: Grove Av. &amp; Merrill Av.</b>													
PHF: <u>0.972</u> 7:45													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	0	0	0	147	0	96	80	246	0	0	590	231	1,390
<b>36: Walker Av. &amp; Edison Av.</b>													
PHF: <u>0.977</u> 7:30													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	4	19	20	26	18	12	17	239	9	159	408	144	1,075
<b>37: Walker Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.824</u> 7:30AM													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	0	0	0	126	0	82	22	47	0	0	80	23	381
<b>38: Walker Av./Flight Av. &amp; Merrill Av.</b>													
PHF: <u>0.970</u> 7:30													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	178	0	98	0	0	0	0	275	97	105	593	0	1,347
<b>39: Baker Av./Van Vliet Av. &amp; Merrill Av.</b>													
PHF: <u>0.906</u> 7:30													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	14	0	26	0	0	0	0	343	29	25	702	0	1,139
<b>40: Vineyard Av. &amp; Edison Av.</b>													
PHF: <u>0.920</u>													
Count Date: _____													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	0	0	0	0	0	0	0	12	0	0	44	0	56
<b>41: Vineyard Av./Hellman Av. &amp; Merrill Av.</b>													
PHF: <u>0.934</u> 7:45													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>



**Volume Development  
AM Peak Hour**

E+P (PCE): 0 0 0 0 0 0 0 377 0 0 713 0 1,090

**42: Carpenter Av. & Merrill Av.**

PHF: 0.940 7:30

Count Date: 1/30/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	20	0	110	118	0	10	9	319	25	182	667	42	1,501

**43: Hellman Av. & Edison Av.**

PHF: 0.920

Count Date: \_\_\_\_\_

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	0	0	0	0	0	0	0	12	0	0	44	0	56

**44: Archibald Av. & Edison Av./Ontario Ranch Rd.**

PHF: 0.973 7:00

Count Date: 1/22/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	163	971	383	69	383	103	25	209	41	365	507	138	3,357

**45: Archibald Av. & Eucalyptus Av.**

PHF: 0.934 7:00

Count Date: 1/22/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	0	1,502	9	25	763	0	0	0	0	11	0	16	2,326

**46: Archibald Av. & Merrill Av.**

PHF: 0.970 7:00

Count Date: 1/22/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	459	1,141	40	41	498	241	192	21	103	75	45	125	2,978

**47: Archibald Av. & Limonite Av.**

PHF: 0.959 7:00

Count Date: 1/22/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	0	826	288	199	476	0	0	0	0	283	0	834	2,906

**48: Turner Av. & Edison Av./Ontario Ranch Rd.**

PHF: 0.902 7:00

Count Date: 1/30/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	58	24	37	34	16	60	28	564	34	43	1,071	18	1,988

**49: Haven Av. & Ontario Ranch Rd.**

PHF: 0.938 7:00

Count Date: 2/6/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	63	191	79	119	58	71	135	596	29	21	896	82	2,339

**50: Hamner Av. & Ontario Ranch Rd./Cantu-Galleano Ranch Rd.**

PHF: 0.882 7:00

Count Date: 1/30/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	171	701	504	154	208	84	97	556	82	275	839	203	3,873

**51: I-215 SB Ramps & Cantu-Galleano Ranch Rd.**

PHF: 0.896 7:00

Count Date: 1/30/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	0	0	0	323	0	1,139	0	993	330	0	533	182	3,500

**52: I-215 NB Ramps & Cantu-Galleano Ranch Rd.**

PHF: 0.914 7:00

Count Date: 1/30/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	253	0	300	0	0	0	0	499	816	366	462	0	2,697

**Volume Development  
PM Peak Hour**

<b>1: SR-60 WB Ramps &amp; Euclid Av.</b>													
	PHF:	<u>0.962</u>		4:30						Count Date:	<u>1/30/2019</u>		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	279	1,077	0	0	1,001	492	0	0	0	610	6	407	3,873
<b>2: SR-60 EB Ramps &amp; Euclid Av.</b>													
	PHF:	<u>0.977</u>		4:30						Count Date:	<u>1/30/2019</u>		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	938	604	375	1,246	0	416	3	331	0	0	0	3,913
<b>3: Euclid Av. &amp; Walnut Av.</b>													
	PHF:	<u>0.941</u>		4:45						Count Date:	<u>1/30/2019</u>		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	200	1,273	77	279	1,128	155	107	370	139	69	370	140	4,308
<b>4: Euclid Av. &amp; Riverside Dr</b>													
	PHF:	<u>0.958</u>		5:00						Count Date:	<u>1/22/2019</u>		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	73	1,088	253	147	942	203	151	458	75	185	409	64	4,047
<b>5: Euclid Av. &amp; Chino Av.</b>													
	PHF:	<u>0.930</u>		4:45						Count Date:	<u>1/24/2019</u>		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	44	1,308	241	26	1,066	76	96	284	49	78	112	9	3,392
<b>6: Euclid Av. &amp; Schaefer Av.</b>													
	PHF:	<u>0.986</u>		4:45						Count Date:	<u>1/22/2019</u>		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	92	1,278	88	31	1,085	122	291	287	186	79	67	25	3,629
<b>7: Euclid Av. &amp; Edison Av.</b>													
	PHF:	<u>0.950</u>		4:45						Count Date:	<u>1/23/2019</u>		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	178	1,166	75	90	1,165	192	275	481	299	41	262	35	4,258
<b>8: Euclid Av. &amp; Eucalyptus Av.</b>													
	PHF:	<u>0.890</u>		4:45						Count Date:	<u>1/22/2019</u>		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	112	1,243	19	72	1,304	68	38	164	210	8	23	76	3,337
<b>9: Euclid Av. &amp; Merrill Av.</b>													
	PHF:	<u>0.905</u>		4:30						Count Date:	<u>1/22/2019</u>		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	4	1,181	259	291	1,230	1	11	30	12	225	2	181	3,430
<b>10: Sultana Av. &amp; Eucalyptus Av.</b>													
	PHF:	<u>0.905</u>		4:30						Count Date:	<u>1/22/2019</u>		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	19	0	31	0	0	0	0	257	6	14	126	0	453
<b>11: Sultana Av. &amp; Driveway 1</b>													
	PHF:	<u>0.905</u>		4:30						Count Date:	<u>1/22/2019</u>		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	41	4	3	18	0	0	0	0	10	0	8	84
<b>12: Sultana Av. &amp; Driveway 2</b>													
	PHF:	<u>0.905</u>		4:30						Count Date:	<u>1/22/2019</u>		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	39	4	2	26	0	0	0	0	11	0	6	88
<b>13: Sultana Av. &amp; Driveway 3</b>													
	PHF:	<u>0.905</u>		4:30						Count Date:	<u>1/22/2019</u>		
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	35	3	3	34	0	0	0	0	8	0	8	91
<b>14: Sultana Av. &amp; Driveway 4</b>													
	PHF:	<u>0.905</u>		4:30						Count Date:	<u>1/22/2019</u>		

**Volume Development  
PM Peak Hour**

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	0	31	1	2	40	0	0	0	0	4	0	6	84
<b>15: Sultana Av. &amp; Driveway 5</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	27	3	2	42	0	0	0	0	8	0	6	88
<b>16: Sultana Av. &amp; Driveway 6</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	23	5	2	48	0	0	0	0	13	0	7	98
<b>17: Sultana Av. &amp; Driveway 7</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	21	1	2	59	0	0	0	0	2	0	7	92
<b>18: Sultana Av. &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	18	0	42	15	712	0	0	403	6	1,196
<b>19: Driveway 8 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	6	0	2	1	729	0	0	407	2	1,147
<b>20: Driveway 9 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	12	0	19	0	0	0	0	284	4	7	127	0	453
<b>21: Driveway 10 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	13	0	18	0	0	0	0	298	5	6	121	0	461
<b>22: Driveway 11 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	6	0	2	1	735	0	0	407	2	1,153
<b>23: Campus Av. &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	32	0	15	0	0	0	0	298	19	5	95	0	464
<b>24: Campus Av. &amp; Driveway 12</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	4	41	0	0	22	2	6	0	13	0	0	0	88
<b>25: Campus Av. &amp; Driveway 13</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	4	39	0	0	32	2	6	0	11	0	0	0	94
<b>26: Campus Av. &amp; Driveway 14</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	4	37	0	0	41	2	6	0	11	0	0	0	101
<b>27: Campus Av. &amp; Driveway 15</b>													
PHF: _____ Count Date: _____													
E+P (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	2	37	0	0	50	1	4	0	7	0	0	0	101

Volume Development  
PM Peak Hour

<b>28: Campus Av. &amp; Driveway 16</b>													
PHF: _____													
Count Date: _____													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	3	33	0	0	55	2	6	0	8	0	0	0	107
<b>29: Campus Av. &amp; Driveway 17</b>													
PHF: _____													
Count Date: _____													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	5	29	0	0	61	2	7	0	13	0	0	0	117
<b>30: Campus Av. &amp; Driveway 18</b>													
PHF: _____													
Count Date: _____													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	1	29	0	0	72	2	4	0	4	0	0	0	112
<b>31: Campus Av. &amp; Merrill Av.</b>													
PHF: _____													
Count Date: _____													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	0	0	0	46	0	30	15	726	0	0	379	16	1,212
<b>32: Bon View Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.866</u> 4:45													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	5	97	7	21	65	15	18	294	4	2	85	9	621
<b>33: Bon View Av. &amp; Merrill Av.</b>													
PHF: <u>0.938</u> 4:30													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	0	0	0	38	0	32	81	691	0	0	363	28	1,234
<b>34: Grove Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.897</u> 4:45													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	15	336	4	12	220	39	113	136	70	5	37	14	1,001
<b>35: Grove Av. &amp; Merrill Av.</b>													
PHF: <u>0.959</u> 4:30													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	0	0	0	173	0	84	179	550	0	0	306	168	1,461
<b>36: Walker Av. &amp; Edison Av.</b>													
PHF: <u>0.951</u> 4:30													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	3	20	100	66	14	10	21	680	1	32	366	31	1,344
<b>37: Walker Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.915</u> 4:15pm													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	0	0	0	24	0	22	111	85	0	0	39	33	314
<b>38: Walker Av./Flight Av. &amp; Merrill Av.</b>													
PHF: <u>0.913</u> 4:30													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	107	0	120	0	0	0	0	600	116	86	353	0	1,381
<b>39: Baker Av./Van Vliet Av. &amp; Merrill Av.</b>													
PHF: <u>0.882</u> 5:00													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	12	0	13	0	0	0	0	741	9	9	407	0	1,192
<b>40: Vineyard Av. &amp; Edison Av.</b>													
PHF: <u>0.920</u>													
Count Date: _____													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
E+P (PCE):	0	0	0	0	0	0	0	50	0	0	17	0	67
<b>41: Vineyard Av./Hellman Av. &amp; Merrill Av.</b>													
PHF: <u>0.903</u> 5:00													
Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>

Volume Development  
PM Peak Hour

E+P (PCE): 0 0 0 0 0 0 0 760 0 0 420 0 1,180

42: Carpenter Av. & Merrill Av.

PHF: 0.902 4:30

Count Date: 1/30/2019

E+P (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	33	4	103	54	5	1	4	728	21	26	370	7	1,358

43: Hellman Av. & Edison Av.

PHF: 0.920

Count Date:

E+P (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	50	0	0	17	0	67

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

PHF: 0.970 5:00

Count Date: 1/22/2019

E+P (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	73	548	319	144	794	78	92	599	125	291	223	73	3,359

45: Archibald Av. & Eucalyptus Av.

PHF: 0.938 5:00

Count Date: 1/22/2019

E+P (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	930	1	10	1,200	0	0	0	0	2	0	10	2,154

46: Archibald Av. & Merrill Av.

PHF: 0.973 4:45

Count Date: 1/22/2019

E+P (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	134	581	42	74	977	179	263	71	453	45	24	53	2,896

47: Archibald Av. & Limonite Av.

PHF: 0.983 4:45

Count Date: 1/22/2019

E+P (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	540	353	601	873	0	0	0	0	320	0	262	2,949

48: Turner Av. & Edison Av./Ontario Ranch Rd.

PHF: 0.905 4:30

Count Date: 1/30/2019

E+P (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	26	7	40	28	7	22	45	1,108	40	32	610	13	1,977

49: Haven Av. & Ontario Ranch Rd.

PHF: 0.955 5:00

Count Date: 2/6/2019

E+P (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	29	89	23	169	263	111	121	906	67	62	531	131	2,502

50: Hamner Av. & Ontario Ranch Rd./Cantu-Galleano Ranch Rd.

PHF: 0.960 4:45

Count Date: 1/30/2019

E+P (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	202	387	242	469	821	112	93	820	273	603	458	111	4,591

51: I-215 SB Ramps & Cantu-Galleano Ranch Rd.

PHF: 0.972 5:00

Count Date: 1/30/2019

E+P (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	301	0	995	0	1,116	510	0	461	434	3,818

52: I-215 NB Ramps & Cantu-Galleano Ranch Rd.

PHF: 0.950 5:00

Count Date: 1/30/2019

E+P (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	199	0	238	0	0	0	0	663	787	303	701	0	2,891

Timings  
1: Euclid Av. (SR-83) & SR-60 WB Ramps

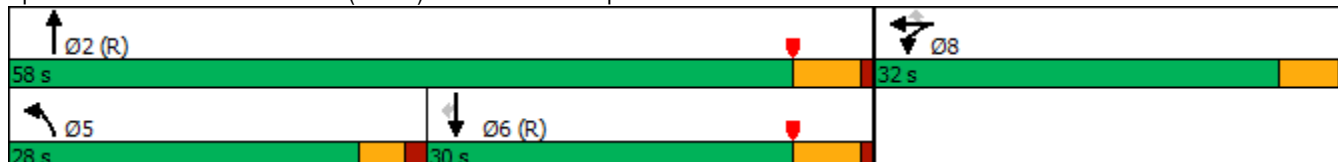


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	623	6	424	355	939	937	488
Future Volume (vph)	623	6	424	355	939	937	488
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	10.0	10.0	10.0
Minimum Split (s)	11.0	11.0	11.0	9.5	22.5	22.5	22.5
Total Split (s)	32.0	32.0	32.0	28.0	58.0	30.0	30.0
Total Split (%)	35.6%	35.6%	35.6%	31.1%	64.4%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.5	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	24.1	24.1	24.1	21.5	55.4	29.4	29.4
Actuated g/C Ratio	0.27	0.27	0.27	0.24	0.62	0.33	0.33
v/c Ratio	0.84	0.86	0.71	0.88	0.45	0.84	0.59
Control Delay	47.9	49.6	28.2	39.1	18.9	38.6	5.7
Queue Delay	0.0	0.0	0.0	0.0	1.1	0.0	0.0
Total Delay	47.9	49.6	28.2	39.1	20.0	38.6	5.7
LOS	D	D	C	D	B	D	A
Approach Delay		42.3			25.2	27.3	
Approach LOS		D			C	C	

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 63 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.88  
 Intersection Signal Delay: 30.8  
 Intersection LOS: C  
 Intersection Capacity Utilization 98.1%  
 ICU Level of Service F  
 Analysis Period (min) 15

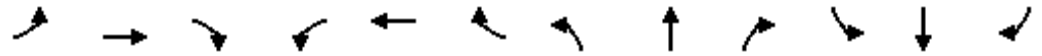
Splits and Phases: 1: Euclid Av. (SR-83) & SR-60 WB Ramps



HCM 6th Signalized Intersection Summary  
 1: Euclid Av. (SR-83) & SR-60 WB Ramps

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↔	↗	↖	↕			↕	↗
Traffic Volume (veh/h)	0	0	0	623	6	424	355	939	0	0	937	488
Future Volume (veh/h)	0	0	0	623	6	424	355	939	0	0	937	488
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No		No			
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				738	0	157	378	999	0	0	997	291
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				842	0	375	404	2349	0	0	1362	608
Arrive On Green				0.23	0.00	0.23	0.45	1.00	0.00	0.00	0.38	0.38
Sat Flow, veh/h				3619	0	1610	1810	3705	0	0	3705	1610
Grp Volume(v), veh/h				738	0	157	378	999	0	0	997	291
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1810	1805	0	0	1805	1610
Q Serve(g_s), s				17.7	0.0	7.5	17.9	0.0	0.0	0.0	21.4	12.4
Cycle Q Clear(g_c), s				17.7	0.0	7.5	17.9	0.0	0.0	0.0	21.4	12.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				842	0	375	404	2349	0	0	1362	608
V/C Ratio(X)				0.88	0.00	0.42	0.94	0.43	0.00	0.00	0.73	0.48
Avail Cap(c_a), veh/h				1086	0	483	472	2349	0	0	1362	608
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.50	0.50	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.3	0.0	29.4	24.3	0.0	0.0	0.0	24.1	21.3
Incr Delay (d2), s/veh				5.7	0.0	0.3	13.8	0.3	0.0	0.0	3.5	2.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.9	0.0	2.7	6.6	0.1	0.0	0.0	9.1	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				38.9	0.0	29.6	38.1	0.3	0.0	0.0	27.6	24.0
LnGrp LOS				D	A	C	D	A	A	A	C	C
Approach Vol, veh/h					895			1377			1288	
Approach Delay, s/veh					37.3			10.7			26.8	
Approach LOS					D			B			C	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		64.1			24.6	39.5		25.9				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.0				
Max Green Setting (Gmax), s		52.5			23.5	24.5		27.0				
Max Q Clear Time (g_c+I1), s		2.0			19.9	23.4		19.7				
Green Ext Time (p_c), s		12.7			0.2	0.9		1.2				

Intersection Summary

HCM 6th Ctrl Delay	23.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

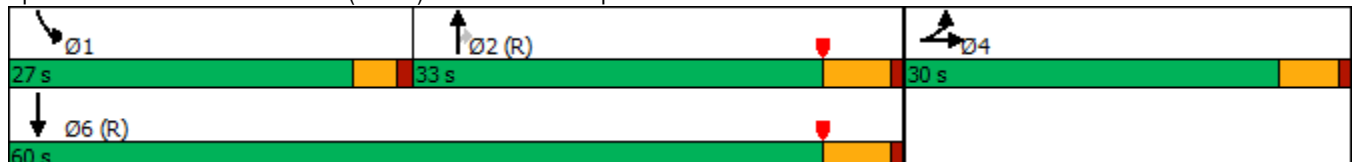


Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	420	2	875	690	378	1253
Future Volume (vph)	420	2	875	690	378	1253
Turn Type	Split	NA	NA	Perm	Prot	NA
Protected Phases	4	4	2		1	6
Permitted Phases				2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0	10.0	5.0	10.0
Minimum Split (s)	11.0	11.0	22.5	22.5	9.0	22.5
Total Split (s)	30.0	30.0	33.0	33.0	27.0	60.0
Total Split (%)	33.3%	33.3%	36.7%	36.7%	30.0%	66.7%
Yellow Time (s)	4.0	4.0	4.5	4.5	3.0	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)	23.2	23.2	30.5	30.5	21.8	56.3
Actuated g/C Ratio	0.26	0.26	0.34	0.34	0.24	0.63
v/c Ratio	0.90	0.90	0.75	0.77	0.91	0.58
Control Delay	57.2	51.7	32.3	10.9	54.3	5.1
Queue Delay	1.8	1.7	0.0	0.0	0.0	0.5
Total Delay	59.0	53.3	32.3	10.9	54.3	5.6
LOS	E	D	C	B	D	A
Approach Delay		56.2	22.9			16.9
Approach LOS		E	C			B

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 26.8  
 Intersection LOS: C  
 Intersection Capacity Utilization 98.1%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 2: Euclid Av. (SR-83) & SR-60 EB Ramps





HCM 6th Signalized Intersection Summary  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	420	2	335	0	0	0	0	875	690	378	1253	0
Future Volume (veh/h)	420	2	335	0	0	0	0	875	690	378	1253	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	371	101	298				0	921	527	398	1319	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	471	110	325				0	1234	536	429	2250	0
Arrive On Green	0.26	0.26	0.26				0.00	0.34	0.34	0.31	0.83	0.00
Sat Flow, veh/h	1810	424	1251				0	3705	1567	1810	3705	0
Grp Volume(v), veh/h	371	0	399				0	921	527	398	1319	0
Grp Sat Flow(s),veh/h/ln	1810	0	1675				0	1805	1567	1810	1805	0
Q Serve(g_s), s	17.2	0.0	20.8				0.0	20.3	30.0	19.2	11.0	0.0
Cycle Q Clear(g_c), s	17.2	0.0	20.8				0.0	20.3	30.0	19.2	11.0	0.0
Prop In Lane	1.00		0.75				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	471	0	436				0	1234	536	429	2250	0
V/C Ratio(X)	0.79	0.00	0.92				0.00	0.75	0.98	0.93	0.59	0.00
Avail Cap(c_a), veh/h	503	0	465				0	1234	536	462	2250	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.75	0.75	0.42	0.42	0.00
Uniform Delay (d), s/veh	31.0	0.0	32.3				0.0	26.2	29.4	30.1	3.8	0.0
Incr Delay (d2), s/veh	6.9	0.0	21.2				0.0	3.1	29.9	12.3	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	0.0	10.4				0.0	8.6	14.9	8.6	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	0.0	53.6				0.0	29.3	59.3	42.4	4.3	0.0
LnGrp LOS	D	A	D				A	C	E	D	A	A
Approach Vol, veh/h		770						1448			1717	
Approach Delay, s/veh		46.0						40.2			13.2	
Approach LOS		D						D			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	25.3	36.3	28.4	61.6								
Change Period (Y+Rc), s	4.0	5.5	5.0	5.5								
Max Green Setting (Gmax), s	23.0	27.5	25.0	54.5								
Max Q Clear Time (g_c+I1), s	21.2	32.0	22.8	13.0								
Green Ext Time (p_c), s	0.1	0.0	0.6	18.2								

Intersection Summary

HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
3: Euclid Av. (SR-83) & Walnut Av.

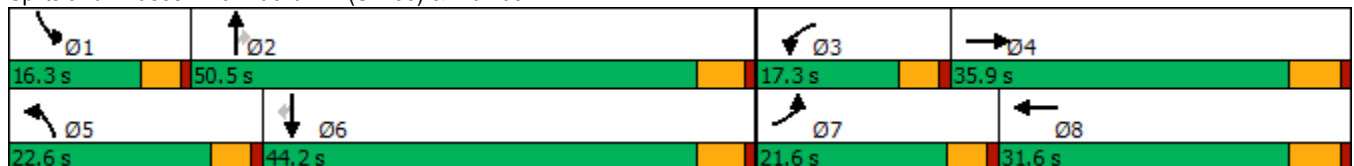


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕	↗	↙↕	↕↕↕	↗
Traffic Volume (vph)	118	300	73	319	139	1186	50	165	1239	65
Future Volume (vph)	118	300	73	319	139	1186	50	165	1239	65
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.8	9.6	29.8	9.6	27.4	27.4	9.6	29.4	29.4
Total Split (s)	21.6	35.9	17.3	31.6	22.6	50.5	50.5	16.3	44.2	44.2
Total Split (%)	18.0%	29.9%	14.4%	26.3%	18.8%	42.1%	42.1%	13.6%	36.8%	36.8%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.4	4.4	3.6	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.4	5.4	4.6	5.4	5.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	12.4	25.9	9.3	20.5	13.6	45.5	45.5	10.0	41.9	41.9
Actuated g/C Ratio	0.11	0.24	0.09	0.19	0.12	0.42	0.42	0.09	0.38	0.38
v/c Ratio	0.68	0.54	0.56	0.80	0.72	0.61	0.08	0.64	0.69	0.10
Control Delay	66.3	36.0	65.8	42.6	67.5	27.8	0.2	60.7	32.5	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.3	36.0	65.8	42.6	67.5	27.8	0.2	60.7	32.5	0.3
LOS	E	D	E	D	E	C	A	E	C	A
Approach Delay		42.7		45.4		30.8			34.3	
Approach LOS		D		D		C			C	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 109  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.80  
 Intersection Signal Delay: 35.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 75.0%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 3: Euclid Av. (SR-83) & Walnut Av.



HCM 6th Signalized Intersection Summary  
 3: Euclid Av. (SR-83) & Walnut Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	118	300	117	73	319	212	139	1186	50	165	1239	65
Future Volume (veh/h)	118	300	117	73	319	212	139	1186	50	165	1239	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	124	316	87	77	336	183	146	1248	35	174	1304	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	150	598	162	96	412	220	174	2159	670	229	2014	625
Arrive On Green	0.09	0.22	0.22	0.06	0.19	0.19	0.11	0.44	0.44	0.08	0.41	0.41
Sat Flow, veh/h	1619	2660	721	1619	2151	1148	1619	4914	1524	2956	4914	1524
Grp Volume(v), veh/h	124	201	202	77	266	253	146	1248	35	174	1304	47
Grp Sat Flow(s),veh/h/ln	1619	1710	1670	1619	1710	1589	1619	1638	1524	1478	1638	1524
Q Serve(g_s), s	7.7	10.6	10.9	4.8	15.3	15.7	9.1	19.6	1.4	5.9	21.9	1.9
Cycle Q Clear(g_c), s	7.7	10.6	10.9	4.8	15.3	15.7	9.1	19.6	1.4	5.9	21.9	1.9
Prop In Lane	1.00		0.43	1.00		0.72	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	385	376	96	328	304	174	2159	670	229	2014	625
V/C Ratio(X)	0.83	0.52	0.54	0.80	0.81	0.83	0.84	0.58	0.05	0.76	0.65	0.08
Avail Cap(c_a), veh/h	268	501	490	200	430	399	284	2159	670	337	2014	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	34.9	35.1	47.7	39.7	39.9	45.0	21.6	16.5	46.4	24.3	18.4
Incr Delay (d2), s/veh	4.3	1.1	1.2	5.7	8.6	10.9	5.4	1.1	0.1	2.7	1.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	4.3	4.4	2.0	6.9	6.8	3.8	7.3	0.5	2.2	8.3	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.1	36.0	36.3	53.4	48.3	50.8	50.4	22.8	16.7	49.1	26.0	18.7
LnGrp LOS	D	D	D	D	D	D	D	C	B	D	C	B
Approach Vol, veh/h		527			596			1429			1525	
Approach Delay, s/veh		39.4			50.0			25.4			28.4	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	50.5	10.7	28.9	15.6	47.5	14.1	25.5				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.8	4.6	5.4	4.6	5.8				
Max Green Setting (Gmax), s	11.7	45.1	12.7	30.1	18.0	38.8	17.0	25.8				
Max Q Clear Time (g_c+I1), s	7.9	21.6	6.8	12.9	11.1	23.9	9.7	17.7				
Green Ext Time (p_c), s	0.1	9.3	0.0	1.9	0.1	7.7	0.1	1.8				

Intersection Summary

HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

Timings  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/23/2021

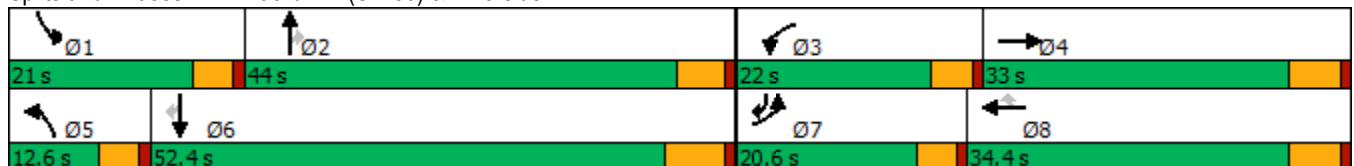


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	159	323	195	507	120	74	965	170	191	1048	168
Future Volume (vph)	159	323	195	507	120	74	965	170	191	1048	168
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8		5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	20.6	33.0	22.0	34.4	34.4	12.6	44.0	44.0	21.0	52.4	20.6
Total Split (%)	17.2%	27.5%	18.3%	28.7%	28.7%	10.5%	36.7%	36.7%	17.5%	43.7%	17.2%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	None
Act Effct Green (s)	14.6	27.2	16.7	29.2	29.2	7.6	38.6	38.6	16.0	45.9	62.4
Actuated g/C Ratio	0.12	0.23	0.14	0.25	0.25	0.06	0.32	0.32	0.13	0.39	0.52
v/c Ratio	0.84	0.97	0.91	0.64	0.26	0.76	0.91	0.30	0.93	0.84	0.21
Control Delay	84.3	84.0	90.8	44.5	4.1	95.3	52.2	7.2	96.1	40.2	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.3	84.0	90.8	44.5	4.1	95.3	52.2	7.2	96.1	40.2	6.5
LOS	F	F	F	D	A	F	D	A	F	D	A
Approach Delay		84.1		49.6			48.5			43.7	
Approach LOS		F		D			D			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 118.9  
 Natural Cycle: 100  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 51.8  
 Intersection LOS: D  
 Intersection Capacity Utilization 90.5%  
 ICU Level of Service E  
 Analysis Period (min) 15

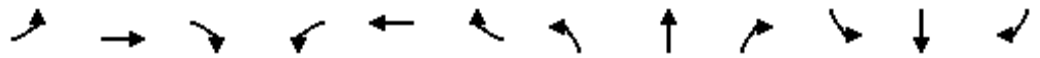
Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.



HCM 6th Signalized Intersection Summary  
 4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	159	323	54	195	507	120	74	965	170	191	1048	168
Future Volume (veh/h)	159	323	54	195	507	120	74	965	170	191	1048	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	167	340	41	205	534	97	78	1016	139	201	1103	118
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	191	355	43	228	850	379	96	1093	488	220	1355	784
Arrive On Green	0.12	0.23	0.23	0.14	0.25	0.25	0.06	0.32	0.32	0.14	0.40	0.40
Sat Flow, veh/h	1619	1576	190	1619	3420	1525	1619	3420	1525	1619	3420	1524
Grp Volume(v), veh/h	167	0	381	205	534	97	78	1016	139	201	1103	118
Grp Sat Flow(s),veh/h/ln	1619	0	1766	1619	1710	1525	1619	1710	1525	1619	1710	1524
Q Serve(g_s), s	12.2	0.0	25.7	15.0	16.8	6.2	5.7	34.7	8.2	14.8	34.7	4.9
Cycle Q Clear(g_c), s	12.2	0.0	25.7	15.0	16.8	6.2	5.7	34.7	8.2	14.8	34.7	4.9
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	0	398	228	850	379	96	1093	488	220	1355	784
V/C Ratio(X)	0.87	0.00	0.96	0.90	0.63	0.26	0.81	0.93	0.28	0.91	0.81	0.15
Avail Cap(c_a), veh/h	215	0	398	233	850	379	107	1093	488	220	1355	784
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.4	0.0	46.2	51.0	40.4	36.4	56.1	39.7	30.7	51.5	32.5	15.5
Incr Delay (d2), s/veh	26.6	0.0	34.2	31.8	1.5	0.4	29.5	14.8	1.5	37.3	5.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	0.0	14.7	7.9	7.0	2.3	3.0	15.8	3.1	8.2	14.8	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.9	0.0	80.4	82.8	41.9	36.8	85.6	54.5	32.2	88.7	38.0	15.9
LnGrp LOS	E	A	F	F	D	D	F	D	C	F	D	B
Approach Vol, veh/h		548			836			1233			1422	
Approach Delay, s/veh		79.9			51.3			54.0			43.3	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	45.1	21.6	33.0	11.8	54.3	18.8	35.8				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	16.4	* 39	17.4	27.2	8.0	45.9	16.0	28.6				
Max Q Clear Time (g_c+I1), s	16.8	36.7	17.0	27.7	7.7	36.7	14.2	18.8				
Green Ext Time (p_c), s	0.0	1.2	0.0	0.0	0.0	5.0	0.0	2.5				

Intersection Summary

HCM 6th Ctrl Delay	53.2
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
5: Euclid Av. (SR-83) & Chino Av.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗		↔	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	108	172	40	74	157	52	1049	142	61	1120	101
Future Volume (vph)	108	172	40	74	157	52	1049	142	61	1120	101
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	28.8	28.8	28.8	33.8	33.8	9.6	24.2	24.2	9.6	31.5	31.5
Total Split (s)	44.0	44.0	44.0	44.0	44.0	15.0	60.0	60.0	16.0	61.0	61.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	12.5%	50.0%	50.0%	13.3%	50.8%	50.8%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.6	4.2	4.2	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8		5.8	4.6	5.2	5.2	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	25.9	25.9	25.9		25.9	7.8	56.2	56.2	8.3	55.4	55.4
Actuated g/C Ratio	0.25	0.25	0.25		0.25	0.08	0.54	0.54	0.08	0.53	0.53
v/c Ratio	0.62	0.41	0.10		0.89	0.45	0.60	0.18	0.50	0.65	0.13
Control Delay	51.0	35.5	2.4		65.1	61.8	20.7	9.8	62.8	22.1	4.3
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.0	35.5	2.4		65.1	61.8	20.7	9.8	62.8	22.1	4.3
LOS	D	D	A		E	E	C	A	E	C	A
Approach Delay		36.5			65.1		21.1			22.7	
Approach LOS		D			E		C			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 103.9	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 27.3	Intersection LOS: C
Intersection Capacity Utilization 82.1%	ICU Level of Service E
Analysis Period (min) 15	























Splits and Phases: 5: Euclid Av. (SR-83) & Chino Av.



HCM 6th Signalized Intersection Summary  
 5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	172	40	74	157	53	52	1049	142	61	1120	101
Future Volume (veh/h)	108	172	40	74	157	53	52	1049	142	61	1120	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	115	183	27	79	167	44	55	1116	127	65	1191	76
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	224	455	385	115	210	50	68	1822	813	81	1849	808
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.04	0.53	0.53	0.05	0.54	0.54
Sat Flow, veh/h	1123	1800	1524	279	829	198	1619	3420	1525	1619	3420	1494
Grp Volume(v), veh/h	115	183	27	290	0	0	55	1116	127	65	1191	76
Grp Sat Flow(s),veh/h/ln	1123	1800	1524	1306	0	0	1619	1710	1525	1619	1710	1494
Q Serve(g_s), s	0.0	8.7	1.4	14.0	0.0	0.0	3.5	23.3	4.4	4.1	25.2	2.5
Cycle Q Clear(g_c), s	21.0	8.7	1.4	22.7	0.0	0.0	3.5	23.3	4.4	4.1	25.2	2.5
Prop In Lane	1.00		1.00	0.27		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	224	455	385	375	0	0	68	1822	813	81	1849	808
V/C Ratio(X)	0.51	0.40	0.07	0.77	0.00	0.00	0.80	0.61	0.16	0.80	0.64	0.09
Avail Cap(c_a), veh/h	357	668	566	557	0	0	164	1822	813	179	1849	808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	32.0	29.2	38.1	0.0	0.0	48.8	16.7	12.2	48.3	16.7	11.4
Incr Delay (d2), s/veh	1.8	0.6	0.1	3.9	0.0	0.0	8.0	1.5	0.4	6.7	1.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	3.7	0.5	7.2	0.0	0.0	1.5	8.1	1.4	1.7	8.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.4	32.5	29.3	42.0	0.0	0.0	56.8	18.2	12.7	55.0	18.4	11.7
LnGrp LOS	D	C	C	D	A	A	E	B	B	E	B	B
Approach Vol, veh/h		325			290			1298			1332	
Approach Delay, s/veh		34.3			42.0			19.3			19.8	
Approach LOS		C			D			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	61.3		31.8	8.9	62.1		31.8				
Change Period (Y+Rc), s	4.6	* 6.5		5.8	4.6	6.5		5.8				
Max Green Setting (Gmax), s	11.4	* 55		38.2	10.4	54.5		38.2				
Max Q Clear Time (g_c+I1), s	6.1	25.3		23.0	5.5	27.2		24.7				
Green Ext Time (p_c), s	0.0	8.5		1.2	0.0	8.8		1.3				

Intersection Summary

HCM 6th Ctrl Delay	23.0
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Timings  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

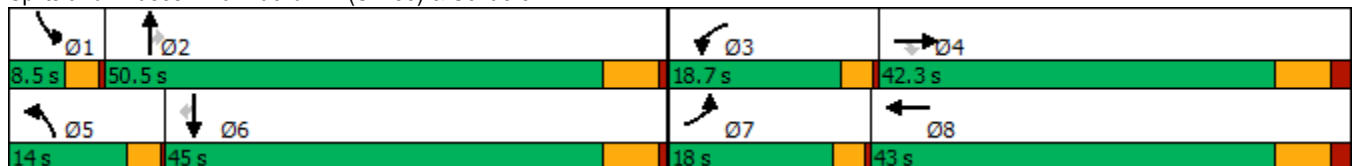


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	159	75	62	146	184	113	1070	39	32	1026	134
Future Volume (vph)	159	75	62	146	184	113	1070	39	32	1026	134
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.0	42.0	13.5	43.0	8.5	33.0	33.0	8.5	28.0	28.0
Total Split (s)	18.0	42.3	42.3	18.7	43.0	14.0	50.5	50.5	8.5	45.0	45.0
Total Split (%)	15.0%	35.3%	35.3%	15.6%	35.8%	11.7%	42.1%	42.1%	7.1%	37.5%	37.5%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	7.0	7.0	3.5	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.8	17.5	17.5	17.7	18.4	10.2	47.6	47.6	5.1	38.6	38.6
Actuated g/C Ratio	0.14	0.17	0.17	0.17	0.18	0.10	0.47	0.47	0.05	0.38	0.38
v/c Ratio	0.78	0.26	0.18	0.56	0.64	0.75	0.72	0.05	0.42	0.85	0.22
Control Delay	68.3	37.1	1.2	51.5	47.0	74.5	27.3	0.1	67.1	37.4	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.3	37.1	1.2	51.5	47.0	74.5	27.3	0.1	67.1	37.4	6.6
LOS	E	D	A	D	D	E	C	A	E	D	A
Approach Delay		46.3			48.9		30.8			34.7	
Approach LOS		D			D		C			C	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 101.3  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 35.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 77.0%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 6: Euclid Av. (SR-83) & Schaefer Av.




























HCM 6th Signalized Intersection Summary  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	75	62	146	184	11	113	1070	39	32	1026	134
Future Volume (veh/h)	159	75	62	146	184	11	113	1070	39	32	1026	134
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	171	81	48	157	198	10	122	1151	32	34	1103	110
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	204	295	250	190	264	13	150	1524	680	53	1320	587
Arrive On Green	0.13	0.16	0.16	0.12	0.16	0.16	0.09	0.45	0.45	0.03	0.39	0.39
Sat Flow, veh/h	1619	1800	1525	1619	1698	86	1619	3420	1525	1619	3420	1521
Grp Volume(v), veh/h	171	81	48	157	0	208	122	1151	32	34	1103	110
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	0	1784	1619	1710	1525	1619	1710	1521
Q Serve(g_s), s	8.6	3.3	2.3	7.9	0.0	9.3	6.1	23.4	1.0	1.7	24.3	4.0
Cycle Q Clear(g_c), s	8.6	3.3	2.3	7.9	0.0	9.3	6.1	23.4	1.0	1.7	24.3	4.0
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	204	295	250	190	0	277	150	1524	680	53	1320	587
V/C Ratio(X)	0.84	0.27	0.19	0.83	0.00	0.75	0.81	0.76	0.05	0.64	0.84	0.19
Avail Cap(c_a), veh/h	283	765	648	296	0	773	205	1831	817	97	1605	714
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.5	30.4	30.0	35.9	0.0	33.6	37.0	19.2	13.0	39.7	23.1	16.9
Incr Delay (d2), s/veh	11.0	0.4	0.3	5.8	0.0	3.1	11.9	1.5	0.0	4.7	3.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	1.4	0.8	3.2	0.0	4.0	2.7	7.9	0.3	0.7	8.9	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	30.8	30.3	41.6	0.0	36.6	48.9	20.7	13.1	44.5	26.5	17.0
LnGrp LOS	D	C	C	D	A	D	D	C	B	D	C	B
Approach Vol, veh/h		300			365			1305			1247	
Approach Delay, s/veh		39.7			38.8			23.2			26.2	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.2	43.0	13.2	20.6	11.2	38.1	14.0	19.9				
Change Period (Y+Rc), s	3.5	6.0	3.5	7.0	3.5	6.0	3.5	7.0				
Max Green Setting (Gmax), s	5.0	44.5	15.2	35.3	10.5	39.0	14.5	36.0				
Max Q Clear Time (g_c+I1), s	3.7	25.4	9.9	5.3	8.1	26.3	10.6	11.3				
Green Ext Time (p_c), s	0.0	7.2	0.1	0.4	0.0	5.8	0.1	0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				27.7								
HCM 6th LOS				C								

Timings  
7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

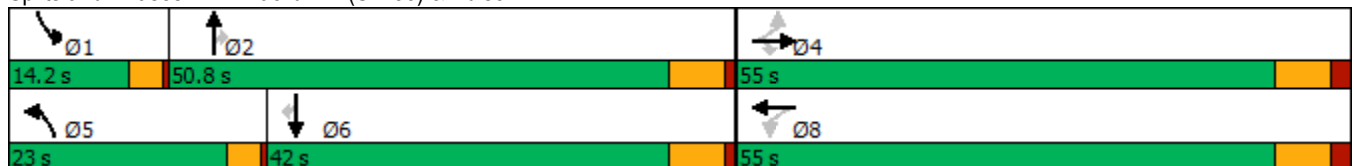


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	162	247	123	34	433	235	926	41	69	908	184
Future Volume (vph)	162	247	123	34	433	235	926	41	69	908	184
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.0	46.0	46.0	49.0	49.0	8.5	29.0	29.0	8.5	40.0	40.0
Total Split (s)	55.0	55.0	55.0	55.0	55.0	23.0	50.8	50.8	14.2	42.0	42.0
Total Split (%)	45.8%	45.8%	45.8%	45.8%	45.8%	19.2%	42.3%	42.3%	11.8%	35.0%	35.0%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	47.9	47.9	47.9	47.9	47.9	19.1	47.4	47.4	8.8	35.3	35.3
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.16	0.40	0.40	0.07	0.30	0.30
v/c Ratio	0.97	0.35	0.19	0.09	0.73	0.94	0.71	0.07	0.60	0.93	0.35
Control Delay	97.8	26.7	4.6	23.5	36.8	93.1	34.3	2.5	73.9	56.9	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.8	26.7	4.6	23.5	36.8	93.1	34.3	2.5	73.9	56.9	10.7
LOS	F	C	A	C	D	F	C	A	E	E	B
Approach Delay		43.3			36.0		44.7			50.6	
Approach LOS		D			D		D			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 118.9  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 45.1  
 Intersection LOS: D  
 Intersection Capacity Utilization 99.6%  
 ICU Level of Service F  
 Analysis Period (min) 15
























Splits and Phases: 7: Euclid Av. (SR-83) & Edison Av.



HCM 6th Signalized Intersection Summary  
 7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	247	123	34	433	65	235	926	41	69	908	184
Future Volume (veh/h)	162	247	123	34	433	65	235	926	41	69	908	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	169	257	73	35	451	63	245	965	35	72	946	141
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	193	725	614	366	622	87	265	1381	616	89	1011	440
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.16	0.40	0.40	0.06	0.30	0.30
Sat Flow, veh/h	850	1800	1524	1007	1545	216	1619	3420	1525	1619	3420	1489
Grp Volume(v), veh/h	169	257	73	35	0	514	245	965	35	72	946	141
Grp Sat Flow(s),veh/h/ln	850	1800	1524	1007	0	1761	1619	1710	1525	1619	1710	1489
Q Serve(g_s), s	18.6	11.9	3.6	3.0	0.0	29.4	17.8	27.9	1.7	5.2	32.1	8.8
Cycle Q Clear(g_c), s	48.0	11.9	3.6	14.9	0.0	29.4	17.8	27.9	1.7	5.2	32.1	8.8
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	193	725	614	366	0	709	265	1381	616	89	1011	440
V/C Ratio(X)	0.87	0.35	0.12	0.10	0.00	0.73	0.93	0.70	0.06	0.80	0.94	0.32
Avail Cap(c_a), veh/h	193	725	614	366	0	709	265	1381	616	145	1032	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.3	24.8	22.4	30.0	0.0	30.1	49.2	29.5	21.7	55.7	40.9	32.7
Incr Delay (d2), s/veh	32.9	0.3	0.1	0.1	0.0	3.7	35.4	1.6	0.0	6.2	14.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	4.9	1.3	0.7	0.0	12.5	9.4	10.9	0.6	2.2	14.7	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.2	25.1	22.4	30.1	0.0	33.8	84.6	31.1	21.7	61.9	55.8	33.1
LnGrp LOS	F	C	C	C	A	C	F	C	C	E	E	C
Approach Vol, veh/h		499			549			1245			1159	
Approach Delay, s/veh		45.1			33.5			41.4			53.4	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	54.2		55.0	23.0	41.2		55.0				
Change Period (Y+Rc), s	3.5	6.0		7.0	3.5	6.0		7.0				
Max Green Setting (Gmax), s	10.7	44.8		48.0	19.5	36.0		48.0				
Max Q Clear Time (g_c+1), s	7.2	29.9		50.0	19.8	34.1		31.4				
Green Ext Time (p_c), s	0.0	5.2		0.0	0.0	1.1		2.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				44.7								
HCM 6th LOS				D								

Timings  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	69	28	156	33	158	186	1115	13	83	1046	44
Future Volume (vph)	69	28	156	33	158	186	1115	13	83	1046	44
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.8	46.8	46.8	46.8	46.8	8.5	30.7	30.7	8.5	37.7	37.7
Total Split (s)	46.8	46.8	46.8	46.8	46.8	24.0	63.5	63.5	9.7	49.2	49.2
Total Split (%)	39.0%	39.0%	39.0%	39.0%	39.0%	20.0%	52.9%	52.9%	8.1%	41.0%	41.0%
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	3.0	4.7	4.7	3.0	4.7	4.7
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.8	4.8	3.5	5.7	5.7	3.5	5.7	5.7
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	17.9	17.9	17.9	17.9	17.9	15.1	41.0	41.0	6.7	32.6	32.6
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.19	0.51	0.51	0.08	0.40	0.40
v/c Ratio	0.38	0.07	0.34	0.12	0.55	0.63	0.66	0.02	0.63	0.77	0.07
Control Delay	34.7	27.0	6.9	28.0	32.2	44.9	17.6	0.0	65.4	27.3	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	27.0	6.9	28.0	32.2	44.9	17.6	0.0	65.4	27.3	1.5
LOS	C	C	A	C	C	D	B	A	E	C	A
Approach Delay		16.7			31.6		21.3			29.0	
Approach LOS		B			C		C			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 80.7	
Natural Cycle: 95	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 24.8	Intersection LOS: C
Intersection Capacity Utilization 74.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Euclid Av. (SR-83) & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
 8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	28	156	33	158	54	186	1115	13	83	1046	44
Future Volume (veh/h)	69	28	156	33	158	54	186	1115	13	83	1046	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	70	29	73	34	161	47	190	1138	12	85	1067	34
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	230	375	317	360	279	81	234	1702	759	105	1429	636
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.14	0.50	0.50	0.06	0.42	0.42
Sat Flow, veh/h	1126	1800	1525	1240	1339	391	1619	3420	1525	1619	3420	1524
Grp Volume(v), veh/h	70	29	73	34	0	208	190	1138	12	85	1067	34
Grp Sat Flow(s),veh/h/ln	1126	1800	1525	1240	0	1730	1619	1710	1525	1619	1710	1524
Q Serve(g_s), s	3.6	0.8	2.4	1.4	0.0	6.6	6.9	15.3	0.2	3.2	16.1	0.8
Cycle Q Clear(g_c), s	10.2	0.8	2.4	2.2	0.0	6.6	6.9	15.3	0.2	3.2	16.1	0.8
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	375	317	360	0	360	234	1702	759	105	1429	636
V/C Ratio(X)	0.30	0.08	0.23	0.09	0.00	0.58	0.81	0.67	0.02	0.81	0.75	0.05
Avail Cap(c_a), veh/h	771	1239	1050	956	0	1191	544	3240	1445	165	2438	1086
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	19.4	20.1	20.3	0.0	21.7	25.3	11.5	7.8	28.2	15.0	10.6
Incr Delay (d2), s/veh	0.5	0.1	0.3	0.1	0.0	1.1	5.0	0.5	0.0	12.2	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.3	0.8	0.4	0.0	2.4	2.6	3.9	0.1	1.4	4.7	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	19.5	20.4	20.4	0.0	22.8	30.3	12.0	7.8	40.3	15.8	10.6
LnGrp LOS	C	B	C	C	A	C	C	B	A	D	B	B
Approach Vol, veh/h		172			242			1340			1186	
Approach Delay, s/veh		22.9			22.5			14.5			17.4	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	36.1		17.5	12.3	31.2		17.5				
Change Period (Y+Rc), s	3.5	5.7		4.8	3.5	5.7		4.8				
Max Green Setting (Gmax), s	6.2	57.8		42.0	20.5	43.5		42.0				
Max Q Clear Time (g_c+I1), s	5.2	17.3		12.2	8.9	18.1		8.6				
Green Ext Time (p_c), s	0.0	8.8		0.5	0.3	7.3		1.0				

Intersection Summary

HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

Timings  
9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

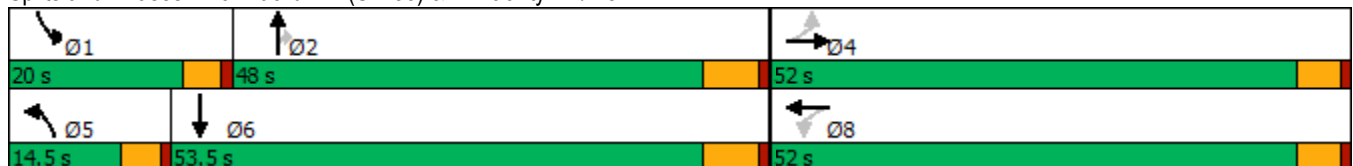


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕↔		↕↔	↖	↕↕	↖	↖	↕↕
Traffic Volume (vph)	4	8	243	49	11	1061	187	172	1020
Future Volume (vph)	4	8	243	49	11	1061	187	172	1020
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	52.0	52.0	52.0	52.0	14.5	48.0	48.0	20.0	53.5
Total Split (%)	43.3%	43.3%	43.3%	43.3%	12.1%	40.0%	40.0%	16.7%	44.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)		45.0		45.0	10.1	40.2	40.2	14.6	56.6
Actuated g/C Ratio		0.39		0.39	0.09	0.35	0.35	0.13	0.49
v/c Ratio		0.05		0.97	0.08	0.92	0.32	0.87	0.66
Control Delay		13.1		63.1	52.3	49.5	15.3	86.9	25.6
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		13.1		63.1	52.3	49.5	15.3	86.9	25.6
LOS		B		E	D	D	B	F	C
Approach Delay		13.1		63.1		44.5			34.1
Approach LOS		B		E		D			C

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 115.4  
 Natural Cycle: 100  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 43.3  
 Intersection LOS: D  
 Intersection Capacity Utilization 94.2%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 6th Signalized Intersection Summary  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↑↑	↗	↗	↑↑	
Traffic Volume (veh/h)	4	8	17	243	49	249	11	1061	187	172	1020	42
Future Volume (veh/h)	4	8	17	243	49	249	11	1061	187	172	1020	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	4	8	17	251	51	230	11	1094	150	177	1052	29
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	188	347	313	54	242	42	1221	545	203	1551	43
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.03	0.36	0.36	0.13	0.46	0.46
Sat Flow, veh/h	152	501	925	706	143	647	1619	3420	1525	1619	3397	94
Grp Volume(v), veh/h	29	0	0	532	0	0	11	1094	150	177	530	551
Grp Sat Flow(s),veh/h/ln	1578	0	0	1497	0	0	1619	1710	1525	1619	1710	1781
Q Serve(g_s), s	0.0	0.0	0.0	36.2	0.0	0.0	0.7	32.9	7.6	11.7	26.5	26.5
Cycle Q Clear(g_c), s	1.2	0.0	0.0	37.4	0.0	0.0	0.7	32.9	7.6	11.7	26.5	26.5
Prop In Lane	0.14		0.59	0.47		0.43	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	629	0	0	610	0	0	42	1221	545	203	781	813
V/C Ratio(X)	0.05	0.00	0.00	0.87	0.00	0.00	0.26	0.90	0.28	0.87	0.68	0.68
Avail Cap(c_a), veh/h	716	0	0	696	0	0	149	1322	590	231	781	813
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	0.0	0.0	32.8	0.0	0.0	51.9	33.0	24.9	46.7	23.2	23.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	9.8	0.0	0.0	1.2	7.9	0.3	24.1	2.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	14.1	0.0	0.0	0.3	13.7	2.6	5.8	10.0	10.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	0.0	0.0	42.6	0.0	0.0	53.1	40.9	25.2	70.8	25.6	25.5
LnGrp LOS	C	A	A	D	A	A	D	D	C	E	C	C
Approach Vol, veh/h		29			532			1255				1258
Approach Delay, s/veh		21.6			42.6			39.2				31.9
Approach LOS		C			D			D				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.1	44.8		45.7	7.3	55.6		45.7				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	15.5	42.0		47.0	10.0	47.5		47.0				
Max Q Clear Time (g_c+I1), s	13.7	34.9		3.2	2.7	28.5		39.4				
Green Ext Time (p_c), s	0.0	3.9		0.1	0.0	5.9		1.3				

Intersection Summary

HCM 6th Ctrl Delay	36.6
HCM 6th LOS	D

Intersection													
Int Delay, s/veh 0.8													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔		↔	↔			↔			↔		
Traffic Vol, veh/h	0	109	16	27	260	0	5	0	11	0	0	0	0
Future Vol, veh/h	0	109	16	27	260	0	5	0	11	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	-
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	118	17	29	283	0	5	0	12	0	0	0	0
Major/Minor	Major1	Major2	Major2	Major2	Minor1	Minor1	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2
Conflicting Flow All	283	0	0	135	0	0	468	468	127	474	476	283	
Stage 1	-	-	-	-	-	-	127	127	-	341	341	-	
Stage 2	-	-	-	-	-	-	341	341	-	133	135	-	
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-	
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3	
Pot Cap-1 Maneuver	1291	-	-	1462	-	-	509	496	929	504	491	761	
Stage 1	-	-	-	-	-	-	882	795	-	678	642	-	
Stage 2	-	-	-	-	-	-	678	642	-	875	789	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	1291	-	-	1462	-	-	501	486	929	490	481	761	
Mov Cap-2 Maneuver	-	-	-	-	-	-	501	486	-	490	481	-	
Stage 1	-	-	-	-	-	-	882	795	-	678	629	-	
Stage 2	-	-	-	-	-	-	665	629	-	864	789	-	
Approach	EB	WB	WB	NB	NB	SB	SB	SB	SB	SB	SB	SB	SB
HCM Control Delay, s	0	0	0.7	10	10	0	0	0	0	0	0	0	0
HCM LOS				B	B		A	A					
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn1	SBLn1	SBLn1	SBLn1	SBLn1
Capacity (veh/h)	733	1291	-	-	1462	-	-	-	-	-	-	-	-
HCM Lane V/C Ratio	0.024	-	-	-	0.02	-	-	-	-	-	-	-	-
HCM Control Delay (s)	10	0	-	-	7.5	-	-	0	-	-	-	-	-
HCM Lane LOS	B	A	-	-	A	-	-	A	-	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	-	-	-	-	-	-



Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	2	13	10	7	36
Future Vol, veh/h	3	2	13	10	7	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	2	14	11	8	39

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	75	20	0	0	25
Stage 1	20	-	-	-	-
Stage 2	55	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	933	1064	-	-	1603
Stage 1	1008	-	-	-	-
Stage 2	973	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	928	1064	-	-	1603
Mov Cap-2 Maneuver	913	-	-	-	-
Stage 1	1008	-	-	-	-
Stage 2	968	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	968	1603
HCM Lane V/C Ratio	-	-	0.006	0.005
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	2	22	11	5	34
Future Vol, veh/h	3	2	22	11	5	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	2	24	12	5	37

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	77	30	0	0	36
Stage 1	30	-	-	-	-
Stage 2	47	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	931	1050	-	-	1588
Stage 1	998	-	-	-	-
Stage 2	981	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	928	1050	-	-	1588
Mov Cap-2 Maneuver	917	-	-	-	-
Stage 1	998	-	-	-	-
Stage 2	978	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	966	1588
HCM Lane V/C Ratio	-	-	0.006	0.003
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	2	31	8	7	30
Future Vol, veh/h	2	2	31	8	7	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	2	34	9	8	33

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	88	39	0	0	43
Stage 1	39	-	-	-	-
Stage 2	49	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	918	1038	-	-	1579
Stage 1	989	-	-	-	-
Stage 2	979	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	913	1038	-	-	1579
Mov Cap-2 Maneuver	909	-	-	-	-
Stage 1	989	-	-	-	-
Stage 2	974	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	969	1579
HCM Lane V/C Ratio	-	-	0.004	0.005
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	2	37	4	5	26
Future Vol, veh/h	1	2	37	4	5	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	2	40	4	5	28

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	80	42	0	0	44	0
Stage 1	42	-	-	-	-	-
Stage 2	38	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	927	1034	-	-	1577	-
Stage 1	986	-	-	-	-	-
Stage 2	990	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	924	1034	-	-	1577	-
Mov Cap-2 Maneuver	917	-	-	-	-	-
Stage 1	986	-	-	-	-	-
Stage 2	987	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	1.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	992	1577
HCM Lane V/C Ratio	-	-	0.003	0.003
HCM Control Delay (s)	-	-	8.6	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	2	2	39	8	5	22
Future Vol, veh/h	2	2	39	8	5	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	2	42	9	5	24

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	81	47	0	0	51
Stage 1	47	-	-	-	-
Stage 2	34	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	926	1028	-	-	1568
Stage 1	981	-	-	-	-
Stage 2	994	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	923	1028	-	-	1568
Mov Cap-2 Maneuver	916	-	-	-	-
Stage 1	981	-	-	-	-
Stage 2	991	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	969	1568
HCM Lane V/C Ratio	-	-	0.004	0.003
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T		T	T
Traffic Vol, veh/h	4	2	46	12	6	18
Future Vol, veh/h	4	2	46	12	6	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	2	50	13	7	20

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	91	57	0	0	63	0
Stage 1	57	-	-	-	-	-
Stage 2	34	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	914	1015	-	-	1553	-
Stage 1	971	-	-	-	-	-
Stage 2	994	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	909	1015	-	-	1553	-
Mov Cap-2 Maneuver	907	-	-	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	989	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	1.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	940	1553
HCM Lane V/C Ratio	-	-	0.007	0.004
HCM Control Delay (s)	-	-	8.9	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	2	56	2	6	16
Future Vol, veh/h	0	2	56	2	6	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	2	61	2	7	17

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	93	62	0	0	63	0
Stage 1	62	-	-	-	-	-
Stage 2	31	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	912	1009	-	-	1553	-
Stage 1	966	-	-	-	-	-
Stage 2	997	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	907	1009	-	-	1553	-
Mov Cap-2 Maneuver	904	-	-	-	-	-
Stage 1	966	-	-	-	-	-
Stage 2	992	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1009	1553
HCM Lane V/C Ratio	-	-	0.002	0.004
HCM Control Delay (s)	-	-	8.6	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Vol, veh/h	41	336	609	17	5	12
Future Vol, veh/h	41	336	609	17	5	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	45	365	662	18	5	13

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	680	0	0 1117 662
Stage 1	-	-	- 662 -
Stage 2	-	-	- 455 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	922	-	- 231 465
Stage 1	-	-	- 517 -
Stage 2	-	-	- 643 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	922	-	- 217 465
Mov Cap-2 Maneuver	-	-	- 217 -
Stage 1	-	-	- 485 -
Stage 2	-	-	- 643 -

Approach	EB	WB	SB
HCM Control Delay, s	1	0	15.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	922	-	-	-	348
HCM Lane V/C Ratio	0.048	-	-	-	0.053
HCM Control Delay (s)	9.1	0	-	-	15.9
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2



Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	338	625	6	2	1
Future Vol, veh/h	2	338	625	6	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	367	679	7	2	1

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	686	0	-	0	1054 343
Stage 1	-	-	-	-	683 -
Stage 2	-	-	-	-	371 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	917	-	-	-	238 659
Stage 1	-	-	-	-	468 -
Stage 2	-	-	-	-	702 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	917	-	-	-	238 659
Mov Cap-2 Maneuver	-	-	-	-	413 -
Stage 1	-	-	-	-	467 -
Stage 2	-	-	-	-	702 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	917	-	-	-	472
HCM Lane V/C Ratio	0.002	-	-	-	0.007
HCM Control Delay (s)	8.9	-	-	-	12.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑	↘	
Traffic Vol, veh/h	108	11	17	284	3	5
Future Vol, veh/h	108	11	17	284	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	117	12	18	309	3	5

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	129	0	468 65
Stage 1	-	-	-	-	123 -
Stage 2	-	-	-	-	345 -
Critical Hdwy	-	-	4.1	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1469	-	543 992
Stage 1	-	-	-	-	895 -
Stage 2	-	-	-	-	722 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1469	-	536 992
Mov Cap-2 Maneuver	-	-	-	-	653 -
Stage 1	-	-	-	-	895 -
Stage 2	-	-	-	-	713 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	830	-	-	1469	-
HCM Lane V/C Ratio	0.01	-	-	0.013	-
HCM Control Delay (s)	9.4	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑	↘	
Traffic Vol, veh/h	101	12	16	298	3	4
Future Vol, veh/h	101	12	16	298	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	110	13	17	324	3	4

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	123	0	475 62
Stage 1	-	-	-	-	117 -
Stage 2	-	-	-	-	358 -
Critical Hdwy	-	-	4.1	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1477	-	538 996
Stage 1	-	-	-	-	901 -
Stage 2	-	-	-	-	712 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1477	-	532 996
Mov Cap-2 Maneuver	-	-	-	-	646 -
Stage 1	-	-	-	-	901 -
Stage 2	-	-	-	-	703 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	808	-	-	1477	-
HCM Lane V/C Ratio	0.009	-	-	0.012	-
HCM Control Delay (s)	9.5	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	338	630	6	2	1
Future Vol, veh/h	2	338	630	6	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	367	685	7	2	1

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	692	0	-	0	1060 346
Stage 1	-	-	-	-	689 -
Stage 2	-	-	-	-	371 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	912	-	-	-	236 656
Stage 1	-	-	-	-	465 -
Stage 2	-	-	-	-	702 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	912	-	-	-	236 656
Mov Cap-2 Maneuver	-	-	-	-	410 -
Stage 1	-	-	-	-	464 -
Stage 2	-	-	-	-	702 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	912	-	-	-	469
HCM Lane V/C Ratio	0.002	-	-	-	0.007
HCM Control Delay (s)	9	-	-	-	12.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑		↑	↑	
Traffic Vol, veh/h	78	28	14	299	15	4
Future Vol, veh/h	78	28	14	299	15	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	85	30	15	325	16	4

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	115	0	440
Stage 1	-	-	-	-	85
Stage 2	-	-	-	-	355
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1487	-	578
Stage 1	-	-	-	-	943
Stage 2	-	-	-	-	714
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1487	-	571
Mov Cap-2 Maneuver	-	-	-	-	571
Stage 1	-	-	-	-	943
Stage 2	-	-	-	-	705

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	626	-	-	1487	-
HCM Lane V/C Ratio	0.033	-	-	0.01	-
HCM Control Delay (s)	10.9	-	-	7.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	2	3	12	17	36	5
Future Vol, veh/h	2	3	12	17	36	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	3	13	18	39	5

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	86	42	44	0	0
Stage 1	42	-	-	-	-
Stage 2	44	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	920	1034	1577	-	-
Stage 1	986	-	-	-	-
Stage 2	984	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	913	1034	1577	-	-
Mov Cap-2 Maneuver	909	-	-	-	-
Stage 1	978	-	-	-	-
Stage 2	984	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1577	-	980	-	-
HCM Lane V/C Ratio	0.008	-	0.006	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑	↑	
Traffic Vol, veh/h	2	3	11	27	34	5
Future Vol, veh/h	2	3	11	27	34	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	3	12	29	37	5

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	93	40	42	0	0
Stage 1	40	-	-	-	-
Stage 2	53	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	912	1037	1580	-	-
Stage 1	988	-	-	-	-
Stage 2	975	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	905	1037	1580	-	-
Mov Cap-2 Maneuver	905	-	-	-	-
Stage 1	980	-	-	-	-
Stage 2	975	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	2.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1580	-	980	-	-
HCM Lane V/C Ratio	0.008	-	0.006	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	2	3	10	37	31	5
Future Vol, veh/h	2	3	10	37	31	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	3	11	40	34	5

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	99	37	39	0	0
Stage 1	37	-	-	-	-
Stage 2	62	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	905	1041	1584	-	-
Stage 1	991	-	-	-	-
Stage 2	966	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	899	1041	1584	-	-
Mov Cap-2 Maneuver	900	-	-	-	-
Stage 1	984	-	-	-	-
Stage 2	966	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	1.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1584	-	980	-	-
HCM Lane V/C Ratio	0.007	-	0.006	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	1	2	6	46	31	4
Future Vol, veh/h	1	2	6	46	31	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	2	7	50	34	4

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	100	36	38	0	0
Stage 1	36	-	-	-	-
Stage 2	64	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	904	1042	1585	-	-
Stage 1	992	-	-	-	-
Stage 2	964	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	900	1042	1585	-	-
Mov Cap-2 Maneuver	901	-	-	-	-
Stage 1	988	-	-	-	-
Stage 2	964	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1585	-	990	-	-
HCM Lane V/C Ratio	0.004	-	0.003	-	-
HCM Control Delay (s)	7.3	-	8.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑	↑	
Traffic Vol, veh/h	2	2	8	50	27	5
Future Vol, veh/h	2	2	8	50	27	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	2	9	54	29	5

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	104	32	34	0	0
Stage 1	32	-	-	-	-
Stage 2	72	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	899	1048	1591	-	-
Stage 1	996	-	-	-	-
Stage 2	956	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	894	1048	1591	-	-
Mov Cap-2 Maneuver	895	-	-	-	-
Stage 1	990	-	-	-	-
Stage 2	956	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1591	-	965	-	-
HCM Lane V/C Ratio	0.005	-	0.005	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	2	4	12	56	23	6
Future Vol, veh/h	2	4	12	56	23	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	4	13	61	25	7

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	116	29	32	0	0
Stage 1	29	-	-	-	-
Stage 2	87	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	885	1052	1593	-	-
Stage 1	999	-	-	-	-
Stage 2	941	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	878	1052	1593	-	-
Mov Cap-2 Maneuver	883	-	-	-	-
Stage 1	991	-	-	-	-
Stage 2	941	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	1.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1593	-	989	-	-
HCM Lane V/C Ratio	0.008	-	0.007	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	1	1	4	68	23	4
Future Vol, veh/h	1	1	4	68	23	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	1	4	74	25	4

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	109	27	29	0	0
Stage 1	27	-	-	-	-
Stage 2	82	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	893	1054	1597	-	-
Stage 1	1001	-	-	-	-
Stage 2	946	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	890	1054	1597	-	-
Mov Cap-2 Maneuver	890	-	-	-	-
Stage 1	998	-	-	-	-
Stage 2	946	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1597	-	965	-	-
HCM Lane V/C Ratio	0.003	-	0.002	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	29	311	624	42	12	12
Future Vol, veh/h	29	311	624	42	12	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	32	338	678	46	13	13

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	724	0	-	0	1103 701
Stage 1	-	-	-	-	701 -
Stage 2	-	-	-	-	402 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	888	-	-	-	236 442
Stage 1	-	-	-	-	496 -
Stage 2	-	-	-	-	680 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	888	-	-	-	228 442
Mov Cap-2 Maneuver	-	-	-	-	228 -
Stage 1	-	-	-	-	478 -
Stage 2	-	-	-	-	680 -

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	888	-	-	-	301
HCM Lane V/C Ratio	0.035	-	-	-	0.087
HCM Control Delay (s)	9.2	-	-	-	18.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	19	64	3	1	246	20	17	57	3	30	57	51
Future Vol, veh/h	19	64	3	1	246	20	17	57	3	30	57	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	21	70	3	1	267	22	18	62	3	33	62	55
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	10.2	8.7	8.9
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	22%	0%	22%
Vol Thru, %	74%	74%	92%	41%
Vol Right, %	4%	3%	7%	37%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	77	86	267	138
LT Vol	17	19	1	30
Through Vol	57	64	246	57
RT Vol	3	3	20	51
Lane Flow Rate	84	93	290	150
Geometry Grp	1	1	1	1
Degree of Util (X)	0.116	0.125	0.365	0.197
Departure Headway (Hd)	5.007	4.828	4.533	4.724
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	712	738	792	756
Service Time	3.065	2.883	2.577	2.775
HCM Lane V/C Ratio	0.118	0.126	0.366	0.198
HCM Control Delay	8.7	8.6	10.2	8.9
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.4	0.4	1.7	0.7

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	21	302	630	56	24	37
Future Vol, veh/h	21	302	630	56	24	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	23	328	685	61	26	40

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	746	0	-	0	1090 716
Stage 1	-	-	-	-	716 -
Stage 2	-	-	-	-	374 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	871	-	-	-	240 434
Stage 1	-	-	-	-	488 -
Stage 2	-	-	-	-	700 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	871	-	-	-	232 434
Mov Cap-2 Maneuver	-	-	-	-	232 -
Stage 1	-	-	-	-	472 -
Stage 2	-	-	-	-	700 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	19
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	871	-	-	-	323
HCM Lane V/C Ratio	0.026	-	-	-	0.205
HCM Control Delay (s)	9.2	0	-	-	19
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	29	49	14	12	135	12	62	238	11	15	217	68
Future Vol, veh/h	29	49	14	12	135	12	62	238	11	15	217	68
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	32	54	15	13	148	13	68	262	12	16	238	75
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	11.1	13.3	12.6
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	32%	8%	5%
Vol Thru, %	77%	53%	85%	72%
Vol Right, %	4%	15%	8%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	311	92	159	300
LT Vol	62	29	12	15
Through Vol	238	49	135	217
RT Vol	11	14	12	68
Lane Flow Rate	342	101	175	330
Geometry Grp	1	1	1	1
Degree of Util (X)	0.496	0.167	0.281	0.468
Departure Headway (Hd)	5.227	5.956	5.793	5.109
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	687	600	619	705
Service Time	3.267	4.015	3.845	3.15
HCM Lane V/C Ratio	0.498	0.168	0.283	0.468
HCM Control Delay	13.3	10.2	11.1	12.6
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	2.8	0.6	1.1	2.5



**Intersection**

Intersection Delay, s/veh 79.7  
Intersection LOS F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	80	246	590	231	147	96
Future Vol, veh/h	80	246	590	231	147	96
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	82	254	608	238	152	99
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left SB			WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	15.6	124.3	14.8
HCM LOS	C	F	B

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	0%	60%
Vol Thru, %	75%	72%	0%
Vol Right, %	0%	28%	40%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	326	821	243
LT Vol	80	0	147
Through Vol	246	590	0
RT Vol	0	231	96
Lane Flow Rate	336	846	251
Geometry Grp	1	1	1
Degree of Util (X)	0.528	1.205	0.435
Departure Headway (Hd)	6.035	5.124	6.731
Convergence, Y/N	Yes	Yes	Yes
Cap	602	719	539
Service Time	4.035	3.124	4.731
HCM Lane V/C Ratio	0.558	1.177	0.466
HCM Control Delay	15.6	124.3	14.8
HCM Lane LOS	C	F	B
HCM 95th-tile Q	3.1	29	2.2

Intersection

Intersection Delay, s/veh 25

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	17	239	9	159	408	144	4	19	20	26	18	12
Future Vol, veh/h	17	239	9	159	408	144	4	19	20	26	18	12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	17	244	9	162	416	147	4	19	20	27	18	12
Number of Lanes	0	1	0	0	1	0	0	0	1	0	0	1

Approach	EB	WB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB	WB
Opposing Lanes	1	1	1	1	1
Conflicting Approach Left SB	NB	EB	WB	WB	WB
Conflicting Lanes Left	1	1	1	1	1
Conflicting Approach Right NB	SB	WB	WB	EB	EB
Conflicting Lanes Right	1	1	1	1	1
HCM Control Delay	11	32.4	9.5	9.9	9.9
HCM LOS	B	D	A	A	A

Lane NBLn1 EBLn1WBLn1 SBLn1

Vol Left, %	9%	6%	22%	46%
Vol Thru, %	44%	90%	57%	32%
Vol Right, %	47%	3%	20%	21%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	43	265	711	56
LT Vol	4	17	159	26
Through Vol	19	239	408	18
RT Vol	20	9	144	12
Lane Flow Rate	44	270	726	57
Geometry Grp	1	1	1	1
Degree of Util (X)	0.074	0.372	0.894	0.099
Departure Headway (Hd)	6.051	4.956	4.434	6.238
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	595	717	813	578
Service Time	4.054	3.044	2.497	4.241
HCM Lane V/C Ratio	0.074	0.377	0.893	0.099
HCM Control Delay	9.5	11	32.4	9.9
HCM Lane LOS	A	B	D	A
HCM 95th-tile Q	0.2	1.7	11.9	0.3

Intersection						
Int Delay, s/veh	6.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	22	47	80	23	126	82
Future Vol, veh/h	22	47	80	23	126	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	24	51	87	25	137	89

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	112	0	-	0	199
Stage 1	-	-	-	-	100
Stage 2	-	-	-	-	99
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1490	-	-	-	794
Stage 1	-	-	-	-	929
Stage 2	-	-	-	-	930
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1490	-	-	-	781
Mov Cap-2 Maneuver	-	-	-	-	781
Stage 1	-	-	-	-	913
Stage 2	-	-	-	-	930

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1490	-	-	-	843
HCM Lane V/C Ratio	0.016	-	-	-	0.268
HCM Control Delay (s)	7.5	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1.1

Intersection												
Int Delay, s/veh	7.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↘	↑			↕				
Traffic Vol, veh/h	0	275	97	105	593	0	178	0	98	0	0	0
Future Vol, veh/h	0	275	97	105	593	0	178	0	98	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	75	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	284	100	108	611	0	184	0	101	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	384	0	0	1111	1111	284
Stage 1	-	-	-	-	-	-	284	284	-
Stage 2	-	-	-	-	-	-	827	827	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1186	-	0	233	211	760
Stage 1	0	-	-	-	-	0	769	680	-
Stage 2	0	-	-	-	-	0	433	389	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1186	-	-	212	0	760
Mov Cap-2 Maneuver	-	-	-	-	-	-	319	0	-
Stage 1	-	-	-	-	-	-	769	0	-
Stage 2	-	-	-	-	-	-	394	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	32.9
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	402	-	-	1186	-
HCM Lane V/C Ratio	0.708	-	-	0.091	-
HCM Control Delay (s)	32.9	-	-	8.3	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	5.3	-	-	0.3	-

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑			↑↓				
Traffic Vol, veh/h	0	343	29	25	702	0	14	0	26	0	0	0
Future Vol, veh/h	0	343	29	25	702	0	14	0	26	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	377	32	27	771	0	15	0	29	0	0	0

Major/Minor	Major1		Major2		Minor1				
Conflicting Flow All	-	0	0	409	0	0	1218	1218	205
Stage 1	-	-	-	-	-	-	393	393	-
Stage 2	-	-	-	-	-	-	825	825	-
Critical Hdwy	-	-	-	4.1	-	-	6.6	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1161	-	0	188	182	808
Stage 1	0	-	-	-	-	0	657	609	-
Stage 2	0	-	-	-	-	0	434	390	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1161	-	-	184	0	808
Mov Cap-2 Maneuver	-	-	-	-	-	-	313	0	-
Stage 1	-	-	-	-	-	-	657	0	-
Stage 2	-	-	-	-	-	-	424	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	12.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	520	-	-	1161	-
HCM Lane V/C Ratio	0.085	-	-	0.024	-
HCM Control Delay (s)	12.6	-	-	8.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑		↑		↑			
Traffic Vol, veh/h	0	377	0	0	713	0	0	0	0	0	0	0
Future Vol, veh/h	0	377	0	0	713	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	200	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	405	0	0	767	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	405	0	0	1172	-	203
Stage 1	-	-	-	-	-	-	405	-	-
Stage 2	-	-	-	-	-	-	767	-	-
Critical Hdwy	-	-	-	4.1	-	-	6.6	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	-	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	-	3.3
Pot Cap-1 Maneuver	0	-	-	1165	-	0	201	0	810
Stage 1	0	-	-	-	-	0	648	0	-
Stage 2	0	-	-	-	-	0	462	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1165	-	-	201	0	810
Mov Cap-2 Maneuver	-	-	-	-	-	-	334	0	-
Stage 1	-	-	-	-	-	-	648	0	-
Stage 2	-	-	-	-	-	-	462	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	1165	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	110
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↗			↕			↕	
Traffic Vol, veh/h	9	319	25	182	667	42	20	0	110	118	0	10
Future Vol, veh/h	9	319	25	182	667	42	20	0	110	118	0	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	339	27	194	710	45	21	0	117	126	0	11
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	3
HCM Control Delay	20.4	173.1	13.7	15.4
HCM LOS	C	F	B	C

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	15%	100%	0%	0%	100%	0%	92%
Vol Thru, %	0%	0%	100%	0%	0%	94%	0%
Vol Right, %	85%	0%	0%	100%	0%	6%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	130	9	319	25	182	709	128
LT Vol	20	9	0	0	182	0	118
Through Vol	0	0	319	0	0	667	0
RT Vol	110	0	0	25	0	42	10
Lane Flow Rate	138	10	339	27	194	754	136
Geometry Grp	7	7	7	7	8	8	7
Degree of Util (X)	0.28	0.019	0.633	0.044	0.391	1.407	0.309
Departure Headway (Hd)	7.931	7.723	7.21	6.492	7.268	6.715	8.825
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	456	466	506	555	494	543	410
Service Time	5.631	5.423	4.91	4.192	5.033	4.48	6.525
HCM Lane V/C Ratio	0.303	0.021	0.67	0.049	0.393	1.389	0.332
HCM Control Delay	13.7	10.6	21.5	9.5	14.7	213.7	15.4
HCM Lane LOS	B	B	C	A	B	F	C
HCM 95th-tile Q	1.1	0.1	4.3	0.1	1.8	35	1.3

Timings

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

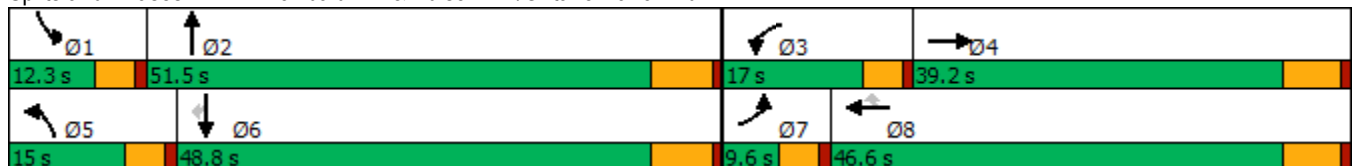
08/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	209	41	365	507	138	163	971	383	69	383	103
Future Volume (vph)	25	209	41	365	507	138	163	971	383	69	383	103
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	39.2		17.0	46.6	46.6	15.0	51.5		12.3	48.8	48.8
Total Split (%)	8.0%	32.7%		14.2%	38.8%	38.8%	12.5%	42.9%		10.3%	40.7%	40.7%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.3	23.0	101.0	13.2	36.1	36.1	11.0	37.3	101.0	7.5	30.6	30.6
Actuated g/C Ratio	0.05	0.23	1.00	0.13	0.36	0.36	0.11	0.37	1.00	0.07	0.30	0.30
v/c Ratio	0.17	0.28	0.03	0.98	0.81	0.22	0.95	0.79	0.26	0.60	0.38	0.19
Control Delay	56.7	33.6	0.0	89.3	44.0	6.5	107.8	35.4	0.4	73.2	28.6	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	33.6	0.0	89.3	44.0	6.5	107.8	35.4	0.4	73.2	28.6	1.9
LOS	E	C	A	F	D	A	F	D	A	E	C	A
Approach Delay		30.7			55.3			34.4			29.2	
Approach LOS		C			E			C			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 101	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 39.5	Intersection LOS: D
Intersection Capacity Utilization 83.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 44: Archibald Av. & Edison Av./Ontario Ranch Rd.





HCM 6th Signalized Intersection Summary  
44: Archibald Av. & Edison Av./Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↖	↖	↖↗	↖	↖	↖	↖↖	↖	↖	↖↖	↖
Traffic Volume (veh/h)	25	209	41	365	507	138	163	971	383	69	383	103
Future Volume (veh/h)	25	209	41	365	507	138	163	971	383	69	383	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	26	215	0	376	523	88	168	1001	0	71	395	73
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	78	744		400	588	498	184	1210		88	1009	450
Arrive On Green	0.03	0.22	0.00	0.14	0.33	0.33	0.11	0.35	0.00	0.05	0.30	0.30
Sat Flow, veh/h	2956	3420	1525	2956	1800	1525	1619	3420	1525	1619	3420	1525
Grp Volume(v), veh/h	26	215	0	376	523	88	168	1001	0	71	395	73
Grp Sat Flow(s),veh/h/ln	1478	1710	1525	1478	1800	1525	1619	1710	1525	1619	1710	1525
Q Serve(g_s), s	0.8	4.8	0.0	11.6	25.3	3.8	9.4	24.5	0.0	4.0	8.4	3.3
Cycle Q Clear(g_c), s	0.8	4.8	0.0	11.6	25.3	3.8	9.4	24.5	0.0	4.0	8.4	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	78	744		400	588	498	184	1210		88	1009	450
V/C Ratio(X)	0.33	0.29		0.94	0.89	0.18	0.92	0.83		0.80	0.39	0.16
Avail Cap(c_a), veh/h	161	1230		400	793	672	184	1678		136	1577	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	30.0	0.0	39.3	29.3	22.1	40.2	27.1	0.0	42.9	25.8	23.9
Incr Delay (d2), s/veh	0.9	0.2	0.0	30.0	9.7	0.2	42.4	2.5	0.0	9.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.9	0.0	5.6	11.4	1.3	5.6	9.2	0.0	1.7	3.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.8	30.2	0.0	69.3	39.0	22.2	82.6	29.6	0.0	52.1	26.0	24.1
LnGrp LOS	D	C		E	D	C	F	C		D	C	C
Approach Vol, veh/h		241	A		987			1169	A		539	
Approach Delay, s/veh		31.7			49.1			37.2			29.2	
Approach LOS		C			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	39.0	17.0	26.2	15.0	33.6	7.0	36.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.7	45.0	12.4	33.0	10.4	42.3	5.0	40.4				
Max Q Clear Time (g_c+I1), s	6.0	26.5	13.6	6.8	11.4	10.4	2.8	27.3				
Green Ext Time (p_c), s	0.0	5.9	0.0	1.1	0.0	2.5	0.0	2.6				

Intersection Summary

HCM 6th Ctrl Delay	39.3
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
45: Archibald Av. & Eucalyptus Av.



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖↗	↕↕	↖	↗	↕↕
Traffic Volume (vph)	11	16	1502	9	25	763
Future Volume (vph)	11	16	1502	9	25	763
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		8		2		
Detector Phase	3	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.5	9.5	32.5	32.5	9.6	16.5
Total Split (s)	9.5	9.5	41.4	41.4	9.6	51.0
Total Split (%)	13.6%	13.6%	59.1%	59.1%	13.7%	72.9%
Yellow Time (s)	3.5	3.5	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	5.1	5.1	54.7	54.7	5.1	56.4
Actuated g/C Ratio	0.08	0.08	0.90	0.90	0.08	0.93
v/c Ratio	0.05	0.04	0.52	0.01	0.20	0.26
Control Delay	26.4	0.2	6.4	4.8	29.8	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	0.2	6.4	4.8	29.8	2.0
LOS	C	A	A	A	C	A
Approach Delay			6.4			2.9
Approach LOS			A			A

Intersection Summary

Cycle Length: 70  
 Actuated Cycle Length: 60.8  
 Natural Cycle: 75  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.52  
 Intersection Signal Delay: 5.3  
 Intersection Capacity Utilization 57.2%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 45: Archibald Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔		↔		↕	↗	↘	↕	
Traffic Volume (veh/h)	0	0	0	11	0	16	0	1502	9	25	763	0
Future Volume (veh/h)	0	0	0	11	0	16	0	1502	9	25	763	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1700	0	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				12	0	6	0	1615	7	27	820	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				68	0	58	0	2301	1026	49	2682	0
Arrive On Green				0.02	0.00	0.02	0.00	0.67	0.67	0.03	0.78	0.00
Sat Flow, veh/h				3141	0	2685	0	3510	1525	1619	3510	0
Grp Volume(v), veh/h				12	0	6	0	1615	7	27	820	0
Grp Sat Flow(s),veh/h/ln				1570	0	1342	0	1710	1525	1619	1710	0
Q Serve(g_s), s				0.2	0.0	0.1	0.0	16.6	0.1	0.9	3.9	0.0
Cycle Q Clear(g_c), s				0.2	0.0	0.1	0.0	16.6	0.1	0.9	3.9	0.0
Prop In Lane				1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h				68	0	58	0	2301	1026	49	2682	0
V/C Ratio(X)				0.18	0.00	0.10	0.00	0.70	0.01	0.55	0.31	0.00
Avail Cap(c_a), veh/h				277	0	237	0	2301	1026	143	2682	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				27.3	0.0	27.2	0.0	5.8	3.1	27.1	1.7	0.0
Incr Delay (d2), s/veh				1.2	0.0	0.8	0.0	1.8	0.0	3.5	0.3	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.1	0.0	0.0	0.0	2.3	0.0	0.4	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				28.5	0.0	28.0	0.0	7.6	3.1	30.6	2.0	0.0
LnGrp LOS				C	A	C	A	A	A	C	A	A
Approach Vol, veh/h					18			1622			847	
Approach Delay, s/veh					28.3			7.6			2.9	
Approach LOS					C			A			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	6.3	44.7				51.0		5.7				
Change Period (Y+Rc), s	4.6	6.5				6.5		4.5				
Max Green Setting (Gmax), s	5.0	34.9				44.5		5.0				
Max Q Clear Time (g_c+I1), s	2.9	18.6				5.9		2.2				
Green Ext Time (p_c), s	0.0	9.7				5.5		0.0				

Intersection Summary

HCM 6th Ctrl Delay	6.1
HCM 6th LOS	A

Timings  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

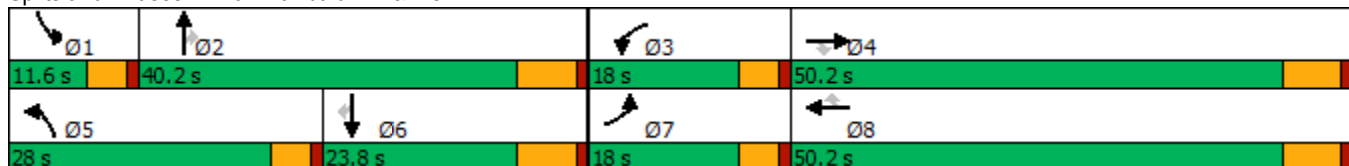


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↖	↗	↖	↖	↑↑↑	↖	↖↖	↑↑	↖
Traffic Volume (vph)	192	21	103	75	45	125	459	1141	40	41	498	241
Future Volume (vph)	192	21	103	75	45	125	459	1141	40	41	498	241
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	18.0	50.2	50.2	18.0	50.2	50.2	28.0	40.2	40.2	11.6	23.8	23.8
Total Split (%)	15.0%	41.8%	41.8%	15.0%	41.8%	41.8%	23.3%	33.5%	33.5%	9.7%	19.8%	19.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.6	22.4	22.4	8.6	15.3	15.3	23.8	39.7	39.7	5.8	17.6	17.6
Actuated g/C Ratio	0.15	0.24	0.24	0.09	0.17	0.17	0.26	0.43	0.43	0.06	0.19	0.19
v/c Ratio	0.84	0.05	0.22	0.51	0.15	0.34	1.14	0.56	0.06	0.23	0.79	0.59
Control Delay	69.1	28.1	2.1	54.2	32.0	5.0	122.2	24.1	0.1	47.6	47.1	20.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.1	28.1	2.1	54.2	32.0	5.0	122.2	24.1	0.1	47.6	47.1	20.6
LOS	E	C	A	D	C	A	F	C	A	D	D	C
Approach Delay		44.5			25.0			51.0			39.0	
Approach LOS		D			C			D			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 92.6  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.14  
 Intersection Signal Delay: 45.0  
 Intersection LOS: D  
 Intersection Capacity Utilization 75.9%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 46: Archibald Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↑↑↑	↗	↖↗	↗↘	↖
Traffic Volume (veh/h)	192	21	103	75	45	125	459	1141	40	41	498	241
Future Volume (veh/h)	192	21	103	75	45	125	459	1141	40	41	498	241
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	198	22	51	77	46	34	473	1176	22	42	513	182
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	231	368	312	96	218	185	462	2119	658	111	627	280
Arrive On Green	0.14	0.20	0.20	0.06	0.12	0.12	0.29	0.43	0.43	0.04	0.18	0.18
Sat Flow, veh/h	1619	1800	1525	1619	1800	1525	1619	4914	1525	2956	3420	1525
Grp Volume(v), veh/h	198	22	51	77	46	34	473	1176	22	42	513	182
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	1800	1525	1619	1638	1525	1478	1710	1525
Q Serve(g_s), s	9.8	0.8	2.3	3.9	1.9	1.6	23.4	14.7	0.7	1.1	11.8	9.1
Cycle Q Clear(g_c), s	9.8	0.8	2.3	3.9	1.9	1.6	23.4	14.7	0.7	1.1	11.8	9.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	231	368	312	96	218	185	462	2119	658	111	627	280
V/C Ratio(X)	0.86	0.06	0.16	0.80	0.21	0.18	1.02	0.56	0.03	0.38	0.82	0.65
Avail Cap(c_a), veh/h	265	966	819	265	966	819	462	2119	658	252	722	322
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	26.2	26.8	38.1	32.5	32.4	29.3	17.4	13.5	38.5	32.2	31.0
Incr Delay (d2), s/veh	19.2	0.1	0.2	5.7	0.5	0.5	48.0	0.3	0.0	0.8	6.5	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.3	0.8	1.6	0.8	0.6	14.1	4.7	0.2	0.4	5.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.5	26.3	27.1	43.7	32.9	32.8	77.2	17.8	13.5	39.3	38.7	34.8
LnGrp LOS	D	C	C	D	C	C	F	B	B	D	D	C
Approach Vol, veh/h		271			157			1671			737	
Approach Delay, s/veh		46.3			38.2			34.5			37.8	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	41.8	9.5	23.0	28.0	21.5	16.3	16.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.0	33.7	13.4	44.0	23.4	17.3	13.4	44.0				
Max Q Clear Time (g_c+I1), s	3.1	16.7	5.9	4.3	25.4	13.8	11.8	3.9				
Green Ext Time (p_c), s	0.0	6.8	0.0	0.2	0.0	1.2	0.0	0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			36.7									
HCM 6th LOS			D									

Timings  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖ ↗	↖	↖	↖	↖ ↗	↖
Traffic Volume (vph)	283	834	826	288	199	476
Future Volume (vph)	283	834	826	288	199	476
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	27.0	56.7	36.3	27.0	83.7
Total Split (%)	30.3%	22.5%	47.3%	30.3%	22.5%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min
Act Effct Green (s)	14.9	37.3	51.7	71.9	22.1	79.1
Actuated g/C Ratio	0.14	0.36	0.50	0.69	0.21	0.76
v/c Ratio	0.59	1.40	0.91	0.25	0.54	0.34
Control Delay	46.2	216.4	41.1	1.6	44.3	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	216.4	41.1	1.6	44.3	5.9
LOS	D	F	D	A	D	A
Approach Delay	173.2		30.9			17.2
Approach LOS	F		C			B

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 104.4	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.40	
Intersection Signal Delay: 82.5	Intersection LOS: F
Intersection Capacity Utilization 103.7%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 47: Archibald Av. & Limonite Av.



HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶↶	↶	↶	↶	↷	↷
Traffic Volume (veh/h)	283	834	826	288	199	476
Future Volume (veh/h)	283	834	826	288	199	476
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	295	813	860	253	207	496
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	964	655	865	1175	239	1200
Arrive On Green	0.27	0.27	0.46	0.46	0.13	0.63
Sat Flow, veh/h	3510	1610	1900	1610	1810	1900
Grp Volume(v), veh/h	295	813	860	253	207	496
Grp Sat Flow(s),veh/h/ln	1755	1610	1900	1610	1810	1900
Q Serve(g_s), s	7.5	31.0	50.9	5.7	12.7	14.7
Cycle Q Clear(g_c), s	7.5	31.0	50.9	5.7	12.7	14.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	964	655	865	1175	239	1200
V/C Ratio(X)	0.31	1.24	0.99	0.22	0.86	0.41
Avail Cap(c_a), veh/h	964	655	865	1175	352	1324
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	33.5	30.6	4.9	48.0	10.4
Incr Delay (d2), s/veh	0.1	121.3	29.2	0.1	13.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	38.4	27.9	4.0	6.3	5.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.5	154.8	59.8	5.0	61.9	10.5
LnGrp LOS	C	F	E	A	E	B
Approach Vol, veh/h	1108		1113			703
Approach Delay, s/veh	122.2		47.4			25.6
Approach LOS	F		D			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	19.9	56.7			76.6	36.3
Change Period (Y+Rc), s	5.0	5.3			* 5.3	5.3
Max Green Setting (Gmax), s	22.0	51.4			* 79	31.0
Max Q Clear Time (g_c+I1), s	14.7	52.9			16.7	33.0
Green Ext Time (p_c), s	0.3	0.0			1.6	0.0

Intersection Summary

HCM 6th Ctrl Delay	70.5
HCM 6th LOS	E

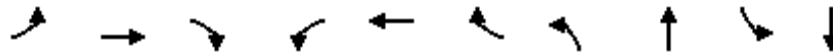
Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

48: Turner Av. & Ontario Ranch Rd.

08/23/2021

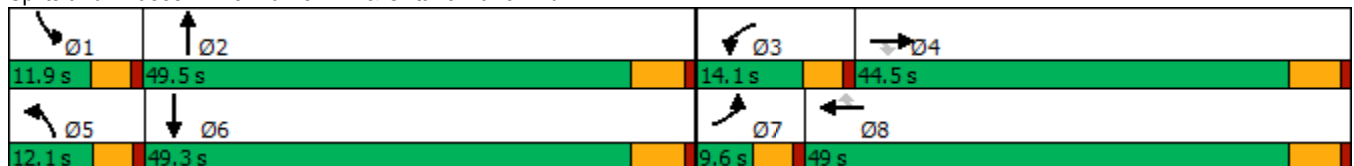


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗	↘	↗
Traffic Volume (vph)	28	564	34	43	1071	18	58	24	34	16
Future Volume (vph)	28	564	34	43	1071	18	58	24	34	16
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	25.8	25.8	9.6	45.8	9.6	47.8
Total Split (s)	9.6	44.5	44.5	14.1	49.0	49.0	12.1	49.5	11.9	49.3
Total Split (%)	8.0%	37.1%	37.1%	11.8%	40.8%	40.8%	10.1%	41.3%	9.9%	41.1%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	5.2	49.0	49.0	7.0	50.6	50.6	7.0	18.0	6.4	15.1
Actuated g/C Ratio	0.06	0.57	0.57	0.08	0.59	0.59	0.08	0.21	0.07	0.17
v/c Ratio	0.32	0.32	0.04	0.37	0.59	0.02	0.49	0.18	0.32	0.26
Control Delay	55.0	17.7	0.1	51.3	20.4	0.1	56.8	16.4	51.5	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.0	17.7	0.1	51.3	20.4	0.1	56.8	16.4	51.5	13.0
LOS	D	B	A	D	C	A	E	B	D	B
Approach Delay		18.4			21.3			36.0		24.9
Approach LOS		B			C			D		C

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 86.4  
 Natural Cycle: 105  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.59  
 Intersection Signal Delay: 21.5  
 Intersection LOS: C  
 Intersection Capacity Utilization 59.2%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 48: Turner Av. & Ontario Ranch Rd.





HCM 6th Signalized Intersection Summary  
48: Turner Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖	↑↑	↗	↖	↗		↖	↗	
Traffic Volume (veh/h)	28	564	34	43	1071	18	58	24	37	34	16	60
Future Volume (veh/h)	28	564	34	43	1071	18	58	24	37	34	16	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	31	627	27	48	1190	11	64	27	28	38	18	44
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	50	1811	808	66	1845	823	79	109	113	58	56	137
Arrive On Green	0.03	0.53	0.53	0.04	0.54	0.54	0.05	0.13	0.13	0.04	0.12	0.12
Sat Flow, veh/h	1619	3420	1525	1619	3420	1525	1619	809	839	1619	463	1133
Grp Volume(v), veh/h	31	627	27	48	1190	11	64	0	55	38	0	62
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1525	1619	0	1649	1619	0	1596
Q Serve(g_s), s	1.5	8.5	0.7	2.3	19.7	0.3	3.1	0.0	2.4	1.9	0.0	2.8
Cycle Q Clear(g_c), s	1.5	8.5	0.7	2.3	19.7	0.3	3.1	0.0	2.4	1.9	0.0	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.51	1.00		0.71
Lane Grp Cap(c), veh/h	50	1811	808	66	1845	823	79	0	221	58	0	193
V/C Ratio(X)	0.62	0.35	0.03	0.72	0.64	0.01	0.81	0.00	0.25	0.66	0.00	0.32
Avail Cap(c_a), veh/h	101	1811	808	192	1845	823	152	0	900	148	0	867
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.3	10.8	9.0	38.0	13.0	8.6	37.7	0.0	31.1	38.1	0.0	32.2
Incr Delay (d2), s/veh	4.5	0.5	0.1	5.5	1.8	0.0	7.2	0.0	0.6	4.7	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.8	0.2	1.0	6.5	0.1	1.3	0.0	0.9	0.8	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.8	11.4	9.1	43.4	14.8	8.6	44.9	0.0	31.6	42.8	0.0	33.1
LnGrp LOS	D	B	A	D	B	A	D	A	C	D	A	C
Approach Vol, veh/h		685			1249			119				100
Approach Delay, s/veh		12.7			15.8			38.8				36.8
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	16.5	7.9	48.2	8.5	15.5	7.1	49.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	7.3	43.7	9.5	38.7	7.5	43.5	5.0	43.2				
Max Q Clear Time (g_c+1), s	3.9	4.4	4.3	10.5	5.1	4.8	3.5	21.7				
Green Ext Time (p_c), s	0.0	0.2	0.0	4.2	0.0	0.3	0.0	8.4				

Intersection Summary												
HCM 6th Ctrl Delay											17.1	
HCM 6th LOS											B	

Timings

49: Haven Av. & Ontario Ranch Rd.

08/23/2021

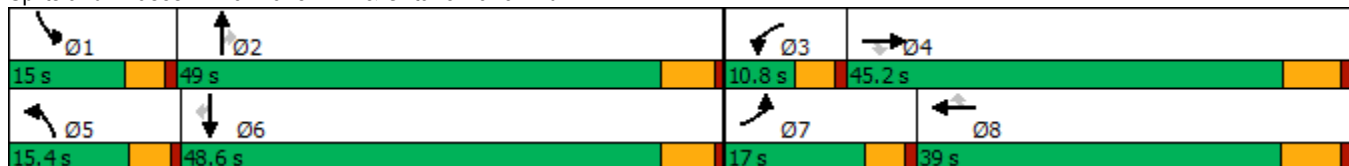


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (vph)	135	596	29	21	896	82	63	191	79	119	58	71
Future Volume (vph)	135	596	29	21	896	82	63	191	79	119	58	71
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	17.0	45.2	45.2	10.8	39.0	39.0	15.4	49.0	49.0	15.0	48.6	48.6
Total Split (%)	14.2%	37.7%	37.7%	9.0%	32.5%	32.5%	12.8%	40.8%	40.8%	12.5%	40.5%	40.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	11.9	45.9	45.9	5.7	33.0	33.0	8.0	18.8	18.8	10.4	23.4	23.4
Actuated g/C Ratio	0.12	0.48	0.48	0.06	0.34	0.34	0.08	0.20	0.20	0.11	0.24	0.24
v/c Ratio	0.72	0.27	0.04	0.23	0.45	0.14	0.50	0.58	0.20	0.73	0.14	0.15
Control Delay	63.5	18.2	0.1	53.6	26.8	0.6	57.9	40.6	1.0	68.2	30.3	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.5	18.2	0.1	53.6	26.8	0.6	57.9	40.6	1.0	68.2	30.3	0.7
LOS	E	B	A	D	C	A	E	D	A	E	C	A
Approach Delay		25.6			25.2			34.5			40.0	
Approach LOS		C			C			C			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 95.9	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 28.2	Intersection LOS: C
Intersection Capacity Utilization 58.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 49: Haven Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
49: Haven Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (veh/h)	135	596	29	21	896	82	63	191	79	119	58	71
Future Volume (veh/h)	135	596	29	21	896	82	63	191	79	119	58	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	144	634	18	22	953	42	67	203	34	127	62	43
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	174	2334	724	39	2422	597	83	263	223	155	344	291
Arrive On Green	0.11	0.47	0.47	0.02	0.39	0.39	0.05	0.15	0.15	0.10	0.19	0.19
Sat Flow, veh/h	1619	4914	1525	1619	6192	1525	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	144	634	18	22	953	42	67	203	34	127	62	43
Grp Sat Flow(s),veh/h/ln	1619	1638	1525	1619	1548	1525	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	7.2	6.5	0.5	1.1	9.2	1.4	3.4	9.0	1.6	6.4	2.4	1.9
Cycle Q Clear(g_c), s	7.2	6.5	0.5	1.1	9.2	1.4	3.4	9.0	1.6	6.4	2.4	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	174	2334	724	39	2422	597	83	263	223	155	344	291
V/C Ratio(X)	0.83	0.27	0.02	0.57	0.39	0.07	0.81	0.77	0.15	0.82	0.18	0.15
Avail Cap(c_a), veh/h	242	2334	724	121	2422	597	210	936	793	203	927	786
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.3	13.1	11.6	40.1	18.2	15.8	39.0	34.1	31.0	36.8	28.2	28.0
Incr Delay (d2), s/veh	11.0	0.3	0.1	4.8	0.5	0.2	6.7	4.7	0.3	13.9	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	2.1	0.2	0.5	2.9	0.5	1.4	4.0	0.6	3.0	1.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.3	13.4	11.7	44.9	18.7	16.1	45.7	38.9	31.3	50.8	28.4	28.2
LnGrp LOS	D	B	B	D	B	B	D	D	C	D	C	C
Approach Vol, veh/h		796			1017			304			232	
Approach Delay, s/veh		19.5			19.1			39.5			40.6	
Approach LOS		B			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	18.0	6.6	46.0	8.9	21.7	13.6	39.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	10.4	43.2	6.2	* 39	10.8	42.8	12.4	32.5				
Max Q Clear Time (g_c+I1), s	8.4	11.0	3.1	8.5	5.4	4.4	9.2	11.2				
Green Ext Time (p_c), s	0.0	1.1	0.0	4.2	0.0	0.4	0.0	6.0				

Intersection Summary

HCM 6th Ctrl Delay	24.0
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

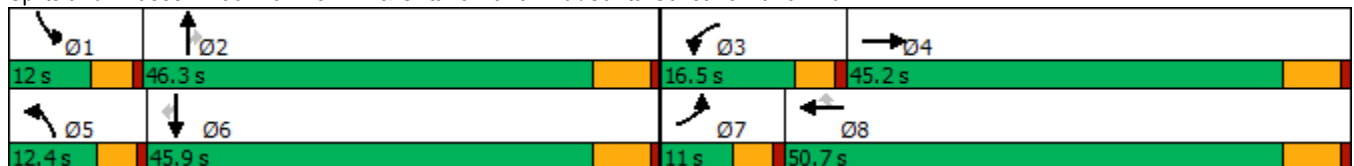


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	97	556	275	839	203	171	701	504	154	208	84
Future Volume (vph)	97	556	275	839	203	171	701	504	154	208	84
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.2	9.6	49.2	49.2	9.6	44.2	44.2	9.6	45.2	45.2
Total Split (s)	11.0	45.2	16.5	50.7	50.7	12.4	46.3	46.3	12.0	45.9	45.9
Total Split (%)	9.2%	37.7%	13.8%	42.3%	42.3%	10.3%	38.6%	38.6%	10.0%	38.3%	38.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.4	31.3	12.1	37.0	37.0	8.0	35.0	35.0	7.6	34.6	34.6
Actuated g/C Ratio	0.06	0.29	0.11	0.34	0.34	0.07	0.32	0.32	0.07	0.32	0.32
v/c Ratio	0.63	0.41	0.95	0.81	0.36	0.89	0.50	0.90	0.85	0.22	0.16
Control Delay	70.1	30.1	87.6	39.0	7.7	91.6	31.0	40.8	86.4	28.0	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.1	30.1	87.6	39.0	7.7	91.6	31.0	40.8	86.4	28.0	1.1
LOS	E	C	F	D	A	F	C	D	F	C	A
Approach Delay		35.3		44.3			42.1			43.1	
Approach LOS		D		D			D			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 108  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 41.7  
 Intersection LOS: D  
 Intersection Capacity Utilization 66.2%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔
Traffic Volume (veh/h)	97	556	82	275	839	203	171	701	504	154	208	84
Future Volume (veh/h)	97	556	82	275	839	203	171	701	504	154	208	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	110	632	93	312	953	231	194	797	566	175	236	95
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	156	1511	217	315	1122	500	207	1766	548	196	1217	542
Arrive On Green	0.05	0.27	0.27	0.11	0.33	0.33	0.07	0.36	0.36	0.07	0.36	0.36
Sat Flow, veh/h	2956	5512	790	2956	3420	1525	2956	4914	1525	2956	3420	1524
Grp Volume(v), veh/h	110	530	195	312	953	231	194	797	566	175	236	95
Grp Sat Flow(s),veh/h/ln	1478	1548	1658	1478	1710	1525	1478	1638	1525	1478	1710	1524
Q Serve(g_s), s	4.1	10.4	10.8	11.8	29.0	13.4	7.3	13.8	40.1	6.6	5.3	4.8
Cycle Q Clear(g_c), s	4.1	10.4	10.8	11.8	29.0	13.4	7.3	13.8	40.1	6.6	5.3	4.8
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	1273	454	315	1122	500	207	1766	548	196	1217	542
V/C Ratio(X)	0.71	0.42	0.43	0.99	0.85	0.46	0.94	0.45	1.03	0.89	0.19	0.18
Avail Cap(c_a), veh/h	170	1623	579	315	1364	608	207	1766	548	196	1217	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.0	33.2	33.3	49.8	34.9	29.7	51.7	27.3	35.7	51.7	24.9	24.7
Incr Delay (d2), s/veh	9.1	0.2	0.6	47.7	4.5	0.7	45.0	0.2	47.1	35.4	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.7	4.2	6.3	12.0	4.7	3.9	5.1	20.9	3.3	2.1	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.1	33.4	34.0	97.5	39.4	30.4	96.7	27.5	82.8	87.1	24.9	24.8
LnGrp LOS	E	C	C	F	D	C	F	C	F	F	C	C
Approach Vol, veh/h		835			1496			1557				506
Approach Delay, s/veh		37.2			50.1			56.2				46.4
Approach LOS		D			D			E				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	46.3	16.5	36.8	12.4	45.9	10.5	42.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	7.4	40.1	11.9	39.0	7.8	39.7	6.4	44.5				
Max Q Clear Time (g_c+I1), s	8.6	42.1	13.8	12.8	9.3	7.3	6.1	31.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.3	0.0	1.6	0.0	5.6				

Intersection Summary

HCM 6th Ctrl Delay	49.4
HCM 6th LOS	D

Timings  
51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021

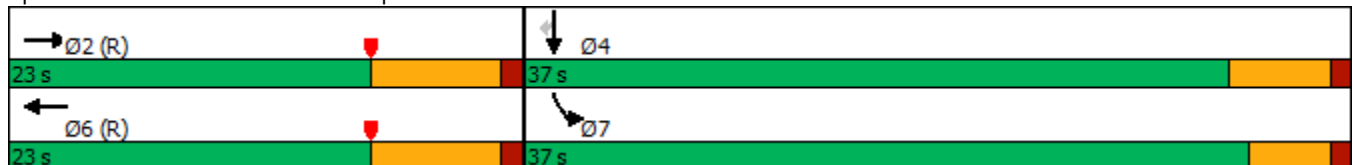


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑	↔	↑
Traffic Volume (vph)	993	330	533	182	323	0	1139
Future Volume (vph)	993	330	533	182	323	0	1139
Turn Type	NA	Free	NA	Free	Prot	NA	Perm
Protected Phases	2		6		7	4	
Permitted Phases		Free		Free			4
Detector Phase	2		6		7	4	4
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5	10.5
Total Split (s)	23.0		23.0		37.0	37.0	37.0
Total Split (%)	38.3%		38.3%		61.7%	61.7%	61.7%
Yellow Time (s)	5.8		5.8		3.6	4.5	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max		C-Min		None	Min	Min
Act Effct Green (s)	16.2	60.0	16.2	60.0	32.4	31.5	31.5
Actuated g/C Ratio	0.27	1.00	0.27	1.00	0.54	0.52	0.52
v/c Ratio	0.79	0.23	0.61	0.13	0.35	0.81	0.77
Control Delay	25.3	0.3	19.3	0.2	9.2	21.0	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	0.3	19.3	0.2	9.2	21.0	18.3
LOS	C	A	B	A	A	C	B
Approach Delay	19.1		14.4			17.6	
Approach LOS	B		B			B	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.81  
 Intersection Signal Delay: 17.5  
 Intersection LOS: B  
 Intersection Capacity Utilization 72.0%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑	↗				↘	↔	↗
Traffic Volume (veh/h)	0	993	330	0	533	182	0	0	0	323	0	1139
Future Volume (veh/h)	0	993	330	0	533	182	0	0	0	323	0	1139
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1103	0	0	592	0				239	0	1096
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2057		0	1431					748	0	1332
Arrive On Green	0.00	0.40	0.00	0.00	0.40	0.00				0.41	0.00	0.41
Sat Flow, veh/h	0	5358	1610	0	3705	1610				1810	0	3220
Grp Volume(v), veh/h	0	1103	0	0	592	0				239	0	1096
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610				1810	0	1610
Q Serve(g_s), s	0.0	9.8	0.0	0.0	7.1	0.0				5.4	0.0	18.2
Cycle Q Clear(g_c), s	0.0	9.8	0.0	0.0	7.1	0.0				5.4	0.0	18.2
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2057		0	1431					748	0	1332
V/C Ratio(X)	0.00	0.54		0.00	0.41					0.32	0.00	0.82
Avail Cap(c_a), veh/h	0	2057		0	1431					977	0	1739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.71	0.00	0.00	0.93	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.9	0.0	0.0	13.1	0.0				11.9	0.0	15.6
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.8	0.0				0.2	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.1	0.0	0.0	2.4	0.0				1.8	0.0	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	14.6	0.0	0.0	13.9	0.0				12.1	0.0	18.2
LnGrp LOS	A	B		A	B					B	A	B
Approach Vol, veh/h		1103	A		592	A					1335	
Approach Delay, s/veh		14.6			13.9						17.1	
Approach LOS		B			B						B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		30.6		29.4		30.6						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		16.2		32.4		16.2						
Max Q Clear Time (g_c+I1), s		11.8		20.2		9.1						
Green Ext Time (p_c), s		2.6		4.7		2.0						

Intersection Summary

HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B

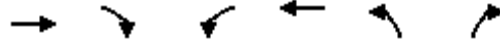
Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↙↘	↑↑↑	↙↘	↑
Traffic Volume (vph)	499	816	366	462	253	300
Future Volume (vph)	499	816	366	462	253	300
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	32.0	15.0	13.0	45.0	15.0	15.0
Total Split (%)	53.3%	25.0%	21.7%	75.0%	25.0%	25.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max
Act Effct Green (s)	24.7	41.0	7.0	37.7	9.0	9.0
Actuated g/C Ratio	0.41	0.68	0.12	0.63	0.15	0.15
v/c Ratio	0.26	0.81	0.99	0.16	0.67	0.50
Control Delay	8.6	13.9	71.7	4.7	22.6	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	13.9	71.7	4.7	22.6	9.4
LOS	A	B	E	A	C	A
Approach Delay	11.9			34.3	18.5	
Approach LOS	B			C	B	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 20.1  
 Intersection Capacity Utilization 71.0%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service C

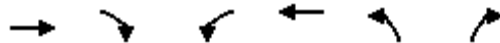
Splits and Phases: 52: I-15 NB Ramps & Cantu Galleano Ranch Rd.





HCM 6th Signalized Intersection Summary  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↵↵	↑↑↑	↵↵	↑
Traffic Volume (veh/h)	499	816	366	462	253	300
Future Volume (veh/h)	499	816	366	462	253	300
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	548	563	402	508	305	154
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2135	904	410	3259	543	242
Arrive On Green	0.69	0.69	0.12	0.63	0.15	0.15
Sat Flow, veh/h	5358	1610	3510	5358	3619	1610
Grp Volume(v), veh/h	548	563	402	508	305	154
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1810	1610
Q Serve(g_s), s	2.4	11.7	6.9	2.4	4.7	5.4
Cycle Q Clear(g_c), s	2.4	11.7	6.9	2.4	4.7	5.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2135	904	410	3259	543	242
V/C Ratio(X)	0.26	0.62	0.98	0.16	0.56	0.64
Avail Cap(c_a), veh/h	2135	904	410	3259	543	242
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.9	4.4	26.4	4.6	23.7	24.0
Incr Delay (d2), s/veh	0.2	2.2	40.1	0.0	4.2	12.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.8	4.8	0.5	2.1	2.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.1	6.6	66.5	4.6	27.8	36.2
LnGrp LOS	A	A	E	A	C	D
Approach Vol, veh/h	1111			910	459	
Approach Delay, s/veh	6.3			32.0	30.6	
Approach LOS	A			C	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.0	32.0			45.0	15.0
Change Period (Y+Rc), s	6.0	7.3			7.3	6.0
Max Green Setting (Gmax), s	7.0	24.7			37.7	9.0
Max Q Clear Time (g_c+I1), s	8.9	13.7			4.4	7.4
Green Ext Time (p_c), s	0.0	4.1			3.2	0.3

Intersection Summary

HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
1: Euclid Av. (SR-83) & SR-60 WB Ramps

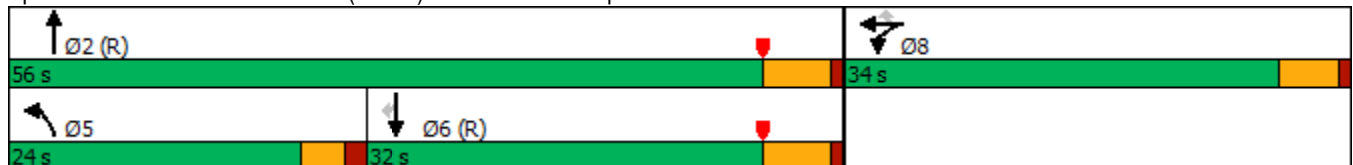


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	610	6	407	279	1077	1001	492
Future Volume (vph)	610	6	407	279	1077	1001	492
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	10.0	10.0	10.0
Minimum Split (s)	11.0	11.0	11.0	9.5	22.5	22.5	22.5
Total Split (s)	34.0	34.0	34.0	24.0	56.0	32.0	32.0
Total Split (%)	37.8%	37.8%	37.8%	26.7%	62.2%	35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.5	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	24.1	24.1	24.1	17.4	55.4	33.5	33.5
Actuated g/C Ratio	0.27	0.27	0.27	0.19	0.62	0.37	0.37
v/c Ratio	0.80	0.82	0.72	0.83	0.50	0.78	0.56
Control Delay	44.1	44.3	30.5	41.4	21.0	32.4	5.0
Queue Delay	0.0	0.0	0.0	0.0	2.1	0.0	0.0
Total Delay	44.1	44.3	30.5	41.4	23.2	32.4	5.0
LOS	D	D	C	D	C	C	A
Approach Delay		39.9			26.9	23.4	
Approach LOS		D			C	C	

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 63 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 29.0  
 Intersection LOS: C  
 Intersection Capacity Utilization 92.2%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 1: Euclid Av. (SR-83) & SR-60 WB Ramps



HCM 6th Signalized Intersection Summary  
 1: Euclid Av. (SR-83) & SR-60 WB Ramps

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↔	↗	↖	↕			↕	↗
Traffic Volume (veh/h)	0	0	0	610	6	407	279	1077	0	0	1001	492
Future Volume (veh/h)	0	0	0	610	6	407	279	1077	0	0	1001	492
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				713	0	164	291	1122	0	0	1043	307
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				822	0	365	320	2369	0	0	1549	691
Arrive On Green				0.23	0.00	0.23	0.35	1.00	0.00	0.00	0.43	0.43
Sat Flow, veh/h				3619	0	1608	1810	3705	0	0	3705	1610
Grp Volume(v), veh/h				713	0	164	291	1122	0	0	1043	307
Grp Sat Flow(s),veh/h/ln				1810	0	1608	1810	1805	0	0	1805	1610
Q Serve(g_s), s				17.1	0.0	7.9	13.8	0.0	0.0	0.0	20.9	12.1
Cycle Q Clear(g_c), s				17.1	0.0	7.9	13.8	0.0	0.0	0.0	20.9	12.1
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				822	0	365	320	2369	0	0	1549	691
V/C Ratio(X)				0.87	0.00	0.45	0.91	0.47	0.00	0.00	0.67	0.44
Avail Cap(c_a), veh/h				1166	0	518	392	2369	0	0	1549	691
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.51	0.51	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.5	0.0	29.9	28.4	0.0	0.0	0.0	20.6	18.1
Incr Delay (d2), s/veh				3.8	0.0	0.3	11.6	0.3	0.0	0.0	2.4	2.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.4	0.0	2.9	5.5	0.1	0.0	0.0	8.5	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				37.3	0.0	30.3	40.0	0.3	0.0	0.0	23.0	20.2
LnGrp LOS				D	A	C	D	A	A	A	C	C
Approach Vol, veh/h					877			1413			1350	
Approach Delay, s/veh					36.0			8.5			22.3	
Approach LOS					D			A			C	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		64.6			20.4	44.1		25.4				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.0				
Max Green Setting (Gmax), s		50.5			19.5	26.5		29.0				
Max Q Clear Time (g_c+I1), s		2.0			15.8	22.9		19.1				
Green Ext Time (p_c), s		15.0			0.2	2.8		1.4				

Intersection Summary

HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

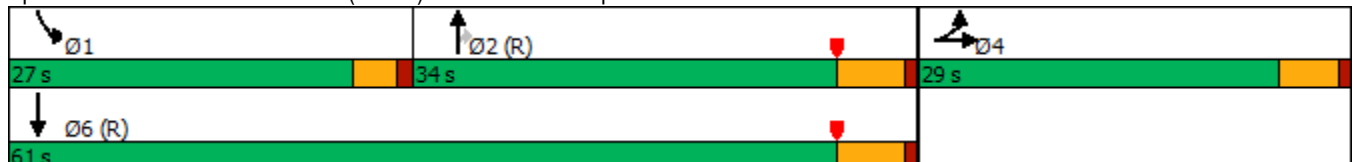


Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	416	3	938	604	375	1246
Future Volume (vph)	416	3	938	604	375	1246
Turn Type	Split	NA	NA	Perm	Prot	NA
Protected Phases	4	4	2		1	6
Permitted Phases				2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0	10.0	5.0	10.0
Minimum Split (s)	11.0	11.0	22.5	22.5	9.0	22.5
Total Split (s)	29.0	29.0	34.0	34.0	27.0	61.0
Total Split (%)	32.2%	32.2%	37.8%	37.8%	30.0%	67.8%
Yellow Time (s)	4.0	4.0	4.5	4.5	3.0	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)	22.3	22.3	31.8	31.8	21.4	57.2
Actuated g/C Ratio	0.25	0.25	0.35	0.35	0.24	0.64
v/c Ratio	0.90	0.87	0.75	0.65	0.89	0.55
Control Delay	58.1	47.9	31.3	5.7	51.8	4.4
Queue Delay	14.4	9.3	0.0	0.0	0.0	0.5
Total Delay	72.5	57.2	31.3	5.7	51.8	4.9
LOS	E	E	C	A	D	A
Approach Delay		64.8	21.3			15.7
Approach LOS		E	C			B

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 27.3  
 Intersection LOS: C  
 Intersection Capacity Utilization 92.2%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 2: Euclid Av. (SR-83) & SR-60 EB Ramps



HCM 6th Signalized Intersection Summary  
 2: Euclid Av. (SR-83) & SR-60 EB Ramps

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	416	3	331	0	0	0	0	938	604	375	1246	0
Future Volume (veh/h)	416	3	331	0	0	0	0	938	604	375	1246	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	349	108	271				0	957	422	383	1271	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	448	119	298				0	1320	575	409	2296	0
Arrive On Green	0.25	0.25	0.25				0.00	0.37	0.37	0.45	1.00	0.00
Sat Flow, veh/h	1810	480	1204				0	3705	1572	1810	3705	0
Grp Volume(v), veh/h	349	0	379				0	957	422	383	1271	0
Grp Sat Flow(s),veh/h/ln	1810	0	1683				0	1805	1572	1810	1805	0
Q Serve(g_s), s	16.2	0.0	19.7				0.0	20.6	20.9	18.1	0.0	0.0
Cycle Q Clear(g_c), s	16.2	0.0	19.7				0.0	20.6	20.9	18.1	0.0	0.0
Prop In Lane	1.00		0.72				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	448	0	416				0	1320	575	409	2296	0
V/C Ratio(X)	0.78	0.00	0.91				0.00	0.72	0.73	0.94	0.55	0.00
Avail Cap(c_a), veh/h	483	0	449				0	1320	575	462	2296	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.62	0.62	0.53	0.53	0.00
Uniform Delay (d), s/veh	31.6	0.0	32.9				0.0	24.6	24.7	24.1	0.0	0.0
Incr Delay (d2), s/veh	6.6	0.0	20.7				0.0	2.2	5.1	15.5	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	0.0	9.8				0.0	8.5	8.0	6.9	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	0.0	53.6				0.0	26.8	29.9	39.5	0.5	0.0
LnGrp LOS	D	A	D				A	C	C	D	A	A
Approach Vol, veh/h		728						1379			1654	
Approach Delay, s/veh		46.2						27.8			9.6	
Approach LOS		D						C			A	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	24.3	38.4	27.3	62.7								
Change Period (Y+Rc), s	4.0	5.5	5.0	5.5								
Max Green Setting (Gmax), s	23.0	28.5	24.0	55.5								
Max Q Clear Time (g_c+I1), s	20.1	22.9	21.7	2.0								
Green Ext Time (p_c), s	0.2	4.1	0.6	18.8								

Intersection Summary

HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
3: Euclid Av. (SR-83) & Walnut Av.

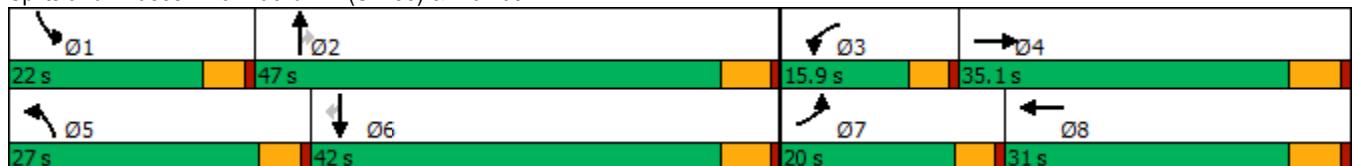


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕	↙	↕	↙	↕↕↕	↗	↙↗	↕↕↕	↗
Traffic Volume (vph)	107	370	69	370	200	1273	77	279	1128	155
Future Volume (vph)	107	370	69	370	200	1273	77	279	1128	155
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.8	9.6	29.8	9.6	27.4	27.4	9.6	29.4	29.4
Total Split (s)	20.0	35.1	15.9	31.0	27.0	47.0	47.0	22.0	42.0	42.0
Total Split (%)	16.7%	29.3%	13.3%	25.8%	22.5%	39.2%	39.2%	18.3%	35.0%	35.0%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.4	4.4	3.6	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.4	5.4	4.6	5.4	5.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	11.6	26.4	8.8	21.3	18.0	41.9	41.9	14.6	38.6	38.6
Actuated g/C Ratio	0.11	0.24	0.08	0.19	0.16	0.38	0.38	0.13	0.35	0.35
v/c Ratio	0.67	0.66	0.57	0.82	0.81	0.72	0.13	0.76	0.70	0.26
Control Delay	68.0	40.2	67.9	50.7	68.5	33.3	2.8	60.2	35.2	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.0	40.2	67.9	50.7	68.5	33.3	2.8	60.2	35.2	5.8
LOS	E	D	E	D	E	C	A	E	D	A
Approach Delay		45.1		52.7		36.3			36.7	
Approach LOS		D		D		D			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 110.1  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 39.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 75.5%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 3: Euclid Av. (SR-83) & Walnut Av.



HCM 6th Signalized Intersection Summary  
 3: Euclid Av. (SR-83) & Walnut Av.

Ontario Ranch Business Park (JN 13941)  
 08/23/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	370	139	69	370	140	200	1273	77	279	1128	155
Future Volume (veh/h)	107	370	139	69	370	140	200	1273	77	279	1128	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	114	394	125	73	394	123	213	1354	55	297	1200	111
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	139	562	176	91	488	150	242	1989	616	356	1845	572
Arrive On Green	0.09	0.22	0.22	0.06	0.19	0.19	0.15	0.40	0.40	0.12	0.38	0.38
Sat Flow, veh/h	1619	2553	800	1619	2559	788	1619	4914	1523	2956	4914	1524
Grp Volume(v), veh/h	114	262	257	73	262	255	213	1354	55	297	1200	111
Grp Sat Flow(s),veh/h/ln	1619	1710	1642	1619	1710	1637	1619	1638	1523	1478	1638	1524
Q Serve(g_s), s	7.1	14.5	14.9	4.6	15.0	15.4	13.2	23.3	2.3	10.1	20.7	5.0
Cycle Q Clear(g_c), s	7.1	14.5	14.9	4.6	15.0	15.4	13.2	23.3	2.3	10.1	20.7	5.0
Prop In Lane	1.00		0.49	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	377	362	91	326	312	242	1989	616	356	1845	572
V/C Ratio(X)	0.82	0.70	0.71	0.80	0.80	0.82	0.88	0.68	0.09	0.83	0.65	0.19
Avail Cap(c_a), veh/h	243	487	468	178	419	401	353	1989	616	500	1845	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.2	36.9	37.0	47.9	39.7	39.9	42.8	25.1	18.9	44.2	26.5	21.6
Incr Delay (d2), s/veh	4.5	3.0	3.5	6.0	8.4	10.0	12.0	1.9	0.3	6.0	1.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.1	6.0	1.9	6.8	6.8	6.0	8.9	0.8	3.9	8.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	39.9	40.5	53.9	48.1	49.9	54.8	27.0	19.2	50.2	28.3	22.4
LnGrp LOS	D	D	D	D	D	D	D	C	B	D	C	C
Approach Vol, veh/h		633			590			1622			1608	
Approach Delay, s/veh		42.1			49.6			30.4			31.9	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	47.0	10.4	28.4	20.0	44.0	13.4	25.4				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.8	4.6	5.4	4.6	5.8				
Max Green Setting (Gmax), s	17.4	41.6	11.3	29.3	22.4	36.6	15.4	25.2				
Max Q Clear Time (g_c+I1), s	12.1	25.3	6.6	16.9	15.2	22.7	9.1	17.4				
Green Ext Time (p_c), s	0.3	8.5	0.0	2.3	0.2	7.0	0.1	1.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			35.2									
HCM 6th LOS			D									

Timings  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/23/2021

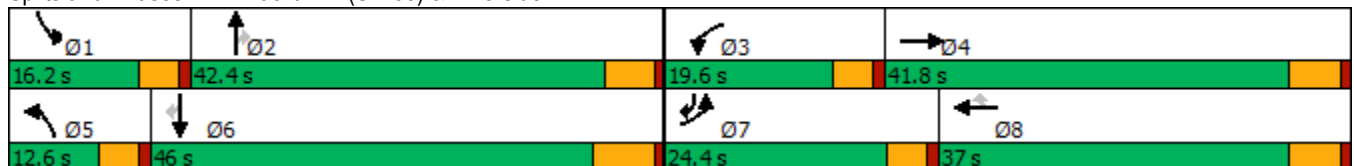


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	151	458	185	409	64	73	1088	253	147	942	203
Future Volume (vph)	151	458	185	409	64	73	1088	253	147	942	203
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8		5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	24.4	41.8	19.6	37.0	37.0	12.6	42.4	42.4	16.2	46.0	24.4
Total Split (%)	20.3%	34.8%	16.3%	30.8%	30.8%	10.5%	35.3%	35.3%	13.5%	38.3%	20.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	None
Act Effct Green (s)	15.4	36.0	15.0	35.6	35.6	7.6	37.0	37.0	11.6	39.9	57.2
Actuated g/C Ratio	0.13	0.30	0.12	0.30	0.30	0.06	0.31	0.31	0.10	0.33	0.48
v/c Ratio	0.76	1.04	0.96	0.42	0.12	0.75	1.07	0.43	0.98	0.86	0.26
Control Delay	72.4	91.0	106.6	36.3	0.4	94.3	90.1	10.0	121.7	46.9	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.4	91.0	106.6	36.3	0.4	94.3	90.1	10.0	121.7	46.9	5.5
LOS	E	F	F	D	A	F	F	B	F	D	A
Approach Delay		86.9		52.6			75.9			48.9	
Approach LOS		F		D			E			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.07  
 Intersection Signal Delay: 65.4  
 Intersection LOS: E  
 Intersection Capacity Utilization 99.6%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.





HCM 6th Signalized Intersection Summary  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	151	458	75	185	409	64	73	1088	253	147	942	203
Future Volume (veh/h)	151	458	75	185	409	64	73	1088	253	147	942	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	157	477	53	193	426	51	76	1133	210	153	981	120
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	181	473	53	201	1057	471	94	1045	466	155	1174	688
Arrive On Green	0.11	0.30	0.30	0.12	0.31	0.31	0.06	0.31	0.31	0.10	0.34	0.34
Sat Flow, veh/h	1619	1591	177	1619	3420	1524	1619	3420	1525	1619	3420	1506
Grp Volume(v), veh/h	157	0	530	193	426	51	76	1133	210	153	981	120
Grp Sat Flow(s),veh/h/ln	1619	0	1768	1619	1710	1524	1619	1710	1525	1619	1710	1506
Q Serve(g_s), s	11.5	0.0	36.0	14.4	11.9	2.9	5.6	37.0	13.4	11.4	32.0	5.7
Cycle Q Clear(g_c), s	11.5	0.0	36.0	14.4	11.9	2.9	5.6	37.0	13.4	11.4	32.0	5.7
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	181	0	526	201	1057	471	94	1045	466	155	1174	688
V/C Ratio(X)	0.87	0.00	1.01	0.96	0.40	0.11	0.81	1.08	0.45	0.99	0.84	0.17
Avail Cap(c_a), veh/h	265	0	526	201	1057	471	107	1045	466	155	1174	688
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.9	0.0	42.6	52.8	33.0	29.9	56.4	42.0	33.9	54.7	36.6	19.5
Incr Delay (d2), s/veh	13.2	0.0	41.3	52.3	0.2	0.1	28.5	53.6	3.1	67.9	7.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.0	21.1	8.6	4.8	1.1	3.0	22.4	5.2	7.5	14.1	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.0	0.0	83.9	105.1	33.3	30.0	84.8	95.7	37.0	122.6	43.7	20.1
LnGrp LOS	E	A	F	F	C	C	F	F	D	F	D	C
Approach Vol, veh/h		687			670			1419			1254	
Approach Delay, s/veh		79.8			53.7			86.4			51.1	
Approach LOS		E			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	43.5	19.6	41.8	11.6	48.1	18.2	43.2				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	11.6	* 37	15.0	36.0	8.0	39.5	19.8	31.2				
Max Q Clear Time (g_c+I1), s	13.4	39.0	16.4	38.0	7.6	34.0	13.5	13.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	3.1	0.1	2.4				

Intersection Summary

HCM 6th Ctrl Delay	68.8
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

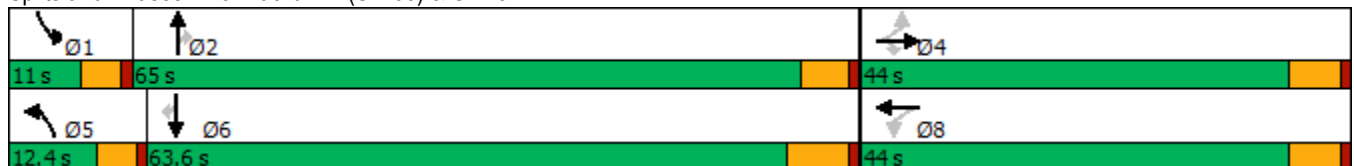


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	96	284	49	78	112	44	1308	241	26	1066	76
Future Volume (vph)	96	284	49	78	112	44	1308	241	26	1066	76
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	28.8	28.8	28.8	33.8	33.8	9.6	24.2	24.2	9.6	31.5	31.5
Total Split (s)	44.0	44.0	44.0	44.0	44.0	12.4	65.0	65.0	11.0	63.6	63.6
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	10.3%	54.2%	54.2%	9.2%	53.0%	53.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.6	4.2	4.2	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8		5.8	4.6	5.2	5.2	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	26.4	26.4	26.4		26.4	6.8	62.6	62.6	5.9	58.3	58.3
Actuated g/C Ratio	0.25	0.25	0.25		0.25	0.06	0.59	0.59	0.06	0.55	0.55
v/c Ratio	0.44	0.68	0.12		1.10	0.46	0.70	0.28	0.31	0.61	0.10
Control Delay	39.7	44.2	3.8		131.3	66.0	20.6	11.2	62.0	20.5	4.0
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	44.2	3.8		131.3	66.0	20.6	11.2	62.0	20.5	4.0
LOS	D	D	A		F	E	C	B	E	C	A
Approach Delay		38.6			131.3		20.4			20.3	
Approach LOS		D			F		C			C	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 106.3  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.10  
 Intersection Signal Delay: 29.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 82.0%  
 ICU Level of Service D  
 Analysis Period (min) 15























Splits and Phases: 5: Euclid Av. (SR-83) & Chino Av.



HCM 6th Signalized Intersection Summary  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	284	49	78	112	9	44	1308	241	26	1066	76
Future Volume (veh/h)	96	284	49	78	112	9	44	1308	241	26	1066	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	103	305	30	84	120	6	47	1406	188	28	1146	49
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	272	507	430	121	156	7	58	1845	806	42	1812	791
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.04	0.54	0.54	0.03	0.53	0.53
Sat Flow, veh/h	1213	1800	1525	269	552	24	1619	3420	1494	1619	3420	1494
Grp Volume(v), veh/h	103	305	30	210	0	0	47	1406	188	28	1146	49
Grp Sat Flow(s),veh/h/ln	1213	1800	1525	846	0	0	1619	1710	1494	1619	1710	1494
Q Serve(g_s), s	0.0	16.2	1.6	12.4	0.0	0.0	3.2	35.6	7.3	1.9	26.3	1.8
Cycle Q Clear(g_c), s	13.9	16.2	1.6	28.6	0.0	0.0	3.2	35.6	7.3	1.9	26.3	1.8
Prop In Lane	1.00		1.00	0.40		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	272	507	430	284	0	0	58	1845	806	42	1812	791
V/C Ratio(X)	0.38	0.60	0.07	0.74	0.00	0.00	0.81	0.76	0.23	0.66	0.63	0.06
Avail Cap(c_a), veh/h	349	620	526	372	0	0	114	1845	806	93	1812	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	34.4	29.2	41.9	0.0	0.0	53.0	19.9	13.4	53.5	18.4	12.7
Incr Delay (d2), s/veh	0.9	1.1	0.1	5.5	0.0	0.0	9.5	3.0	0.7	6.5	1.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	7.0	0.6	5.9	0.0	0.0	1.4	12.9	2.3	0.8	9.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.4	35.6	29.2	47.4	0.0	0.0	62.5	23.0	14.1	60.0	20.1	12.8
LnGrp LOS	C	D	C	D	A	A	E	C	B	E	C	B
Approach Vol, veh/h		438			210			1641			1223	
Approach Delay, s/veh		34.9			47.4			23.1			20.7	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	66.3		37.0	8.6	65.2		37.0				
Change Period (Y+Rc), s	4.6	* 6.5		5.8	4.6	6.5		5.8				
Max Green Setting (Gmax), s	6.4	* 60		38.2	7.8	57.1		38.2				
Max Q Clear Time (g_c+I1), s	3.9	37.6		18.2	5.2	28.3		30.6				
Green Ext Time (p_c), s	0.0	10.5		2.0	0.0	8.4		0.6				

Intersection Summary

HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
6: Euclid Av. (SR-83) & Schaefer Av.

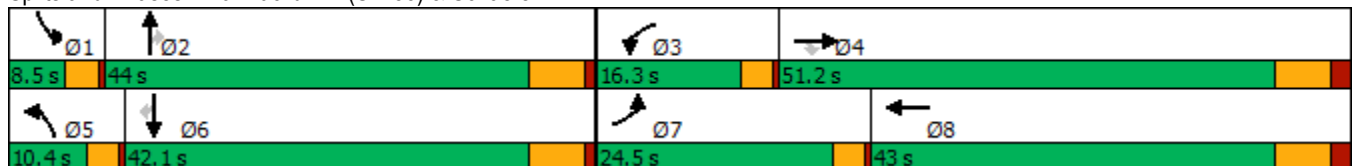


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	291	287	186	79	67	92	1278	88	31	1085	122
Future Volume (vph)	291	287	186	79	67	92	1278	88	31	1085	122
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.0	42.0	13.5	43.0	8.5	33.0	33.0	8.5	28.0	28.0
Total Split (s)	24.5	51.2	51.2	16.3	43.0	10.4	44.0	44.0	8.5	42.1	42.1
Total Split (%)	20.4%	42.7%	42.7%	13.6%	35.8%	8.7%	36.7%	36.7%	7.1%	35.1%	35.1%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	7.0	7.0	3.5	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	21.4	23.9	23.9	10.8	13.0	7.0	42.6	42.6	5.1	36.8	36.8
Actuated g/C Ratio	0.22	0.25	0.25	0.11	0.14	0.07	0.45	0.45	0.05	0.38	0.38
v/c Ratio	0.81	0.64	0.36	0.44	0.38	0.79	0.85	0.12	0.36	0.83	0.18
Control Delay	56.8	39.3	6.0	51.9	34.9	88.3	33.7	1.9	61.0	35.6	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.8	39.3	6.0	51.9	34.9	88.3	33.7	1.9	61.0	35.6	5.1
LOS	E	D	A	D	C	F	C	A	E	D	A
Approach Delay		37.8			42.8		35.2			33.2	
Approach LOS		D			D		D			C	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 95.6  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 35.4  
 Intersection LOS: D  
 Intersection Capacity Utilization 83.2%  
 ICU Level of Service E  
 Analysis Period (min) 15
























Splits and Phases: 6: Euclid Av. (SR-83) & Schaefer Av.



HCM 6th Signalized Intersection Summary  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	291	287	186	79	67	25	92	1278	88	31	1085	122
Future Volume (veh/h)	291	287	186	79	67	25	92	1278	88	31	1085	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	294	290	147	80	68	20	93	1291	71	31	1096	93
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	329	355	301	165	129	38	115	1460	651	50	1321	589
Arrive On Green	0.20	0.20	0.20	0.10	0.10	0.10	0.07	0.43	0.43	0.03	0.39	0.39
Sat Flow, veh/h	1619	1800	1525	1619	1336	393	1619	3420	1525	1619	3420	1525
Grp Volume(v), veh/h	294	290	147	80	0	88	93	1291	71	31	1096	93
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	0	1729	1619	1710	1525	1619	1710	1525
Q Serve(g_s), s	14.6	12.7	7.0	3.8	0.0	4.0	4.7	28.6	2.3	1.6	23.8	3.3
Cycle Q Clear(g_c), s	14.6	12.7	7.0	3.8	0.0	4.0	4.7	28.6	2.3	1.6	23.8	3.3
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	329	355	301	165	0	167	115	1460	651	50	1321	589
V/C Ratio(X)	0.89	0.82	0.49	0.48	0.00	0.53	0.81	0.88	0.11	0.62	0.83	0.16
Avail Cap(c_a), veh/h	413	966	819	252	0	756	136	1579	704	98	1500	669
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	31.6	29.3	34.9	0.0	35.4	37.7	21.7	14.2	39.4	22.8	16.5
Incr Delay (d2), s/veh	16.2	3.5	0.9	0.8	0.0	1.9	21.8	6.0	0.1	4.6	3.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	5.4	2.5	1.5	0.0	1.7	2.4	10.6	0.7	0.6	8.8	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	35.1	30.2	35.7	0.0	37.3	59.5	27.8	14.3	44.0	26.5	16.6
LnGrp LOS	D	D	C	D	A	D	E	C	B	D	C	B
Approach Vol, veh/h		731			168			1455			1220	
Approach Delay, s/veh		39.3			36.6			29.1			26.2	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	41.1	11.9	23.3	9.4	37.8	20.2	14.9				
Change Period (Y+Rc), s	3.5	6.0	3.5	7.0	3.5	6.0	3.5	7.0				
Max Green Setting (Gmax), s	5.0	38.0	12.8	44.2	6.9	36.1	21.0	36.0				
Max Q Clear Time (g_c+I1), s	3.6	30.6	5.8	14.7	6.7	25.8	16.6	6.0				
Green Ext Time (p_c), s	0.0	4.5	0.0	1.6	0.0	5.0	0.2	0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			30.6									
HCM 6th LOS			C									

Timings  
7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

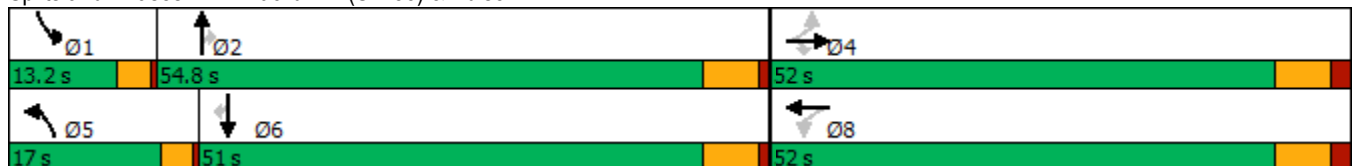


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	275	481	299	41	262	178	1166	75	90	1165	192
Future Volume (vph)	275	481	299	41	262	178	1166	75	90	1165	192
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.0	46.0	46.0	49.0	49.0	8.5	29.0	29.0	8.5	40.0	40.0
Total Split (s)	52.0	52.0	52.0	52.0	52.0	17.0	54.8	54.8	13.2	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	14.2%	45.7%	45.7%	11.0%	42.5%	42.5%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	45.0	45.0	45.0	45.0	45.0	13.5	49.1	49.1	9.2	44.8	44.8
Actuated g/C Ratio	0.38	0.38	0.38	0.38	0.38	0.11	0.41	0.41	0.08	0.37	0.37
v/c Ratio	0.99	0.75	0.45	0.28	0.47	1.03	0.88	0.12	0.77	0.96	0.31
Control Delay	88.2	40.8	11.5	32.5	30.7	127.3	41.0	7.1	91.1	54.1	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.2	40.8	11.5	32.5	30.7	127.3	41.0	7.1	91.1	54.1	10.6
LOS	F	D	B	C	C	F	D	A	F	D	B
Approach Delay		44.8			30.9		50.1			50.6	
Approach LOS		D			C		D			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 119.8	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.03	
Intersection Signal Delay: 47.4	Intersection LOS: D
Intersection Capacity Utilization 98.8%	ICU Level of Service F
Analysis Period (min) 15	
























Splits and Phases: 7: Euclid Av. (SR-83) & Edison Av.



HCM 6th Signalized Intersection Summary  
7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	275	481	299	41	262	35	178	1166	75	90	1165	192
Future Volume (veh/h)	275	481	299	41	262	35	178	1166	75	90	1165	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	289	506	233	43	276	31	187	1227	71	95	1226	170
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	312	677	573	151	597	67	183	1419	631	116	1277	570
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.11	0.41	0.41	0.07	0.37	0.37
Sat Flow, veh/h	1029	1800	1525	690	1587	178	1619	3420	1522	1619	3420	1525
Grp Volume(v), veh/h	289	506	233	43	0	307	187	1227	71	95	1226	170
Grp Sat Flow(s),veh/h/ln	1029	1800	1525	690	0	1765	1619	1710	1522	1619	1710	1525
Q Serve(g_s), s	29.3	29.2	13.5	6.9	0.0	15.7	13.5	39.2	3.4	6.9	41.9	9.4
Cycle Q Clear(g_c), s	45.0	29.2	13.5	36.1	0.0	15.7	13.5	39.2	3.4	6.9	41.9	9.4
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	312	677	573	151	0	664	183	1419	631	116	1277	570
V/C Ratio(X)	0.93	0.75	0.41	0.28	0.00	0.46	1.02	0.86	0.11	0.82	0.96	0.30
Avail Cap(c_a), veh/h	312	677	573	151	0	664	183	1419	631	131	1286	573
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.1	32.4	27.5	48.1	0.0	28.2	53.1	32.0	21.5	54.8	36.6	26.4
Incr Delay (d2), s/veh	32.6	4.6	0.5	1.0	0.0	0.5	73.1	5.8	0.1	26.5	16.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	13.0	4.8	1.2	0.0	6.5	9.0	15.9	1.2	3.6	19.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.8	37.0	28.0	49.1	0.0	28.7	126.2	37.8	21.6	81.3	53.0	26.7
LnGrp LOS	E	D	C	D	A	C	F	D	C	F	D	C
Approach Vol, veh/h		1028			350			1485			1491	
Approach Delay, s/veh		47.0			31.2			48.2			51.8	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.1	55.7		52.0	17.0	50.7		52.0				
Change Period (Y+Rc), s	3.5	6.0		7.0	3.5	6.0		7.0				
Max Green Setting (Gmax), s	9.7	48.8		45.0	13.5	45.0		45.0				
Max Q Clear Time (g_c+1), s	8.9	41.2		47.0	15.5	43.9		38.1				
Green Ext Time (p_c), s	0.0	4.4		0.0	0.0	0.8		1.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				47.8								
HCM 6th LOS				D								



Timings  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	38	164	210	8	23	112	1243	19	72	1304	68
Future Volume (vph)	38	164	210	8	23	112	1243	19	72	1304	68
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.8	46.8	46.8	46.8	46.8	8.5	30.7	30.7	8.5	37.7	37.7
Total Split (s)	46.8	46.8	46.8	46.8	46.8	14.0	63.2	63.2	10.0	59.2	59.2
Total Split (%)	39.0%	39.0%	39.0%	39.0%	39.0%	11.7%	52.7%	52.7%	8.3%	49.3%	49.3%
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	3.0	4.7	4.7	3.0	4.7	4.7
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.8	4.8	3.5	5.7	5.7	3.5	5.7	5.7
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	17.4	17.4	17.4	17.4	17.4	10.7	50.9	50.9	6.7	47.0	47.0
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.12	0.57	0.57	0.07	0.52	0.52
v/c Ratio	0.19	0.53	0.58	0.05	0.29	0.66	0.72	0.02	0.67	0.82	0.09
Control Delay	32.3	38.1	20.1	29.8	12.5	59.6	18.5	0.7	72.6	24.0	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	38.1	20.1	29.8	12.5	59.6	18.5	0.7	72.6	24.0	3.8
LOS	C	D	C	C	B	E	B	A	E	C	A
Approach Delay		28.4			13.8		21.6			25.5	
Approach LOS		C			B		C			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 89.6	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 23.9	Intersection LOS: C
Intersection Capacity Utilization 68.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 8: Euclid Av. (SR-83) & Eucalyptus Av.





HCM 6th Signalized Intersection Summary  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷	↷	↶	↷		↶	↷	↷	↶	↷	↷
Traffic Volume (veh/h)	38	164	210	8	23	76	112	1243	19	72	1304	68
Future Volume (veh/h)	38	164	210	8	23	76	112	1243	19	72	1304	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	43	184	120	9	26	82	126	1397	20	81	1465	64
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	210	261	221	157	55	174	157	1994	889	100	1874	819
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.10	0.58	0.58	0.06	0.55	0.55
Sat Flow, veh/h	1233	1800	1525	1032	381	1202	1619	3420	1525	1619	3420	1494
Grp Volume(v), veh/h	43	184	120	9	0	108	126	1397	20	81	1465	64
Grp Sat Flow(s),veh/h/ln	1233	1800	1525	1032	0	1584	1619	1710	1525	1619	1710	1494
Q Serve(g_s), s	2.2	6.5	4.9	0.6	0.0	4.2	5.1	19.2	0.4	3.3	22.6	1.3
Cycle Q Clear(g_c), s	6.4	6.5	4.9	7.0	0.0	4.2	5.1	19.2	0.4	3.3	22.6	1.3
Prop In Lane	1.00		1.00	1.00		0.76	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	210	261	221	157	0	230	157	1994	889	100	1874	819
V/C Ratio(X)	0.21	0.71	0.54	0.06	0.00	0.47	0.80	0.70	0.02	0.81	0.78	0.08
Avail Cap(c_a), veh/h	809	1135	962	658	0	999	255	2953	1317	158	2748	1200
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	27.1	26.4	30.5	0.0	26.1	29.5	9.8	5.9	30.8	11.9	7.1
Incr Delay (d2), s/veh	0.4	2.6	1.5	0.1	0.0	1.1	7.0	0.5	0.0	12.1	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.7	1.7	0.1	0.0	1.5	2.0	4.5	0.1	1.5	5.8	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.4	29.7	28.0	30.6	0.0	27.2	36.5	10.2	5.9	43.0	12.8	7.1
LnGrp LOS	C	C	C	C	A	C	D	B	A	D	B	A
Approach Vol, veh/h		347			117			1543			1610	
Approach Delay, s/veh		29.1			27.5			12.3			14.1	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	44.5		14.5	9.9	42.2		14.5				
Change Period (Y+Rc), s	3.5	5.7		4.8	3.5	5.7		4.8				
Max Green Setting (Gmax), s	6.5	57.5		42.0	10.5	53.5		42.0				
Max Q Clear Time (g_c+1), s	5.3	21.2		8.5	7.1	24.6		9.0				
Green Ext Time (p_c), s	0.0	11.8		1.2	0.1	11.9		0.5				

Intersection Summary

HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B

Timings  
9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	11	30	225	2	4	1181	259	291	1230
Future Volume (vph)	11	30	225	2	4	1181	259	291	1230
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	49.0	49.0	25.0	59.5
Total Split (%)	38.3%	38.3%	38.3%	38.3%	12.1%	40.8%	40.8%	20.8%	49.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)		38.3		38.3	10.0	43.0	43.0	20.5	65.2
Actuated g/C Ratio		0.33		0.33	0.09	0.37	0.37	0.17	0.56
v/c Ratio		0.11		0.95	0.03	1.04	0.46	1.13	0.71
Control Delay		22.6		67.6	51.2	72.2	21.1	140.0	23.5
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		22.6		67.6	51.2	72.2	21.1	140.0	23.5
LOS		C		E	D	E	C	F	C
Approach Delay		22.6		67.6		63.0			45.7
Approach LOS		C		E		E			D

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 117.4  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.13  
 Intersection Signal Delay: 55.2  
 Intersection LOS: E  
 Intersection Capacity Utilization 97.0%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 6th Signalized Intersection Summary  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕	↗	↗	↕	↕
Traffic Volume (veh/h)	11	30	12	225	2	181	4	1181	259	291	1230	1
Future Volume (veh/h)	11	30	12	225	2	181	4	1181	259	291	1230	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	12	33	12	247	2	189	4	1298	220	320	1352	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	120	314	106	310	2	200	17	1274	568	288	1846	0
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.01	0.37	0.37	0.18	0.54	0.00
Sat Flow, veh/h	260	994	335	826	7	632	1619	3420	1525	1619	3510	0
Grp Volume(v), veh/h	57	0	0	438	0	0	4	1298	220	320	1352	0
Grp Sat Flow(s),veh/h/ln	1589	0	0	1465	0	0	1619	1710	1525	1619	1710	0
Q Serve(g_s), s	0.0	0.0	0.0	30.9	0.0	0.0	0.3	43.0	12.2	20.5	34.7	0.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	33.6	0.0	0.0	0.3	43.0	12.2	20.5	34.7	0.0
Prop In Lane	0.21		0.21	0.56		0.43	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	539	0	0	511	0	0	17	1274	568	288	1846	0
V/C Ratio(X)	0.11	0.00	0.00	0.86	0.00	0.00	0.24	1.02	0.39	1.11	0.73	0.00
Avail Cap(c_a), veh/h	602	0	0	568	0	0	140	1274	568	288	1846	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.0	0.0	0.0	38.3	0.0	0.0	56.7	36.2	26.6	47.5	20.2	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	10.5	0.0	0.0	2.6	30.0	0.4	86.9	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	12.8	0.0	0.0	0.1	21.7	4.2	14.8	12.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	0.0	0.0	48.8	0.0	0.0	59.3	66.3	27.0	134.4	21.8	0.0
LnGrp LOS	C	A	A	D	A	A	E	F	C	F	C	A
Approach Vol, veh/h		57			438			1522				1672
Approach Delay, s/veh		28.0			48.8			60.6				43.3
Approach LOS		C			D			E				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.0	49.0		41.4	5.7	68.3		41.4				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	20.5	43.0		41.0	10.0	53.5		41.0				
Max Q Clear Time (g_c+I1), s	22.5	45.0		4.7	2.3	36.7		35.6				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	8.1		0.8				

Intersection Summary

HCM 6th Ctrl Delay	50.8
HCM 6th LOS	D

Intersection													
Int Delay, s/veh 1.5													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔		↔	↔			↔			↔	↔	
Traffic Vol, veh/h	0	257	6	14	126	0	19	0	31	0	0	0	0
Future Vol, veh/h	0	257	6	14	126	0	19	0	31	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	-
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	279	7	15	137	0	21	0	34	0	0	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	137	0	0	286
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.1	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.2	-	2.2	-
Pot Cap-1 Maneuver	1459	-	1288	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1459	-	1288	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.8	11.1	0
HCM LOS		B	A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	646	1459	-	-	1288	-	-	-
HCM Lane V/C Ratio	0.084	-	-	-	0.012	-	-	-
HCM Control Delay (s)	11.1	0	-	-	7.8	-	-	0
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	-

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	10	8	41	4	3	18
Future Vol, veh/h	10	8	41	4	3	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	9	45	4	3	20

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	73	47	0	0	49
Stage 1	47	-	-	-	-
Stage 2	26	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	936	1028	-	-	1571
Stage 1	981	-	-	-	-
Stage 2	1002	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	934	1028	-	-	1571
Mov Cap-2 Maneuver	921	-	-	-	-
Stage 1	981	-	-	-	-
Stage 2	1000	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	966	1571
HCM Lane V/C Ratio	-	-	0.02	0.002
HCM Control Delay (s)	-	-	8.8	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	6	39	4	2	26
Future Vol, veh/h	11	6	39	4	2	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	7	42	4	2	28

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	76	44	0	0	46
Stage 1	44	-	-	-	-
Stage 2	32	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	932	1032	-	-	1575
Stage 1	984	-	-	-	-
Stage 2	996	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	931	1032	-	-	1575
Mov Cap-2 Maneuver	920	-	-	-	-
Stage 1	984	-	-	-	-
Stage 2	995	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	957	1575
HCM Lane V/C Ratio	-	-	0.019	0.001
HCM Control Delay (s)	-	-	8.8	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	8	35	3	3	34
Future Vol, veh/h	8	8	35	3	3	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	9	38	3	3	37

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	83	40	0	0	41	0
Stage 1	40	-	-	-	-	-
Stage 2	43	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	924	1037	-	-	1581	-
Stage 1	988	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	922	1037	-	-	1581	-
Mov Cap-2 Maneuver	915	-	-	-	-	-
Stage 1	988	-	-	-	-	-
Stage 2	983	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	972	1581
HCM Lane V/C Ratio	-	-	0.018	0.002
HCM Control Delay (s)	-	-	8.8	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	4	6	31	1	2	40
Future Vol, veh/h	4	6	31	1	2	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	7	34	1	2	43

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	82	35	0	0	35	0
Stage 1	35	-	-	-	-	-
Stage 2	47	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	925	1044	-	-	1589	-
Stage 1	993	-	-	-	-	-
Stage 2	981	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	924	1044	-	-	1589	-
Mov Cap-2 Maneuver	916	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	980	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	989	1589
HCM Lane V/C Ratio	-	-	0.011	0.001
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0



Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	6	27	3	2	42
Future Vol, veh/h	8	6	27	3	2	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	7	29	3	2	46

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	81	31	0	0	32	0
Stage 1	31	-	-	-	-	-
Stage 2	50	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	926	1049	-	-	1593	-
Stage 1	997	-	-	-	-	-
Stage 2	978	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	925	1049	-	-	1593	-
Mov Cap-2 Maneuver	916	-	-	-	-	-
Stage 1	997	-	-	-	-	-
Stage 2	977	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	969	1593
HCM Lane V/C Ratio	-	-	0.016	0.001
HCM Control Delay (s)	-	-	8.8	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	7	23	5	2	48
Future Vol, veh/h	13	7	23	5	2	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	8	25	5	2	52

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	84	28	0	0	30
Stage 1	28	-	-	-	-
Stage 2	56	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	923	1053	-	-	1596
Stage 1	1000	-	-	-	-
Stage 2	972	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	922	1053	-	-	1596
Mov Cap-2 Maneuver	913	-	-	-	-
Stage 1	1000	-	-	-	-
Stage 2	971	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	958	1596
HCM Lane V/C Ratio	-	-	0.023	0.001
HCM Control Delay (s)	-	-	8.8	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	7	21	1	2	59
Future Vol, veh/h	2	7	21	1	2	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	8	23	1	2	64

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	92	24	0	0	24	0
Stage 1	24	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	913	1058	-	-	1604	-
Stage 1	1004	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	912	1058	-	-	1604	-
Mov Cap-2 Maneuver	904	-	-	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	959	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1019	1604
HCM Lane V/C Ratio	-	-	0.01	0.001
HCM Control Delay (s)	-	-	8.6	7.2
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↘	
Traffic Vol, veh/h	15	712	403	6	18	42
Future Vol, veh/h	15	712	403	6	18	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	16	774	438	7	20	46

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	445	0	-	0	1244 438
Stage 1	-	-	-	-	438 -
Stage 2	-	-	-	-	806 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1126	-	-	-	194 623
Stage 1	-	-	-	-	655 -
Stage 2	-	-	-	-	443 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1126	-	-	-	189 623
Mov Cap-2 Maneuver	-	-	-	-	189 -
Stage 1	-	-	-	-	639 -
Stage 2	-	-	-	-	443 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	16.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1126	-	-	-	369
HCM Lane V/C Ratio	0.014	-	-	-	0.177
HCM Control Delay (s)	8.2	0	-	-	16.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	729	407	2	6	2
Future Vol, veh/h	1	729	407	2	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	792	442	2	7	2

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	444	0	-	0	1237 222
Stage 1	-	-	-	-	443 -
Stage 2	-	-	-	-	794 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1127	-	-	-	183 788
Stage 1	-	-	-	-	620 -
Stage 2	-	-	-	-	449 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1127	-	-	-	183 788
Mov Cap-2 Maneuver	-	-	-	-	379 -
Stage 1	-	-	-	-	619 -
Stage 2	-	-	-	-	449 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1127	-	-	-	436
HCM Lane V/C Ratio	0.001	-	-	-	0.02
HCM Control Delay (s)	8.2	-	-	-	13.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑	↘	
Traffic Vol, veh/h	284	4	7	127	12	19
Future Vol, veh/h	284	4	7	127	12	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	309	4	8	138	13	21

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	313	0	465 157
Stage 1	-	-	-	-	311 -
Stage 2	-	-	-	-	154 -
Critical Hdwy	-	-	4.1	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1259	-	545 867
Stage 1	-	-	-	-	722 -
Stage 2	-	-	-	-	879 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1259	-	542 867
Mov Cap-2 Maneuver	-	-	-	-	658 -
Stage 1	-	-	-	-	722 -
Stage 2	-	-	-	-	874 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	772	-	-	1259	-
HCM Lane V/C Ratio	0.044	-	-	0.006	-
HCM Control Delay (s)	9.9	-	-	7.9	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑	↘	
Traffic Vol, veh/h	298	5	6	121	13	18
Future Vol, veh/h	298	5	6	121	13	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	324	5	7	132	14	20

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	329	0	473 165
Stage 1	-	-	-	-	327 -
Stage 2	-	-	-	-	146 -
Critical Hdwy	-	-	4.1	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1242	-	539 857
Stage 1	-	-	-	-	709 -
Stage 2	-	-	-	-	886 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1242	-	536 857
Mov Cap-2 Maneuver	-	-	-	-	649 -
Stage 1	-	-	-	-	709 -
Stage 2	-	-	-	-	881 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	755	-	-	1242	-
HCM Lane V/C Ratio	0.045	-	-	0.005	-
HCM Control Delay (s)	10	-	-	7.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	735	407	2	6	2
Future Vol, veh/h	1	735	407	2	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	799	442	2	7	2

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	444	0	-	0	1244 222
Stage 1	-	-	-	-	443 -
Stage 2	-	-	-	-	801 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1127	-	-	-	181 788
Stage 1	-	-	-	-	620 -
Stage 2	-	-	-	-	445 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1127	-	-	-	181 788
Mov Cap-2 Maneuver	-	-	-	-	376 -
Stage 1	-	-	-	-	619 -
Stage 2	-	-	-	-	445 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1127	-	-	-	433
HCM Lane V/C Ratio	0.001	-	-	-	0.02
HCM Control Delay (s)	8.2	-	-	-	13.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑		↑	↑	
Traffic Vol, veh/h	298	19	5	95	32	15
Future Vol, veh/h	298	19	5	95	32	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	324	21	5	103	35	16

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	345	0	437
Stage 1	-	-	-	-	324
Stage 2	-	-	-	-	113
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1225	-	581
Stage 1	-	-	-	-	738
Stage 2	-	-	-	-	917
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1225	-	579
Mov Cap-2 Maneuver	-	-	-	-	579
Stage 1	-	-	-	-	738
Stage 2	-	-	-	-	913

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	11.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	618	-	-	1225	-
HCM Lane V/C Ratio	0.083	-	-	0.004	-
HCM Control Delay (s)	11.4	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	13	4	41	22	2
Future Vol, veh/h	6	13	4	41	22	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	14	4	45	24	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	78	25	26	0	0
Stage 1	25	-	-	-	-
Stage 2	53	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	930	1057	1601	-	-
Stage 1	1003	-	-	-	-
Stage 2	975	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	928	1057	1601	-	-
Mov Cap-2 Maneuver	916	-	-	-	-
Stage 1	1001	-	-	-	-
Stage 2	975	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1601	-	1008	-	-
HCM Lane V/C Ratio	0.003	-	0.02	-	-
HCM Control Delay (s)	7.3	-	8.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	6	11	4	39	32	2
Future Vol, veh/h	6	11	4	39	32	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	12	4	42	35	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	86	36	37	0	0
Stage 1	36	-	-	-	-
Stage 2	50	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	920	1042	1587	-	-
Stage 1	992	-	-	-	-
Stage 2	978	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	917	1042	1587	-	-
Mov Cap-2 Maneuver	912	-	-	-	-
Stage 1	989	-	-	-	-
Stage 2	978	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1587	-	992	-	-
HCM Lane V/C Ratio	0.003	-	0.019	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	6	11	4	37	41	2
Future Vol, veh/h	6	11	4	37	41	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	12	4	40	45	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	94	46	47	0	0
Stage 1	46	-	-	-	-
Stage 2	48	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	911	1029	1573	-	-
Stage 1	982	-	-	-	-
Stage 2	980	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	908	1029	1573	-	-
Mov Cap-2 Maneuver	907	-	-	-	-
Stage 1	979	-	-	-	-
Stage 2	980	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1573	-	982	-	-
HCM Lane V/C Ratio	0.003	-	0.019	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	7	2	37	50	1
Future Vol, veh/h	4	7	2	37	50	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	8	2	40	54	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	99	55	55	0	0
Stage 1	55	-	-	-	-
Stage 2	44	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	905	1018	1563	-	-
Stage 1	973	-	-	-	-
Stage 2	984	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	904	1018	1563	-	-
Mov Cap-2 Maneuver	904	-	-	-	-
Stage 1	972	-	-	-	-
Stage 2	984	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1563	-	973	-	-
HCM Lane V/C Ratio	0.001	-	0.012	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	6	8	3	33	55	2
Future Vol, veh/h	6	8	3	33	55	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	9	3	36	60	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	103	61	62	0	0
Stage 1	61	-	-	-	-
Stage 2	42	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	900	1010	1554	-	-
Stage 1	967	-	-	-	-
Stage 2	986	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	898	1010	1554	-	-
Mov Cap-2 Maneuver	900	-	-	-	-
Stage 1	965	-	-	-	-
Stage 2	986	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1554	-	960	-	-
HCM Lane V/C Ratio	0.002	-	0.016	-	-
HCM Control Delay (s)	7.3	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	7	13	5	29	61	2
Future Vol, veh/h	7	13	5	29	61	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	14	5	32	66	2

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	109	67	68	0	-	0
Stage 1	67	-	-	-	-	-
Stage 2	42	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	893	1002	1546	-	-	-
Stage 1	961	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	890	1002	1546	-	-	-
Mov Cap-2 Maneuver	895	-	-	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	986	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	1.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1546	-	962	-	-
HCM Lane V/C Ratio	0.004	-	0.023	-	-
HCM Control Delay (s)	7.3	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	4	4	1	29	72	2
Future Vol, veh/h	4	4	1	29	72	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	4	1	32	78	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	113	79	80	0	0
Stage 1	79	-	-	-	-
Stage 2	34	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	888	987	1531	-	-
Stage 1	949	-	-	-	-
Stage 2	994	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	887	987	1531	-	-
Mov Cap-2 Maneuver	890	-	-	-	-
Stage 1	948	-	-	-	-
Stage 2	994	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1531	-	936	-	-
HCM Lane V/C Ratio	0.001	-	0.009	-	-
HCM Control Delay (s)	7.4	-	8.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	726	379	16	46	30
Future Vol, veh/h	15	726	379	16	46	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	16	789	412	17	50	33

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	429	0	-	0	1242 421
Stage 1	-	-	-	-	421 -
Stage 2	-	-	-	-	821 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1141	-	-	-	195 637
Stage 1	-	-	-	-	667 -
Stage 2	-	-	-	-	436 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1141	-	-	-	192 637
Mov Cap-2 Maneuver	-	-	-	-	192 -
Stage 1	-	-	-	-	658 -
Stage 2	-	-	-	-	436 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	24.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1141	-	-	-	265
HCM Lane V/C Ratio	0.014	-	-	-	0.312
HCM Control Delay (s)	8.2	-	-	-	24.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1.3

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	294	4	2	85	9	5	97	7	21	65	15
Future Vol, veh/h	18	294	4	2	85	9	5	97	7	21	65	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	20	320	4	2	92	10	5	105	8	23	71	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.2	8.7	9.2	9.1
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	6%	2%	21%
Vol Thru, %	89%	93%	89%	64%
Vol Right, %	6%	1%	9%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	109	316	96	101
LT Vol	5	18	2	21
Through Vol	97	294	85	65
RT Vol	7	4	9	15
Lane Flow Rate	118	343	104	110
Geometry Grp	1	1	1	1
Degree of Util (X)	0.167	0.439	0.14	0.154
Departure Headway (Hd)	5.071	4.605	4.832	5.066
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	703	780	737	703
Service Time	3.139	2.655	2.897	3.135
HCM Lane V/C Ratio	0.168	0.44	0.141	0.156
HCM Control Delay	9.2	11.2	8.7	9.1
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.6	2.3	0.5	0.5

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	81	691	363	28	38	32
Future Vol, veh/h	81	691	363	28	38	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	88	751	395	30	41	35

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	425	0	-	0	1337 410
Stage 1	-	-	-	-	410 -
Stage 2	-	-	-	-	927 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1145	-	-	-	171 646
Stage 1	-	-	-	-	674 -
Stage 2	-	-	-	-	389 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1145	-	-	-	148 646
Mov Cap-2 Maneuver	-	-	-	-	148 -
Stage 1	-	-	-	-	585 -
Stage 2	-	-	-	-	389 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	28.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1145	-	-	-	229
HCM Lane V/C Ratio	0.077	-	-	-	0.332
HCM Control Delay (s)	8.4	0	-	-	28.3
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	1.4

Intersection	
Intersection Delay, s/veh	397.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	113	136	70	5	37	14	15	336	4	12	220	39
Future Vol, veh/h	113	136	70	5	37	14	15	336	4	12	220	39
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.25	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	126	151	78	6	41	16	17	1344	4	13	244	43
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	27.1	15.1	593.8	20.2
HCM LOS	D	C	F	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	35%	9%	4%
Vol Thru, %	95%	43%	66%	81%
Vol Right, %	1%	22%	25%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	355	319	56	271
LT Vol	15	113	5	12
Through Vol	336	136	37	220
RT Vol	4	70	14	39
Lane Flow Rate	1365	354	62	301
Geometry Grp	1	1	1	1
Degree of Util (X)	2.276	0.651	0.13	0.536
Departure Headway (Hd)	6.002	8.926	10.53	8.148
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	614	408	343	446
Service Time	4.047	6.926	8.53	6.148
HCM Lane V/C Ratio	2.223	0.868	0.181	0.675
HCM Control Delay	593.8	27.1	15.1	20.2
HCM Lane LOS	F	D	C	C
HCM 95th-tile Q	100	4.5	0.4	3.1

**Intersection**

Intersection Delay, s/veh 73.9  
Intersection LOS F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	179	550	306	168	173	84
Future Vol, veh/h	179	550	306	168	173	84
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	186	573	319	175	180	88
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left SB			WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	125.3	25.8	16.7
HCM LOS	F	D	C

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	0%	67%
Vol Thru, %	75%	65%	0%
Vol Right, %	0%	35%	33%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	729	474	257
LT Vol	179	0	173
Through Vol	550	306	0
RT Vol	0	168	84
Lane Flow Rate	759	494	268
Geometry Grp	1	1	1
Degree of Util (X)	1.2	0.769	0.494
Departure Headway (Hd)	5.688	5.909	7.051
Convergence, Y/N	Yes	Yes	Yes
Cap	638	617	514
Service Time	3.727	3.909	5.051
HCM Lane V/C Ratio	1.19	0.801	0.521
HCM Control Delay	125.3	25.8	16.7
HCM Lane LOS	F	D	C
HCM 95th-tile Q	26.4	7.1	2.7

Intersection

Intersection Delay, s/veh56.9

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	21	680	1	32	366	31	3	20	100	66	14	10
Future Vol, veh/h	21	680	1	32	366	31	3	20	100	66	14	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	22	716	1	34	385	33	3	21	105	69	15	11
Number of Lanes	0	1	0	0	1	0	0	0	1	0	0	1

Approach	EB	WB	WB	NB	SB
Opposing Approach	WB	EB	SB	SB	NB
Opposing Lanes	1	1	1	1	1
Conflicting Approach Left SB	NB	EB	WB	WB	WB
Conflicting Lanes Left	1	1	1	1	1
Conflicting Approach Right NB	SB	WB	WB	EB	EB
Conflicting Lanes Right	1	1	1	1	1
HCM Control Delay	92	21.7	12	12.3	12.3
HCM LOS	F	C	B	B	B

Lane NBLn1EBLn1WBLn1SBLn1

Vol Left, %	2%	3%	7%	73%
Vol Thru, %	16%	97%	85%	16%
Vol Right, %	81%	0%	7%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	123	702	429	90
LT Vol	3	21	32	66
Through Vol	20	680	366	14
RT Vol	100	1	31	10
Lane Flow Rate	129	739	452	95
Geometry Grp	1	1	1	1
Degree of Util (X)	0.235	1.113	0.707	0.19
Departure Headway (Hd)	6.878	5.421	5.854	7.566
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	526	672	623	477
Service Time	4.878	3.457	3.854	5.566
HCM Lane V/C Ratio	0.245	1.1	0.726	0.199
HCM Control Delay	12	92	21.7	12.3
HCM Lane LOS	B	F	C	B
HCM 95th-tile Q	0.9	21.9	5.8	0.7

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	111	85	39	33	24	22
Future Vol, veh/h	111	85	39	33	24	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	121	92	42	36	26	24

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	78	0	-	0	394 60
Stage 1	-	-	-	-	60 -
Stage 2	-	-	-	-	334 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1533	-	-	-	615 1011
Stage 1	-	-	-	-	968 -
Stage 2	-	-	-	-	730 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1533	-	-	-	564 1011
Mov Cap-2 Maneuver	-	-	-	-	564 -
Stage 1	-	-	-	-	888 -
Stage 2	-	-	-	-	730 -

Approach	EB	WB	SB
HCM Control Delay, s	4.3	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1533	-	-	-	715
HCM Lane V/C Ratio	0.079	-	-	-	0.07
HCM Control Delay (s)	7.5	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2

Intersection												
Int Delay, s/veh	5.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑			↕				
Traffic Vol, veh/h	0	600	116	86	353	0	107	0	120	0	0	0
Future Vol, veh/h	0	600	116	86	353	0	107	0	120	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	75	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	25	91	91	91	91	91	97
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	659	127	95	388	0	118	0	132	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	-	0	0	786	0	0	1237	1237	659
Stage 1	-	-	-	-	-	-	659	659	-
Stage 2	-	-	-	-	-	-	578	578	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	842	-	0	196	177	467
Stage 1	0	-	-	-	-	0	518	464	-
Stage 2	0	-	-	-	-	0	565	504	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	842	-	-	174	0	467
Mov Cap-2 Maneuver	-	-	-	-	-	-	312	0	-
Stage 1	-	-	-	-	-	-	518	0	-
Stage 2	-	-	-	-	-	-	501	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	31.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	378	-	-	842	-
HCM Lane V/C Ratio	0.66	-	-	0.112	-
HCM Control Delay (s)	31.2	-	-	9.8	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	4.5	-	-	0.4	-



Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑			↑↓				
Traffic Vol, veh/h	0	741	9	9	407	0	12	0	13	0	0	0
Future Vol, veh/h	0	741	9	9	407	0	12	0	13	0	0	0
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	842	10	10	463	0	14	0	15	0	0	0

Major/Minor	Major1		Major2		Minor1				
Conflicting Flow All	-	0	0	853	0	0	1331	1331	427
Stage 1	-	-	-	-	-	-	848	848	-
Stage 2	-	-	-	-	-	-	483	483	-
Critical Hdwy	-	-	-	4.1	-	-	6.6	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	795	-	0	160	156	582
Stage 1	0	-	-	-	-	0	385	380	-
Stage 2	0	-	-	-	-	0	625	556	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	794	-	-	158	0	581
Mov Cap-2 Maneuver	-	-	-	-	-	-	283	0	-
Stage 1	-	-	-	-	-	-	385	0	-
Stage 2	-	-	-	-	-	-	617	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	15.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	386	-	-	794	-
HCM Lane V/C Ratio	0.074	-	-	0.013	-
HCM Control Delay (s)	15.1	-	-	9.6	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑		↑		↑			
Traffic Vol, veh/h	0	760	0	0	420	0	0	0	0	0	0	0
Future Vol, veh/h	0	760	0	0	420	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	200	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	844	0	0	467	0	0	0	0	0	0	0

Major/Minor	Major1		Major2		Minor1				
Conflicting Flow All	-	0	0	845	0	0	1312	-	423
Stage 1	-	-	-	-	-	-	845	-	-
Stage 2	-	-	-	-	-	-	467	-	-
Critical Hdwy	-	-	-	4.1	-	-	6.6	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	-	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	-	3.3
Pot Cap-1 Maneuver	0	-	-	800	-	0	164	0	585
Stage 1	0	-	-	-	-	0	387	0	-
Stage 2	0	-	-	-	-	0	635	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	799	-	-	164	0	584
Mov Cap-2 Maneuver	-	-	-	-	-	-	288	0	-
Stage 1	-	-	-	-	-	-	387	0	-
Stage 2	-	-	-	-	-	-	635	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	-	799	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	118.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↘	↙	↘			↕			↕	
Traffic Vol, veh/h	4	728	21	26	370	7	33	4	103	54	5	1
Future Vol, veh/h	4	728	21	26	370	7	33	4	103	54	5	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	809	23	29	411	8	37	4	114	60	6	1
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	3
HCM Control Delay	191.5	34.1	14.2	13.6
HCM LOS	F	D	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	24%	100%	0%	0%	100%	0%	90%
Vol Thru, %	3%	0%	100%	0%	0%	98%	8%
Vol Right, %	74%	0%	0%	100%	0%	2%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	140	4	728	21	26	377	60
LT Vol	33	4	0	0	26	0	54
Through Vol	4	0	728	0	0	370	5
RT Vol	103	0	0	21	0	7	1
Lane Flow Rate	156	4	809	23	29	419	67
Geometry Grp	7	7	7	7	8	8	7
Degree of Util (X)	0.313	0.008	1.375	0.035	0.06	0.811	0.155
Departure Headway (Hd)	7.954	6.628	6.119	5.407	8.175	7.65	9.199
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	454	540	599	661	441	478	393
Service Time	5.654	4.37	3.861	3.148	5.875	5.35	6.899
HCM Lane V/C Ratio	0.344	0.007	1.351	0.035	0.066	0.877	0.17
HCM Control Delay	14.2	9.4	197.8	8.3	11.4	35.7	13.6
HCM Lane LOS	B	A	F	A	B	E	B
HCM 95th-tile Q	1.3	0	35.8	0.1	0.2	7.6	0.5

Timings

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

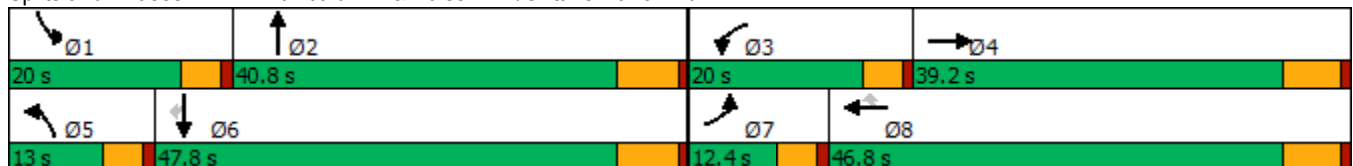
08/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	599	125	291	223	73	73	548	319	144	794	78
Future Volume (vph)	92	599	125	291	223	73	73	548	319	144	794	78
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	12.4	39.2		20.0	46.8	46.8	13.0	40.8		20.0	47.8	47.8
Total Split (%)	10.3%	32.7%		16.7%	39.0%	39.0%	10.8%	34.0%		16.7%	39.8%	39.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	7.1	23.7	97.4	13.7	33.1	33.1	7.8	24.4	97.4	12.8	32.3	32.3
Actuated g/C Ratio	0.07	0.24	1.00	0.14	0.34	0.34	0.08	0.25	1.00	0.13	0.33	0.33
v/c Ratio	0.44	0.74	0.08	0.72	0.38	0.12	0.59	0.66	0.22	0.70	0.72	0.13
Control Delay	55.4	41.2	0.1	53.7	29.4	0.4	67.7	37.7	0.3	62.4	34.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.4	41.2	0.1	53.7	29.4	0.4	67.7	37.7	0.3	62.4	34.5	0.5
LOS	E	D	A	D	C	A	E	D	A	E	C	A
Approach Delay		36.5			37.9			27.3			35.9	
Approach LOS		D			D			C			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 97.4  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.74  
 Intersection Signal Delay: 34.0  
 Intersection LOS: C  
 Intersection Capacity Utilization 73.6%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 44: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
44: Archibald Av. & Edison Av./Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↖↗	↕	↖	↖	↕	↖	↖	↕	↖
Traffic Volume (veh/h)	92	599	125	291	223	73	73	548	319	144	794	78
Future Volume (veh/h)	92	599	125	291	223	73	73	548	319	144	794	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	95	618	0	300	230	41	75	565	0	148	819	58
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	161	804		374	553	469	93	881		180	1064	464
Arrive On Green	0.05	0.24	0.00	0.13	0.31	0.31	0.06	0.26	0.00	0.11	0.31	0.31
Sat Flow, veh/h	2956	3420	1525	2956	1800	1525	1619	3420	1525	1619	3420	1491
Grp Volume(v), veh/h	95	618	0	300	230	41	75	565	0	148	819	58
Grp Sat Flow(s),veh/h/ln	1478	1710	1525	1478	1800	1525	1619	1710	1525	1619	1710	1491
Q Serve(g_s), s	2.5	13.7	0.0	8.0	8.2	1.6	3.7	11.9	0.0	7.3	17.6	2.3
Cycle Q Clear(g_c), s	2.5	13.7	0.0	8.0	8.2	1.6	3.7	11.9	0.0	7.3	17.6	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	161	804		374	553	469	93	881		180	1064	464
V/C Ratio(X)	0.59	0.77		0.80	0.42	0.09	0.80	0.64		0.82	0.77	0.13
Avail Cap(c_a), veh/h	284	1390		561	900	763	168	1445		307	1740	759
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.5	29.0	0.0	34.5	22.3	20.0	37.8	26.8	0.0	35.3	25.3	20.0
Incr Delay (d2), s/veh	1.3	1.6	0.0	2.7	0.5	0.1	6.0	0.8	0.0	3.6	1.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	5.2	0.0	2.8	3.2	0.5	1.5	4.4	0.0	2.8	6.4	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	30.6	0.0	37.2	22.8	20.1	43.8	27.6	0.0	38.9	26.5	20.2
LnGrp LOS	D	C		D	C	C	D	C		D	C	C
Approach Vol, veh/h		713	A		571			640	A		1025	
Approach Delay, s/veh		31.7			30.2			29.5			28.0	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.6	27.4	14.9	25.3	9.3	31.7	9.0	31.1				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	15.4	34.3	15.4	33.0	8.4	41.3	7.8	40.6				
Max Q Clear Time (g_c+I1), s	9.3	13.9	10.0	15.7	5.7	19.6	4.5	10.2				
Green Ext Time (p_c), s	0.1	3.1	0.3	3.4	0.0	5.1	0.0	1.3				

Intersection Summary

HCM 6th Ctrl Delay	29.6
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
45: Archibald Av. & Eucalyptus Av.



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	2	10	930	1	10	1200
Future Volume (vph)	2	10	930	1	10	1200
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		8		2		
Detector Phase	3	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.5	9.5	32.5	32.5	9.6	16.5
Total Split (s)	10.0	10.0	40.0	40.0	10.0	50.0
Total Split (%)	14.3%	14.3%	57.1%	57.1%	14.3%	71.4%
Yellow Time (s)	3.5	3.5	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	5.5	5.5	57.0	57.0	5.2	58.8
Actuated g/C Ratio	0.09	0.09	0.90	0.90	0.08	0.92
v/c Ratio	0.01	0.03	0.32	0.00	0.08	0.40
Control Delay	27.0	0.1	4.2	6.0	28.6	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	0.1	4.2	6.0	28.6	2.8
LOS	C	A	A	A	C	A
Approach Delay			4.2			3.0
Approach LOS			A			A

Intersection Summary

Cycle Length: 70  
 Actuated Cycle Length: 63.6  
 Natural Cycle: 65  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.40  
 Intersection Signal Delay: 3.5  
 Intersection LOS: A  
 Intersection Capacity Utilization 47.4%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 45: Archibald Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖↗		↖↗		↕	↖	↗	↕	↖↗
Traffic Volume (veh/h)	0	0	0	2	0	10	0	930	1	10	1200	0
Future Volume (veh/h)	0	0	0	2	0	10	0	930	1	10	1200	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1700	0	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				2	0	2	0	989	1	11	1277	0
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				17	0	14	0	2380	1061	23	2715	0
Arrive On Green				0.01	0.00	0.01	0.00	0.70	0.70	0.01	0.79	0.00
Sat Flow, veh/h				3141	0	2685	0	3510	1524	1619	3510	0
Grp Volume(v), veh/h				2	0	2	0	989	1	11	1277	0
Grp Sat Flow(s),veh/h/ln				1570	0	1342	0	1710	1524	1619	1710	0
Q Serve(g_s), s				0.0	0.0	0.0	0.0	6.8	0.0	0.4	6.7	0.0
Cycle Q Clear(g_c), s				0.0	0.0	0.0	0.0	6.8	0.0	0.4	6.7	0.0
Prop In Lane				1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h				17	0	14	0	2380	1061	23	2715	0
V/C Ratio(X)				0.12	0.00	0.14	0.00	0.42	0.00	0.48	0.47	0.00
Avail Cap(c_a), veh/h				315	0	269	0	2380	1061	160	2715	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				27.1	0.0	27.1	0.0	3.6	2.5	26.8	1.9	0.0
Incr Delay (d2), s/veh				3.1	0.0	4.3	0.0	0.5	0.0	5.8	0.6	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	0.0	0.0	0.0	0.6	0.0	0.2	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				30.2	0.0	31.4	0.0	4.1	2.5	32.6	2.4	0.0
LnGrp LOS				C	A	C	A	A	A	C	A	A
Approach Vol, veh/h					4			990			1288	
Approach Delay, s/veh					30.8			4.1			2.7	
Approach LOS					C			A			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	5.4	44.6				50.0		4.8				
Change Period (Y+Rc), s	4.6	6.5				6.5		4.5				
Max Green Setting (Gmax), s	5.4	33.5				43.5		5.5				
Max Q Clear Time (g_c+I1), s	2.4	8.8				8.7		2.0				
Green Ext Time (p_c), s	0.0	6.5				10.1		0.0				

Intersection Summary

HCM 6th Ctrl Delay	3.4
HCM 6th LOS	A

Timings  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

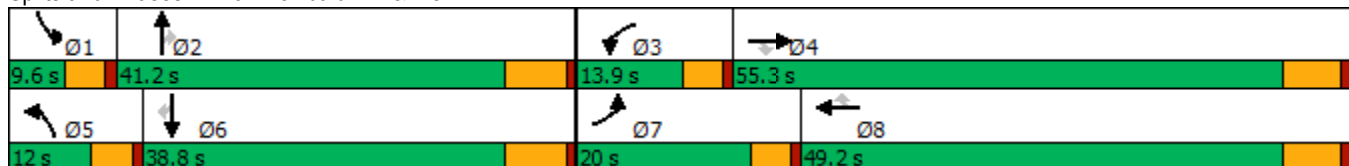


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑↑↑	↗	↖↗	↑↑	↗
Traffic Volume (vph)	263	71	453	45	24	53	134	581	42	74	977	179
Future Volume (vph)	263	71	453	45	24	53	134	581	42	74	977	179
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	20.0	55.3	55.3	13.9	49.2	49.2	12.0	41.2	41.2	9.6	38.8	38.8
Total Split (%)	16.7%	46.1%	46.1%	11.6%	41.0%	41.0%	10.0%	34.3%	34.3%	8.0%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	15.9	27.7	27.7	7.0	18.4	18.4	7.6	38.3	38.3	5.2	33.3	33.3
Actuated g/C Ratio	0.17	0.30	0.30	0.07	0.20	0.20	0.08	0.41	0.41	0.06	0.36	0.36
v/c Ratio	0.99	0.14	0.77	0.38	0.07	0.13	1.05	0.30	0.06	0.47	0.83	0.29
Control Delay	95.1	24.7	24.0	55.3	29.4	0.6	139.8	23.1	0.2	58.1	37.4	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.1	24.7	24.0	55.3	29.4	0.6	139.8	23.1	0.2	58.1	37.4	8.7
LOS	F	C	C	E	C	A	F	C	A	E	D	A
Approach Delay		47.8			26.3			42.5			34.4	
Approach LOS		D			C			D			C	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 93.5  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.05  
 Intersection Signal Delay: 39.8  
 Intersection LOS: D  
 Intersection Capacity Utilization 76.7%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 46: Archibald Av. & Merrill Av.





























HCM 6th Signalized Intersection Summary  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	71	453	45	24	53	134	581	42	74	977	179
Future Volume (veh/h)	263	71	453	45	24	53	134	581	42	74	977	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	271	73	282	46	25	16	138	599	29	76	1007	127
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	299	478	405	64	216	183	144	1879	576	147	1174	524
Arrive On Green	0.18	0.27	0.27	0.04	0.12	0.12	0.09	0.38	0.38	0.05	0.34	0.34
Sat Flow, veh/h	1619	1800	1525	1619	1800	1525	1619	4914	1506	2956	3420	1525
Grp Volume(v), veh/h	271	73	282	46	25	16	138	599	29	76	1007	127
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	1800	1525	1619	1638	1506	1478	1710	1525
Q Serve(g_s), s	13.6	2.6	13.9	2.3	1.0	0.8	7.1	7.1	1.0	2.1	22.8	5.0
Cycle Q Clear(g_c), s	13.6	2.6	13.9	2.3	1.0	0.8	7.1	7.1	1.0	2.1	22.8	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	299	478	405	64	216	183	144	1879	576	147	1174	524
V/C Ratio(X)	0.91	0.15	0.70	0.72	0.12	0.09	0.96	0.32	0.05	0.52	0.86	0.24
Avail Cap(c_a), veh/h	299	1061	899	181	929	788	144	2047	628	177	1326	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	23.4	27.5	39.6	32.7	32.6	37.8	18.1	16.2	38.6	25.5	19.6
Incr Delay (d2), s/veh	28.4	0.1	2.2	5.7	0.2	0.2	62.1	0.1	0.0	1.0	5.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	1.0	5.0	1.0	0.5	0.3	5.1	2.4	0.3	0.7	8.8	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.7	23.6	29.7	45.2	32.9	32.8	99.9	18.2	16.2	39.6	30.8	19.8
LnGrp LOS	E	C	C	D	C	C	F	B	B	D	C	B
Approach Vol, veh/h		626			87			766			1210	
Approach Delay, s/veh		42.8			39.4			32.8			30.2	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	38.3	7.9	28.3	12.0	35.1	20.0	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	34.7	9.3	49.1	7.4	32.3	15.4	43.0				
Max Q Clear Time (g_c+I1), s	4.1	9.1	4.3	15.9	9.1	24.8	15.6	3.0				
Green Ext Time (p_c), s	0.0	3.7	0.0	1.3	0.0	3.8	0.0	0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			34.2									
HCM 6th LOS			C									

Timings  
47: Archibald Av. & Limonite Av.



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	320	262	540	353	601	873
Future Volume (vph)	320	262	540	353	601	873
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	37.0	46.7	36.3	37.0	83.7
Total Split (%)	30.3%	30.8%	38.9%	30.3%	30.8%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min
Act Effct Green (s)	15.2	53.3	32.9	48.1	32.7	71.0
Actuated g/C Ratio	0.16	0.55	0.34	0.50	0.34	0.73
v/c Ratio	0.60	0.28	0.85	0.44	1.01	0.64
Control Delay	42.8	7.0	44.1	11.7	73.2	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.8	7.0	44.1	11.7	73.2	10.4
LOS	D	A	D	B	E	B
Approach Delay	26.7		31.3			36.0
Approach LOS	C		C			D

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 96.7	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 32.7	Intersection LOS: C
Intersection Capacity Utilization 83.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 47: Archibald Av. & Limonite Av.



HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶↶	↶	↶	↶	↶	↶
Traffic Volume (veh/h)	320	262	540	353	601	873
Future Volume (veh/h)	320	262	540	353	601	873
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	327	217	551	339	613	891
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	420	766	657	737	645	1442
Arrive On Green	0.12	0.12	0.35	0.35	0.36	0.76
Sat Flow, veh/h	3510	1610	1900	1576	1810	1900
Grp Volume(v), veh/h	327	217	551	339	613	891
Grp Sat Flow(s),veh/h/ln	1755	1610	1900	1576	1810	1900
Q Serve(g_s), s	7.9	7.1	23.4	12.8	28.8	18.6
Cycle Q Clear(g_c), s	7.9	7.1	23.4	12.8	28.8	18.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	420	766	657	737	645	1442
V/C Ratio(X)	0.78	0.28	0.84	0.46	0.95	0.62
Avail Cap(c_a), veh/h	1246	1145	900	940	663	1712
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.3	13.9	26.3	15.9	27.4	4.8
Incr Delay (d2), s/veh	1.2	0.1	5.7	0.5	23.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	2.3	10.4	5.3	14.9	3.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.5	13.9	32.0	16.5	50.6	5.0
LnGrp LOS	D	B	C	B	D	A
Approach Vol, veh/h	544		890			1504
Approach Delay, s/veh	28.7		26.1			23.6
Approach LOS	C		C			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	36.1	35.5			71.6	15.8
Change Period (Y+Rc), s	5.0	5.3			* 5.3	5.3
Max Green Setting (Gmax), s	32.0	41.4			* 79	31.0
Max Q Clear Time (g_c+I1), s	30.8	25.4			20.6	9.9
Green Ext Time (p_c), s	0.3	4.8			3.7	0.6

Intersection Summary

HCM 6th Ctrl Delay	25.3
HCM 6th LOS	C

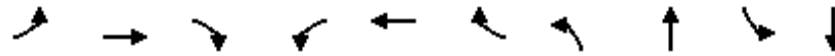
Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

48: Turner Av. & Ontario Ranch Rd.

08/23/2021

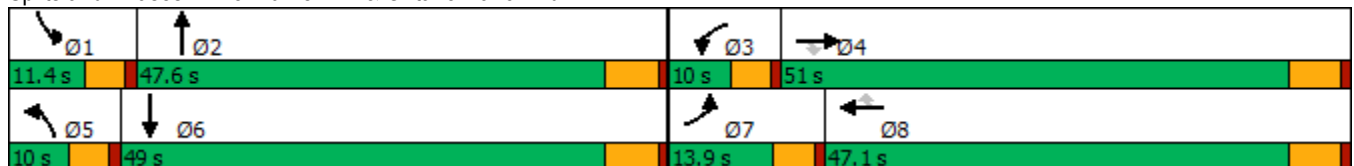


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗	↘	↗
Traffic Volume (vph)	45	1108	40	32	610	13	26	7	28	7
Future Volume (vph)	45	1108	40	32	610	13	26	7	28	7
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	25.8	25.8	9.6	45.8	9.6	47.8
Total Split (s)	13.9	51.0	51.0	10.0	47.1	47.1	10.0	47.6	11.4	49.0
Total Split (%)	11.6%	42.5%	42.5%	8.3%	39.3%	39.3%	8.3%	39.7%	9.5%	40.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	7.0	57.8	57.8	5.5	56.4	56.4	5.5	14.9	6.1	17.4
Actuated g/C Ratio	0.08	0.68	0.68	0.06	0.67	0.67	0.06	0.18	0.07	0.21
v/c Ratio	0.37	0.52	0.04	0.33	0.29	0.01	0.28	0.17	0.27	0.09
Control Delay	51.2	17.5	0.1	54.7	15.4	0.0	53.0	12.9	50.9	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.2	17.5	0.1	54.7	15.4	0.0	53.0	12.9	50.9	14.8
LOS	D	B	A	D	B	A	D	B	D	B
Approach Delay		18.2			17.0			27.3		32.5
Approach LOS		B			B			C		C

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 84.8  
 Natural Cycle: 105  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.52  
 Intersection Signal Delay: 18.6  
 Intersection LOS: B  
 Intersection Capacity Utilization 61.5%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 48: Turner Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
48: Turner Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗		↘	↗	
Traffic Volume (veh/h)	45	1108	40	32	610	13	26	7	40	28	7	22
Future Volume (veh/h)	45	1108	40	32	610	13	26	7	40	28	7	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	49	1218	32	35	670	11	29	8	25	31	8	10
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	67	1907	851	54	1881	839	48	46	144	50	89	111
Arrive On Green	0.04	0.56	0.56	0.03	0.55	0.55	0.03	0.12	0.12	0.03	0.12	0.12
Sat Flow, veh/h	1619	3420	1525	1619	3420	1525	1619	381	1191	1619	727	909
Grp Volume(v), veh/h	49	1218	32	35	670	11	29	0	33	31	0	18
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1525	1619	0	1572	1619	0	1636
Q Serve(g_s), s	2.4	19.8	0.8	1.7	8.9	0.3	1.4	0.0	1.5	1.5	0.0	0.8
Cycle Q Clear(g_c), s	2.4	19.8	0.8	1.7	8.9	0.3	1.4	0.0	1.5	1.5	0.0	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	1.00		0.56
Lane Grp Cap(c), veh/h	67	1907	851	54	1881	839	48	0	190	50	0	200
V/C Ratio(X)	0.73	0.64	0.04	0.64	0.36	0.01	0.61	0.00	0.17	0.62	0.00	0.09
Avail Cap(c_a), veh/h	186	1907	851	108	1881	839	108	0	811	136	0	872
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.4	12.3	8.1	38.7	10.2	8.3	38.9	0.0	32.0	38.8	0.0	31.6
Incr Delay (d2), s/veh	5.7	1.7	0.1	4.6	0.5	0.0	4.5	0.0	0.4	4.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	6.5	0.2	0.7	2.9	0.1	0.6	0.0	0.6	0.6	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.1	14.0	8.2	43.3	10.7	8.3	43.4	0.0	32.4	43.3	0.0	31.7
LnGrp LOS	D	B	A	D	B	A	D	A	C	D	A	C
Approach Vol, veh/h		1299			716			62				49
Approach Delay, s/veh		15.0			12.3			37.5				39.1
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	15.6	7.3	51.0	7.0	15.7	7.9	50.4				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.8	41.8	5.4	45.2	5.4	43.2	9.3	41.3				
Max Q Clear Time (g_c+I1), s	3.5	3.5	3.7	21.8	3.4	2.8	4.4	10.9				
Green Ext Time (p_c), s	0.0	0.1	0.0	9.0	0.0	0.1	0.0	4.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			15.3									
HCM 6th LOS			B									



HCM 6th Signalized Intersection Summary  
49: Haven Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (veh/h)	121	906	67	62	531	131	29	89	23	169	263	111
Future Volume (veh/h)	121	906	67	62	531	131	29	89	23	169	263	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	126	944	39	65	553	62	30	93	10	176	274	43
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	155	2017	626	80	2255	556	50	234	198	211	413	350
Arrive On Green	0.10	0.41	0.41	0.05	0.36	0.36	0.03	0.13	0.13	0.13	0.23	0.23
Sat Flow, veh/h	1619	4914	1525	1619	6192	1525	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	126	944	39	65	553	62	30	93	10	176	274	43
Grp Sat Flow(s),veh/h/ln	1619	1638	1525	1619	1548	1525	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	5.9	10.8	1.2	3.1	4.8	2.1	1.4	3.6	0.4	8.2	10.6	1.7
Cycle Q Clear(g_c), s	5.9	10.8	1.2	3.1	4.8	2.1	1.4	3.6	0.4	8.2	10.6	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	2017	626	80	2255	556	50	234	198	211	413	350
V/C Ratio(X)	0.81	0.47	0.06	0.81	0.25	0.11	0.60	0.40	0.05	0.83	0.66	0.12
Avail Cap(c_a), veh/h	240	2017	626	225	2255	556	141	1023	867	324	1227	1040
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.1	16.5	13.7	36.2	17.1	16.2	36.8	30.7	29.3	32.6	26.9	23.5
Incr Delay (d2), s/veh	5.9	0.8	0.2	7.1	0.3	0.4	4.3	1.1	0.1	6.3	1.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	3.6	0.4	1.3	1.5	0.7	0.6	1.5	0.2	3.3	4.4	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.0	17.3	13.9	43.3	17.3	16.6	41.1	31.8	29.4	38.9	28.7	23.6
LnGrp LOS	D	B	B	D	B	B	D	C	C	D	C	C
Approach Vol, veh/h		1109			680			133			493	
Approach Delay, s/veh		19.8			19.7			33.7			31.9	
Approach LOS		B			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	15.8	8.4	38.1	7.0	23.5	12.0	34.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	15.4	43.7	10.7	* 29	6.7	52.4	11.4	28.0				
Max Q Clear Time (g_c+I1), s	10.2	5.6	5.1	12.8	3.4	12.6	7.9	6.8				
Green Ext Time (p_c), s	0.1	0.5	0.0	5.4	0.0	1.6	0.0	3.3				

Intersection Summary

HCM 6th Ctrl Delay	23.0
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

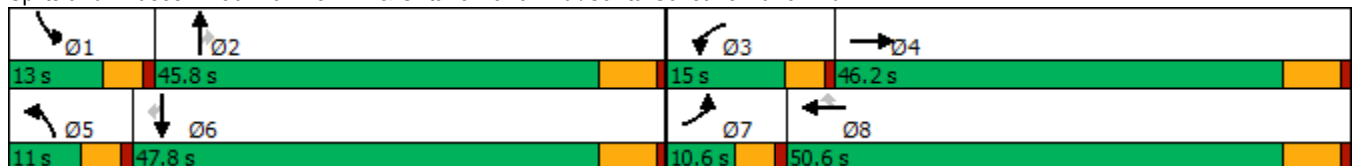


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖
Traffic Volume (vph)	93	820	603	458	111	202	387	242	469	821	112
Future Volume (vph)	93	820	603	458	111	202	387	242	469	821	112
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.2	9.6	49.2	49.2	9.6	44.2	44.2	9.6	45.2	45.2
Total Split (s)	10.6	46.2	15.0	50.6	50.6	11.0	45.8	45.8	13.0	47.8	47.8
Total Split (%)	8.8%	38.5%	12.5%	42.2%	42.2%	9.2%	38.2%	38.2%	10.8%	39.8%	39.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.0	26.4	10.6	31.1	31.1	6.5	28.6	28.6	8.6	30.7	30.7
Actuated g/C Ratio	0.06	0.27	0.11	0.32	0.32	0.07	0.30	0.30	0.09	0.32	0.32
v/c Ratio	0.53	0.67	1.94	0.43	0.20	1.06	0.28	0.45	1.87	0.79	0.21
Control Delay	59.0	31.2	458.4	27.5	5.6	124.8	26.7	14.3	430.8	36.0	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.0	31.2	458.4	27.5	5.6	124.8	26.7	14.3	430.8	36.0	6.3
LOS	E	C	F	C	A	F	C	B	F	D	A
Approach Delay		33.4		247.1			46.9			165.8	
Approach LOS		C		F			D			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 96.3	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.94	
Intersection Signal Delay: 130.8	Intersection LOS: F
Intersection Capacity Utilization 86.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



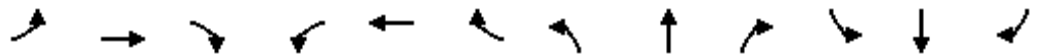


HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	820	273	603	458	111	202	387	242	469	821	112
Future Volume (veh/h)	93	820	273	603	458	111	202	387	242	469	821	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	97	854	227	628	477	82	210	403	173	489	855	62
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	150	1272	330	343	1105	493	211	1432	444	277	1073	478
Arrive On Green	0.05	0.26	0.26	0.12	0.32	0.32	0.07	0.29	0.29	0.09	0.31	0.31
Sat Flow, veh/h	2956	4933	1280	2956	3420	1525	2956	4914	1524	2956	3420	1524
Grp Volume(v), veh/h	97	803	278	628	477	82	210	403	173	489	855	62
Grp Sat Flow(s),veh/h/ln	1478	1548	1570	1478	1710	1525	1478	1638	1524	1478	1710	1524
Q Serve(g_s), s	2.9	13.9	14.3	10.4	9.8	3.4	6.4	5.7	8.1	8.4	20.5	2.6
Cycle Q Clear(g_c), s	2.9	13.9	14.3	10.4	9.8	3.4	6.4	5.7	8.1	8.4	20.5	2.6
Prop In Lane	1.00		0.82	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	1197	405	343	1105	493	211	1432	444	277	1073	478
V/C Ratio(X)	0.65	0.67	0.69	1.83	0.43	0.17	0.99	0.28	0.39	1.76	0.80	0.13
Avail Cap(c_a), veh/h	198	2073	701	343	1695	756	211	2172	673	277	1588	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	29.8	30.0	39.6	23.9	21.7	41.6	24.5	25.4	40.6	28.1	22.0
Incr Delay (d2), s/veh	1.7	0.7	2.1	384.8	0.3	0.2	60.2	0.1	0.6	358.4	1.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	4.8	5.1	21.9	3.7	1.2	4.0	2.0	2.8	16.7	7.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	30.5	32.1	424.4	24.1	21.9	101.8	24.6	25.9	399.0	29.9	22.1
LnGrp LOS	D	C	C	F	C	C	F	C	C	F	C	C
Approach Vol, veh/h		1178			1187			786			1406	
Approach Delay, s/veh		31.9			235.8			45.5			157.9	
Approach LOS		C			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	32.3	15.0	29.3	11.0	34.3	9.2	35.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	8.4	39.6	10.4	40.0	6.4	41.6	6.0	44.4				
Max Q Clear Time (g_c+I1), s	10.4	10.1	12.4	16.3	8.4	22.5	4.9	11.8				
Green Ext Time (p_c), s	0.0	3.0	0.0	6.8	0.0	5.3	0.0	3.2				

Intersection Summary

HCM 6th Ctrl Delay	126.2
HCM 6th LOS	F

Timings  
51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021

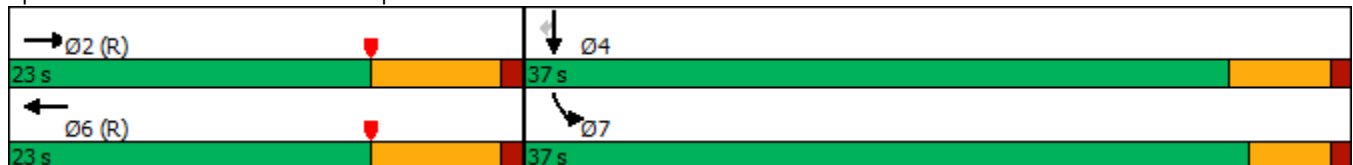


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑	↔	↑
Traffic Volume (vph)	1116	510	461	434	301	0	995
Future Volume (vph)	1116	510	461	434	301	0	995
Turn Type	NA	Free	NA	Free	Prot	NA	Perm
Protected Phases	2		6		7	4	
Permitted Phases		Free		Free			4
Detector Phase	2		6		7	4	4
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5	10.5
Total Split (s)	23.0		23.0		37.0	37.0	37.0
Total Split (%)	38.3%		38.3%		61.7%	61.7%	61.7%
Yellow Time (s)	5.8		5.8		3.6	4.5	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max		C-Min		None	Min	Min
Act Effct Green (s)	16.2	60.0	16.2	60.0	32.4	31.5	31.5
Actuated g/C Ratio	0.27	1.00	0.27	1.00	0.54	0.52	0.52
v/c Ratio	0.82	0.33	0.49	0.28	0.30	0.65	0.61
Control Delay	26.8	0.5	16.3	0.9	8.7	12.5	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.8	0.5	16.3	0.9	8.7	12.5	11.5
LOS	C	A	B	A	A	B	B
Approach Delay	18.6		8.9			11.3	
Approach LOS	B		A			B	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 13.8  
 Intersection LOS: B  
 Intersection Capacity Utilization 64.1%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
 08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑	↗				↘	↔	↗
Traffic Volume (veh/h)	0	1116	510	0	461	434	0	0	0	301	0	995
Future Volume (veh/h)	0	1116	510	0	461	434	0	0	0	301	0	995
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1151	0	0	475	0				207	0	805
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2530		0	1761					583	0	1038
Arrive On Green	0.00	0.49	0.00	0.00	0.49	0.00				0.32	0.00	0.32
Sat Flow, veh/h	0	5358	1610	0	3705	1610				1810	0	3220
Grp Volume(v), veh/h	0	1151	0	0	475	0				207	0	805
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610				1810	0	1610
Q Serve(g_s), s	0.0	8.8	0.0	0.0	4.7	0.0				5.3	0.0	13.6
Cycle Q Clear(g_c), s	0.0	8.8	0.0	0.0	4.7	0.0				5.3	0.0	13.6
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2530		0	1761					583	0	1038
V/C Ratio(X)	0.00	0.46		0.00	0.27					0.35	0.00	0.78
Avail Cap(c_a), veh/h	0	2530		0	1761					977	0	1739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.20	0.00	0.00	0.96	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	10.1	0.0	0.0	9.1	0.0				15.6	0.0	18.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.4	0.0				0.4	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.4	0.0	0.0	1.4	0.0				1.9	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.2	0.0	0.0	9.4	0.0				15.9	0.0	19.6
LnGrp LOS	A	B		A	A					B	A	B
Approach Vol, veh/h		1151	A		475	A					1012	
Approach Delay, s/veh		10.2			9.4						18.9	
Approach LOS		B			A						B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		36.1		23.9		36.1						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		16.2		32.4		16.2						
Max Q Clear Time (g_c+I1), s		10.8		15.6		6.7						
Green Ext Time (p_c), s		3.1		3.8		1.9						

Intersection Summary

HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

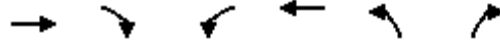
Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	663	787	303	701	199	238
Future Volume (vph)	663	787	303	701	199	238
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	31.0	16.0	13.0	44.0	16.0	16.0
Total Split (%)	51.7%	26.7%	21.7%	73.3%	26.7%	26.7%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max
Act Effct Green (s)	23.7	41.0	7.0	36.7	10.0	10.0
Actuated g/C Ratio	0.40	0.68	0.12	0.61	0.17	0.17
v/c Ratio	0.34	0.74	0.78	0.23	0.48	0.40
Control Delay	9.4	10.2	41.6	5.5	17.7	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	10.2	41.6	5.5	17.7	8.4
LOS	A	B	D	A	B	A
Approach Delay	9.8			16.4	14.8	
Approach LOS	A			B	B	

Intersection Summary

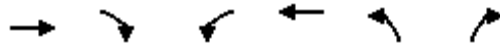
Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 12.9  
 Intersection LOS: B  
 Intersection Capacity Utilization 67.4%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 52: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↓	↑↑↑	↑↓	↑
Traffic Volume (veh/h)	663	787	303	701	199	238
Future Volume (veh/h)	663	787	303	701	199	238
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	698	612	319	738	236	119
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2049	904	410	3173	603	268
Arrive On Green	0.66	0.66	0.12	0.61	0.17	0.17
Sat Flow, veh/h	5358	1610	3510	5358	3619	1610
Grp Volume(v), veh/h	698	612	319	738	236	119
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1810	1610
Q Serve(g_s), s	3.5	15.4	5.3	3.9	3.5	4.0
Cycle Q Clear(g_c), s	3.5	15.4	5.3	3.9	3.5	4.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2049	904	410	3173	603	268
V/C Ratio(X)	0.34	0.68	0.78	0.23	0.39	0.44
Avail Cap(c_a), veh/h	2049	904	410	3173	603	268
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.62	0.62	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	5.1	25.7	5.3	22.3	22.5
Incr Delay (d2), s/veh	0.3	2.5	13.6	0.0	1.9	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.4	2.7	0.8	1.5	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.1	7.7	39.4	5.3	24.2	27.7
LnGrp LOS	A	A	D	A	C	C
Approach Vol, veh/h	1310			1057	355	
Approach Delay, s/veh	7.4			15.6	25.4	
Approach LOS	A			B	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.0	31.0			44.0	16.0
Change Period (Y+Rc), s	6.0	7.3			7.3	6.0
Max Green Setting (Gmax), s	7.0	23.7			36.7	10.0
Max Q Clear Time (g_c+I1), s	7.3	17.4			5.9	6.0
Green Ext Time (p_c), s	0.0	3.4			4.9	0.5

Intersection Summary

HCM 6th Ctrl Delay	12.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

**APPENDIX 5.2:**

**E+P CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**

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### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/18/21</u>	
Major Street: <u>Eucalyptus</u>					Critical Approach Speed (Major) <u>45</u> mph	
Minor Street: <u>Sultana Av</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 4,641 vpd      Minor Street Future ADT = 362 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....  or  **RURAL (R)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements			
		<b>XX</b>		EADT			
<u>CONDITION A - Minimum Vehicular Volume</u>		<u>Not Satisfied</u>		Vehicles Per Day on		Vehicles Per Day	
<u>Satisfied</u>		<u>Not Satisfied</u>		Major Street		on Higher-Volume	
		<b>XX</b>		(Total of Both Approaches)		Minor Street Approach	
						(One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>1</u>	<b>4,641</b>	<u>1</u>	<b>362</b>	8,000	5,600	2,400	1,680
<u>2+</u>		<u>1</u>		9,600	6,720	2,400	1,680
<u>2+</u>		<u>2+</u>		9,600	6,720	3,200	2,240
<u>1</u>		<u>2+</u>		8,000	5,600	3,200	2,240
<u>CONDITION B - Interruption of Continuous Traffic</u>		<u>Not Satisfied</u>		Vehicles Per Day		Vehicles Per Day	
<u>Satisfied</u>		<u>Not Satisfied</u>		on Major Street		on Higher-Volume	
		<b>XX</b>		(Total of Both Approaches)		Minor Street Approach	
						(One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>1</u>	<b>4,641</b>	<u>1</u>	<b>362</b>	12,000	8,400	1,200	850
<u>2+</u>		<u>1</u>		14,400	10,080	1,200	850
<u>2+</u>		<u>2+</u>		14,400	10,080	1,600	1,120
<u>1</u>		<u>2+</u>		12,000	8,400	1,600	1,120
<u>Combination of CONDITIONS A + B</u>		<u>Not Satisfied</u>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
		<b>XX</b>					
No one condition satisfied, but following conditions fulfilled 80% of more .....		<u>A</u>	<u>B</u>				
		<b>22%</b>	<b>43%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.





### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE</u> <u>08/18/21</u>
Major Street: <u>Sultana Av</u>				<u>CHK</u> <u>MT</u>		<u>DATE</u> <u>08/18/21</u>
Minor Street: <u>Driveway 2</u>					Critical Approach Speed (Major) <u>25</u> mph	
					Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes =	<u>1</u>	lane	Minor Street Approach Lane:	<u>1</u>	lane	
Major Street Future ADT =	<u>904</u>	vpd	Minor Street Future ADT =	<u>164</u>	vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....						<input type="checkbox"/>
						or
In built up area of isolated community of < 10,000 population .....						<input type="checkbox"/> <b>URBAN (U)</b>

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>		<u>Urban</u>		<u>Urban</u>	
<u>Satisfied</u>		<u>Not Satisfied</u>		<u>Rural</u>		<u>Rural</u>	
<b>XX</b>		<b>XX</b>		<b>8,000</b>		<b>2,400</b>	
<b>1 904</b>		<b>1 164</b>		<b>5,600</b>		<b>1,680</b>	
<b>2 +</b>		<b>1</b>		<b>6,720</b>		<b>2,400</b>	
<b>2 +</b>		<b>2 +</b>		<b>6,720</b>		<b>3,200</b>	
<b>1</b>		<b>2 +</b>		<b>8,000</b>		<b>2,240</b>	
<b>12,000</b>		<b>8,400</b>		<b>1,200</b>		<b>850</b>	
<b>14,400</b>		<b>10,080</b>		<b>1,200</b>		<b>850</b>	
<b>14,400</b>		<b>10,080</b>		<b>1,600</b>		<b>1,120</b>	
<b>12,000</b>		<b>8,400</b>		<b>1,600</b>		<b>1,120</b>	
<b>2 CONDITIONS</b>		<b>2 CONDITIONS</b>		<b>80%</b>		<b>80%</b>	
<b>80%</b>		<b>80%</b>		<b>7%</b>		<b>8%</b>	

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/18/21</u>	<u>08/18/21</u>
Major Street: <u>Sultana Av</u>					Critical Approach Speed (Major) <u>25</u> mph	
Minor Street: <u>Driveway 3</u>					Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes = <u>1</u> lane					Minor Street Approach Lane: <u>1</u> lane	
Major Street Future ADT = <u>1,012</u> vpd					Minor Street Future ADT = <u>142</u> vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....					<input type="text"/>	
					or	<b>URBAN (U)</b>
In built up area of isolated community of < 10,000 population .....					<input type="text"/>	

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u> <b>XX</b>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b> <b>XX</b>					
<u>Satisfied</u>		<u>Not Satisfied</u>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u> <u>Rural</u>		<u>Urban</u> <u>Rural</u>	
1 <b>1,012</b>		1 <b>142</b>					
2 +		1					
2 +		2 +					
1		2 +					
				8,000    5,600		2,400    1,680	
				9,600    6,720		2,400    1,680	
				9,600    6,720		3,200    2,240	
				8,000    5,600		3,200    2,240	
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b> <b>XX</b>					
<u>Satisfied</u>		<u>Not Satisfied</u>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u> <u>Rural</u>		<u>Urban</u> <u>Rural</u>	
1 <b>1,012</b>		1 <b>142</b>					
2 +		1					
2 +		2 +					
1		2 +					
				12,000    8,400		1,200    850	
				14,400    10,080		1,200    850	
				14,400    10,080		1,600    1,120	
				12,000    8,400		1,600    1,120	
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b> <b>XX</b>					
<u>Satisfied</u>		<u>Not Satisfied</u>		2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		A <b>6%</b> B <b>8%</b>					

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>	<u>DATE</u>	<u>08/18/21</u>
Major Street: <u>Sultana Av</u>				<u>CHK</u>	<u>DATE</u>	<u>08/18/21</u>
Minor Street: <u>Driveway 4</u>					Critical Approach Speed (Major)	<u>25</u> mph
					Critical Approach Speed (Minor)	<u>25</u> mph

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 1,028 vpd                      Minor Street Future ADT = 72 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		<u>Not Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
1 <b>1,028</b>		1 <b>72</b>		8,000	5,600	2,400	1,680
2 +		1		9,600	6,720	2,400	1,680
2 +		2 +		9,600	6,720	3,200	2,240
1		2 +		8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		<u>Not Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
1 <b>1,028</b>		1 <b>72</b>		12,000	8,400	1,200	850
2 +		1		14,400	10,080	1,200	850
2 +		2 +		14,400	10,080	1,600	1,120
1		2 +		12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<b>XX</b>					
		<b>A</b>		<b>B</b>			
		<b>3%</b>		<b>6%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/18/21</u>	
Major Street: <u>Sultana Av</u>					DATE <u>08/18/21</u>	
Minor Street: <u>Driveway 5</u>					Critical Approach Speed (Major) <u>25</u> mph	
					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 1,059 vpd                      Minor Street Future ADT = 131 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....    
 or **URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u> <b>XX</b>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b> <b>XX</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach		Minor Street					
<u>Major Street</u>	<u>Minor Street</u>						
1 <b>1,059</b>	1 <b>131</b>						
2 +	1						
2 +	2 +						
1	2 +						
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b> <b>XX</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach		Minor Street					
<u>Major Street</u>	<u>Minor Street</u>						
1 <b>1,059</b>	1 <b>131</b>						
2 +	1						
2 +	2 +						
1	2 +						
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b> <b>XX</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>						
No one condition satisfied, but following conditions fulfilled 80% of more .....		<u>A</u>	<u>B</u>				
		<b>5%</b>	<b>9%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/18/21</u>	
Major Street: <u>Sultana Av</u>					DATE <u>08/18/21</u>	
Minor Street: <u>Driveway 6</u>					Critical Approach Speed (Major) <u>25</u> mph	
					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 1,197 vpd                      Minor Street Future ADT = 185 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

In built up area of isolated community of < 10,000 population .....  **URBAN (U)**

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		<u>Not Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
1 <b>1,197</b>		1 <b>185</b>		8,000	5,600	2,400	1,680
2 +		1		9,600	6,720	2,400	1,680
2 +		2 +		9,600	6,720	3,200	2,240
1		2 +		8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		<u>Not Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
1 <b>1,197</b>		1 <b>185</b>		12,000	8,400	1,200	850
2 +		1		14,400	10,080	1,200	850
2 +		2 +		14,400	10,080	1,600	1,120
1		2 +		12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<b>XX</b>					
		<b>A</b>		<b>B</b>			
		<b>8%</b>		<b>10%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/18/21</u>
Major Street: <u>Sultana Av</u>				<u>CHK MT</u>		<u>DATE 08/18/21</u>
Minor Street: <u>Driveway 7</u>					Critical Approach Speed (Major) <u>25 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	
Major Street Approach Lanes = <u>1</u>	lane	Minor Street Approach Lane: <u>1</u>	lane			
Major Street Future ADT = <u>1,257</u>	vpd	Minor Street Future ADT = <u>59</u>	vpd			
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....	<input type="text"/>	or	<input type="text"/>			<b>URBAN (U)</b>
In built up area of isolated community of < 10,000 population .....	<input type="text"/>					

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		<u>Not Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
<u>1 1,257</u>		<u>1 59</u>		8,000	5,600	2,400	1,680
<u>2+</u>		<u>1</u>		9,600	6,720	2,400	1,680
<u>2+</u>		<u>2+</u>		9,600	6,720	3,200	2,240
<u>1</u>		<u>2+</u>		8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		<u>Not Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
<u>1 1,257</u>		<u>1 59</u>		12,000	8,400	1,200	850
<u>2+</u>		<u>1</u>		14,400	10,080	1,200	850
<u>2+</u>		<u>2+</u>		14,400	10,080	1,600	1,120
<u>1</u>		<u>2+</u>		12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<b>XX</b>					
		<u>A</u>	<u>B</u>				
		<b>2%</b>	<b>5%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/18/21</u>	DATE <u>08/18/21</u>
Major Street: <u>Merrill Av</u>					Critical Approach Speed (Major) <u>50</u> mph	
Minor Street: <u>Sultana Av</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 12,961 vpd                      Minor Street Future ADT = 612 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....  or  **RURAL (R)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>XX</b>		<b>XX</b>			
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 <b>12,961</b>	1 <b>612</b>	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>XX</b>					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 <b>12,961</b>	1 <b>612</b>	12,000	8,400 *	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<u>A</u>				
	<b>36%</b>				
	<u>B</u>				
	<b>72%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE</u> <u>08/18/21</u>
Major Street: <u>Merrill Av</u>				<u>CHK</u> <u>MT</u>		<u>DATE</u> <u>08/18/21</u>
Minor Street: <u>Driveway 8</u>					Critical Approach Speed (Major) <u>50</u> mph	
					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 12,704 vpd      Minor Street Future ADT = 57 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....  or  **RURAL (R)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements			
		XX		EADT			
<u>CONDITION A - Minimum Vehicular Volume</u>		<u>Not Satisfied</u>		Vehicles Per Day on		Vehicles Per Day	
<u>Satisfied</u>		<u>Not Satisfied</u>		Major Street		on Higher-Volume	
		XX		(Total of Both Approaches)		Minor Street Approach	
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach		Urban		Urban	
<u>Major Street</u>		<u>Minor Street</u>		Rural		Rural	
1 <b>12,704</b>		1 <b>57</b>		8,000		2,400	
2 +		1		9,600		2,400	
2 +		2 +		9,600		3,200	
1		2 +		8,000		3,200	
<u>CONDITION B - Interruption of Continuous Traffic</u>		<u>Not Satisfied</u>		Vehicles Per Day		Vehicles Per Day	
<u>Satisfied</u>		<u>Not Satisfied</u>		on Major Street		on Higher-Volume	
		XX		(Total of Both Approaches)		Minor Street Approach	
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach		Urban		Urban	
<u>Major Street</u>		<u>Minor Street</u>		Rural		Rural	
1 <b>12,704</b>		1 <b>57</b>		12,000		1,200	
2 +		1		14,400		1,200	
2 +		2 +		14,400		1,600	
1		2 +		12,000		1,600	
<u>Combination of CONDITIONS A + B</u>		<u>Not Satisfied</u>		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>		<u>Not Satisfied</u>					
No one condition satisfied, but following conditions fulfilled 80% of more .....		XX					
		A 3%	B 7%				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>		<b>TRAFFIC CONDITIONS</b>	<b>E+P</b>
Jurisdiction: <u>City of Ontario</u>				CALC <u>MT</u>	DATE <u>08/18/21</u>	
Major Street: <u>Eucalyptus Av</u>				CHK <u>MT</u>	DATE <u>08/18/21</u>	
Minor Street: <u>Driveway 9</u>				Critical Approach Speed (Major)	<u>45</u> mph	
				Critical Approach Speed (Minor)	<u>25</u> mph	
Major Street Approach Lanes =	<u>1</u>	lane		Minor Street Approach Lane:	<u>1</u>	lane
Major Street Future ADT =	<u>4,788</u>	vpd		Minor Street Future ADT =	<u>217</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....					<input checked="" type="checkbox"/>	
					or	<b>RURAL (R)</b>
In built up area of isolated community of < 10,000 population .....					<input type="checkbox"/>	

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
<b>XX</b>					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>4,788</b>	1 <b>217</b>	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
<b>XX</b>					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>4,788</b>	1 <b>217</b>	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
<b>XX</b>					
No one condition satisfied, but following conditions fulfilled 80% of more .....	<u>A</u>				
	<b>13%</b>				
	<u>B</u>				
	<b>26%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/18/21</u>	<u>08/18/21</u>
Major Street: <u>Eucalyptus Ave</u>					Critical Approach Speed (Major) <u>45 mph</u>	
Minor Street: <u>Driveway 10</u>					Critical Approach Speed (Minor) <u>25 mph</u>	
Major Street Approach Lanes = <u>1</u>	lane	Minor Street Approach Lane: <u>1</u>	lane			
Major Street Future ADT = <u>4,871</u>	vpd	Minor Street Future ADT = <u>218</u>	vpd			
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....	<input checked="" type="checkbox"/>	or				<b>RURAL (R)</b>
In built up area of isolated community of < 10,000 population .....	<input type="checkbox"/>					

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>	<b>XX</b>	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>1</u> <b>4,871</b>	<u>1</u> <b>218</b>	8,000	5,600	2,400	1,680
<u>2+</u>	<u>1</u>	9,600	6,720	2,400	1,680
<u>2+</u>	<u>2+</u>	9,600	6,720	3,200	2,240
<u>1</u>	<u>2+</u>	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>1</u> <b>4,871</b>	<u>1</u> <b>218</b>	12,000	8,400	1,200	850
<u>2+</u>	<u>1</u>	14,400	10,080	1,200	850
<u>2+</u>	<u>2+</u>	14,400	10,080	1,600	1,120
<u>1</u>	<u>2+</u>	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
No one condition satisfied, but following conditions fulfilled 80% of more .....		<u>A</u>	<u>B</u>		
		<b>13%</b>	<b>26%</b>		

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE</u> <u>08/18/21</u>
Major Street: <u>Eucalyptus Av</u>				<u>CHK</u> <u>MT</u>		<u>DATE</u> <u>08/18/21</u>
Minor Street: <u>Driveway 11</u>					Critical Approach Speed (Major) <u>50</u> mph	
					Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes =	<u>1</u>	lane		Minor Street Approach Lane:	<u>1</u>	lane
Major Street Future ADT =	<u>12,762</u>	vpd		Minor Street Future ADT =	<u>57</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....					<input checked="" type="checkbox"/>	
					or	<b>RURAL (R)</b>
In built up area of isolated community of < 10,000 population .....					<input type="checkbox"/>	

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>	<b>XX</b>	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 12,762</u>	<u>1 57</u>	8,000	5,600 *	2,400	1,680
<u>2 +</u>	<u>1</u>	9,600	6,720	2,400	1,680
<u>2 +</u>	<u>2 +</u>	9,600	6,720	3,200	2,240
<u>1</u>	<u>2 +</u>	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>	<b>XX</b>	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 12,762</u>	<u>1 57</u>	12,000	8,400 *	1,200	850
<u>2 +</u>	<u>1</u>	14,400	10,080	1,200	850
<u>2 +</u>	<u>2 +</u>	14,400	10,080	1,600	1,120
<u>1</u>	<u>2 +</u>	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>	<b>XX</b>	2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<u>A</u>	<u>B</u>			
	<b>3%</b>	<b>7%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/18/21</u>	<u>08/18/21</u>
Major Street: <u>Eucalyptus Ave</u>					Critical Approach Speed (Major) <u>45</u> mph	
Minor Street: <u>Campus Av</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 4,752 vpd      Minor Street Future ADT = 369 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....  or  **RURAL (R)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>1</u> <b>4,752</b>	<u>1</u> <b>369</b>	8,000	5,600	2,400	1,680
<u>2+</u>	<u>1</u>	9,600	6,720	2,400	1,680
<u>2+</u>	<u>2+</u>	9,600	6,720	3,200	2,240
<u>1</u>	<u>2+</u>	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>1</u> <b>4,752</b>	<u>1</u> <b>369</b>	12,000	8,400	1,200	850
<u>2+</u>	<u>1</u>	14,400	10,080	1,200	850
<u>2+</u>	<u>2+</u>	14,400	10,080	1,600	1,120
<u>1</u>	<u>2+</u>	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....	<b>XX</b>				
	<b>A</b>				
	<b>22%</b>				
	<b>B</b>				
	<b>43%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/18/21</u>
Major Street: <u>Campus Av</u>				<u>CHK MT</u>		<u>DATE 08/18/21</u>
Minor Street: <u>Driveway 12</u>					Critical Approach Speed (Major) <u>25 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	
Major Street Approach Lanes =	<u>1</u>	lane	Minor Street Approach Lane:	<u>1</u>	lane	
Major Street Future ADT =	<u>819</u>	vpd	Minor Street Future ADT =	<u>169</u>	vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....	<input type="text"/>		or	<b>URBAN (U)</b>		
In built up area of isolated community of < 10,000 population .....	<input type="text"/>					

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u> <b>XX</b>	<u>RURAL</u>	Minimum Requirements EADT			
<u>CONDITION A - Minimum Vehicular Volume</u> <u>Satisfied</u>	<u>Not Satisfied</u> <b>XX</b>	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>819</b>	1 <b>169</b>	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
<u>CONDITION B - Interruption of Continuous Traffic</u> <u>Satisfied</u>	<u>Not Satisfied</u> <b>XX</b>	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>819</b>	1 <b>169</b>	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
<u>Combination of CONDITIONS A + B</u> <u>Satisfied</u>	<u>Not Satisfied</u> <b>XX</b>	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....	<u>A</u> <b>7%</b>	<u>B</u> <b>7%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/18/21</u>	<u>08/18/21</u>
Major Street: <u>Campus Av</u>					Critical Approach Speed (Major) <u>25</u> mph	
Minor Street: <u>Driveway 13</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 981 vpd                      Minor Street Future ADT = 163 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements			
<u>CONDITION A - Minimum Vehicular Volume</u>		<u>Not Satisfied</u>		EADT			
<u>Satisfied</u>		<u>Not Satisfied</u>		Vehicles Per Day on		Vehicles Per Day	
<u>Satisfied</u>		<u>Not Satisfied</u>		Major Street		on Higher-Volume	
<u>Satisfied</u>		<u>Not Satisfied</u>		(Total of Both Approaches)		Minor Street Approach	
<u>Satisfied</u>		<u>Not Satisfied</u>				(One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>XX</b>		<b>XX</b>					
<b>1 981</b>		<b>1 163</b>		8,000	5,600	2,400	1,680
<b>2 +</b>		<b>1</b>		9,600	6,720	2,400	1,680
<b>2 +</b>		<b>2 +</b>		9,600	6,720	3,200	2,240
<b>1</b>		<b>2 +</b>		8,000	5,600	3,200	2,240
<u>CONDITION B - Interruption of Continuous Traffic</u>		<u>Not Satisfied</u>		Vehicles Per Day		Vehicles Per Day	
<u>Satisfied</u>		<u>Not Satisfied</u>		on Major Street		on Higher-Volume	
<u>Satisfied</u>		<u>Not Satisfied</u>		(Total of Both Approaches)		Minor Street Approach	
<u>Satisfied</u>		<u>Not Satisfied</u>				(One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>1 981</b>		<b>1 163</b>		12,000	8,400	1,200	850
<b>2 +</b>		<b>1</b>		14,400	10,080	1,200	850
<b>2 +</b>		<b>2 +</b>		14,400	10,080	1,600	1,120
<b>1</b>		<b>2 +</b>		12,000	8,400	1,600	1,120
<u>Combination of CONDITIONS A + B</u>		<u>Not Satisfied</u>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<b>XX</b>					
		<b>A</b>					
		<b>7%</b>					
		<b>B</b>					
		<b>8%</b>					

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/18/21</u>	<u>08/18/21</u>
Major Street: <u>Campus Av</u>					Critical Approach Speed (Major) <u>25</u> mph	
Minor Street: <u>Driveway 14</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 1,116 vpd                      Minor Street Future ADT = 146 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or                      **URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>					
		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u> <u>Rural</u>		<u>Urban</u> <u>Rural</u>	
1 <b>1,116</b>		1 <b>146</b>					
2 +		1					
2 +		2 +					
1		2 +					
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>					
		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u> <u>Rural</u>		<u>Urban</u> <u>Rural</u>	
1 <b>1,116</b>		1 <b>146</b>					
2 +		1					
2 +		2 +					
1		2 +					
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
		<b>XX</b>					
No one condition satisfied, but following conditions fulfilled 80% of more .....		<b>A</b>		<b>B</b>			
		<b>6%</b>		<b>9%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/18/21</u>	
Major Street: <u>Campus Av</u>					DATE <u>08/18/21</u>	
Minor Street: <u>Driveway 15</u>					Critical Approach Speed (Major) <u>25</u> mph	
					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 1,194 vpd                      Minor Street Future ADT = 76 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....    
 or **URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u> <b>XX</b>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>							
<u>Satisfied</u>		<u>Not Satisfied</u> <b>XX</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>1,194</b>		1 <b>76</b>		8,000	5,600	2,400	1,680
2 +		1		9,600	6,720	2,400	1,680
2 +		2 +		9,600	6,720	3,200	2,240
1		2 +		8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>							
<u>Satisfied</u>		<u>Not Satisfied</u> <b>XX</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>1,194</b>		1 <b>76</b>		12,000	8,400	1,200	850
2 +		1		14,400	10,080	1,200	850
2 +		2 +		14,400	10,080	1,600	1,120
1		2 +		12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>							
<u>Satisfied</u>		<u>Not Satisfied</u> <b>XX</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<b>A</b> <b>3%</b>		<b>B</b> <b>6%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/18/21</u>	<u>08/18/21</u>
Major Street: <u>Campus Av</u>					Critical Approach Speed (Major) <u>25</u> mph	
Minor Street: <u>Driveway 17</u>					Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes = <u>1</u> lane				Minor Street Approach Lane: <u>1</u> lane		
Major Street Future ADT = <u>1,391</u> vpd				Minor Street Future ADT = <u>185</u> vpd		
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....						
						or
In built up area of isolated community of < 10,000 population .....						

**URBAN (U)**

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements			
<u>CONDITION A - Minimum Vehicular Volume</u>		<u>Not Satisfied</u>		EADT			
<u>Satisfied</u>		<u>Not Satisfied</u>		Vehicles Per Day on		Vehicles Per Day	
<u>Major Street</u>		<u>Minor Street</u>		Major Street		on Higher-Volume	
				(Total of Both Approaches)		Minor Street Approach	
				Urban	Rural	Urban	Rural
				(One Direction Only)			
<b>XX</b>		<b>XX</b>					
1 <b>1,391</b>		1 <b>185</b>		8,000	5,600	2,400	1,680
2 +		1		9,600	6,720	2,400	1,680
2 +		2 +		9,600	6,720	3,200	2,240
1		2 +		8,000	5,600	3,200	2,240
<u>CONDITION B - Interruption of Continuous Traffic</u>		<u>Not Satisfied</u>		Vehicles Per Day		Vehicles Per Day	
<u>Satisfied</u>		<u>Not Satisfied</u>		on Major Street		on Higher-Volume	
<u>Major Street</u>		<u>Minor Street</u>		(Total of Both Approaches)		Minor Street Approach	
				Urban	Rural	Urban	Rural
				(One Direction Only)			
<b>XX</b>		<b>XX</b>					
1 <b>1,391</b>		1 <b>185</b>		12,000	8,400	1,200	850
2 +		1		14,400	10,080	1,200	850
2 +		2 +		14,400	10,080	1,600	1,120
1		2 +		12,000	8,400	1,600	1,120
<u>Combination of CONDITIONS A + B</u>		<u>Not Satisfied</u>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<b>XX</b>					
		<b>A</b>		<b>B</b>			
		<b>8%</b>		<b>12%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/18/21</u>	
Major Street: <u>Campus Av</u>					DATE <u>08/18/21</u>	
Minor Street: <u>Driveway 18</u>					Critical Approach Speed (Major) <u>25</u> mph	
					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 1,483 vpd                      Minor Street Future ADT = 61 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

In built up area of isolated community of < 10,000 population .....  **URBAN (U)**

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>		<u>Urban</u> <u>Rural</u>		<u>Urban</u> <u>Rural</u>	
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
<u>Major Street</u>		<u>Minor Street</u>					
1 <b>1,483</b>		1 <b>61</b>					
2 +		1					
2 +		2 +					
1		2 +					
8,000		5,600					
9,600		6,720					
9,600		6,720					
8,000		5,600					
2,400		1,680					
2,400		1,680					
3,200		2,240					
3,200		2,240					
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>					
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
<u>Major Street</u>		<u>Minor Street</u>					
1 <b>1,483</b>		1 <b>61</b>					
2 +		1					
2 +		2 +					
1		2 +					
12,000		8,400					
14,400		10,080					
14,400		10,080					
12,000		8,400					
1,200		850					
1,200		850					
1,600		1,120					
1,600		1,120					
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<b>XX</b>					
		<u>A</u>		<u>B</u>			
		<b>3%</b>		<b>5%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>E+P</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE</u> <u>08/18/21</u>
Major Street: <u>Merrill Av</u>				<u>CHK</u> <u>MT</u>		<u>DATE</u> <u>08/18/21</u>
Minor Street: <u>Campus Av</u>					Critical Approach Speed (Major) <u>50</u> mph	
					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 12,844 vpd      Minor Street Future ADT = 741 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....  or  **RURAL (R)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements			
		<b>XX</b>		EADT			
<u>CONDITION A - Minimum Vehicular Volume</u>		<u>Not Satisfied</u>		Vehicles Per Day on		Vehicles Per Day	
<u>Satisfied</u>		<u>Not Satisfied</u>		Major Street		on Higher-Volume	
		<b>XX</b>		(Total of Both Approaches)		Minor Street Approach	
						(One Direction Only)	
<u>Number of lanes for moving traffic on each approach</u>		<u>Number of lanes for moving traffic on each approach</u>					
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>		<u>Urban</u>	
<u>1 12,844</u>		<u>1 741</u>		<u>Rural</u>		<u>Rural</u>	
<u>2 +</u>		<u>1</u>		<u>8,000</u>		<u>2,400</u>	
<u>2 +</u>		<u>2 +</u>		<u>5,600 *</u>		<u>1,680</u>	
<u>1</u>		<u>2 +</u>		<u>9,600</u>		<u>2,400</u>	
<u>1</u>		<u>2 +</u>		<u>6,720</u>		<u>3,200</u>	
<u>1</u>		<u>2 +</u>		<u>6,720</u>		<u>2,240</u>	
<u>1</u>		<u>2 +</u>		<u>8,000</u>		<u>3,200</u>	
<u>1</u>		<u>2 +</u>		<u>5,600</u>		<u>2,240</u>	
<u>CONDITION B - Interruption of Continuous Traffic</u>		<u>Not Satisfied</u>		Vehicles Per Day		Vehicles Per Day	
<u>Satisfied</u>		<u>Not Satisfied</u>		on Major Street		on Higher-Volume	
		<b>XX</b>		(Total of Both Approaches)		Minor Street Approach	
						(One Direction Only)	
<u>Number of lanes for moving traffic on each approach</u>		<u>Number of lanes for moving traffic on each approach</u>		<u>Urban</u>		<u>Urban</u>	
<u>Major Street</u>		<u>Minor Street</u>		<u>Rural</u>		<u>Rural</u>	
<u>1 12,844</u>		<u>1 741</u>		<u>12,000</u>		<u>1,200</u>	
<u>2 +</u>		<u>1</u>		<u>8,400 *</u>		<u>850</u>	
<u>2 +</u>		<u>2 +</u>		<u>14,400</u>		<u>1,200</u>	
<u>1</u>		<u>2 +</u>		<u>10,080</u>		<u>1,600</u>	
<u>1</u>		<u>2 +</u>		<u>14,400</u>		<u>1,120</u>	
<u>1</u>		<u>2 +</u>		<u>10,080</u>		<u>1,600</u>	
<u>1</u>		<u>2 +</u>		<u>8,400</u>		<u>1,120</u>	
<u>1</u>		<u>2 +</u>		<u>12,000</u>		<u>1,600</u>	
<u>1</u>		<u>2 +</u>		<u>8,400</u>		<u>1,120</u>	
<u>Combination of CONDITIONS A + B</u>		<u>Not Satisfied</u>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
		<b>XX</b>					
No one condition satisfied, but following conditions fulfilled 80% of more .....		<u>A</u>		<u>B</u>			
		<b>44%</b>		<b>87%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

**Figure 4C-4. Warrant 3, Peak Hour (70% Factor)**

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday PM Peak Hour**

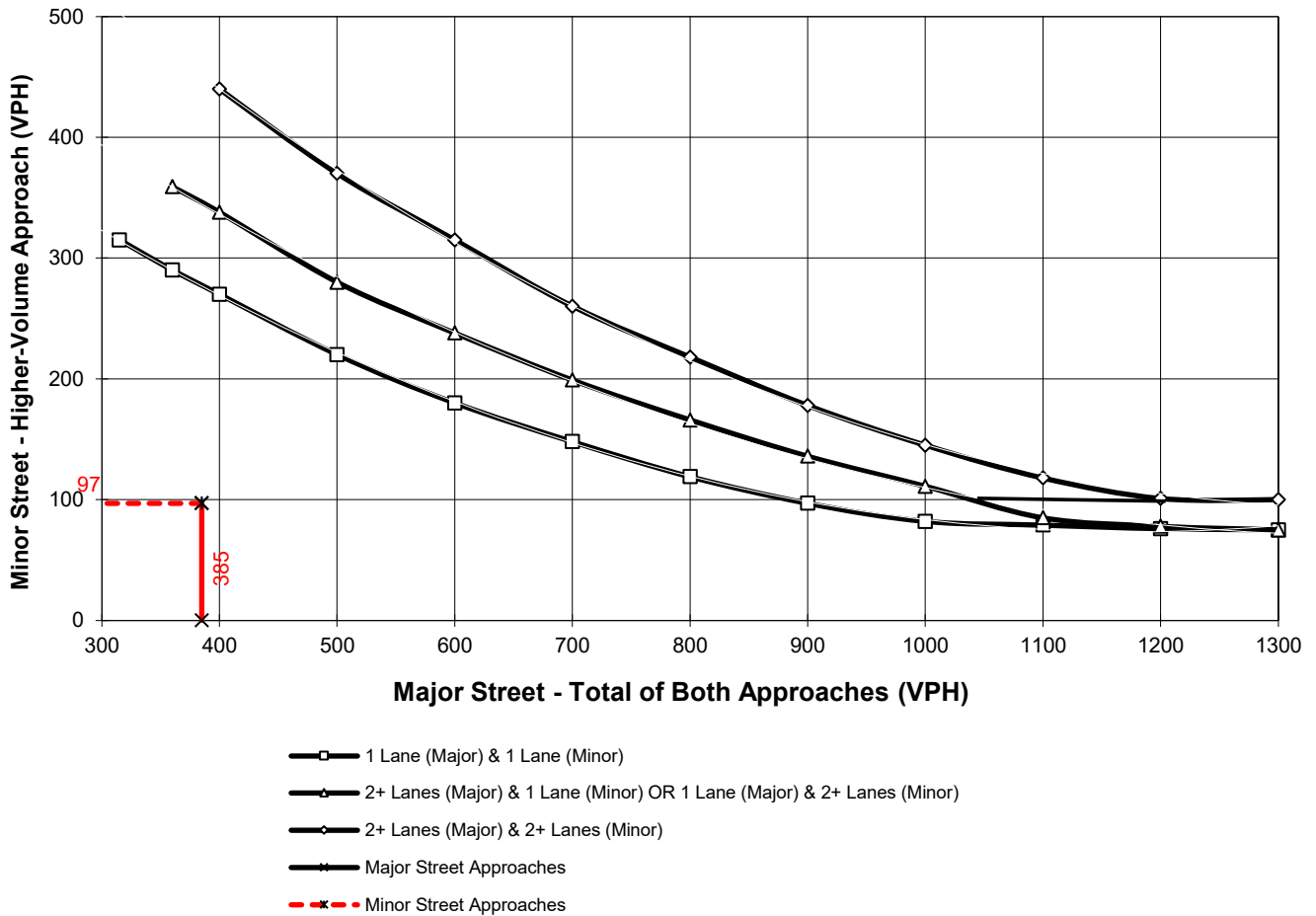
Major Street Name = **Eucalyptus Av.**

Total of Both Approaches (VPH) = **385**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Bon View Av.**

High Volume Approach (VPH) = **97**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday PM Peak Hour**

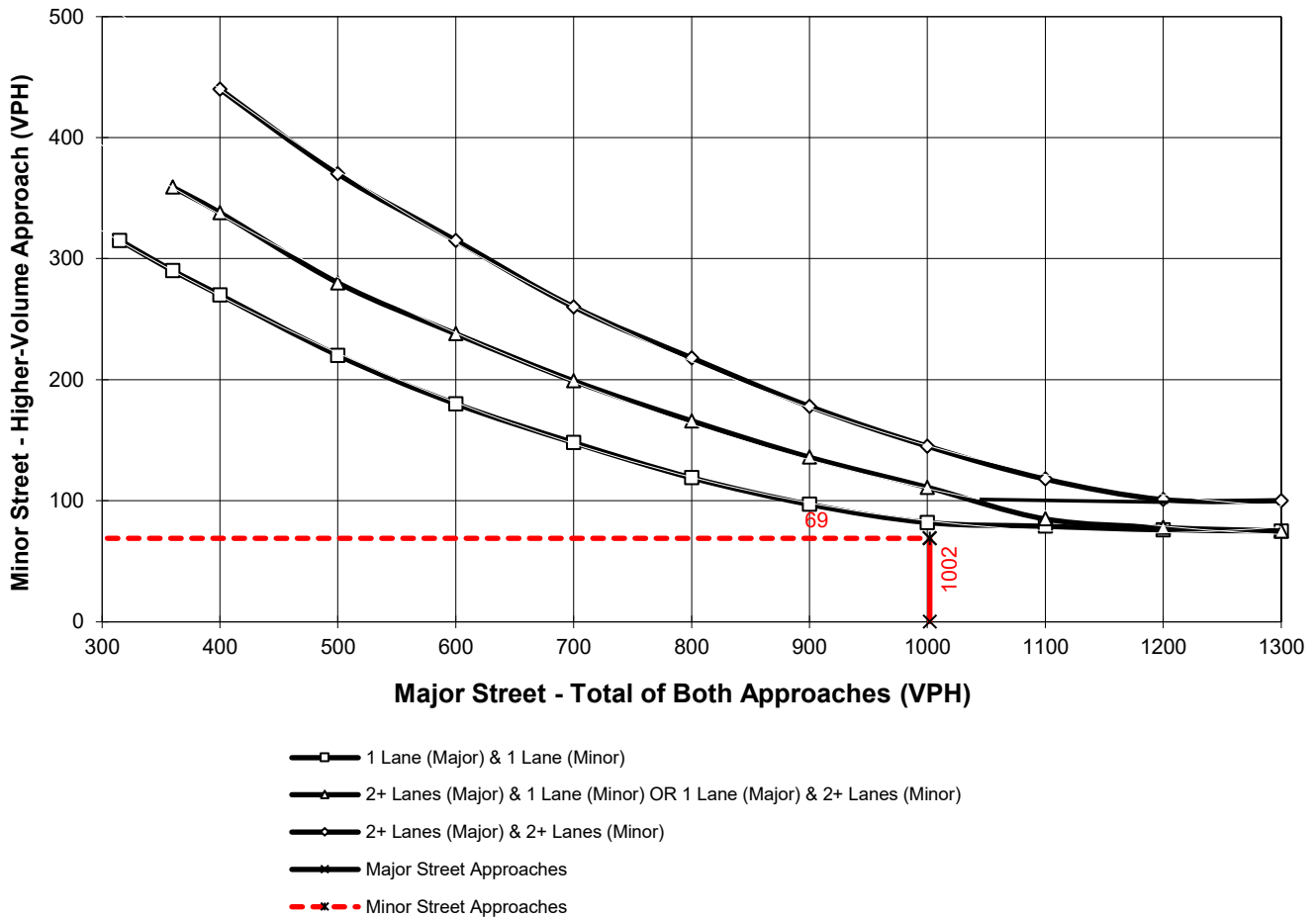
Major Street Name = **Merrill Av.**

Total of Both Approaches (VPH) = **1002**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Bon View Av.**

High Volume Approach (VPH) = **69**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday PM Peak Hour**

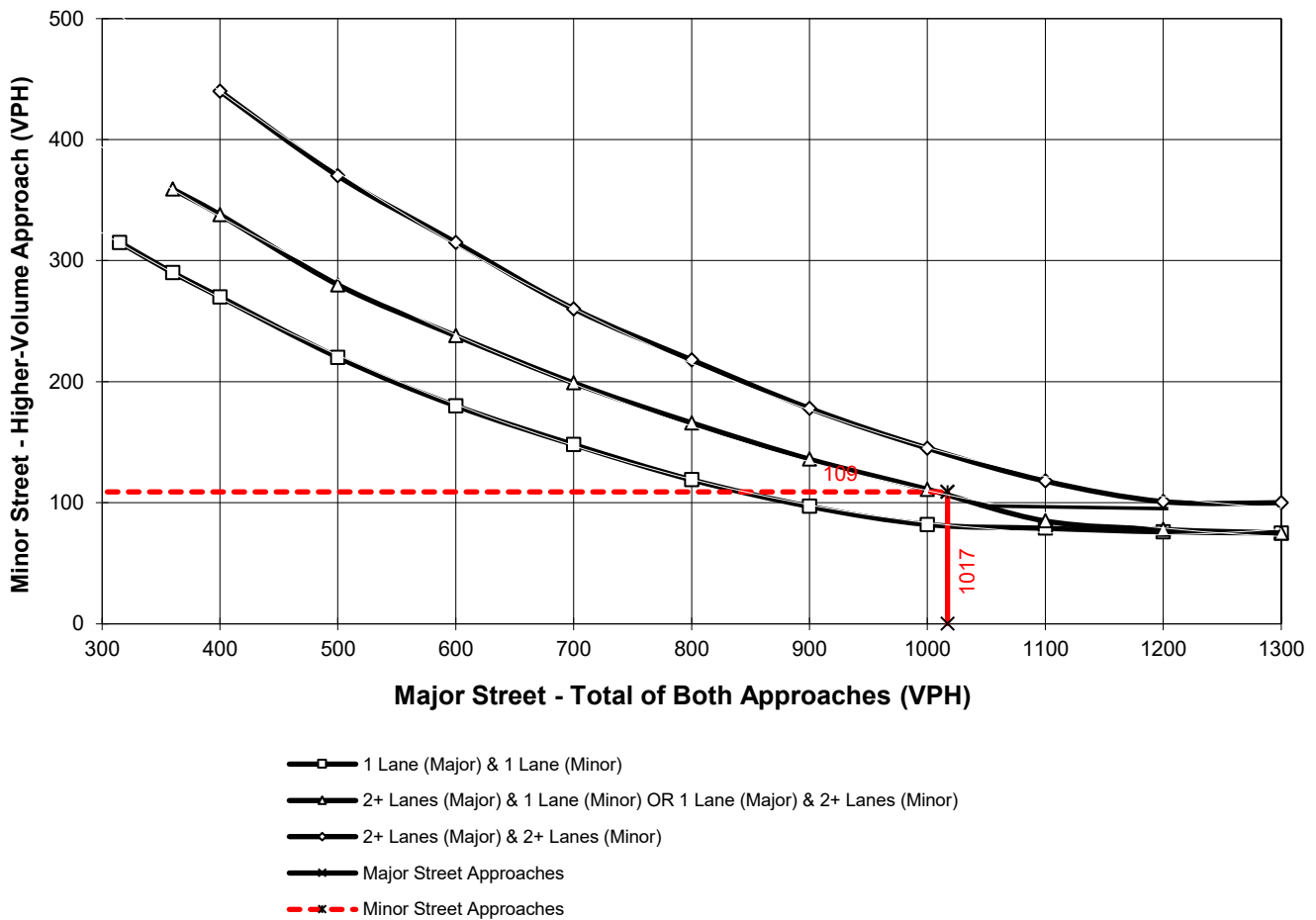
Major Street Name = **Edison Av.**

Total of Both Approaches (VPH) = **1017**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Walker Av.**

High Volume Approach (VPH) = **109**  
 Number of Approach Lanes Minor Street = **1**

**WARRANTED FOR A SIGNAL**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane



**Figure 4C-4. Warrant 3, Peak Hour (70% Factor)**

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday PM Peak Hour**

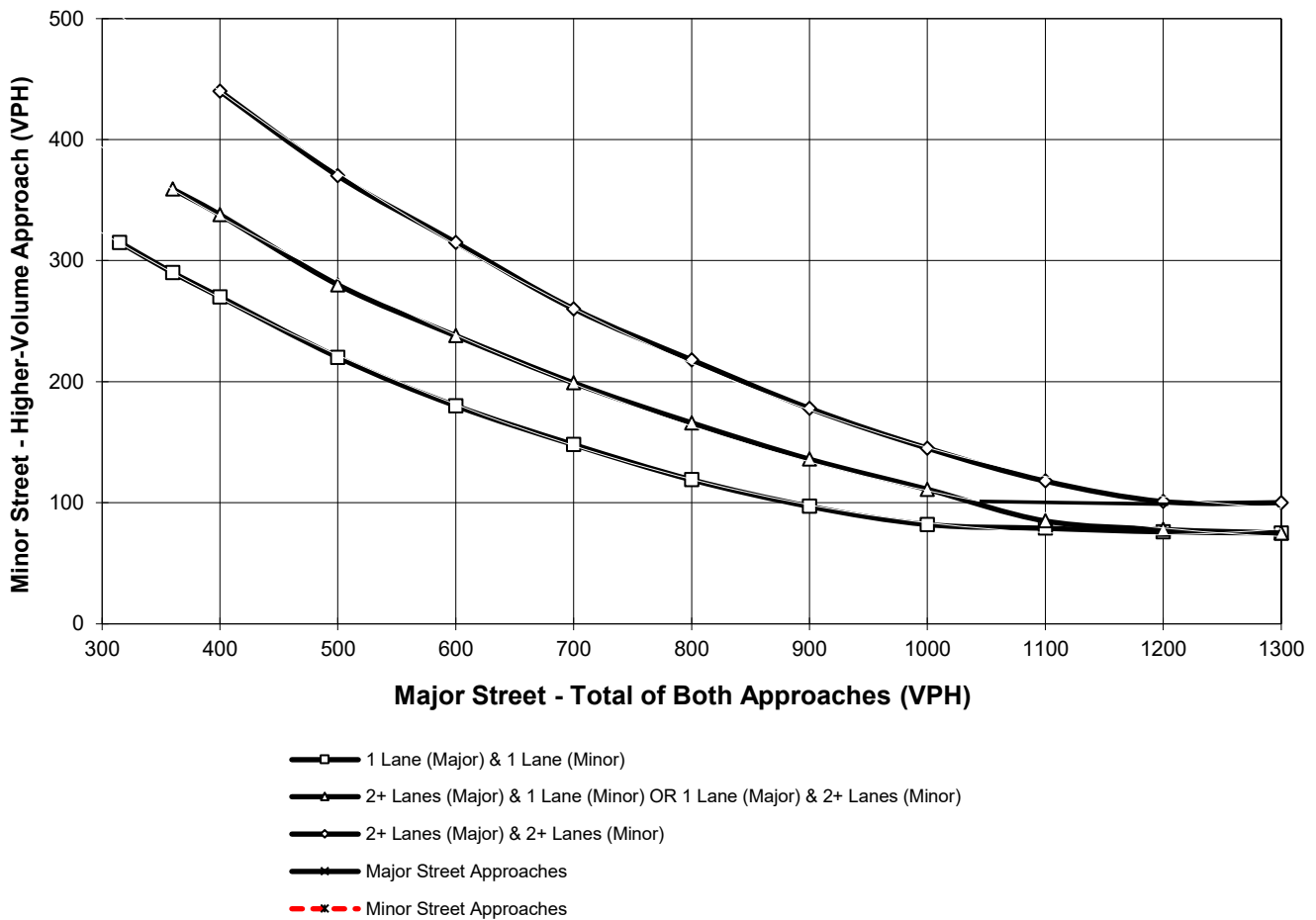
Major Street Name = **Eucalyptus Av.**

Total of Both Approaches (VPH) = **188**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Walker**

High Volume Approach (VPH) = **34**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

**Figure 4C-4. Warrant 3, Peak Hour (70% Factor)**

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday PM Peak Hour**

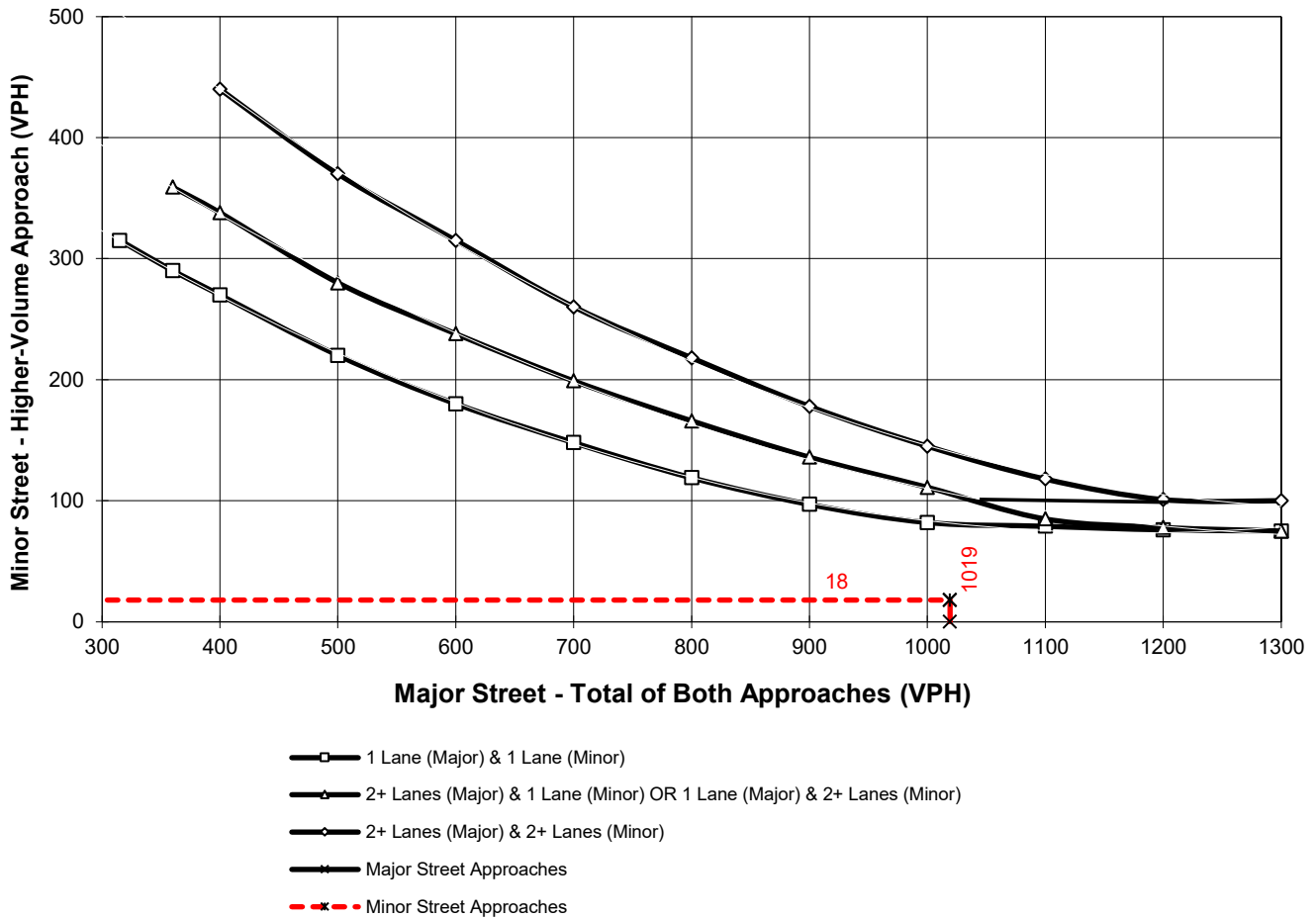
Major Street Name = **Merrill Av.**

Total of Both Approaches (VPH) = **1019**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Baker Av.**

High Volume Approach (VPH) = **18**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

**Figure 4C-4. Warrant 3, Peak Hour (70% Factor)**

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **E+P Conditions - Weekday PM Peak Hour**

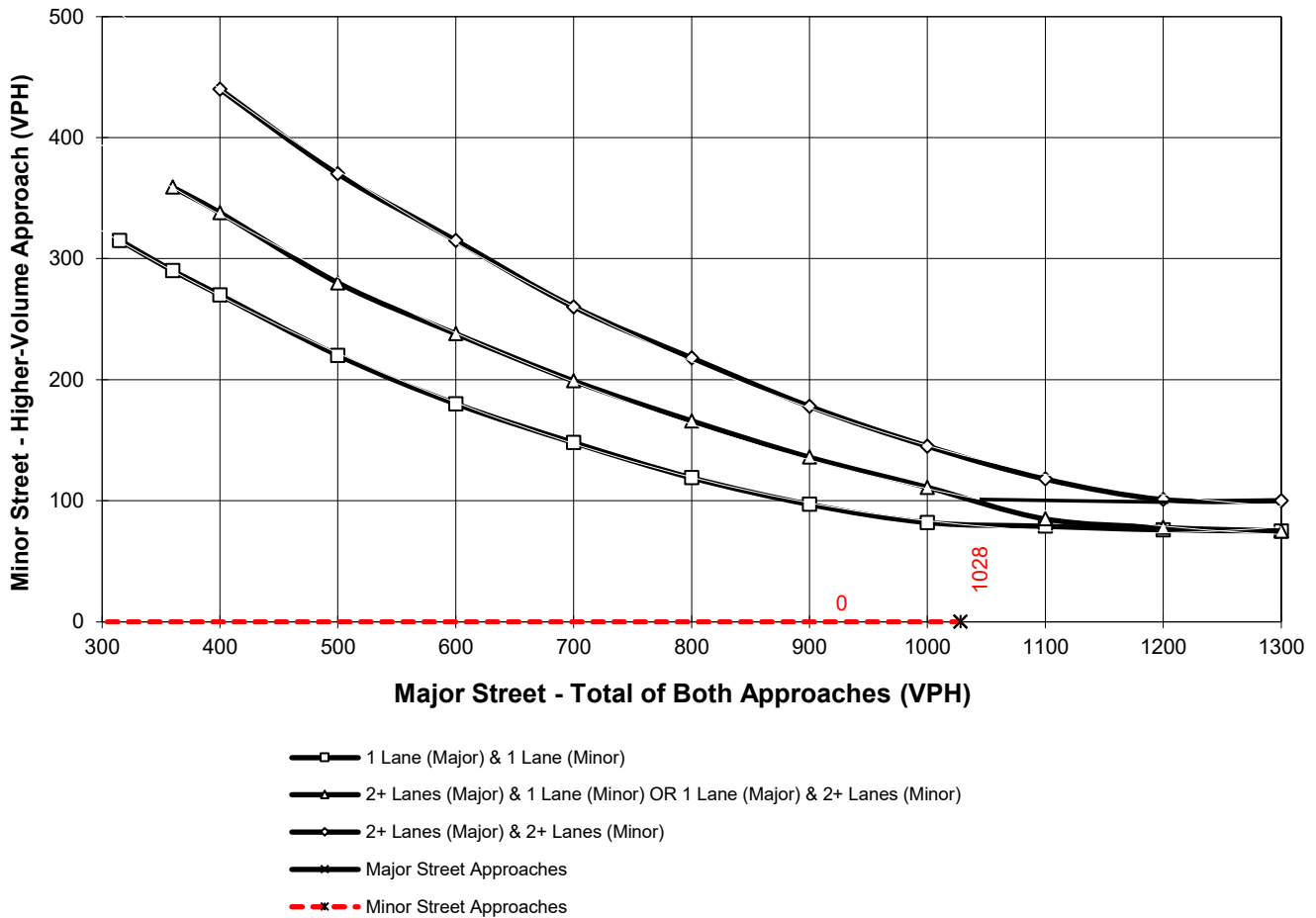
Major Street Name = **Merrill Av.**

Total of Both Approaches (VPH) = **1028**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Hellman Av.**

High Volume Approach (VPH) = **0**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

**APPENDIX 5.3:**

**E+P CONDITIONS OFF-RAMP QUEUING ANALYSIS WORKSHEETS**

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Queues

1: Euclid Av. (SR-83) & SR-60 WB Ramps



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	385	383	352	378	999	997	519
v/c Ratio	0.84	0.86	0.71	0.88	0.45	0.84	0.59
Control Delay	47.9	49.6	28.2	39.1	18.9	38.6	5.7
Queue Delay	0.0	0.0	0.0	0.0	1.1	0.0	0.0
Total Delay	47.9	49.6	28.2	39.1	20.0	38.6	5.7
Queue Length 50th (ft)	207	206	123	185	284	~305	0
Queue Length 95th (ft)	#343	#359	225	m#298	m355	#441	78
Internal Link Dist (ft)		1410			396	1540	
Turn Bay Length (ft)	400		400	285			
Base Capacity (vph)	514	494	539	471	2222	1180	877
Starvation Cap Reductn	0	0	0	0	905	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.78	0.65	0.80	0.76	0.84	0.59

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

Ontario Ranch Business Park (JN 13941)

08/24/2021



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	398	399	921	726	398	1319
v/c Ratio	0.90	0.90	0.75	0.77	0.91	0.58
Control Delay	57.2	51.7	32.3	10.9	54.3	5.1
Queue Delay	1.8	1.7	0.0	0.0	0.0	0.5
Total Delay	59.0	53.3	32.3	10.9	54.3	5.6
Queue Length 50th (ft)	223	193	255	40	177	62
Queue Length 95th (ft)	#386	#362	#336	194	m#300	104
Internal Link Dist (ft)		1071	1048			396
Turn Bay Length (ft)	900					
Base Capacity (vph)	476	475	1222	946	461	2259
Starvation Cap Reductn	0	0	0	0	0	483
Spillback Cap Reductn	20	18	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.87	0.75	0.77	0.86	0.74

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

## Queues

Ontario Ranch Business Park (JN 13941)

51: I-15 SB Ramps &amp; Cantu Galleano Ranch Rd.

08/24/2021



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1103	367	592	202	323	656	646
v/c Ratio	0.79	0.23	0.61	0.13	0.35	0.81	0.77
Control Delay	25.3	0.3	19.3	0.2	9.2	21.0	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	0.3	19.3	0.2	9.2	21.0	18.3
Queue Length 50th (ft)	134	0	106	0	63	175	158
Queue Length 95th (ft)	179	0	155	m0	110	#397	#358
Internal Link Dist (ft)	2023		797			1504	
Turn Bay Length (ft)					620		470
Base Capacity (vph)	1400	1615	974	1615	926	809	838
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.23	0.61	0.13	0.35	0.81	0.77

## Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

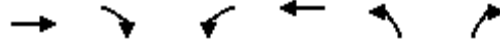


## Queues

Ontario Ranch Business Park (JN 13941)

52: I-15 NB Ramps &amp; Cantu Galleano Ranch Rd.

08/24/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	548	897	402	508	417	191
v/c Ratio	0.26	0.81	0.99	0.16	0.67	0.50
Control Delay	8.6	13.9	71.7	4.7	22.6	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.6	13.9	71.7	4.7	22.6	9.4
Queue Length 50th (ft)	23	150	76	23	51	0
Queue Length 95th (ft)	m46	m#254	#155	34	91	52
Internal Link Dist (ft)	797			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2135	1106	408	3259	618	382
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.81	0.99	0.16	0.67	0.50

## Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

## Queues

## 1: Euclid Av. (SR-83) &amp; SR-60 WB Ramps

08/24/2021



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	368	362	335	291	1122	1043	513
v/c Ratio	0.80	0.82	0.72	0.83	0.50	0.78	0.56
Control Delay	44.1	44.3	30.5	41.4	21.0	32.4	5.0
Queue Delay	0.0	0.0	0.0	0.0	2.1	0.0	0.0
Total Delay	44.1	44.3	30.5	41.4	23.2	32.4	5.0
Queue Length 50th (ft)	201	196	132	145	338	286	0
Queue Length 95th (ft)	292	295	222	m211	432	#446	74
Internal Link Dist (ft)		1410			396	1540	
Turn Bay Length (ft)				285			400
Base Capacity (vph)	552	528	545	391	2223	1345	923
Starvation Cap Reductn	0	0	0	0	914	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.69	0.61	0.74	0.86	0.78	0.56

## Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues  
2: Euclid Av. (SR-83) & SR-60 EB Ramps



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	382	383	957	616	383	1271
v/c Ratio	0.90	0.87	0.75	0.65	0.89	0.55
Control Delay	58.1	47.9	31.3	5.7	51.8	4.4
Queue Delay	14.4	9.3	0.0	0.0	0.0	0.5
Total Delay	72.5	57.2	31.3	5.7	51.8	4.9
Queue Length 50th (ft)	215	177	264	0	142	48
Queue Length 95th (ft)	#375	#338	#346	80	m#317	95
Internal Link Dist (ft)		1071	1048			396
Turn Bay Length (ft)	900					
Base Capacity (vph)	457	467	1277	954	461	2294
Starvation Cap Reductn	0	0	0	0	0	511
Spillback Cap Reductn	66	61	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.94	0.75	0.65	0.83	0.71

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

## Queues

Ontario Ranch Business Park (JN 13941)

51: I-15 SB Ramps &amp; Cantu Galleano Ranch Rd.

08/24/2021



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1151	526	475	447	279	534	523
v/c Ratio	0.82	0.33	0.49	0.28	0.30	0.65	0.61
Control Delay	26.8	0.5	16.3	0.9	8.7	12.5	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.8	0.5	16.3	0.9	8.7	12.5	11.5
Queue Length 50th (ft)	142	0	46	0	52	107	96
Queue Length 95th (ft)	#193	0	95	0	94	210	189
Internal Link Dist (ft)	2023		797			1504	
Turn Bay Length (ft)					620		470
Base Capacity (vph)	1400	1615	974	1615	926	827	855
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.33	0.49	0.28	0.30	0.65	0.61

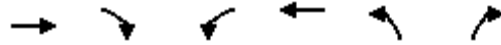
## Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

52: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	698	828	319	738	314	146
v/c Ratio	0.34	0.74	0.78	0.23	0.48	0.40
Control Delay	9.4	10.2	41.6	5.5	17.7	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	10.2	41.6	5.5	17.7	8.4
Queue Length 50th (ft)	32	126	59	37	35	0
Queue Length 95th (ft)	m56	m154	#115	53	67	45
Internal Link Dist (ft)	797			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2048	1112	408	3172	652	366
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.74	0.78	0.23	0.48	0.40

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

**APPENDIX 5.4:**

**E+P CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH  
IMPROVEMENTS**

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Timings

4: Euclid Av. (SR-83) & Riverside Dr.

08/25/2021

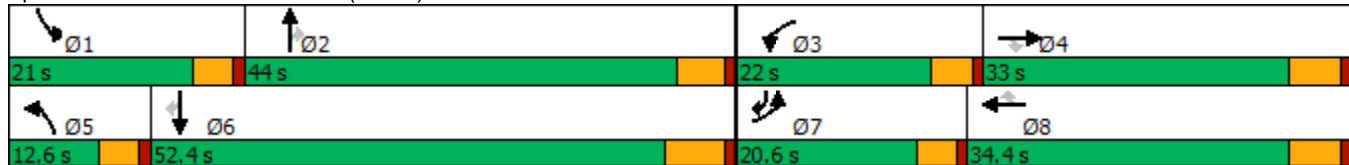


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑↑	↗	↖	↑↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	159	323	54	195	507	120	74	965	170	191	1048	168
Future Volume (vph)	159	323	54	195	507	120	74	965	170	191	1048	168
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	20.6	33.0	33.0	22.0	34.4	34.4	12.6	44.0	44.0	21.0	52.4	20.6
Total Split (%)	17.2%	27.5%	27.5%	18.3%	28.7%	28.7%	10.5%	36.7%	36.7%	17.5%	43.7%	17.2%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 116.6  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.





























HCM 6th Signalized Intersection Summary  
 4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	323	54	195	507	120	74	965	170	191	1048	168
Future Volume (veh/h)	159	323	54	195	507	120	74	965	170	191	1048	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	167	340	41	205	534	97	78	1016	139	201	1103	118
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	373	316	229	788	351	96	1617	502	225	1397	803
Arrive On Green	0.12	0.21	0.21	0.14	0.23	0.23	0.06	0.33	0.33	0.14	0.41	0.41
Sat Flow, veh/h	1619	1800	1525	1619	3420	1525	1619	4914	1525	1619	3420	1524
Grp Volume(v), veh/h	167	340	41	205	534	97	78	1016	139	201	1103	118
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	1710	1525	1619	1638	1525	1619	1710	1524
Q Serve(g_s), s	11.9	21.7	2.6	14.6	16.7	6.1	5.6	20.5	7.9	14.3	33.0	4.7
Cycle Q Clear(g_c), s	11.9	21.7	2.6	14.6	16.7	6.1	5.6	20.5	7.9	14.3	33.0	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	192	373	316	229	788	351	96	1617	502	225	1397	803
V/C Ratio(X)	0.87	0.91	0.13	0.89	0.68	0.28	0.81	0.63	0.28	0.89	0.79	0.15
Avail Cap(c_a), veh/h	221	417	354	240	834	372	110	1617	502	226	1397	803
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	45.5	37.9	49.5	41.2	37.1	54.5	33.3	29.1	49.7	30.3	14.2
Incr Delay (d2), s/veh	24.7	22.5	0.2	29.9	2.1	0.4	27.5	1.9	1.4	32.0	4.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	11.7	1.0	7.6	7.0	2.3	2.9	7.9	3.0	7.7	13.9	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.5	68.0	38.1	79.4	43.2	37.5	82.0	35.1	30.4	81.6	34.9	14.6
LnGrp LOS	E	E	D	E	D	D	F	D	C	F	C	B
Approach Vol, veh/h		548			836			1233			1422	
Approach Delay, s/veh		68.0			51.4			37.6			39.8	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.9	45.1	21.2	30.1	11.6	54.4	18.5	32.8				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	16.4	* 39	17.4	27.2	8.0	45.9	16.0	28.6				
Max Q Clear Time (g_c+I1), s	16.3	22.5	16.6	23.7	7.6	35.0	13.9	18.7				
Green Ext Time (p_c), s	0.0	6.0	0.0	0.6	0.0	5.6	0.0	2.5				

Intersection Summary

HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
34: Grove Av. & Eucalyptus Av.



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	Ø1	Ø5
Lane Configurations		↕		↕	↕↔	↕		
Traffic Volume (vph)	29	49	12	135	238	217		
Future Volume (vph)	29	49	12	135	238	217		
Turn Type	Perm	NA	Perm	NA	NA	NA		
Protected Phases		4		8	2	6	1	5
Permitted Phases	4		8					
Detector Phase	4	4	8	8	2	6		
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	22.8	22.8	22.8	22.8	23.2	23.2	9.6	9.6
Total Split (s)	39.0	39.0	39.0	39.0	71.4	71.4	9.6	9.6
Total Split (%)	32.5%	32.5%	32.5%	32.5%	59.5%	59.5%	8%	8%
Yellow Time (s)	4.8	4.8	4.8	4.8	5.2	5.2	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0		
Total Lost Time (s)		5.8		5.8	6.2	6.2		
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Min	Min	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 92.6  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Grove Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
34: Grove Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)  
08/25/2021

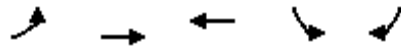


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	29	49	14	12	135	12	62	238	11	15	217	68
Future Volume (veh/h)	29	49	14	12	135	12	62	238	11	15	217	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	32	54	15	13	148	13	68	262	12	16	238	75
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	239	317	70	140	459	38	0	1072	49	0	422	133
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.00	0.32	0.32	0.00	0.32	0.32
Sat Flow, veh/h	297	1085	241	54	1573	131	0	3331	152	0	1312	413
Grp Volume(v), veh/h	101	0	0	174	0	0	0	134	140	0	0	313
Grp Sat Flow(s),veh/h/ln	1624	0	0	1759	0	0	0	1710	1773	0	0	1726
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	0.0	0.0	4.7
Cycle Q Clear(g_c), s	1.3	0.0	0.0	2.4	0.0	0.0	0.0	1.8	1.8	0.0	0.0	4.7
Prop In Lane	0.32		0.15	0.07		0.07	0.00		0.09	0.00		0.24
Lane Grp Cap(c), veh/h	627	0	0	638	0	0	0	550	571	0	0	555
V/C Ratio(X)	0.16	0.00	0.00	0.27	0.00	0.00	0.00	0.24	0.25	0.00	0.00	0.56
Avail Cap(c_a), veh/h	1823	0	0	1985	0	0	0	3589	3720	0	0	3621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	8.6	0.0	0.0	0.0	7.8	7.8	0.0	0.0	8.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.5	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.4	0.0	0.0	8.9	0.0	0.0	0.0	8.0	8.0	0.0	0.0	9.6
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		101			174			274				313
Approach Delay, s/veh		8.4			8.9			8.0				9.6
Approach LOS		A			A			A				A
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	16.2		14.9	0.0	16.2		14.9				
Change Period (Y+Rc), s	4.6	6.2		5.8	4.6	6.2		5.8				
Max Green Setting (Gmax), s	5.0	65.2		33.2	5.0	65.2		33.2				
Max Q Clear Time (g_c+1), s	0.0	3.8		3.3	0.0	6.7		4.4				
Green Ext Time (p_c), s	0.0	1.4		0.5	0.0	1.8		0.9				

Intersection Summary

HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A

Timings  
35: Merrill Av. & Grove Av.



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↖	↗	↔	↘	↙
Traffic Volume (vph)	80	246	590	147	96
Future Volume (vph)	80	246	590	147	96
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	7	4	8	6	
Permitted Phases					6
Detector Phase	7	4	8	6	6
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	23.2	23.2	23.2
Total Split (s)	16.0	95.0	79.0	25.0	25.0
Total Split (%)	13.3%	79.2%	65.8%	20.8%	20.8%
Yellow Time (s)	3.6	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2	6.2
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	Min	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 88.4  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Merrill Av. & Grove Av.



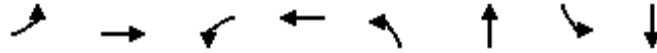
HCM 6th Signalized Intersection Summary  
 35: Merrill Av. & Grove Av.

Ontario Ranch Business Park (JN 13941)  
 08/25/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↖	↑	↗		↘	↘	
Traffic Volume (veh/h)	80	246	590	231	147	96	
Future Volume (veh/h)	80	246	590	231	147	96	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1700	1800	1800	1800	1700	1800	
Adj Flow Rate, veh/h	82	254	608	238	152	99	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	102	1232	685	268	227	214	
Arrive On Green	0.06	0.68	0.56	0.56	0.14	0.14	
Sat Flow, veh/h	1619	1800	1231	482	1619	1525	
Grp Volume(v), veh/h	82	254	0	846	152	99	
Grp Sat Flow(s),veh/h/ln	1619	1800	0	1713	1619	1525	
Q Serve(g_s), s	3.5	3.7	0.0	30.6	6.3	4.2	
Cycle Q Clear(g_c), s	3.5	3.7	0.0	30.6	6.3	4.2	
Prop In Lane	1.00			0.28	1.00	1.00	
Lane Grp Cap(c), veh/h	102	1232	0	954	227	214	
V/C Ratio(X)	0.80	0.21	0.00	0.89	0.67	0.46	
Avail Cap(c_a), veh/h	261	2257	0	1761	430	405	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	32.7	4.1	0.0	13.7	28.9	28.0	
Incr Delay (d2), s/veh	5.5	0.1	0.0	3.0	3.4	1.6	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.4	0.7	0.0	9.0	2.4	0.1	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	38.2	4.2	0.0	16.8	32.3	29.6	
LnGrp LOS	D	A	A	B	C	C	
Approach Vol, veh/h		336	846		251		
Approach Delay, s/veh		12.5	16.8		31.2		
Approach LOS		B	B		C		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				54.7	16.1	9.1	45.6
Change Period (Y+Rc), s				6.2	6.2	4.6	6.2
Max Green Setting (Gmax), s				88.8	18.8	11.4	72.8
Max Q Clear Time (g_c+I1), s				5.7	8.3	5.5	32.6
Green Ext Time (p_c), s				1.4	0.5	0.0	6.8
<b>Intersection Summary</b>							
HCM 6th Ctrl Delay			18.3				
HCM 6th LOS			B				

Timings  
36: Walker Av. & Edison Av.

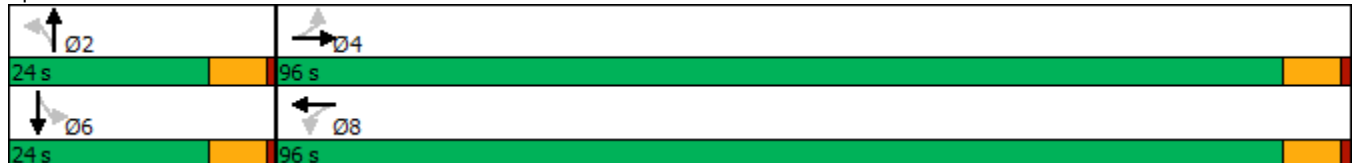


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	17	239	159	408	4	19	26	18
Future Volume (vph)	17	239	159	408	4	19	26	18
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2
Total Split (s)	96.0	96.0	96.0	96.0	24.0	24.0	24.0	24.0
Total Split (%)	80.0%	80.0%	80.0%	80.0%	20.0%	20.0%	20.0%	20.0%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.2		6.2		6.2		6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 56.2  
 Natural Cycle: 65  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 36: Walker Av. & Edison Av.



HCM 6th Signalized Intersection Summary  
36: Walker Av. & Edison Av.

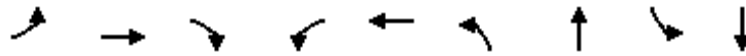
Ontario Ranch Business Park (JN 13941)

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	17	239	9	159	408	144	4	19	20	26	18	12
Future Volume (veh/h)	17	239	9	159	408	144	4	19	20	26	18	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	17	244	9	162	416	147	4	19	20	27	18	12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	109	913	32	257	540	177	101	132	124	207	119	54
Arrive On Green	0.55	0.55	0.55	0.55	0.55	0.55	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	38	1656	58	281	980	321	61	819	765	518	735	334
Grp Volume(v), veh/h	270	0	0	725	0	0	43	0	0	57	0	0
Grp Sat Flow(s),veh/h/ln	1752	0	0	1581	0	0	1645	0	0	1587	0	0
Q Serve(g_s), s	0.0	0.0	0.0	11.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	0.0	16.1	0.0	0.0	1.0	0.0	0.0	1.2	0.0	0.0
Prop In Lane	0.06		0.03	0.22		0.20	0.09		0.47	0.47		0.21
Lane Grp Cap(c), veh/h	1055	0	0	974	0	0	357	0	0	379	0	0
V/C Ratio(X)	0.26	0.00	0.00	0.74	0.00	0.00	0.12	0.00	0.00	0.15	0.00	0.00
Avail Cap(c_a), veh/h	3611	0	0	3333	0	0	763	0	0	762	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.1	0.0	0.0	7.8	0.0	0.0	15.6	0.0	0.0	15.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.2	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	2.3	0.0	0.0	0.3	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.2	0.0	0.0	9.0	0.0	0.0	15.7	0.0	0.0	15.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		270			725			43				57
Approach Delay, s/veh		5.2			9.0			15.7				15.9
Approach LOS		A			A			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		13.2		30.0		13.2		30.0				
Change Period (Y+Rc), s		6.2		6.2		6.2		6.2				
Max Green Setting (Gmax), s		17.8		89.8		17.8		89.8				
Max Q Clear Time (g_c+I1), s		3.0		5.4		3.2		18.1				
Green Ext Time (p_c), s		0.1		1.5		0.2		5.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				8.7								
HCM 6th LOS				A								

Timings  
42: Carpenter Av. & Merrill Av.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↑	↗	↖	↗		↕		↕
Traffic Volume (vph)	9	319	25	182	667	20	0	118	0
Future Volume (vph)	9	319	25	182	667	20	0	118	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4			8		2		6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	8	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.2	23.2	23.2	23.2	23.2	21.6	21.6	21.6	21.6
Total Split (s)	88.0	88.0	88.0	88.0	88.0	32.0	32.0	32.0	32.0
Total Split (%)	73.3%	73.3%	73.3%	73.3%	73.3%	26.7%	26.7%	26.7%	26.7%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2		4.6		4.6
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 56.9  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 42: Carpenter Av. & Merrill Av.





HCM 6th Signalized Intersection Summary  
42: Carpenter Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷	↷	↶	↷			↕			↕	
Traffic Volume (veh/h)	9	319	25	182	667	42	20	0	110	118	0	10
Future Volume (veh/h)	9	319	25	182	667	42	20	0	110	118	0	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	10	339	27	194	710	45	21	0	117	126	0	11
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	305	968	820	607	900	57	120	25	284	442	6	25
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.22	0.00	0.22	0.22	0.00	0.22
Sat Flow, veh/h	720	1800	1525	1032	1675	106	118	115	1301	1308	29	117
Grp Volume(v), veh/h	10	339	27	194	0	755	138	0	0	137	0	0
Grp Sat Flow(s),veh/h/ln	720	1800	1525	1032	0	1781	1535	0	0	1454	0	0
Q Serve(g_s), s	0.5	4.7	0.4	5.8	0.0	15.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.6	4.7	0.4	10.6	0.0	15.1	3.4	0.0	0.0	3.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.06	0.15		0.85	0.92		0.08
Lane Grp Cap(c), veh/h	305	968	820	607	0	957	429	0	0	474	0	0
V/C Ratio(X)	0.03	0.35	0.03	0.32	0.00	0.79	0.32	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	1249	3328	2820	1960	0	3292	1034	0	0	999	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.5	5.8	4.8	8.8	0.0	8.2	14.8	0.0	0.0	14.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.3	0.0	1.5	0.4	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.8	0.1	0.8	0.0	2.9	1.1	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	6.0	4.8	9.1	0.0	9.7	15.3	0.0	0.0	15.0	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		376			949			138				137
Approach Delay, s/veh		6.2			9.6			15.3				15.0
Approach LOS		A			A			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.3		30.0		14.3		30.0				
Change Period (Y+Rc), s		4.6		6.2		4.6		6.2				
Max Green Setting (Gmax), s		27.4		81.8		27.4		81.8				
Max Q Clear Time (g_c+I1), s		5.4		17.6		5.0		17.1				
Green Ext Time (p_c), s		0.8		2.0		0.8		6.7				

Intersection Summary

HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	283	834	826	288	199	476
Future Volume (vph)	283	834	826	288	199	476
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	21.0	62.7	36.3	21.0	83.7
Total Split (%)	30.3%	17.5%	52.3%	30.3%	17.5%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 105.4  
 Natural Cycle: 105  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 47: Archibald Av. & Limonite Av.



HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	283	834	826	288	199	476
Future Volume (veh/h)	283	834	826	288	199	476
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	295	813	860	253	207	496
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	475	1111	902	1187	235	1230
Arrive On Green	0.26	0.26	0.47	0.47	0.13	0.65
Sat Flow, veh/h	1810	2834	1900	1610	1810	1900
Grp Volume(v), veh/h	295	813	860	253	207	496
Grp Sat Flow(s),veh/h/ln	1810	1417	1900	1610	1810	1900
Q Serve(g_s), s	16.9	28.7	50.9	5.7	13.2	14.6
Cycle Q Clear(g_c), s	16.9	28.7	50.9	5.7	13.2	14.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	475	1111	902	1187	235	1230
V/C Ratio(X)	0.62	0.73	0.95	0.21	0.88	0.40
Avail Cap(c_a), veh/h	478	1116	930	1210	247	1274
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	30.4	29.5	4.8	50.2	9.9
Incr Delay (d2), s/veh	1.8	2.2	19.0	0.1	28.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	9.5	25.7	4.0	7.5	5.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	39.9	32.6	48.5	4.9	78.2	10.0
LnGrp LOS	D	C	D	A	E	A
Approach Vol, veh/h	1108		1113			703
Approach Delay, s/veh	34.5		38.6			30.1
Approach LOS	C		D			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	20.2	61.0			81.2	36.1
Change Period (Y+Rc), s	5.0	5.3			* 5.3	5.3
Max Green Setting (Gmax), s	16.0	57.4			* 79	31.0
Max Q Clear Time (g_c+11), s	15.2	52.9			16.6	30.7
Green Ext Time (p_c), s	0.0	2.8			1.6	0.1

Intersection Summary

HCM 6th Ctrl Delay		35.0	
HCM 6th LOS		D	

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

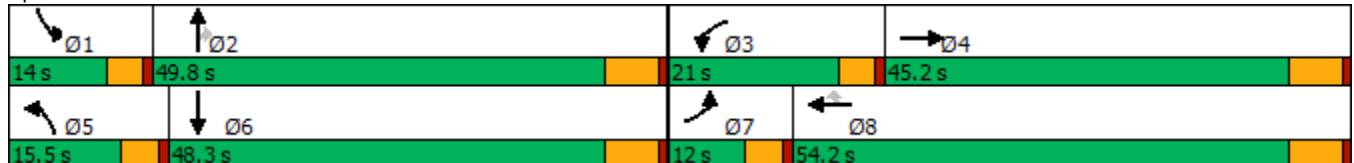


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	97	556	275	839	203	171	701	504	154	208
Future Volume (vph)	97	556	275	839	203	171	701	504	154	208
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	45.2	9.6	49.2	49.2	9.6	44.2	44.2	9.6	45.2
Total Split (s)	12.0	45.2	21.0	54.2	54.2	15.5	49.8	49.8	14.0	48.3
Total Split (%)	9.2%	34.8%	16.2%	41.7%	41.7%	11.9%	38.3%	38.3%	10.8%	37.2%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 112.1  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑↔	
Traffic Volume (veh/h)	97	556	82	275	839	203	171	701	504	154	208	84
Future Volume (veh/h)	97	556	82	275	839	203	171	701	504	154	208	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	110	632	93	312	953	231	194	797	566	175	236	95
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	154	1418	203	359	1117	498	241	1795	557	221	1264	472
Arrive On Green	0.05	0.26	0.26	0.12	0.33	0.33	0.08	0.37	0.37	0.07	0.36	0.36
Sat Flow, veh/h	2956	5512	790	2956	3420	1525	2956	4914	1525	2956	3524	1314
Grp Volume(v), veh/h	110	530	195	312	953	231	194	797	566	175	218	113
Grp Sat Flow(s),veh/h/ln	1478	1548	1658	1478	1710	1525	1478	1638	1525	1478	1638	1562
Q Serve(g_s), s	4.4	11.4	11.8	12.4	31.0	14.3	7.7	14.7	43.6	6.9	5.5	6.0
Cycle Q Clear(g_c), s	4.4	11.4	11.8	12.4	31.0	14.3	7.7	14.7	43.6	6.9	5.5	6.0
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		0.84
Lane Grp Cap(c), veh/h	154	1195	426	359	1117	498	241	1795	557	221	1175	560
V/C Ratio(X)	0.71	0.44	0.46	0.87	0.85	0.46	0.81	0.44	1.02	0.79	0.19	0.20
Avail Cap(c_a), veh/h	183	1518	542	406	1376	614	270	1795	557	233	1175	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	37.2	37.3	51.5	37.5	31.9	53.9	28.7	37.9	54.3	26.3	26.4
Incr Delay (d2), s/veh	7.3	0.3	0.8	15.1	4.5	0.7	13.0	0.2	42.1	14.5	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.1	4.7	5.2	12.9	5.1	3.2	5.5	21.7	2.9	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.0	37.4	38.1	66.6	42.0	32.6	66.9	28.9	79.9	68.7	26.4	26.6
LnGrp LOS	E	D	D	E	D	C	E	C	F	E	C	C
Approach Vol, veh/h		835			1496			1557			506	
Approach Delay, s/veh		40.9			45.7			52.2			41.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.5	49.8	19.1	36.9	14.3	49.0	10.8	45.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	9.4	43.6	16.4	39.0	10.9	42.1	7.4	48.0				
Max Q Clear Time (g_c+I1), s	8.9	45.6	14.4	13.8	9.7	8.0	6.4	33.0				
Green Ext Time (p_c), s	0.0	0.0	0.1	4.3	0.0	1.9	0.0	5.9				

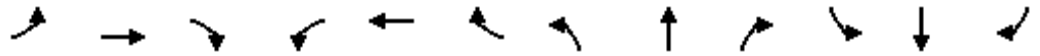
Intersection Summary

HCM 6th Ctrl Delay	46.5
HCM 6th LOS	D

Timings

4: Euclid Av. (SR-83) & Riverside Dr.

08/25/2021

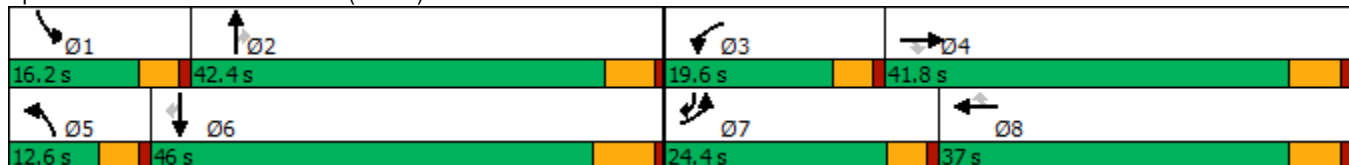


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑↑	↗	↘	↑↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	151	458	75	185	409	64	73	1088	253	147	942	203
Future Volume (vph)	151	458	75	185	409	64	73	1088	253	147	942	203
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	24.4	41.8	41.8	19.6	37.0	37.0	12.6	42.4	42.4	16.2	46.0	24.4
Total Split (%)	20.3%	34.8%	34.8%	16.3%	30.8%	30.8%	10.5%	35.3%	35.3%	13.5%	38.3%	20.3%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 117.8  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.



HCM 6th Signalized Intersection Summary  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	458	75	185	409	64	73	1088	253	147	942	203
Future Volume (veh/h)	151	458	75	185	409	64	73	1088	253	147	942	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	157	477	53	193	426	51	76	1133	210	153	981	120
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	182	510	432	205	1016	453	94	1532	475	158	1201	700
Arrive On Green	0.11	0.28	0.28	0.13	0.30	0.30	0.06	0.31	0.31	0.10	0.35	0.35
Sat Flow, veh/h	1619	1800	1525	1619	3420	1524	1619	4914	1525	1619	3420	1506
Grp Volume(v), veh/h	157	477	53	193	426	51	76	1133	210	153	981	120
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	1710	1524	1619	1638	1525	1619	1710	1506
Q Serve(g_s), s	11.3	30.7	3.1	14.0	11.9	2.9	5.5	24.5	13.0	11.2	31.0	5.5
Cycle Q Clear(g_c), s	11.3	30.7	3.1	14.0	11.9	2.9	5.5	24.5	13.0	11.2	31.0	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	182	510	432	205	1016	453	94	1532	475	158	1201	700
V/C Ratio(X)	0.86	0.94	0.12	0.94	0.42	0.11	0.81	0.74	0.44	0.97	0.82	0.17
Avail Cap(c_a), veh/h	270	546	463	205	1016	453	109	1532	475	158	1201	700
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.8	41.5	31.6	51.4	33.5	30.3	55.3	36.5	32.6	53.4	35.0	18.6
Incr Delay (d2), s/veh	12.0	23.0	0.1	46.5	0.3	0.1	27.1	3.3	3.0	61.2	6.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	16.3	1.1	8.2	4.8	1.0	2.9	9.6	5.0	7.2	13.4	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.8	64.5	31.7	97.9	33.8	30.4	82.3	39.8	35.6	114.6	41.2	19.1
LnGrp LOS	E	E	C	F	C	C	F	D	D	F	D	B
Approach Vol, veh/h		687			670			1419			1254	
Approach Delay, s/veh		61.8			52.0			41.5			48.1	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	43.5	19.6	39.4	11.5	48.2	17.9	41.1				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	11.6	* 37	15.0	36.0	8.0	39.5	19.8	31.2				
Max Q Clear Time (g_c+I1), s	13.2	26.5	16.0	32.7	7.5	33.0	13.3	13.9				
Green Ext Time (p_c), s	0.0	5.4	0.0	0.9	0.0	3.5	0.1	2.4				

Intersection Summary

HCM 6th Ctrl Delay	48.7
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
34: Grove Av. & Eucalyptus Av.



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	Ø1	Ø5
Lane Configurations		↕		↕	↕↔	↕		
Traffic Volume (vph)	113	136	5	37	336	220		
Future Volume (vph)	113	136	5	37	336	220		
Turn Type	Perm	NA	Perm	NA	NA	NA		
Protected Phases		4		8	2	6	1	5
Permitted Phases	4		8					
Detector Phase	4	4	8	8	2	6		
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	22.8	22.8	22.8	22.8	23.2	23.2	9.6	9.6
Total Split (s)	37.0	37.0	37.0	37.0	73.4	73.4	9.6	9.6
Total Split (%)	30.8%	30.8%	30.8%	30.8%	61.2%	61.2%	8%	8%
Yellow Time (s)	4.8	4.8	4.8	4.8	5.2	5.2	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0		
Total Lost Time (s)		5.8		5.8	6.2	6.2		
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Min	Min	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 107.9  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Grove Av. & Eucalyptus Av.





HCM 6th Signalized Intersection Summary  
34: Grove Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

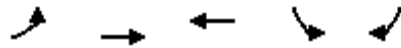


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	113	136	70	5	37	14	15	336	4	12	220	39
Future Volume (veh/h)	113	136	70	5	37	14	15	336	4	12	220	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	126	151	78	6	41	16	17	1344	4	13	244	43
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.25	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	215	207	95	83	334	119	0	1816	5	0	774	136
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.00	0.52	0.52	0.00	0.52	0.52
Sat Flow, veh/h	480	758	348	55	1220	434	0	3498	10	0	1490	263
Grp Volume(v), veh/h	355	0	0	63	0	0	0	657	691	0	0	287
Grp Sat Flow(s),veh/h/ln	1586	0	0	1710	0	0	0	1710	1798	0	0	1753
Q Serve(g_s), s	9.9	0.0	0.0	0.0	0.0	0.0	0.0	17.4	17.4	0.0	0.0	5.5
Cycle Q Clear(g_c), s	12.1	0.0	0.0	1.6	0.0	0.0	0.0	17.4	17.4	0.0	0.0	5.5
Prop In Lane	0.35		0.22	0.10		0.25	0.00		0.01	0.00		0.15
Lane Grp Cap(c), veh/h	518	0	0	536	0	0	0	888	934	0	0	910
V/C Ratio(X)	0.69	0.00	0.00	0.12	0.00	0.00	0.00	0.74	0.74	0.00	0.00	0.32
Avail Cap(c_a), veh/h	932	0	0	971	0	0	0	1984	2086	0	0	2034
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	19.6	0.0	0.0	15.9	0.0	0.0	0.0	10.9	10.9	0.0	0.0	8.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	0.1	0.0	0.0	0.0	1.2	1.2	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	0.0	0.5	0.0	0.0	0.0	4.5	4.7	0.0	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	0.0	0.0	16.0	0.0	0.0	0.0	12.1	12.0	0.0	0.0	8.2
LnGrp LOS	C	A	A	B	A	A	A	B	B	A	A	A
Approach Vol, veh/h		355			63			1348				287
Approach Delay, s/veh		21.2			16.0			12.1				8.2
Approach LOS		C			B			B				A
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	36.3		21.6	0.0	36.3		21.6				
Change Period (Y+Rc), s	4.6	6.2		5.8	4.6	6.2		5.8				
Max Green Setting (Gmax), s	5.0	67.2		31.2	5.0	67.2		31.2				
Max Q Clear Time (g_c+1), s	0.0	19.4		14.1	0.0	7.5		3.6				
Green Ext Time (p_c), s	0.0	10.7		1.8	0.0	1.6		0.3				

Intersection Summary

HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Timings  
35: Merrill Av. & Grove Av.

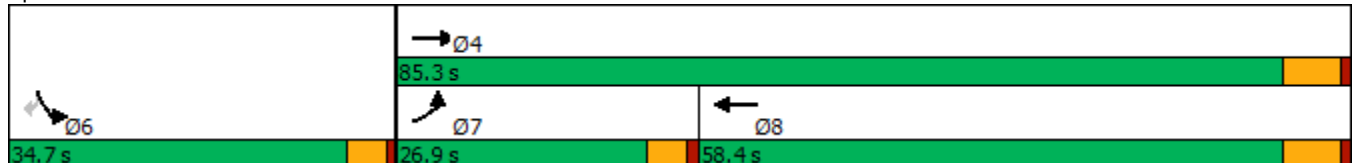


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↖	↗	↔	↖	↗
Traffic Volume (vph)	179	550	306	173	84
Future Volume (vph)	179	550	306	173	84
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	7	4	8	6	
Permitted Phases					6
Detector Phase	7	4	8	6	6
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	23.2	21.6	21.6
Total Split (s)	26.9	85.3	58.4	34.7	34.7
Total Split (%)	22.4%	71.1%	48.7%	28.9%	28.9%
Yellow Time (s)	3.6	5.2	5.2	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	4.6
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	Min	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 71.8  
 Natural Cycle: 65  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Merrill Av. & Grove Av.



HCM 6th Signalized Intersection Summary  
35: Merrill Av. & Grove Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Volume (veh/h)	179	550	306	168	173	84	
Future Volume (veh/h)	179	550	306	168	173	84	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1700	1800	1800	1800	1700	1800	
Adj Flow Rate, veh/h	186	573	319	175	180	88	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	232	1073	396	217	311	293	
Arrive On Green	0.14	0.60	0.36	0.36	0.19	0.19	
Sat Flow, veh/h	1619	1800	1093	599	1619	1525	
Grp Volume(v), veh/h	186	573	0	494	180	88	
Grp Sat Flow(s),veh/h/ln	1619	1800	0	1692	1619	1525	
Q Serve(g_s), s	5.7	9.6	0.0	13.4	5.1	2.5	
Cycle Q Clear(g_c), s	5.7	9.6	0.0	13.4	5.1	2.5	
Prop In Lane	1.00			0.35	1.00	1.00	
Lane Grp Cap(c), veh/h	232	1073	0	614	311	293	
V/C Ratio(X)	0.80	0.53	0.00	0.80	0.58	0.30	
Avail Cap(c_a), veh/h	709	2795	0	1734	957	901	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	21.1	6.1	0.0	14.6	18.7	17.7	
Incr Delay (d2), s/veh	2.5	0.4	0.0	2.5	1.7	0.6	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.9	1.7	0.0	4.1	1.7	0.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	23.6	6.5	0.0	17.2	20.4	18.2	
LnGrp LOS	C	A	A	B	C	B	
Approach Vol, veh/h		759	494		268		
Approach Delay, s/veh		10.7	17.2		19.7		
Approach LOS		B	B		B		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				36.6	14.4	11.9	24.7
Change Period (Y+Rc), s				6.2	4.6	4.6	6.2
Max Green Setting (Gmax), s				79.1	30.1	22.3	52.2
Max Q Clear Time (g_c+11), s				11.6	7.1	7.7	15.4
Green Ext Time (p_c), s				3.6	0.7	0.2	3.1
<b>Intersection Summary</b>							
HCM 6th Ctrl Delay			14.4				
HCM 6th LOS			B				

Timings  
36: Walker Av. & Edison Av.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔		↔		↔		↔
Traffic Volume (vph)	21	680	32	366	3	20	66	14
Future Volume (vph)	21	680	32	366	3	20	66	14
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2
Total Split (s)	82.3	82.3	82.3	82.3	37.7	37.7	37.7	37.7
Total Split (%)	68.6%	68.6%	68.6%	68.6%	31.4%	31.4%	31.4%	31.4%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.2		6.2		6.2		6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 55.5  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

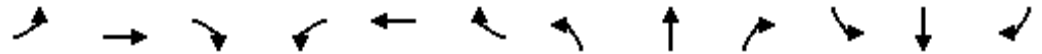
Splits and Phases: 36: Walker Av. & Edison Av.



HCM 6th Signalized Intersection Summary  
36: Walker Av. & Edison Av.

Ontario Ranch Business Park (JN 13941)

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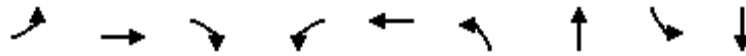


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	21	680	1	32	366	31	3	20	100	66	14	10
Future Volume (veh/h)	21	680	1	32	366	31	3	20	100	66	14	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	22	716	1	34	385	33	3	21	105	69	15	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	94	896	1	118	784	64	85	59	269	348	72	37
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	21	1759	2	60	1538	126	11	280	1276	984	339	173
Grp Volume(v), veh/h	739	0	0	452	0	0	129	0	0	95	0	0
Grp Sat Flow(s),veh/h/ln	1782	0	0	1724	0	0	1567	0	0	1496	0	0
Q Serve(g_s), s	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.2	0.0	0.0	7.4	0.0	0.0	3.1	0.0	0.0	2.0	0.0	0.0
Prop In Lane	0.03		0.00	0.08		0.07	0.02		0.81	0.73		0.12
Lane Grp Cap(c), veh/h	991	0	0	966	0	0	414	0	0	456	0	0
V/C Ratio(X)	0.75	0.00	0.00	0.47	0.00	0.00	0.31	0.00	0.00	0.21	0.00	0.00
Avail Cap(c_a), veh/h	3109	0	0	2904	0	0	1193	0	0	1140	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.1	0.0	0.0	7.2	0.0	0.0	15.0	0.0	0.0	14.6	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.4	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	0.0	1.5	0.0	0.0	1.0	0.0	0.0	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.2	0.0	0.0	7.5	0.0	0.0	15.5	0.0	0.0	14.8	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		739			452			129				95
Approach Delay, s/veh		10.2			7.5			15.5				14.8
Approach LOS		B			A			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.6		28.8		15.6		28.8				
Change Period (Y+Rc), s		6.2		6.2		6.2		6.2				
Max Green Setting (Gmax), s		31.5		76.1		31.5		76.1				
Max Q Clear Time (g_c+I1), s		5.1		17.2		4.0		9.4				
Green Ext Time (p_c), s		0.7		5.4		0.5		2.9				

Intersection Summary

HCM 6th Ctrl Delay	10.1
HCM 6th LOS	B

Timings  
42: Carpenter Av. & Merrill Av.

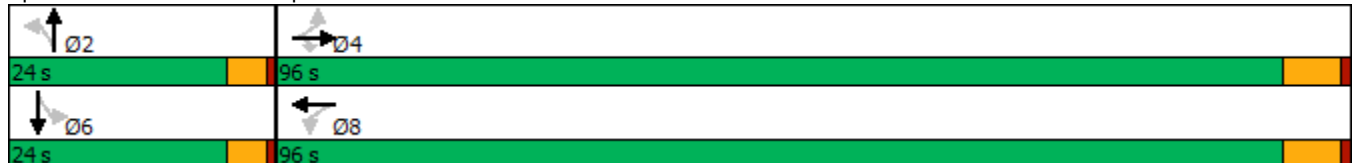


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↑	↗	↖	↗		↕		↕
Traffic Volume (vph)	4	728	21	26	370	33	4	54	5
Future Volume (vph)	4	728	21	26	370	33	4	54	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4			8		2		6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	8	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.2	23.2	23.2	23.2	23.2	21.6	21.6	21.6	21.6
Total Split (s)	96.0	96.0	96.0	96.0	96.0	24.0	24.0	24.0	24.0
Total Split (%)	80.0%	80.0%	80.0%	80.0%	80.0%	20.0%	20.0%	20.0%	20.0%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2		4.6		4.6
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 56.7  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 42: Carpenter Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
42: Carpenter Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)  
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	728	21	26	370	7	33	4	103	54	5	1
Future Volume (veh/h)	4	728	21	26	370	7	33	4	103	54	5	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	4	809	23	29	411	8	37	4	114	60	6	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	567	991	840	284	969	19	146	38	236	423	36	5
Arrive On Green	0.55	0.55	0.55	0.55	0.55	0.55	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	983	1800	1525	670	1760	34	225	182	1131	1298	174	22
Grp Volume(v), veh/h	4	809	23	29	0	419	155	0	0	67	0	0
Grp Sat Flow(s),veh/h/ln	983	1800	1525	670	0	1794	1538	0	0	1494	0	0
Q Serve(g_s), s	0.1	16.5	0.3	1.7	0.0	6.1	0.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.3	16.5	0.3	18.1	0.0	6.1	3.9	0.0	0.0	1.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	0.24		0.74	0.90		0.01
Lane Grp Cap(c), veh/h	567	991	840	284	0	988	420	0	0	464	0	0
V/C Ratio(X)	0.01	0.82	0.03	0.10	0.00	0.42	0.37	0.00	0.00	0.14	0.00	0.00
Avail Cap(c_a), veh/h	1991	3600	3051	1255	0	3588	757	0	0	761	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.7	8.2	4.6	15.6	0.0	5.9	15.6	0.0	0.0	14.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.2	0.0	0.3	0.5	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.1	0.0	0.2	0.0	1.1	1.3	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.8	9.9	4.6	15.8	0.0	6.2	16.1	0.0	0.0	14.8	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		836			448			155				67
Approach Delay, s/veh		9.8			6.8			16.1				14.8
Approach LOS		A			A			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.0		30.9		14.0		30.9				
Change Period (Y+Rc), s		4.6		6.2		4.6		6.2				
Max Green Setting (Gmax), s		19.4		89.8		19.4		89.8				
Max Q Clear Time (g_c+I1), s		5.9		18.5		3.4		20.1				
Green Ext Time (p_c), s		0.7		6.3		0.2		2.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				9.8								
HCM 6th LOS				A								



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙	↙↙	↑	↘	↙	↑
Traffic Volume (vph)	320	262	540	353	601	873
Future Volume (vph)	320	262	540	353	601	873
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	37.0	46.7	36.3	37.0	83.7
Total Split (%)	30.3%	30.8%	38.9%	30.3%	30.8%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 106.2  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 47: Archibald Av. & Limonite Av.





HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	320	262	540	353	601	873
Future Volume (veh/h)	320	262	540	353	601	873
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	327	217	551	339	613	891
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	363	1458	632	847	568	1321
Arrive On Green	0.20	0.20	0.33	0.33	0.31	0.70
Sat Flow, veh/h	1810	2834	1900	1576	1810	1900
Grp Volume(v), veh/h	327	217	551	339	613	891
Grp Sat Flow(s),veh/h/ln	1810	1417	1900	1576	1810	1900
Q Serve(g_s), s	18.0	4.1	27.8	13.0	32.0	27.4
Cycle Q Clear(g_c), s	18.0	4.1	27.8	13.0	32.0	27.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	363	1458	632	847	568	1321
V/C Ratio(X)	0.90	0.15	0.87	0.40	1.08	0.67
Avail Cap(c_a), veh/h	550	1751	772	963	568	1467
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.8	13.0	32.0	14.2	35.0	8.9
Incr Delay (d2), s/veh	9.5	0.0	9.6	0.4	60.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	1.2	13.4	6.6	22.4	8.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	49.2	13.0	41.6	14.5	95.9	9.7
LnGrp LOS	D	B	D	B	F	A
Approach Vol, veh/h	544		890			1504
Approach Delay, s/veh	34.8		31.3			44.8
Approach LOS	C		C			D
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	37.0	39.2			76.2	25.7
Change Period (Y+Rc), s	5.0	5.3			* 5.3	5.3
Max Green Setting (Gmax), s	32.0	41.4			* 79	31.0
Max Q Clear Time (g_c+I1), s	34.0	29.8			29.4	20.0
Green Ext Time (p_c), s	0.0	4.1			3.7	0.5

Intersection Summary

HCM 6th Ctrl Delay	38.9
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

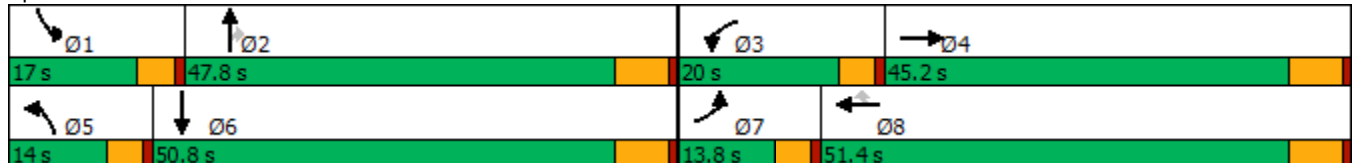


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↑↑↑	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑
Traffic Volume (vph)	93	820	603	458	111	202	387	242	469	821
Future Volume (vph)	93	820	603	458	111	202	387	242	469	821
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	45.2	9.6	49.2	49.2	9.6	44.2	44.2	9.6	45.2
Total Split (s)	13.8	45.2	20.0	51.4	51.4	14.0	47.8	47.8	17.0	50.8
Total Split (%)	10.6%	34.8%	15.4%	39.5%	39.5%	10.8%	36.8%	36.8%	13.1%	39.1%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 102.6  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/25/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	820	273	603	458	111	202	387	242	469	821	112
Future Volume (veh/h)	93	820	273	603	458	111	202	387	242	469	821	112
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	97	854	227	628	477	82	210	403	173	489	855	62
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	147	1252	325	492	1267	565	269	1043	323	396	1193	86
Arrive On Green	0.05	0.25	0.25	0.17	0.37	0.37	0.09	0.21	0.21	0.13	0.26	0.26
Sat Flow, veh/h	2956	4933	1280	2956	3420	1525	2956	4914	1523	2956	4677	338
Grp Volume(v), veh/h	97	803	278	628	477	82	210	403	173	489	598	319
Grp Sat Flow(s),veh/h/ln	1478	1548	1570	1478	1710	1525	1478	1638	1523	1478	1638	1739
Q Serve(g_s), s	3.0	14.4	14.9	15.4	9.4	3.3	6.4	6.5	9.3	12.4	15.4	15.5
Cycle Q Clear(g_c), s	3.0	14.4	14.9	15.4	9.4	3.3	6.4	6.5	9.3	12.4	15.4	15.5
Prop In Lane	1.00		0.82	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	147	1179	398	492	1267	565	269	1043	323	396	836	444
V/C Ratio(X)	0.66	0.68	0.70	1.28	0.38	0.15	0.78	0.39	0.54	1.23	0.72	0.72
Avail Cap(c_a), veh/h	294	1957	662	492	1671	745	300	2209	685	396	1579	838
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.2	31.1	31.3	38.6	21.3	19.4	41.1	31.3	32.4	40.1	31.4	31.4
Incr Delay (d2), s/veh	1.9	0.7	2.2	139.4	0.2	0.1	9.6	0.2	1.4	125.5	1.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.0	5.4	14.7	3.5	1.1	2.6	2.4	3.3	11.1	5.7	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	31.8	33.5	178.0	21.5	19.5	50.8	31.5	33.8	165.6	32.6	33.6
LnGrp LOS	D	C	C	F	C	B	D	C	C	F	C	C
Approach Vol, veh/h		1178			1187			786			1406	
Approach Delay, s/veh		33.3			104.1			37.2			79.1	
Approach LOS		C			F			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	25.8	20.0	29.7	13.0	29.8	9.2	40.5				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.4	41.6	15.4	39.0	9.4	44.6	9.2	45.2				
Max Q Clear Time (g_c+I1), s	14.4	11.3	17.4	16.9	8.4	17.5	5.0	11.4				
Green Ext Time (p_c), s	0.0	3.0	0.0	6.6	0.0	5.7	0.0	3.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			66.5									
HCM 6th LOS			E									

**APPENDIX 6.1:**

**OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT CONDITIONS INTERSECTION  
OPERATIONS ANALYSIS WORKSHEETS**

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**Volume Development  
AM Peak Hour**

	<b>1: SR-60 WB Ramps &amp; Euclid Av.</b>												
	PHF:	0.939		7:15					Count Date: 1/30/2019				
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	412	983	0	0	984	508	0	0	0	648	6	442	3,984
	<b>2: SR-60 EB Ramps &amp; Euclid Av.</b>												
	PHF:	0.953		7:30					Count Date: 1/30/2019				
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	0	961	723	393	1,313	0	437	2	450	0	0	0	4,278
	<b>3: Euclid Av. &amp; Walnut Av.</b>												
	PHF:	0.954		7:15					Count Date: 1/30/2019				
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	144	1,288	52	171	1,400	68	122	312	121	77	332	221	4,310
	<b>4: Euclid Av. &amp; Riverside Dr</b>												
	PHF:	0.946		7:30					Count Date: 1/22/2019				
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	83	1,057	179	199	1,201	174	166	337	73	204	531	126	4,330
	<b>5: Euclid Av. &amp; Chino Av.</b>												
	PHF:	0.941		7:15					Count Date: 1/24/2019				
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	56	1,151	148	64	1,295	106	112	180	47	77	167	56	3,457
	<b>6: Euclid Av. &amp; Schaefer Av.</b>												
	PHF:	0.933		7:15					Count Date: 1/22/2019				
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	119	1,175	40	34	1,202	139	166	81	68	152	192	13	3,381
	<b>7: Euclid Av. &amp; Edison Av.</b>												
	PHF:	0.956		7:15					Count Date: 1/23/2019				
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	245	1,014	51	116	1,039	192	168	332	118	57	483	79	3,896
	<b>8: Euclid Av. &amp; Eucalyptus Av.</b>												
	PHF:	0.976		7:15					Count Date: 1/22/2019				
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	196	1,226	14	64	1,215	47	72	32	167	35	165	51	3,283
	<b>9: Euclid Av. &amp; Merrill Av.</b>												
	PHF:	0.965		7:15					Count Date: 1/22/2019				
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	11	1,156	271	229	1,131	44	4	9	18	278	51	272	3,475
	<b>10: Sultana Av. &amp; Eucalyptus Av.</b>												
	PHF:								Count Date:				
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	6	0	3	0	0	0	0	97	26	20	286	0	438
	<b>11: Sultana Av. &amp; Driveway 1</b>												
	PHF:								Count Date:				
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	0	6	0	0	35	12	2	0	1	0	0	0	56
	<b>12: Sultana Av. &amp; Driveway 2</b>												
	PHF:								Count Date:				
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	0	4	0	0	27	9	2	0	0	0	0	0	42
	<b>13: Sultana Av. &amp; Driveway 3</b>												
	PHF:								Count Date:				
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	0	4	0	0	27	0	0	0	0	0	0	0	31
	<b>14: Sultana Av. &amp; Driveway 4</b>												
	PHF:								Count Date:				

**Volume Development  
AM Peak Hour**

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	0	2	0	0	19	0	0	0	0	0	0	0	21
<b>15: Sultana Av. &amp; Driveway 5</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	0	2	0	0	15	0	0	0	0	0	0	0	17
<b>16: Sultana Av. &amp; Driveway 6</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	2	13	0	0	13	7	1	0	1	0	0	0	37
<b>17: Sultana Av. &amp; Driveway 7</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	0	15	0	0	8	5	0	0	2	0	0	0	32
<b>18: Sultana Av. &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	0	0	0	13	0	9	13	512	0	0	724	17	1,289
<b>19: Driveway 8 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	0	0	0	0	0	0	0	512	0	0	696	0	1,208
<b>20: Driveway 9 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	0	0	0	0	0	0	0	94	0	0	286	0	380
<b>21: Driveway 10 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	0	0	0	0	0	0	0	94	0	0	286	0	380
<b>22: Driveway 11 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	0	0	0	0	0	0	0	512	0	0	696	0	1,208
<b>23: Campus Av. &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	1	0	1	0	0	0	0	91	3	0	285	0	381
<b>24: Campus Av. &amp; Driveway 12</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	0	2	0	0	4	0	0	0	0	0	0	0	5
<b>25: Campus Av. &amp; Driveway 13</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	0	2	0	0	4	0	0	0	0	0	0	0	5
<b>26: Campus Av. &amp; Driveway 14</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	0	2	0	0	4	0	0	0	0	0	0	0	5
<b>27: Campus Av. &amp; Driveway 15</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	0	2	0	0	4	0	0	0	0	0	0	0	5

Volume Development  
AM Peak Hour

	Count Date: _____												TOTAL
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	
<b>28: Campus Av. &amp; Driveway 16</b>													
PHF: _____													
2023 NP (PCE):	0	2	0	0	4	0	0	0	0	0	0	0	5
<b>29: Campus Av. &amp; Driveway 17</b>													
PHF: _____													
2023 NP (PCE):	0	2	0	0	4	0	0	0	0	0	0	0	5
<b>30: Campus Av. &amp; Driveway 18</b>													
PHF: _____													
2023 NP (PCE):	0	2	0	0	4	0	0	0	0	0	0	0	5
<b>31: Campus Av. &amp; Merrill Av.</b>													
PHF: _____													
2023 NP (PCE):	0	0	0	1	0	3	9	503	0	0	693	4	1,213
<b>32: Bon View Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.925</u> _____ 7:15													
2023 NP (PCE):	19	88	19	31	72	52	19	68	6	36	227	21	657
Count Date: <u>1/30/2019</u>													
<b>33: Bon View Av. &amp; Merrill Av.</b>													
PHF: <u>0.938</u> _____ 7:15													
2023 NP (PCE):	0	0	0	34	0	47	55	435	0	0	651	84	1,306
Count Date: <u>1/30/2019</u>													
<b>34: Grove Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.912</u> _____ 7:15													
2023 NP (PCE):	70	270	17	94	305	96	37	61	16	42	131	34	1,174
Count Date: <u>1/30/2019</u>													
<b>35: Grove Av. &amp; Merrill Av.</b>													
PHF: <u>0.972</u> _____ 7:45													
2023 NP (PCE):	0	0	0	187	0	130	122	347	0	0	654	298	1,738
Count Date: <u>1/30/2019</u>													
<b>36: Walker Av. &amp; Edison Av.</b>													
PHF: <u>0.977</u> _____ 7:30													
2023 NP (PCE):	11	34	25	62	72	12	18	339	33	182	451	159	1,398
Count Date: <u>1/30/2019</u>													
<b>37: Walker Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.824</u> _____ 7:30AM													
2023 NP (PCE):	0	0	0	131	0	179	76	49	0	0	83	24	543
Count Date: <u>1/30/2019</u>													
<b>38: Walker Av./Flight Av. &amp; Merrill Av.</b>													
PHF: <u>0.970</u> _____ 7:30													
2023 NP (PCE):	186	6	103	7	2	8	31	379	103	111	706	25	1,665
Count Date: <u>1/30/2019</u>													
<b>39: Baker Av./Van Vliet Av. &amp; Merrill Av.</b>													
PHF: <u>0.906</u> _____ 7:30													
2023 NP (PCE):	14	0	27	6	0	5	19	424	43	27	843	22	1,428
Count Date: <u>1/30/2019</u>													
<b>40: Vineyard Av. &amp; Edison Av.</b>													
PHF: <u>0.920</u> _____													
2023 NP (PCE):	0	0	0	0	0	0	0	68	0	0	174	0	242
Count Date: _____													
<b>41: Vineyard Av./Hellman Av. &amp; Merrill Av.</b>													
PHF: <u>0.934</u> _____ 7:45													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
Count Date: <u>1/30/2019</u>													



**Volume Development  
AM Peak Hour**

2023 NP (PCE): 7 6 13 8 2 3 10 450 6 18 866 31 1,418

**42: Carpenter Av. & Merrill Av.**

PHF: 0.940 7:30

Count Date: 1/30/2019

2023 NP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
21 0 120 128 0 13 19 399 29 209 863 61 1,861

**43: Hellman Av. & Edison Av.**

PHF: 0.920

Count Date: \_\_\_\_\_

2023 NP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
0 0 0 0 0 0 0 68 0 0 174 0 242

**44: Archibald Av. & Edison Av./Ontario Ranch Rd.**

PHF: 0.973 7:00

Count Date: 1/22/2019

2023 NP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
174 1,039 417 72 483 156 39 248 54 438 602 144 3,865

**45: Archibald Av. & Eucalyptus Av.**

PHF: 0.934 7:00

Count Date: 1/22/2019

2023 NP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
0 1,614 9 26 949 0 0 0 0 11 0 16 2,626

**46: Archibald Av. & Merrill Av.**

PHF: 0.970 7:00

Count Date: 1/22/2019

2023 NP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
580 1,204 41 42 546 376 234 22 141 78 51 130 3,447

**47: Archibald Av. & Limonite Av.**

PHF: 0.959 7:00

Count Date: 1/22/2019

2023 NP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
0 894 328 235 514 0 0 0 0 318 0 956 3,245

**48: Turner Av. & Edison Av./Ontario Ranch Rd.**

PHF: 0.902 7:00

Count Date: 1/30/2019

2023 NP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
60 25 39 36 16 66 29 636 35 45 1,244 19 2,251

**49: Haven Av. & Ontario Ranch Rd.**

PHF: 0.938 7:00

Count Date: 2/6/2019

2023 NP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
65 199 82 124 60 77 142 667 30 22 1,058 86 2,613

**50: Hamner Av. & Ontario Ranch Rd./Cantu-Galleano Ranch Rd.**

PHF: 0.882 7:00

Count Date: 1/30/2019

2023 NP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
178 731 524 160 218 92 103 623 86 286 994 211 4,205

**51: I-215 SB Ramps & Cantu-Galleano Ranch Rd.**

PHF: 0.896 7:00

Count Date: 1/30/2019

2023 NP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
0 0 0 336 0 1,300 0 1,073 349 0 562 189 3,808

**52: I-215 NB Ramps & Cantu-Galleano Ranch Rd.**

PHF: 0.914 7:00

Count Date: 1/30/2019

2023 NP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
265 0 312 0 0 0 0 523 885 381 486 0 2,852

**Volume Development  
PM Peak Hour**

<b>1: SR-60 WB Ramps &amp; Euclid Av.</b>													
	<b>PHF:</b>	<u>0.962</u>		4:30								Count Date:	<u>1/30/2019</u>
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	396	1,132	0	0	1,049	512	0	0	0	639	6	424	4,159
<b>2: SR-60 EB Ramps &amp; Euclid Av.</b>													
	<b>PHF:</b>	<u>0.977</u>		4:30								Count Date:	<u>1/30/2019</u>
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	0	1,093	629	390	1,308	0	432	3	394	0	0	0	4,251
<b>3: Euclid Av. &amp; Walnut Av.</b>													
	<b>PHF:</b>	<u>0.941</u>		4:45								Count Date:	<u>1/30/2019</u>
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	208	1,443	81	290	1,236	161	111	385	145	72	385	146	4,664
<b>4: Euclid Av. &amp; Riverside Dr</b>													
	<b>PHF:</b>	<u>0.958</u>		5:00								Count Date:	<u>1/22/2019</u>
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	96	1,249	265	154	1,041	212	157	480	86	194	427	67	4,428
<b>5: Euclid Av. &amp; Chino Av.</b>													
	<b>PHF:</b>	<u>0.930</u>		4:45								Count Date:	<u>1/24/2019</u>
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	53	1,498	252	29	1,180	79	100	299	54	81	119	10	3,754
<b>6: Euclid Av. &amp; Schaefer Av.</b>													
	<b>PHF:</b>	<u>0.986</u>		4:45								Count Date:	<u>1/22/2019</u>
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	99	1,473	91	33	1,201	127	303	299	195	82	73	27	4,005
<b>7: Euclid Av. &amp; Edison Av.</b>													
	<b>PHF:</b>	<u>0.950</u>		4:45								Count Date:	<u>1/23/2019</u>
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	175	1,311	100	110	1,270	200	286	542	310	57	360	86	4,808
<b>8: Euclid Av. &amp; Eucalyptus Av.</b>													
	<b>PHF:</b>	<u>0.890</u>		4:45								Count Date:	<u>1/22/2019</u>
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	123	1,430	19	65	1,437	71	41	171	222	8	28	53	3,669
<b>9: Euclid Av. &amp; Merrill Av.</b>													
	<b>PHF:</b>	<u>0.905</u>		4:30								Count Date:	<u>1/22/2019</u>
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	5	1,310	302	319	1,343	1	12	31	13	316	2	238	3,891
<b>10: Sultana Av. &amp; Eucalyptus Av.</b>													
	<b>PHF:</b>											Count Date:	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	23	0	11	0	0	0	0	295	15	8	111	0	462
<b>11: Sultana Av. &amp; Driveway 1</b>													
	<b>PHF:</b>											Count Date:	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	0	24	0	0	19	4	9	0	3	0	0	0	60
<b>12: Sultana Av. &amp; Driveway 2</b>													
	<b>PHF:</b>											Count Date:	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	0	14	0	0	19	3	10	0	0	0	0	0	46
<b>13: Sultana Av. &amp; Driveway 3</b>													
	<b>PHF:</b>											Count Date:	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	0	14	0	0	19	0	0	0	0	0	0	0	33
<b>14: Sultana Av. &amp; Driveway 4</b>													
	<b>PHF:</b>											Count Date:	

**Volume Development  
PM Peak Hour**

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 NP (PCE):	0	7	0	0	16	0	0	0	0	0	0	0	23
<b>15: Sultana Av. &amp; Driveway 5</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	6	0	0	20	0	0	0	0	0	0	0	26
<b>16: Sultana Av. &amp; Driveway 6</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	1	6	0	0	36	3	5	0	5	0	0	0	56
<b>17: Sultana Av. &amp; Driveway 7</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	7	0	0	40	2	0	0	9	0	0	0	58
<b>18: Sultana Av. &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	24	0	17	2	815	0	0	592	3	1,453
<b>19: Driveway 8 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	815	0	0	586	0	1,402
<b>20: Driveway 9 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	283	0	0	111	0	394
<b>21: Driveway 10 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	283	0	0	111	0	394
<b>22: Driveway 11 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	815	0	0	586	0	1,402
<b>23: Campus Av. &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	4	0	0	0	0	0	0	282	1	1	107	0	395
<b>24: Campus Av. &amp; Driveway 12</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	4	0	0	2	0	0	0	0	0	0	0	6
<b>25: Campus Av. &amp; Driveway 13</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	4	0	0	2	0	0	0	0	0	0	0	6
<b>26: Campus Av. &amp; Driveway 14</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	4	0	0	2	0	0	0	0	0	0	0	6
<b>27: Campus Av. &amp; Driveway 15</b>													
PHF: _____ Count Date: _____													
2023 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	4	0	0	2	0	0	0	0	0	0	0	6

Volume Development  
PM Peak Hour

	Count Date: _____												TOTAL
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	
<b>28: Campus Av. &amp; Driveway 16</b>													
PHF: _____													
2023 NP (PCE):	0	4	0	0	2	0	0	0	0	0	0	0	6
<b>29: Campus Av. &amp; Driveway 17</b>													
PHF: _____													
2023 NP (PCE):	0	4	0	0	2	0	0	0	0	0	0	0	6
<b>30: Campus Av. &amp; Driveway 18</b>													
PHF: _____													
2023 NP (PCE):	0	4	0	0	2	0	0	0	0	0	0	0	6
<b>31: Campus Av. &amp; Merrill Av.</b>													
PHF: _____													
2023 NP (PCE):	0	0	0	4	0	9	3	812	0	0	577	1	1,407
<b>32: Bon View Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.866</u> 4:45													
2023 NP (PCE):	8	115	46	22	97	14	17	272	6	23	88	9	718
Count Date: <u>1/30/2019</u>													
<b>33: Bon View Av. &amp; Merrill Av.</b>													
PHF: <u>0.938</u> 4:30													
2023 NP (PCE):	0	0	0	66	0	64	96	721	0	0	500	41	1,487
Count Date: <u>1/30/2019</u>													
<b>34: Grove Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.897</u> 4:45													
2023 NP (PCE):	17	436	27	44	262	50	146	142	78	16	46	103	1,368
Count Date: <u>1/30/2019</u>													
<b>35: Grove Av. &amp; Merrill Av.</b>													
PHF: <u>0.959</u> 4:30													
2023 NP (PCE):	0	0	0	257	0	131	230	604	0	0	416	210	1,849
Count Date: <u>1/30/2019</u>													
<b>36: Walker Av. &amp; Edison Av.</b>													
PHF: <u>0.951</u> 4:30													
2023 NP (PCE):	3	21	224	69	14	10	22	739	1	74	410	32	1,619
Count Date: <u>1/30/2019</u>													
<b>37: Walker Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.915</u> 4:15pm													
2023 NP (PCE):	0	0	0	25	0	63	235	88	0	0	41	34	487
Count Date: <u>1/30/2019</u>													
<b>38: Walker Av./Flight Av. &amp; Merrill Av.</b>													
PHF: <u>0.913</u> 4:30													
2023 NP (PCE):	113	2	127	26	7	32	11	723	121	90	466	9	1,726
Count Date: <u>1/30/2019</u>													
<b>39: Baker Av./Van Vliet Av. &amp; Merrill Av.</b>													
PHF: <u>0.882</u> 5:00													
2023 NP (PCE):	24	0	14	23	0	19	7	889	11	10	503	8	1,506
Count Date: <u>1/30/2019</u>													
<b>40: Vineyard Av. &amp; Edison Av.</b>													
PHF: <u>0.920</u>													
2023 NP (PCE):	0	0	0	0	0	0	0	203	0	0	87	0	290
Count Date: _____													
<b>41: Vineyard Av./Hellman Av. &amp; Merrill Av.</b>													
PHF: <u>0.903</u> 5:00													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
Count Date: <u>1/30/2019</u>													

Volume Development  
PM Peak Hour

2023 NP (PCE): 10 2 20 32 7 10 3 920 8 15 505 11 1,541

42: Carpenter Av. & Merrill Av.

PHF: 0.902 4:30

Count Date: 1/30/2019

2023 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	36	4	123	76	5	11	8	935	23	34	466	14	1,735

43: Hellman Av. & Edison Av.

PHF: 0.920

Count Date:

2023 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	0	0	0	0	203	0	0	87	0	290

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

PHF: 0.970 5:00

Count Date: 1/22/2019

2023 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	87	657	392	150	863	100	152	711	137	326	272	76	3,922

45: Archibald Av. & Eucalyptus Av.

PHF: 0.938 5:00

Count Date: 1/22/2019

2023 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	1,124	1	10	1,315	0	0	0	0	2	0	11	2,464

46: Archibald Av. & Merrill Av.

PHF: 0.973 4:45

Count Date: 1/22/2019

2023 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	185	636	44	77	1,039	231	399	79	584	47	26	55	3,402

47: Archibald Av. & Limonite Av.

PHF: 0.983 4:45

Count Date: 1/22/2019

2023 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	586	402	723	950	0	0	0	0	369	0	309	3,338

48: Turner Av. & Edison Av./Ontario Ranch Rd.

PHF: 0.905 4:30

Count Date: 1/30/2019

2023 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	27	8	41	29	8	24	51	1,296	41	33	697	14	2,268

49: Haven Av. & Ontario Ranch Rd.

PHF: 0.955 5:00

Count Date: 2/6/2019

2023 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	30	93	24	175	274	118	131	1,081	70	64	612	136	2,809

50: Hamner Av. & Ontario Ranch Rd./Cantu-Galleano Ranch Rd.

PHF: 0.960 4:45

Count Date: 1/30/2019

2023 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	211	404	252	488	857	119	102	985	284	627	532	116	4,976

51: I-215 SB Ramps & Cantu-Galleano Ranch Rd.

PHF: 0.972 5:00

Count Date: 1/30/2019

2023 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	313	0	1,082	0	1,289	535	0	489	452	4,160

52: I-215 NB Ramps & Cantu-Galleano Ranch Rd.

PHF: 0.950 5:00

Count Date: 1/30/2019

2023 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	213	0	247	0	0	0	0	696	941	316	733	0	3,146

Timings  
1: Euclid Av. (SR-83) & SR-60 WB Ramps



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↔	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	648	6	442	412	983	984	508
Future Volume (vph)	648	6	442	412	983	984	508
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	10.0	10.0	10.0
Minimum Split (s)	11.0	11.0	11.0	9.5	22.5	22.5	22.5
Total Split (s)	32.0	32.0	32.0	28.0	58.0	30.0	30.0
Total Split (%)	35.6%	35.6%	35.6%	31.1%	64.4%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.5	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	24.5	24.5	24.5	23.5	55.0	27.0	27.0
Actuated g/C Ratio	0.27	0.27	0.27	0.26	0.61	0.30	0.30
v/c Ratio	0.86	0.88	0.75	0.93	0.47	0.97	0.63
Control Delay	49.6	51.9	31.3	39.5	19.8	53.8	6.2
Queue Delay	0.0	0.0	0.0	0.0	1.4	0.0	0.0
Total Delay	49.6	51.9	31.3	39.5	21.3	53.8	6.2
LOS	D	D	C	D	C	D	A
Approach Delay		44.6			26.7	37.6	
Approach LOS		D			C	D	

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 63 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 35.7  
 Intersection LOS: D  
 Intersection Capacity Utilization 105.0%  
 ICU Level of Service G  
 Analysis Period (min) 15

Splits and Phases: 1: Euclid Av. (SR-83) & SR-60 WB Ramps



HCM 6th Signalized Intersection Summary  
 1: Euclid Av. (SR-83) & SR-60 WB Ramps

Ontario Ranch Business Park (JN 13941)

08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↶	↷	↶	↶	↶	↶		↶	↶
Traffic Volume (veh/h)	0	0	0	648	6	442	412	983	0	0	984	508
Future Volume (veh/h)	0	0	0	648	6	442	412	983	0	0	984	508
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				769	0	169	438	1046	0	0	1047	312
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				872	0	388	459	2319	0	0	1222	545
Arrive On Green				0.24	0.00	0.24	0.51	1.00	0.00	0.00	0.34	0.34
Sat Flow, veh/h				3619	0	1610	1810	3705	0	0	3705	1610
Grp Volume(v), veh/h				769	0	169	438	1046	0	0	1047	312
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1810	1805	0	0	1805	1610
Q Serve(g_s), s				18.4	0.0	8.0	20.8	0.0	0.0	0.0	24.3	14.3
Cycle Q Clear(g_c), s				18.4	0.0	8.0	20.8	0.0	0.0	0.0	24.3	14.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				872	0	388	459	2319	0	0	1222	545
V/C Ratio(X)				0.88	0.00	0.44	0.95	0.45	0.00	0.00	0.86	0.57
Avail Cap(c_a), veh/h				1086	0	483	472	2319	0	0	1222	545
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.34	0.34	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				32.9	0.0	29.0	21.6	0.0	0.0	0.0	27.7	24.4
Incr Delay (d2), s/veh				6.4	0.0	0.3	14.1	0.2	0.0	0.0	7.9	4.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.3	0.0	2.9	7.1	0.1	0.0	0.0	11.1	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				39.3	0.0	29.3	35.7	0.2	0.0	0.0	35.6	28.7
LnGrp LOS				D	A	C	D	A	A	A	D	C
Approach Vol, veh/h					938			1484			1359	
Approach Delay, s/veh					37.5			10.7			34.0	
Approach LOS					D			B			C	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		63.3			27.4	36.0		26.7				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.0				
Max Green Setting (Gmax), s		52.5			23.5	24.5		27.0				
Max Q Clear Time (g_c+I1), s		2.0			22.8	26.3		20.4				
Green Ext Time (p_c), s		13.6			0.1	0.0		1.2				

Intersection Summary

HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

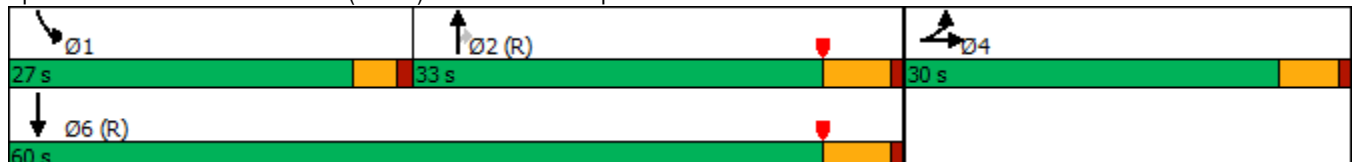


Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	437	2	961	723	393	1313
Future Volume (vph)	437	2	961	723	393	1313
Turn Type	Split	NA	NA	Perm	Prot	NA
Protected Phases	4	4	2		1	6
Permitted Phases				2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0	10.0	5.0	10.0
Minimum Split (s)	11.0	11.0	22.5	22.5	9.0	22.5
Total Split (s)	30.0	30.0	33.0	33.0	27.0	60.0
Total Split (%)	33.3%	33.3%	36.7%	36.7%	30.0%	66.7%
Yellow Time (s)	4.0	4.0	4.5	4.5	3.0	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)	25.0	25.0	28.3	28.3	22.2	54.5
Actuated g/C Ratio	0.28	0.28	0.31	0.31	0.25	0.61
v/c Ratio	0.87	1.12	0.89	0.83	0.93	0.63
Control Delay	51.5	106.8	41.3	14.9	55.3	5.4
Queue Delay	7.8	0.7	0.0	0.0	0.0	0.9
Total Delay	59.4	107.6	41.3	14.9	55.3	6.3
LOS	E	F	D	B	E	A
Approach Delay		86.3	29.9			17.6
Approach LOS		F	C			B

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.12  
 Intersection Signal Delay: 36.7  
 Intersection LOS: D  
 Intersection Capacity Utilization 105.0%  
 ICU Level of Service G  
 Analysis Period (min) 15

Splits and Phases: 2: Euclid Av. (SR-83) & SR-60 EB Ramps





HCM 6th Signalized Intersection Summary  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

Ontario Ranch Business Park (JN 13941)

08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	437	2	450	0	0	0	0	961	723	393	1313	0
Future Volume (veh/h)	437	2	450	0	0	0	0	961	723	393	1313	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	420	59	377				0	1012	562	414	1382	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	503	62	395				0	1141	495	443	2186	0
Arrive On Green	0.28	0.28	0.28				0.00	0.32	0.32	0.33	0.81	0.00
Sat Flow, veh/h	1810	222	1422				0	3705	1566	1810	3705	0
Grp Volume(v), veh/h	420	0	436				0	1012	562	414	1382	0
Grp Sat Flow(s),veh/h/ln	1810	0	1644				0	1805	1566	1810	1805	0
Q Serve(g_s), s	19.6	0.0	23.5				0.0	24.0	28.5	20.0	13.7	0.0
Cycle Q Clear(g_c), s	19.6	0.0	23.5				0.0	24.0	28.5	20.0	13.7	0.0
Prop In Lane	1.00		0.86				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	503	0	457				0	1141	495	443	2186	0
V/C Ratio(X)	0.84	0.00	0.95				0.00	0.89	1.14	0.93	0.63	0.00
Avail Cap(c_a), veh/h	503	0	457				0	1141	495	462	2186	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.69	0.69	0.24	0.24	0.00
Uniform Delay (d), s/veh	30.6	0.0	31.9				0.0	29.2	30.8	29.6	4.8	0.0
Incr Delay (d2), s/veh	11.0	0.0	30.5				0.0	7.4	77.4	8.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	0.0	12.5				0.0	10.8	20.6	8.4	2.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.6	0.0	62.4				0.0	36.7	108.1	38.3	5.1	0.0
LnGrp LOS	D	A	E				A	D	F	D	A	A
Approach Vol, veh/h		856						1574			1796	
Approach Delay, s/veh		52.2						62.2			12.8	
Approach LOS		D						E			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	26.0	34.0	30.0	60.0								
Change Period (Y+Rc), s	4.0	5.5	5.0	5.5								
Max Green Setting (Gmax), s	23.0	27.5	25.0	54.5								
Max Q Clear Time (g_c+I1), s	22.0	30.5	25.5	15.7								
Green Ext Time (p_c), s	0.1	0.0	0.0	18.9								

Intersection Summary

HCM 6th Ctrl Delay	39.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
3: Euclid Av. (SR-83) & Walnut Av.

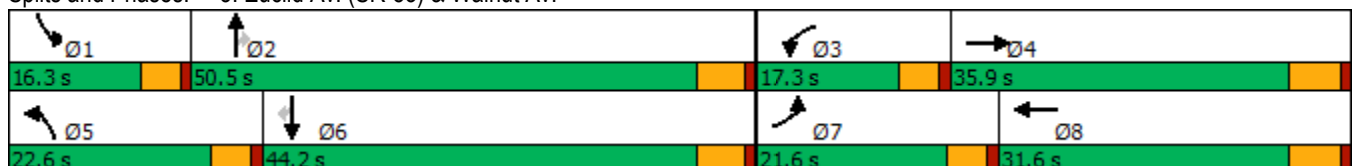


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	122	312	77	332	144	1288	52	171	1400	68
Future Volume (vph)	122	312	77	332	144	1288	52	171	1400	68
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.8	9.6	29.8	9.6	27.4	27.4	9.6	29.4	29.4
Total Split (s)	21.6	35.9	17.3	31.6	22.6	50.5	50.5	16.3	44.2	44.2
Total Split (%)	18.0%	29.9%	14.4%	26.3%	18.8%	42.1%	42.1%	13.6%	36.8%	36.8%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.4	4.4	3.6	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.4	5.4	4.6	5.4	5.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	12.6	26.6	9.5	21.2	14.0	45.5	45.5	10.2	41.7	41.7
Actuated g/C Ratio	0.11	0.24	0.09	0.19	0.13	0.41	0.41	0.09	0.38	0.38
v/c Ratio	0.69	0.55	0.58	0.82	0.74	0.67	0.08	0.66	0.79	0.11
Control Delay	67.5	36.5	66.9	43.8	68.9	29.5	0.2	61.9	36.2	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.5	36.5	66.9	43.8	68.9	29.5	0.2	61.9	36.2	0.3
LOS	E	D	E	D	E	C	A	E	D	A
Approach Delay		43.3		46.7		32.3			37.4	
Approach LOS		D		D		C			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 110	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 37.7	Intersection LOS: D
Intersection Capacity Utilization 79.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Euclid Av. (SR-83) & Walnut Av.



HCM 6th Signalized Intersection Summary  
 3: Euclid Av. (SR-83) & Walnut Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	312	121	77	332	221	144	1288	52	171	1400	68
Future Volume (veh/h)	122	312	121	77	332	221	144	1288	52	171	1400	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	128	328	91	81	349	193	152	1356	37	180	1474	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	154	611	167	101	421	229	179	2126	659	235	1971	611
Arrive On Green	0.10	0.23	0.23	0.06	0.20	0.20	0.11	0.43	0.43	0.08	0.40	0.40
Sat Flow, veh/h	1619	2654	725	1619	2137	1160	1619	4914	1524	2956	4914	1524
Grp Volume(v), veh/h	128	210	209	81	278	264	152	1356	37	180	1474	51
Grp Sat Flow(s),veh/h/ln	1619	1710	1669	1619	1710	1587	1619	1638	1524	1478	1638	1524
Q Serve(g_s), s	8.1	11.2	11.5	5.1	16.2	16.7	9.6	22.5	1.5	6.2	26.8	2.2
Cycle Q Clear(g_c), s	8.1	11.2	11.5	5.1	16.2	16.7	9.6	22.5	1.5	6.2	26.8	2.2
Prop In Lane	1.00		0.43	1.00		0.73	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	154	393	384	101	337	313	179	2126	659	235	1971	611
V/C Ratio(X)	0.83	0.53	0.55	0.80	0.82	0.84	0.85	0.64	0.06	0.77	0.75	0.08
Avail Cap(c_a), veh/h	264	494	482	197	423	393	280	2126	659	332	1971	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	35.2	35.3	48.2	40.1	40.3	45.5	23.2	17.2	47.0	26.7	19.3
Incr Delay (d2), s/veh	4.3	1.1	1.2	5.5	10.2	12.8	8.0	1.5	0.2	3.9	2.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	4.6	4.6	2.2	7.5	7.3	4.2	8.5	0.5	2.4	10.3	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	36.3	36.5	53.8	50.4	53.1	53.5	24.7	17.4	50.9	29.4	19.6
LnGrp LOS	D	D	D	D	D	D	D	C	B	D	C	B
Approach Vol, veh/h		547			623			1545			1705	
Approach Delay, s/veh		39.8			52.0			27.3			31.3	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.9	50.5	11.1	29.8	16.2	47.2	14.5	26.4				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.8	4.6	5.4	4.6	5.8				
Max Green Setting (Gmax), s	11.7	45.1	12.7	30.1	18.0	38.8	17.0	25.8				
Max Q Clear Time (g_c+1), s	8.2	24.5	7.1	13.5	11.6	28.8	10.1	18.7				
Green Ext Time (p_c), s	0.1	9.6	0.0	2.0	0.1	6.6	0.1	1.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			33.9									
HCM 6th LOS			C									

Timings

4: Euclid Av. (SR-83) & Riverside Dr.

08/20/2021

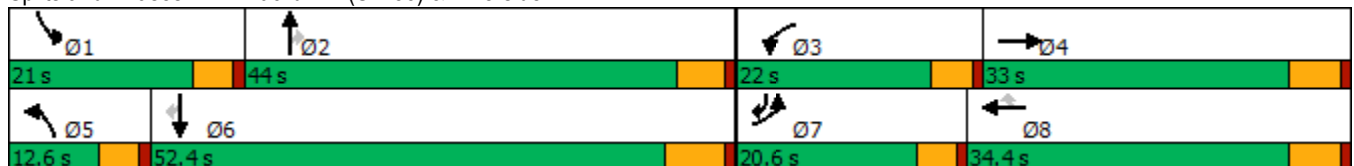


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	166	337	204	531	126	83	1057	179	199	1201	174
Future Volume (vph)	166	337	204	531	126	83	1057	179	199	1201	174
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8		5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	20.6	33.0	22.0	34.4	34.4	12.6	44.0	44.0	21.0	52.4	20.6
Total Split (%)	17.2%	27.5%	18.3%	28.7%	28.7%	10.5%	36.7%	36.7%	17.5%	43.7%	17.2%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	None
Act Effct Green (s)	15.1	27.2	17.1	29.2	29.2	7.9	38.6	38.6	16.4	46.1	63.0
Actuated g/C Ratio	0.13	0.23	0.14	0.24	0.24	0.07	0.32	0.32	0.14	0.39	0.53
v/c Ratio	0.86	1.07	0.93	0.67	0.27	0.83	1.01	0.31	0.95	0.96	0.22
Control Delay	87.1	108.0	95.6	45.7	4.9	105.4	70.0	8.7	100.2	53.5	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.1	108.0	95.6	45.7	4.9	105.4	70.0	8.7	100.2	53.5	7.5
LOS	F	F	F	D	A	F	E	A	F	D	A
Approach Delay		102.0		51.6			63.9			54.3	
Approach LOS		F		D			E			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 119.7  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.07  
 Intersection Signal Delay: 63.0  
 Intersection LOS: E  
 Intersection Capacity Utilization 96.2%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.



HCM 6th Signalized Intersection Summary  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)  
08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	166	337	73	204	531	126	83	1057	179	199	1201	174
Future Volume (veh/h)	166	337	73	204	531	126	83	1057	179	199	1201	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	175	355	61	215	559	104	87	1113	148	209	1264	124
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	199	336	58	233	840	375	107	1090	486	219	1328	779
Arrive On Green	0.12	0.22	0.22	0.14	0.25	0.25	0.07	0.32	0.32	0.14	0.39	0.39
Sat Flow, veh/h	1619	1497	257	1619	3420	1525	1619	3420	1525	1619	3420	1524
Grp Volume(v), veh/h	175	0	416	215	559	104	87	1113	148	209	1264	124
Grp Sat Flow(s),veh/h/ln	1619	0	1754	1619	1710	1525	1619	1710	1525	1619	1710	1524
Q Serve(g_s), s	12.9	0.0	27.2	15.9	17.9	6.7	6.4	38.6	8.9	15.5	43.4	5.2
Cycle Q Clear(g_c), s	12.9	0.0	27.2	15.9	17.9	6.7	6.4	38.6	8.9	15.5	43.4	5.2
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	199	0	394	233	840	375	107	1090	486	219	1328	779
V/C Ratio(X)	0.88	0.00	1.06	0.92	0.67	0.28	0.82	1.02	0.30	0.95	0.95	0.16
Avail Cap(c_a), veh/h	214	0	394	233	840	375	107	1090	486	219	1328	779
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	0.0	47.0	51.2	41.2	37.0	55.8	41.2	31.1	52.0	35.9	15.8
Incr Delay (d2), s/veh	28.9	0.0	60.9	38.3	2.0	0.4	34.7	32.7	1.6	47.2	15.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	0.0	18.1	8.7	7.5	2.5	3.5	20.1	3.4	9.0	20.1	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.2	0.0	107.9	89.5	43.2	37.4	90.5	73.9	32.7	99.1	51.5	16.2
LnGrp LOS	F	A	F	F	D	D	F	F	C	F	D	B
Approach Vol, veh/h		591			878			1348			1597	
Approach Delay, s/veh		100.0			53.8			70.5			55.0	
Approach LOS		F			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	45.1	22.0	33.0	12.6	53.5	19.5	35.5				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	16.4	* 39	17.4	27.2	8.0	45.9	16.0	28.6				
Max Q Clear Time (g_c+I1), s	17.5	40.6	17.9	29.2	8.4	45.4	14.9	19.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.4	0.0	2.5				

Intersection Summary

HCM 6th Ctrl Delay	65.5
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
5: Euclid Av. (SR-83) & Chino Av.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	112	180	47	77	167	56	1151	148	64	1295	106
Future Volume (vph)	112	180	47	77	167	56	1151	148	64	1295	106
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	28.8	28.8	28.8	33.8	33.8	9.6	24.2	24.2	9.6	31.5	31.5
Total Split (s)	44.0	44.0	44.0	44.0	44.0	15.0	60.0	60.0	16.0	61.0	61.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	12.5%	50.0%	50.0%	13.3%	50.8%	50.8%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.6	4.2	4.2	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8		5.8	4.6	5.2	5.2	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	27.7	27.7	27.7		27.7	8.0	56.3	56.3	8.5	55.5	55.5
Actuated g/C Ratio	0.26	0.26	0.26		0.26	0.08	0.53	0.53	0.08	0.52	0.52
v/c Ratio	0.63	0.41	0.11		0.91	0.49	0.67	0.19	0.52	0.77	0.14
Control Delay	50.9	35.1	3.5		67.5	64.4	23.2	10.5	64.7	26.6	5.6
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.9	35.1	3.5		67.5	64.4	23.2	10.5	64.7	26.6	5.6
LOS	D	D	A		E	E	C	B	E	C	A
Approach Delay		35.9			67.5		23.5			26.7	
Approach LOS		D			E		C			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 105.9	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 29.9	Intersection LOS: C
Intersection Capacity Utilization 88.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Euclid Av. (SR-83) & Chino Av.



HCM 6th Signalized Intersection Summary  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	180	47	77	167	56	56	1151	148	64	1295	106
Future Volume (veh/h)	112	180	47	77	167	56	56	1151	148	64	1295	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	119	191	34	82	178	48	60	1224	133	68	1378	82
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	224	479	405	116	219	54	75	1781	795	85	1803	787
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.05	0.52	0.52	0.05	0.53	0.53
Sat Flow, veh/h	1108	1800	1524	275	824	203	1619	3420	1525	1619	3420	1494
Grp Volume(v), veh/h	119	191	34	308	0	0	60	1224	133	68	1378	82
Grp Sat Flow(s),veh/h/ln	1108	1800	1524	1301	0	0	1619	1710	1525	1619	1710	1494
Q Serve(g_s), s	0.0	9.2	1.8	15.5	0.0	0.0	3.9	28.1	4.8	4.4	33.6	2.9
Cycle Q Clear(g_c), s	23.3	9.2	1.8	24.7	0.0	0.0	3.9	28.1	4.8	4.4	33.6	2.9
Prop In Lane	1.00		1.00	0.27		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	224	479	405	390	0	0	75	1781	795	85	1803	787
V/C Ratio(X)	0.53	0.40	0.08	0.79	0.00	0.00	0.80	0.69	0.17	0.80	0.76	0.10
Avail Cap(c_a), veh/h	331	654	553	538	0	0	160	1781	795	175	1803	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	31.7	29.0	38.4	0.0	0.0	49.7	18.8	13.2	49.3	19.7	12.4
Incr Delay (d2), s/veh	2.0	0.5	0.1	5.4	0.0	0.0	7.2	2.2	0.5	6.4	3.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.9	0.6	7.9	0.0	0.0	1.6	10.1	1.6	1.8	12.1	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	32.2	29.1	43.8	0.0	0.0	56.9	21.0	13.7	55.7	22.9	12.7
LnGrp LOS	D	C	C	D	A	A	E	C	B	E	C	B
Approach Vol, veh/h		344			308			1417			1528	
Approach Delay, s/veh		34.2			43.8			21.8			23.8	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	61.3		33.8	9.5	62.0		33.8				
Change Period (Y+Rc), s	4.6	* 6.5		5.8	4.6	6.5		5.8				
Max Green Setting (Gmax), s	11.4	* 55		38.2	10.4	54.5		38.2				
Max Q Clear Time (g_c+I1), s	6.4	30.1		25.3	5.9	35.6		26.7				
Green Ext Time (p_c), s	0.0	9.1		1.2	0.0	9.1		1.3				

Intersection Summary

HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Timings  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021

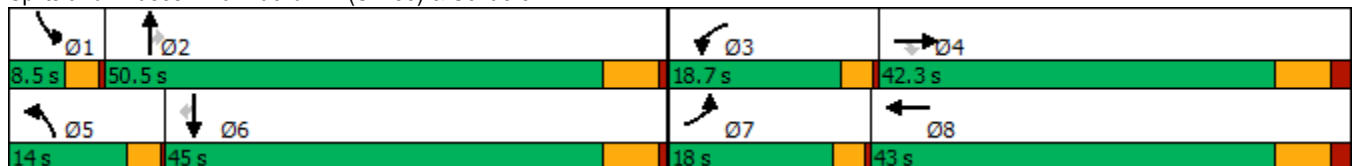


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	166	81	68	152	192	119	1175	40	34	1202	139
Future Volume (vph)	166	81	68	152	192	119	1175	40	34	1202	139
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.0	42.0	13.5	43.0	8.5	33.0	33.0	8.5	28.0	28.0
Total Split (s)	18.0	42.3	42.3	18.7	43.0	14.0	50.5	50.5	8.5	45.0	45.0
Total Split (%)	15.0%	35.3%	35.3%	15.6%	35.8%	11.7%	42.1%	42.1%	7.1%	37.5%	37.5%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	7.0	7.0	3.5	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	14.1	19.4	19.4	13.7	19.0	10.4	48.4	48.4	5.0	39.3	39.3
Actuated g/C Ratio	0.14	0.19	0.19	0.13	0.18	0.10	0.47	0.47	0.05	0.38	0.38
v/c Ratio	0.81	0.26	0.19	0.76	0.67	0.79	0.79	0.06	0.47	0.99	0.23
Control Delay	71.8	37.0	1.9	67.5	48.1	78.5	29.9	0.1	70.8	55.9	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.8	37.0	1.9	67.5	48.1	78.5	29.9	0.1	70.8	55.9	7.0
LOS	E	D	A	E	D	E	C	A	E	E	A
Approach Delay		47.7			56.3		33.3			51.3	
Approach LOS		D			E		C			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 103  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 44.4  
 Intersection LOS: D  
 Intersection Capacity Utilization 83.5%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 6: Euclid Av. (SR-83) & Schaefer Av.




























HCM 6th Signalized Intersection Summary  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	81	68	152	192	13	119	1175	40	34	1202	139
Future Volume (veh/h)	166	81	68	152	192	13	119	1175	40	34	1202	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	178	87	54	163	206	12	128	1263	33	37	1292	115
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	208	299	254	193	264	15	155	1602	715	53	1388	618
Arrive On Green	0.13	0.17	0.17	0.12	0.16	0.16	0.10	0.47	0.47	0.03	0.41	0.41
Sat Flow, veh/h	1619	1800	1525	1619	1684	98	1619	3420	1525	1619	3420	1522
Grp Volume(v), veh/h	178	87	54	163	0	218	128	1263	33	37	1292	115
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	0	1782	1619	1710	1525	1619	1710	1522
Q Serve(g_s), s	10.1	4.0	2.9	9.3	0.0	11.0	7.3	29.2	1.1	2.1	33.8	4.6
Cycle Q Clear(g_c), s	10.1	4.0	2.9	9.3	0.0	11.0	7.3	29.2	1.1	2.1	33.8	4.6
Prop In Lane	1.00		1.00	1.00		0.06	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	208	299	254	193	0	280	155	1602	715	53	1388	618
V/C Ratio(X)	0.86	0.29	0.21	0.85	0.00	0.78	0.83	0.79	0.05	0.69	0.93	0.19
Avail Cap(c_a), veh/h	250	677	574	262	0	684	181	1623	724	86	1422	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	34.3	33.8	40.5	0.0	38.0	41.7	21.0	13.5	44.9	26.6	17.9
Incr Delay (d2), s/veh	18.8	0.4	0.3	13.1	0.0	3.5	20.3	2.7	0.0	5.9	11.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	1.7	1.0	4.2	0.0	4.8	3.6	10.4	0.4	0.9	14.1	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.8	34.6	34.1	53.6	0.0	41.5	61.9	23.7	13.6	50.7	37.6	18.1
LnGrp LOS	E	C	C	D	A	D	E	C	B	D	D	B
Approach Vol, veh/h		319			381			1424			1444	
Approach Delay, s/veh		48.1			46.7			26.9			36.4	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	49.9	14.7	22.6	12.5	44.1	15.5	21.7				
Change Period (Y+Rc), s	3.5	6.0	3.5	7.0	3.5	6.0	3.5	7.0				
Max Green Setting (Gmax), s	5.0	44.5	15.2	35.3	10.5	39.0	14.5	36.0				
Max Q Clear Time (g_c+I1), s	4.1	31.2	11.3	6.0	9.3	35.8	12.1	13.0				
Green Ext Time (p_c), s	0.0	6.6	0.1	0.4	0.0	2.2	0.1	0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			34.7									
HCM 6th LOS			C									

Timings  
7: Euclid Av. (SR-83) & Edison Av.

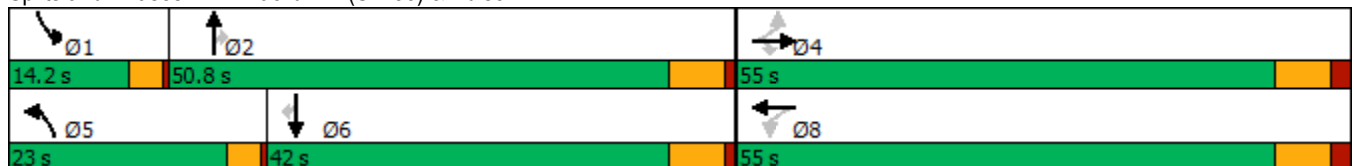


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	168	332	118	57	483	245	1014	51	116	1039	192
Future Volume (vph)	168	332	118	57	483	245	1014	51	116	1039	192
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.0	46.0	46.0	49.0	49.0	8.5	29.0	29.0	8.5	40.0	40.0
Total Split (s)	55.0	55.0	55.0	55.0	55.0	23.0	50.8	50.8	14.2	42.0	42.0
Total Split (%)	45.8%	45.8%	45.8%	45.8%	45.8%	19.2%	42.3%	42.3%	11.8%	35.0%	35.0%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	48.0	48.0	48.0	48.0	48.0	19.5	45.1	45.1	10.4	36.0	36.0
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.16	0.38	0.38	0.09	0.30	0.30
v/c Ratio	1.37	0.48	0.18	0.20	0.83	0.97	0.82	0.09	0.86	1.05	0.37
Control Delay	238.5	29.5	4.6	25.8	43.3	99.7	40.4	4.1	101.3	84.5	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	238.5	29.5	4.6	25.8	43.3	99.7	40.4	4.1	101.3	84.5	13.4
LOS	F	C	A	C	D	F	D	A	F	F	B
Approach Delay		81.6			41.7		50.1			75.8	
Approach LOS		F			D		D			E	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.37  
 Intersection Signal Delay: 62.6  
 Intersection LOS: E  
 Intersection Capacity Utilization 107.9%  
 ICU Level of Service G  
 Analysis Period (min) 15
























Splits and Phases: 7: Euclid Av. (SR-83) & Edison Av.



HCM 6th Signalized Intersection Summary  
 7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	332	118	57	483	79	245	1014	51	116	1039	192
Future Volume (veh/h)	168	332	118	57	483	79	245	1014	51	116	1039	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	175	346	68	59	503	77	255	1056	45	121	1082	149
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	144	720	610	300	610	93	263	1278	570	144	1026	447
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.16	0.37	0.37	0.09	0.30	0.30
Sat Flow, veh/h	800	1800	1524	932	1524	233	1619	3420	1525	1619	3420	1489
Grp Volume(v), veh/h	175	346	68	59	0	580	255	1056	45	121	1082	149
Grp Sat Flow(s),veh/h/ln	800	1800	1524	932	0	1758	1619	1710	1525	1619	1710	1489
Q Serve(g_s), s	12.5	17.1	3.4	6.0	0.0	35.5	18.8	33.6	2.3	8.8	36.0	9.3
Cycle Q Clear(g_c), s	48.0	17.1	3.4	23.2	0.0	35.5	18.8	33.6	2.3	8.8	36.0	9.3
Prop In Lane	1.00		1.00	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	720	610	300	0	703	263	1278	570	144	1026	447
V/C Ratio(X)	1.22	0.48	0.11	0.20	0.00	0.82	0.97	0.83	0.08	0.84	1.05	0.33
Avail Cap(c_a), veh/h	144	720	610	300	0	703	263	1278	570	144	1026	447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	26.7	22.6	35.3	0.0	32.2	50.0	34.0	24.2	53.9	42.0	32.7
Incr Delay (d2), s/veh	145.5	0.5	0.1	0.3	0.0	7.9	46.6	4.6	0.1	32.4	43.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	7.1	1.2	1.4	0.0	15.8	10.6	13.7	0.8	4.7	20.4	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	201.8	27.2	22.7	35.7	0.0	40.2	96.5	38.6	24.3	86.2	85.6	33.1
LnGrp LOS	F	C	C	D	A	D	F	D	C	F	F	C
Approach Vol, veh/h		589			639			1356			1352	
Approach Delay, s/veh		78.6			39.8			49.0			79.9	
Approach LOS		E			D			D			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.1	50.9		55.0	23.0	42.0		55.0				
Change Period (Y+Rc), s	3.5	6.0		7.0	3.5	6.0		7.0				
Max Green Setting (Gmax), s	10.7	44.8		48.0	19.5	36.0		48.0				
Max Q Clear Time (g_c+1), s	10.8	35.6		50.0	20.8	38.0		37.5				
Green Ext Time (p_c), s	0.0	4.4		0.0	0.0	0.0		2.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				62.6								
HCM 6th LOS				E								

Timings  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	72	32	167	35	165	196	1226	14	64	1215	47
Future Volume (vph)	72	32	167	35	165	196	1226	14	64	1215	47
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.8	46.8	46.8	46.8	46.8	8.5	30.7	30.7	8.5	37.7	37.7
Total Split (s)	46.8	46.8	46.8	46.8	46.8	24.0	63.5	63.5	9.7	49.2	49.2
Total Split (%)	39.0%	39.0%	39.0%	39.0%	39.0%	20.0%	52.9%	52.9%	8.1%	41.0%	41.0%
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	3.0	4.7	4.7	3.0	4.7	4.7
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.8	4.8	3.5	5.7	5.7	3.5	5.7	5.7
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	18.5	18.5	18.5	18.5	18.5	15.8	54.4	54.4	6.4	42.5	42.5
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.17	0.60	0.60	0.07	0.47	0.47
v/c Ratio	0.48	0.09	0.38	0.14	0.60	0.72	0.61	0.02	0.58	0.78	0.06
Control Delay	43.4	29.6	7.1	30.8	38.0	53.5	16.0	0.0	67.4	27.3	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	29.6	7.1	30.8	38.0	53.5	16.0	0.0	67.4	27.3	1.9
LOS	D	C	A	C	D	D	B	A	E	C	A
Approach Delay		19.4			37.0		21.0			28.3	
Approach LOS		B			D		C			C	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 91.3  
 Natural Cycle: 105  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 25.0  
 Intersection LOS: C  
 Intersection Capacity Utilization 80.6%  
 ICU Level of Service D  
 Analysis Period (min) 15
























Splits and Phases: 8: Euclid Av. (SR-83) & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	32	167	35	165	51	196	1226	14	64	1215	47
Future Volume (veh/h)	72	32	167	35	165	51	196	1226	14	64	1215	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	73	33	84	36	168	44	200	1251	13	65	1240	37
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	209	374	317	336	286	75	240	1873	836	82	1538	685
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.15	0.55	0.55	0.05	0.45	0.45
Sat Flow, veh/h	1122	1800	1525	1223	1375	360	1619	3420	1525	1619	3420	1524
Grp Volume(v), veh/h	73	33	84	36	0	212	200	1251	13	65	1240	37
Grp Sat Flow(s),veh/h/ln	1122	1800	1525	1223	0	1735	1619	1710	1525	1619	1710	1524
Q Serve(g_s), s	4.5	1.1	3.3	1.8	0.0	8.0	8.7	18.8	0.3	2.9	22.6	1.0
Cycle Q Clear(g_c), s	12.5	1.1	3.3	2.8	0.0	8.0	8.7	18.8	0.3	2.9	22.6	1.0
Prop In Lane	1.00		1.00	1.00		0.21	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	209	374	317	336	0	361	240	1873	836	82	1538	685
V/C Ratio(X)	0.35	0.09	0.26	0.11	0.00	0.59	0.83	0.67	0.02	0.80	0.81	0.05
Avail Cap(c_a), veh/h	629	1047	888	793	0	1010	460	2738	1221	139	2061	918
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	23.1	24.0	24.2	0.0	25.8	29.9	11.6	7.4	33.9	17.1	11.2
Incr Delay (d2), s/veh	0.7	0.1	0.3	0.1	0.0	1.1	5.5	0.4	0.0	12.2	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.4	1.1	0.5	0.0	3.1	3.3	5.1	0.1	1.3	7.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.2	23.1	24.3	24.3	0.0	26.9	35.4	12.1	7.5	46.1	18.9	11.2
LnGrp LOS	C	C	C	C	A	C	D	B	A	D	B	B
Approach Vol, veh/h		190			248			1464			1342	
Approach Delay, s/veh		27.1			26.6			15.2			20.0	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.1	45.2		19.8	14.2	38.2		19.8				
Change Period (Y+Rc), s	3.5	5.7		4.8	3.5	5.7		4.8				
Max Green Setting (Gmax), s	6.2	57.8		42.0	20.5	43.5		42.0				
Max Q Clear Time (g_c+I1), s	4.9	20.8		14.5	10.7	24.6		10.0				
Green Ext Time (p_c), s	0.0	10.0		0.5	0.3	7.9		1.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				18.8								
HCM 6th LOS				B								

Timings  
9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021

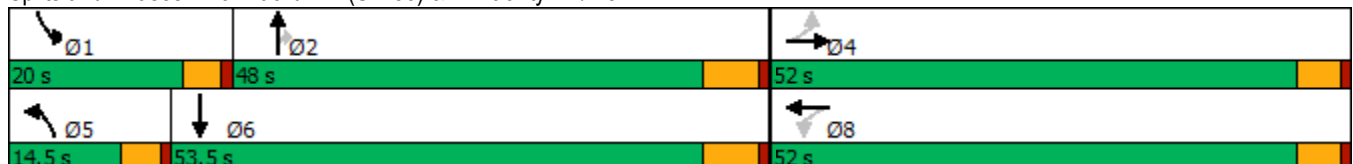


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕↔		↕↔	↔↕	↕↕	↔↕	↔↕	↕↕
Traffic Volume (vph)	4	9	278	51	11	1156	271	229	1131
Future Volume (vph)	4	9	278	51	11	1156	271	229	1131
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	52.0	52.0	52.0	52.0	14.5	48.0	48.0	20.0	53.5
Total Split (%)	43.3%	43.3%	43.3%	43.3%	12.1%	40.0%	40.0%	16.7%	44.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)		47.0		47.0	10.0	42.0	42.0	15.5	59.1
Actuated g/C Ratio		0.39		0.39	0.08	0.35	0.35	0.13	0.49
v/c Ratio		0.05		1.07	0.08	1.00	0.47	1.13	0.72
Control Delay		13.0		92.0	52.4	64.2	21.8	150.4	28.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		13.0		92.0	52.4	64.2	21.8	150.4	28.0
LOS		B		F	D	E	C	F	C
Approach Delay		13.0		92.0		56.2			48.0
Approach LOS		B		F		E			D

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.13  
 Intersection Signal Delay: 58.7  
 Intersection LOS: E  
 Intersection Capacity Utilization 104.2%  
 ICU Level of Service G  
 Analysis Period (min) 15

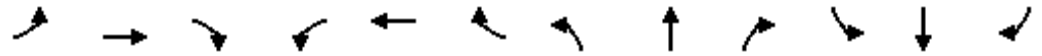
Splits and Phases: 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 6th Signalized Intersection Summary  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↕	↖	↗	↕	↖
Traffic Volume (veh/h)	4	9	18	278	51	272	11	1156	271	229	1131	44
Future Volume (veh/h)	4	9	18	278	51	272	11	1156	271	229	1131	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	4	9	18	287	53	253	11	1192	236	236	1166	31
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	92	204	363	327	52	249	41	1197	534	209	1543	41
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.03	0.35	0.35	0.13	0.45	0.45
Sat Flow, veh/h	148	521	927	722	133	637	1619	3420	1525	1619	3401	90
Grp Volume(v), veh/h	31	0	0	593	0	0	11	1192	236	236	586	611
Grp Sat Flow(s),veh/h/ln	1596	0	0	1492	0	0	1619	1710	1525	1619	1710	1781
Q Serve(g_s), s	0.0	0.0	0.0	45.6	0.0	0.0	0.8	41.7	14.3	15.5	34.2	34.2
Cycle Q Clear(g_c), s	1.4	0.0	0.0	47.0	0.0	0.0	0.8	41.7	14.3	15.5	34.2	34.2
Prop In Lane	0.13		0.58	0.48		0.43	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	659	0	0	629	0	0	41	1197	534	209	776	808
V/C Ratio(X)	0.05	0.00	0.00	0.94	0.00	0.00	0.27	1.00	0.44	1.13	0.76	0.76
Avail Cap(c_a), veh/h	659	0	0	629	0	0	135	1197	534	209	776	808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	0.0	0.0	36.7	0.0	0.0	57.4	38.9	30.0	52.2	27.3	27.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	22.5	0.0	0.0	1.3	25.0	0.6	101.1	4.3	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	20.1	0.0	0.0	0.3	20.3	5.0	11.9	13.6	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	0.0	0.0	59.2	0.0	0.0	58.6	63.9	30.6	153.3	31.5	31.4
LnGrp LOS	C	A	A	E	A	A	E	E	C	F	C	C
Approach Vol, veh/h		31			593			1439				1433
Approach Delay, s/veh		22.6			59.2			58.4				51.5
Approach LOS		C			E			E				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.0	48.0		52.0	7.6	60.4		52.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	15.5	42.0		47.0	10.0	47.5		47.0				
Max Q Clear Time (g_c+I1), s	17.5	43.7		3.4	2.8	36.2		49.0				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	5.1		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				55.4								
HCM 6th LOS				E								

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗		↕		↙	↗			↕	
Traffic Vol, veh/h	0	97	26	20	286	0	6	0	3	0	0	0
Future Vol, veh/h	0	97	26	20	286	0	6	0	3	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	0	-	-	-	200	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	105	28	22	311	0	7	0	3	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	311	0	0	133	0	0	460	460	105	476	488	311
Stage 1	-	-	-	-	-	-	105	105	-	355	355	-
Stage 2	-	-	-	-	-	-	355	355	-	121	133	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1261	-	-	1464	-	-	515	501	955	503	483	734
Stage 1	-	-	-	-	-	-	906	812	-	666	633	-
Stage 2	-	-	-	-	-	-	666	633	-	888	790	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1261	-	-	1464	-	-	508	492	955	494	474	734
Mov Cap-2 Maneuver	-	-	-	-	-	-	508	492	-	494	474	-
Stage 1	-	-	-	-	-	-	906	812	-	666	622	-
Stage 2	-	-	-	-	-	-	654	622	-	885	790	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.5			11.1			0		
HCM LOS							B			A		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	508	955	1261	-	-	1464	-	-	-
HCM Lane V/C Ratio	0.013	0.003	-	-	-	0.015	-	-	-
HCM Control Delay (s)	12.2	8.8	0	-	-	7.5	0	-	0
HCM Lane LOS	B	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	0	-	-	0	-	-	-



Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↖		↖	↗
Traffic Vol, veh/h	13	512	724	17	13	9
Future Vol, veh/h	13	512	724	17	13	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	14	557	787	18	14	10

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	805	0	-	0	1381 796
Stage 1	-	-	-	-	796 -
Stage 2	-	-	-	-	585 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	828	-	-	-	160 390
Stage 1	-	-	-	-	448 -
Stage 2	-	-	-	-	561 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	828	-	-	-	157 390
Mov Cap-2 Maneuver	-	-	-	-	157 -
Stage 1	-	-	-	-	440 -
Stage 2	-	-	-	-	561 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	23.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	828	-	-	-	157	390
HCM Lane V/C Ratio	0.017	-	-	-	0.09	0.025
HCM Control Delay (s)	9.4	-	-	-	30.2	14.5
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0.1

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	↔
Traffic Vol, veh/h	91	3	0	285	1	1
Future Vol, veh/h	91	3	0	285	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	200	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	99	3	0	310	1	1

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	102	0	411 101
Stage 1	-	-	-	-	101 -
Stage 2	-	-	-	-	310 -
Critical Hdwy	-	-	4.1	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1503	-	601 960
Stage 1	-	-	-	-	928 -
Stage 2	-	-	-	-	748 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1503	-	601 960
Mov Cap-2 Maneuver	-	-	-	-	601 -
Stage 1	-	-	-	-	928 -
Stage 2	-	-	-	-	748 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	601	960	-	-	1503	-
HCM Lane V/C Ratio	0.002	0.001	-	-	-	-
HCM Control Delay (s)	11	8.8	-	-	0	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↑	↔	↔	↔
Traffic Vol, veh/h	9	503	693	4	1	3
Future Vol, veh/h	9	503	693	4	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	547	753	4	1	3

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	757	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	863	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	863	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	16.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	863	-	-	-	172	413
HCM Lane V/C Ratio	0.011	-	-	-	0.006	0.008
HCM Control Delay (s)	9.2	0	-	-	26.1	13.8
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0	-	-	-	0	0

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Vol, veh/h	19	68	6	36	227	21	19	88	19	31	72	52
Future Vol, veh/h	19	68	6	36	227	21	19	88	19	31	72	52
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	21	74	7	39	247	23	21	96	21	34	78	57
Number of Lanes	0	2	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	8.9	11.5	9.4	9.5
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	15%	36%	0%	13%	20%
Vol Thru, %	70%	64%	85%	80%	46%
Vol Right, %	15%	0%	15%	7%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	126	53	40	284	155
LT Vol	19	19	0	36	31
Through Vol	88	34	34	227	72
RT Vol	19	0	6	21	52
Lane Flow Rate	137	58	43	309	168
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.193	0.092	0.066	0.418	0.231
Departure Headway (Hd)	5.084	5.754	5.466	4.875	4.942
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	698	617	649	732	719
Service Time	3.167	3.545	3.257	2.947	3.022
HCM Lane V/C Ratio	0.196	0.094	0.066	0.422	0.234
HCM Control Delay	9.4	9.1	8.6	11.5	9.5
HCM Lane LOS	A	A	A	B	A
HCM 95th-tile Q	0.7	0.3	0.2	2.1	0.9

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↔	
Traffic Vol, veh/h	55	435	651	84	34	47
Future Vol, veh/h	55	435	651	84	34	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	60	473	708	91	37	51

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	799	0	-	0	1347 400
Stage 1	-	-	-	-	754 -
Stage 2	-	-	-	-	593 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	833	-	-	-	156 605
Stage 1	-	-	-	-	431 -
Stage 2	-	-	-	-	556 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	833	-	-	-	141 605
Mov Cap-2 Maneuver	-	-	-	-	141 -
Stage 1	-	-	-	-	389 -
Stage 2	-	-	-	-	556 -

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	26.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	833	-	-	-	254
HCM Lane V/C Ratio	0.072	-	-	-	0.347
HCM Control Delay (s)	9.7	0	-	-	26.5
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	1.5

Intersection	
Intersection Delay, s/veh	28
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔			↔			↔	
Traffic Vol, veh/h	37	61	16	42	131	34	70	270	17	94	305	96
Future Vol, veh/h	37	61	16	42	131	34	70	270	17	94	305	96
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	41	67	18	46	144	37	77	297	19	103	335	105
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	13.1	16	22.2	40.6
HCM LOS	B	C	C	E

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	20%	38%	0%	20%	19%
Vol Thru, %	76%	62%	0%	63%	62%
Vol Right, %	5%	0%	100%	16%	19%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	357	98	16	207	495
LT Vol	70	37	0	42	94
Through Vol	270	61	0	131	305
RT Vol	17	0	16	34	96
Lane Flow Rate	392	108	18	227	544
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.687	0.243	0.035	0.451	0.899
Departure Headway (Hd)	6.305	8.118	7.201	7.134	5.952
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	569	440	494	503	609
Service Time	4.374	5.907	4.989	5.214	4.013
HCM Lane V/C Ratio	0.689	0.245	0.036	0.451	0.893
HCM Control Delay	22.2	13.5	10.3	16	40.6
HCM Lane LOS	C	B	B	C	E
HCM 95th-tile Q	5.3	0.9	0.1	2.3	10.9

Intersection	
Intersection Delay, s/veh	58.6
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	122	347	654	298	187	130
Future Vol, veh/h	122	347	654	298	187	130
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	126	358	674	307	193	134
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left			WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	31.6	268.7	15.6
HCM LOS	D	F	C

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	26%	0%	100%	0%
Vol Thru, %	74%	69%	0%	0%
Vol Right, %	0%	31%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	469	952	187	130
LT Vol	122	0	187	0
Through Vol	347	654	0	0
RT Vol	0	298	0	130
Lane Flow Rate	484	981	193	134
Geometry Grp	2	2	7	7
Degree of Util (X)	0.802	1.544	0.421	0.248
Departure Headway (Hd)	6.734	5.665	8.775	7.532
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	542	648	413	480
Service Time	4.734	3.681	6.475	5.232
HCM Lane V/C Ratio	0.893	1.514	0.467	0.279
HCM Control Delay	31.6	268.7	17.7	12.7
HCM Lane LOS	D	F	C	B
HCM 95th-tile Q	7.7	50.4	2	1

Intersection

Intersection Delay, s/veh71.8

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	339	33	182	451	159	11	34	25	62	72	12
Future Vol, veh/h	18	339	33	182	451	159	11	34	25	62	72	12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	18	346	34	186	460	162	11	35	26	63	73	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	WB	NB	SB
Opposing Approach	WB	EB	SB	SB	NB
Opposing Lanes	1	1	1	1	1
Conflicting Approach Left SB	SB	NB	EB	EB	WB
Conflicting Lanes Left	1	1	1	1	1
Conflicting Approach RightNB	NB	SB	WB	WB	EB
Conflicting Lanes Right	1	1	1	1	1
HCM Control Delay	18.1	114.3	11.6	13.1	13.1
HCM LOS	C	F	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	5%	23%	42%
Vol Thru, %	49%	87%	57%	49%
Vol Right, %	36%	8%	20%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	390	792	146
LT Vol	11	18	182	62
Through Vol	34	339	451	72
RT Vol	25	33	159	12
Lane Flow Rate	71	398	808	149
Geometry Grp	1	1	1	1
Degree of Util (X)	0.137	0.621	1.177	0.283
Departure Headway (Hd)	7.386	5.894	5.244	7.274
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	489	617	695	498
Service Time	5.386	3.894	3.275	5.274
HCM Lane V/C Ratio	0.145	0.645	1.163	0.299
HCM Control Delay	11.6	18.1	114.3	13.1
HCM Lane LOS	B	C	F	B
HCM 95th-tile Q	0.5	4.3	26.5	1.2



Intersection						
Int Delay, s/veh	8.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	76	49	83	24	131	179
Future Vol, veh/h	76	49	83	24	131	179
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	83	53	90	26	142	195

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	116	0	-	0	322 103
Stage 1	-	-	-	-	103 -
Stage 2	-	-	-	-	219 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1485	-	-	-	676 957
Stage 1	-	-	-	-	926 -
Stage 2	-	-	-	-	822 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1485	-	-	-	637 957
Mov Cap-2 Maneuver	-	-	-	-	637 -
Stage 1	-	-	-	-	872 -
Stage 2	-	-	-	-	822 -

Approach	EB	WB	SB
HCM Control Delay, s	4.6	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1485	-	-	-	789
HCM Lane V/C Ratio	0.056	-	-	-	0.427
HCM Control Delay (s)	7.6	0	-	-	12.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	2.2

Intersection												
Int Delay, s/veh	32.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	31	379	103	111	706	25	186	6	103	7	2	8
Future Vol, veh/h	31	379	103	111	706	25	186	6	103	7	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	75	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	97	97	97	97	92	97	92	97	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	34	391	106	114	728	27	192	7	106	8	2	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	755	0	0	497	0	0	1434	1442	391	1539	1535	742
Stage 1	-	-	-	-	-	-	459	459	-	970	970	-
Stage 2	-	-	-	-	-	-	975	983	-	569	565	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	865	-	-	1077	-	-	~ 113	134	662	95	117	419
Stage 1	-	-	-	-	-	-	586	570	-	307	334	-
Stage 2	-	-	-	-	-	-	305	329	-	511	511	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	865	-	-	1077	-	-	~ 97	115	662	69	101	419
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 184	204	-	69	101	-
Stage 1	-	-	-	-	-	-	563	548	-	295	299	-
Stage 2	-	-	-	-	-	-	265	294	-	407	491	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1.2	176	40
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	247	865	-	-	1077	-	-	121
HCM Lane V/C Ratio	1.233	0.039	-	-	0.106	-	-	0.153
HCM Control Delay (s)	176	9.3	-	-	8.7	-	-	40
HCM Lane LOS	F	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	14.9	0.1	-	-	0.4	-	-	0.5

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑			↑↓				
Traffic Vol, veh/h	19	424	43	27	843	22	14	0	27	6	0	5
Future Vol, veh/h	19	424	43	27	843	22	14	0	27	6	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	21	466	47	30	926	24	15	0	30	7	0	5

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	950	0	0	513	0	0	1530	1542	257
Stage 1	-	-	-	-	-	-	532	532	-
Stage 2	-	-	-	-	-	-	998	1010	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.6	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	731	-	-	1063	-	-	120	116	748
Stage 1	-	-	-	-	-	-	559	529	-
Stage 2	-	-	-	-	-	-	360	320	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	731	-	-	1063	-	-	112	0	748
Mov Cap-2 Maneuver	-	-	-	-	-	-	233	0	-
Stage 1	-	-	-	-	-	-	537	0	-
Stage 2	-	-	-	-	-	-	350	0	-

Approach	EB			WB			NB		
HCM Control Delay, s	0.4			0.3			14.4		
HCM LOS							B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	426	731	-	-	1063	-	-
HCM Lane V/C Ratio	0.106	0.029	-	-	0.028	-	-
HCM Control Delay (s)	14.4	10.1	-	-	8.5	-	-
HCM Lane LOS	B	B	-	-	A	-	-
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.1	-	-

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↷		↶	↶↷		↶	↶↷		↶	↶↷	
Traffic Vol, veh/h	10	450	6	18	866	31	7	6	13	8	2	3
Future Vol, veh/h	10	450	6	18	866	31	7	6	13	8	2	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	200	-	-	200	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	484	6	19	931	33	8	6	14	9	2	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	964	0	0	490	0	0	1497	1511	245	1253	1498	948
Stage 1	-	-	-	-	-	-	509	509	-	986	986	-
Stage 2	-	-	-	-	-	-	988	1002	-	267	512	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	722	-	-	1084	-	-	94	121	762	140	124	319
Stage 1	-	-	-	-	-	-	520	541	-	301	328	-
Stage 2	-	-	-	-	-	-	300	323	-	721	540	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	722	-	-	1084	-	-	90	117	762	131	120	319
Mov Cap-2 Maneuver	-	-	-	-	-	-	201	225	-	235	231	-
Stage 1	-	-	-	-	-	-	512	533	-	296	322	-
Stage 2	-	-	-	-	-	-	290	317	-	689	532	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			16.4			19.9		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	201	435	722	-	-	1084	-	-	235	277
HCM Lane V/C Ratio	0.037	0.047	0.015	-	-	0.018	-	-	0.037	0.019
HCM Control Delay (s)	23.6	13.7	10.1	-	-	8.4	-	-	20.9	18.3
HCM Lane LOS	C	B	B	-	-	A	-	-	C	C
HCM 95th %tile Q(veh)	0.1	0.1	0	-	-	0.1	-	-	0.1	0.1

Intersection	
Intersection Delay, s/veh	239.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	19	399	29	209	863	61	21	0	120	128	0	13
Future Vol, veh/h	19	399	29	209	863	61	21	0	120	128	0	13
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	20	424	31	222	918	65	22	0	128	136	0	14
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	3
HCM Control Delay	34.5	376.1	15.5	17.5
HCM LOS	D	F	C	C

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	15%	100%	0%	0%	100%	0%	91%
Vol Thru, %	0%	0%	100%	0%	0%	93%	0%
Vol Right, %	85%	0%	0%	100%	0%	7%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	141	19	399	29	209	924	141
LT Vol	21	19	0	0	209	0	128
Through Vol	0	0	399	0	0	863	0
RT Vol	120	0	0	29	0	61	13
Lane Flow Rate	150	20	424	31	222	983	150
Geometry Grp	7	7	7	7	8	8	7
Degree of Util (X)	0.318	0.042	0.818	0.053	0.478	1.962	0.353
Departure Headway (Hd)	8.79	8.426	7.91	7.188	7.745	7.185	9.662
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	413	427	463	501	462	511	375
Service Time	6.49	6.126	5.61	4.888	5.528	4.967	7.362
HCM Lane V/C Ratio	0.363	0.047	0.916	0.062	0.481	1.924	0.4
HCM Control Delay	15.5	11.5	37.4	10.3	17.5	457.2	17.5
HCM Lane LOS	C	B	E	B	C	F	C
HCM 95th-tile Q	1.3	0.1	7.7	0.2	2.5	65.2	1.6

Timings

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

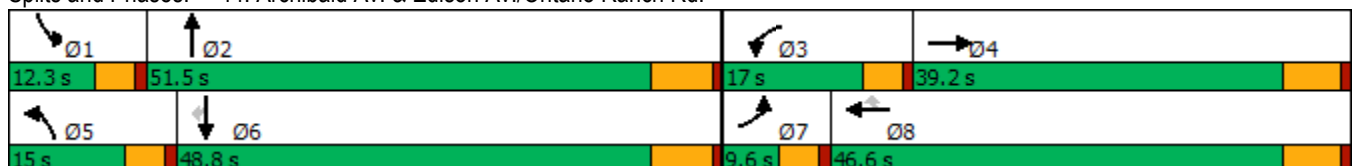
08/20/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	248	54	438	602	144	174	1039	417	72	483	156
Future Volume (vph)	39	248	54	438	602	144	174	1039	417	72	483	156
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	39.2		17.0	46.6	46.6	15.0	51.5		12.3	48.8	48.8
Total Split (%)	8.0%	32.7%		14.2%	38.8%	38.8%	12.5%	42.9%		10.3%	40.7%	40.7%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.1	29.2	109.1	12.7	41.3	41.3	10.6	40.3	109.1	7.4	34.3	34.3
Actuated g/C Ratio	0.05	0.27	1.00	0.12	0.38	0.38	0.10	0.37	1.00	0.07	0.31	0.31
v/c Ratio	0.29	0.28	0.04	1.32	0.91	0.23	1.14	0.85	0.28	0.68	0.46	0.27
Control Delay	60.7	33.9	0.0	203.3	54.7	8.9	162.0	39.8	0.5	83.9	31.0	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	33.9	0.0	203.3	54.7	8.9	162.0	39.8	0.5	83.9	31.0	6.0
LOS	E	C	A	F	D	A	F	D	A	F	C	A
Approach Delay		31.6			104.2			42.8			30.9	
Approach LOS		C			F			D			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 109.1	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.32	
Intersection Signal Delay: 58.4	Intersection LOS: E
Intersection Capacity Utilization 90.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 44: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
44: Archibald Av. & Edison Av./Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗	↖	↖↗	↖	↖	↖	↖↗	↖	↖	↖↗	↖
Traffic Volume (veh/h)	39	248	54	438	602	144	174	1039	417	72	483	156
Future Volume (veh/h)	39	248	54	438	602	144	174	1039	417	72	483	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	40	256	0	452	621	94	179	1071	0	74	498	128
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	94	956		330	647	548	152	1213		92	1086	484
Arrive On Green	0.03	0.28	0.00	0.11	0.36	0.36	0.09	0.35	0.00	0.06	0.32	0.32
Sat Flow, veh/h	2956	3420	1525	2956	1800	1525	1619	3420	1525	1619	3420	1525
Grp Volume(v), veh/h	40	256	0	452	621	94	179	1071	0	74	498	128
Grp Sat Flow(s),veh/h/ln	1478	1710	1525	1478	1800	1525	1619	1710	1525	1619	1710	1525
Q Serve(g_s), s	1.5	6.5	0.0	12.4	37.4	4.7	10.4	32.6	0.0	5.0	12.9	6.9
Cycle Q Clear(g_c), s	1.5	6.5	0.0	12.4	37.4	4.7	10.4	32.6	0.0	5.0	12.9	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	94	956		330	647	548	152	1213		92	1086	484
V/C Ratio(X)	0.42	0.27		1.37	0.96	0.17	1.18	0.88		0.81	0.46	0.26
Avail Cap(c_a), veh/h	133	1018		330	656	556	152	1388		112	1304	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	31.1	0.0	49.3	34.8	24.3	50.3	33.6	0.0	51.7	30.2	28.2
Incr Delay (d2), s/veh	1.1	0.1	0.0	183.7	25.5	0.1	129.3	6.4	0.0	23.7	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.6	0.0	12.8	19.7	1.6	9.5	13.4	0.0	2.5	5.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	31.3	0.0	233.0	60.2	24.4	179.5	40.1	0.0	75.4	30.5	28.5
LnGrp LOS	D	C		F	E	C	F	D		E	C	C
Approach Vol, veh/h		296	A		1167			1250	A		700	
Approach Delay, s/veh		34.3			124.2			60.0			34.9	
Approach LOS		C			F			E			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	45.8	17.0	37.2	15.0	41.7	8.1	46.0				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.7	45.0	12.4	33.0	10.4	42.3	5.0	40.4				
Max Q Clear Time (g_c+I1), s	7.0	34.6	14.4	8.5	12.4	14.9	3.5	39.4				
Green Ext Time (p_c), s	0.0	4.7	0.0	1.4	0.0	3.3	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	74.6
HCM 6th LOS	E

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙↙	↙↙	↕↕	↘	↙	↕↕
Traffic Volume (vph)	11	16	1614	9	26	949
Future Volume (vph)	11	16	1614	9	26	949
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		8		2		
Detector Phase	3	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.5	9.5	32.5	32.5	9.6	16.5
Total Split (s)	9.5	9.5	41.4	41.4	9.6	51.0
Total Split (%)	13.6%	13.6%	59.1%	59.1%	13.7%	72.9%
Yellow Time (s)	3.5	3.5	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	5.1	5.1	54.7	54.7	5.1	56.4
Actuated g/C Ratio	0.08	0.08	0.90	0.90	0.08	0.93
v/c Ratio	0.05	0.04	0.56	0.01	0.21	0.32
Control Delay	26.4	0.2	7.0	4.8	30.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	0.2	7.0	4.8	30.0	2.2
LOS	C	A	A	A	C	A
Approach Delay			7.0			3.0
Approach LOS			A			A

Intersection Summary

Cycle Length: 70  
 Actuated Cycle Length: 60.8  
 Natural Cycle: 80  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.56  
 Intersection Signal Delay: 5.6  
 Intersection LOS: A  
 Intersection Capacity Utilization 60.4%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 45: Archibald Av. & Eucalyptus Av.
























HCM 6th Signalized Intersection Summary  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	11	0	16	0	1614	9	26	949	0
Future Volume (veh/h)	0	0	0	11	0	16	0	1614	9	26	949	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1700	0	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				12	0	6	0	1735	7	28	1020	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				68	0	58	0	2298	1025	51	2682	0
Arrive On Green				0.02	0.00	0.02	0.00	0.67	0.67	0.03	0.78	0.00
Sat Flow, veh/h				3141	0	2685	0	3510	1525	1619	3510	0
Grp Volume(v), veh/h				12	0	6	0	1735	7	28	1020	0
Grp Sat Flow(s),veh/h/ln				1570	0	1342	0	1710	1525	1619	1710	0
Q Serve(g_s), s				0.2	0.0	0.1	0.0	19.2	0.1	1.0	5.2	0.0
Cycle Q Clear(g_c), s				0.2	0.0	0.1	0.0	19.2	0.1	1.0	5.2	0.0
Prop In Lane				1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h				68	0	58	0	2298	1025	51	2682	0
V/C Ratio(X)				0.18	0.00	0.10	0.00	0.76	0.01	0.55	0.38	0.00
Avail Cap(c_a), veh/h				277	0	237	0	2298	1025	143	2682	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				27.3	0.0	27.2	0.0	6.2	3.1	27.1	1.9	0.0
Incr Delay (d2), s/veh				1.2	0.0	0.8	0.0	2.4	0.0	3.4	0.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.1	0.0	0.0	0.0	2.8	0.0	0.4	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				28.5	0.0	28.0	0.0	8.6	3.1	30.5	2.3	0.0
LnGrp LOS				C	A	C	A	A	A	C	A	A
Approach Vol, veh/h					18			1742			1048	
Approach Delay, s/veh					28.3			8.5			3.0	
Approach LOS					C			A			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	6.4	44.6				51.0		5.7				
Change Period (Y+Rc), s	4.6	6.5				6.5		4.5				
Max Green Setting (Gmax), s	5.0	34.9				44.5		5.0				
Max Q Clear Time (g_c+1), s	3.0	21.2				7.2		2.2				
Green Ext Time (p_c), s	0.0	9.2				7.4		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				6.6								
HCM 6th LOS				A								

Timings  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021

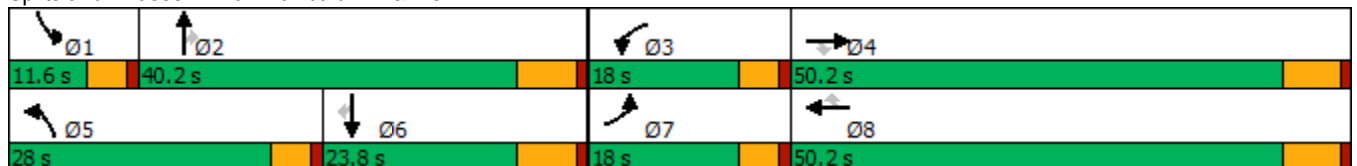
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	22	141	78	51	130	580	1204	41	42	546	376
Future Volume (vph)	234	22	141	78	51	130	580	1204	41	42	546	376
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	18.0	50.2	50.2	18.0	50.2	50.2	28.0	40.2	40.2	11.6	23.8	23.8
Total Split (%)	15.0%	41.8%	41.8%	15.0%	41.8%	41.8%	23.3%	33.5%	33.5%	9.7%	19.8%	19.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.6	22.3	22.3	8.7	15.3	15.3	23.8	39.7	39.7	5.8	17.6	17.6
Actuated g/C Ratio	0.15	0.24	0.24	0.09	0.17	0.17	0.26	0.43	0.43	0.06	0.19	0.19
v/c Ratio	1.02	0.05	0.30	0.53	0.18	0.35	1.44	0.59	0.06	0.23	0.87	0.82
Control Delay	104.6	28.2	5.5	54.6	32.5	5.6	241.4	24.7	0.1	47.5	52.7	30.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	104.6	28.2	5.5	54.6	32.5	5.6	241.4	24.7	0.1	47.5	52.7	30.4
LOS	F	C	A	D	C	A	F	C	A	D	D	C
Approach Delay		65.1			25.6			93.0			43.8	
Approach LOS		E			C			F			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 92.6  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.44  
 Intersection Signal Delay: 71.0  
 Intersection Capacity Utilization 87.4%  
 Analysis Period (min) 15

Intersection LOS: E  
 ICU Level of Service E

Splits and Phases: 46: Archibald Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	22	141	78	51	130	580	1204	41	42	546	376
Future Volume (veh/h)	234	22	141	78	51	130	580	1204	41	42	546	376
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	241	23	90	80	53	39	598	1241	23	43	563	322
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	252	378	321	100	209	177	441	2142	665	110	688	307
Arrive On Green	0.16	0.21	0.21	0.06	0.12	0.12	0.27	0.44	0.44	0.04	0.20	0.20
Sat Flow, veh/h	1619	1800	1525	1619	1800	1525	1619	4914	1525	2956	3420	1525
Grp Volume(v), veh/h	241	23	90	80	53	39	598	1241	23	43	563	322
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	1800	1525	1619	1638	1525	1478	1710	1525
Q Serve(g_s), s	12.7	0.9	4.3	4.2	2.3	2.0	23.4	16.4	0.7	1.2	13.5	17.3
Cycle Q Clear(g_c), s	12.7	0.9	4.3	4.2	2.3	2.0	23.4	16.4	0.7	1.2	13.5	17.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	252	378	321	100	209	177	441	2142	665	110	688	307
V/C Ratio(X)	0.96	0.06	0.28	0.80	0.25	0.22	1.36	0.58	0.03	0.39	0.82	1.05
Avail Cap(c_a), veh/h	252	921	781	252	921	781	441	2142	665	241	688	307
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	27.2	28.5	39.8	34.6	34.5	31.3	18.3	13.9	40.4	32.8	34.3
Incr Delay (d2), s/veh	43.9	0.1	0.5	5.4	0.6	0.6	175.0	0.4	0.0	0.8	7.7	64.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	0.4	1.5	1.8	1.0	0.8	29.5	5.3	0.2	0.4	5.8	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.9	27.2	29.0	45.3	35.2	35.1	206.3	18.7	13.9	41.3	40.5	99.2
LnGrp LOS	E	C	C	D	D	D	F	B	B	D	D	F
Approach Vol, veh/h		354			172			1862			928	
Approach Delay, s/veh		63.5			39.9			78.9			60.9	
Approach LOS		E			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	44.0	9.9	24.3	28.0	23.8	18.0	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.0	33.7	13.4	44.0	23.4	17.3	13.4	44.0				
Max Q Clear Time (g_c+I1), s	3.2	18.4	6.2	6.3	25.4	19.3	14.7	4.3				
Green Ext Time (p_c), s	0.0	6.8	0.0	0.4	0.0	0.0	0.0	0.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				70.2								
HCM 6th LOS				E								

Timings  
47: Archibald Av. & Limonite Av.



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↑	↖	↖	↑
Traffic Volume (vph)	318	956	894	328	235	514
Future Volume (vph)	318	956	894	328	235	514
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	27.0	56.7	36.3	27.0	83.7
Total Split (%)	30.3%	22.5%	47.3%	30.3%	22.5%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min
Act Effct Green (s)	15.8	38.2	51.6	72.8	22.1	79.0
Actuated g/C Ratio	0.15	0.36	0.49	0.69	0.21	0.75
v/c Ratio	0.63	1.61	1.00	0.29	0.65	0.37
Control Delay	46.9	307.5	57.7	3.1	48.4	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.9	307.5	57.7	3.1	48.4	6.4
LOS	D	F	E	A	D	A
Approach Delay	242.5		43.0			19.6
Approach LOS	F		D			B

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 105.2  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.61  
 Intersection Signal Delay: 115.9  
 Intersection LOS: F  
 Intersection Capacity Utilization 114.8%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 47: Archibald Av. & Limonite Av.



HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
08/20/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↑	↗	↘	↓
Traffic Volume (veh/h)	318	956	894	328	235	514
Future Volume (veh/h)	318	956	894	328	235	514
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	331	940	931	295	245	535
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	941	677	845	1148	276	1216
Arrive On Green	0.27	0.27	0.44	0.44	0.15	0.64
Sat Flow, veh/h	3510	1610	1900	1610	1810	1900
Grp Volume(v), veh/h	331	940	931	295	245	535
Grp Sat Flow(s),veh/h/ln	1755	1610	1900	1610	1810	1900
Q Serve(g_s), s	8.8	31.0	51.4	7.5	15.3	16.3
Cycle Q Clear(g_c), s	8.8	31.0	51.4	7.5	15.3	16.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	941	677	845	1148	276	1216
V/C Ratio(X)	0.35	1.39	1.10	0.26	0.89	0.44
Avail Cap(c_a), veh/h	941	677	845	1148	344	1293
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	33.5	32.1	5.8	48.0	10.4
Incr Delay (d2), s/veh	0.1	183.8	62.8	0.1	20.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	51.9	36.1	5.1	8.1	5.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.3	217.3	94.9	6.0	68.4	10.5
LnGrp LOS	C	F	F	A	E	B
Approach Vol, veh/h	1271		1226			780
Approach Delay, s/veh	169.6		73.5			28.7
Approach LOS	F		E			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	22.6	56.7			79.3	36.3
Change Period (Y+Rc), s	5.0	5.3			* 5.3	5.3
Max Green Setting (Gmax), s	22.0	51.4			* 79	31.0
Max Q Clear Time (g_c+I1), s	17.3	53.4			18.3	33.0
Green Ext Time (p_c), s	0.3	0.0			1.8	0.0

Intersection Summary

HCM 6th Ctrl Delay	100.1
HCM 6th LOS	F

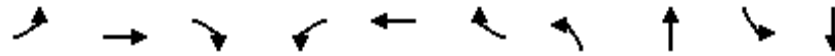
Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

48: Turner Av. & Ontario Ranch Rd.

08/20/2021

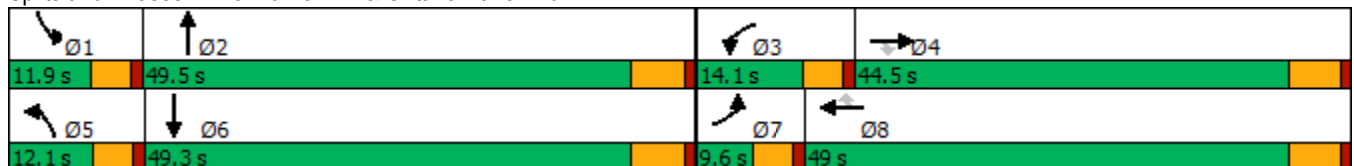


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗	↘	↗
Traffic Volume (vph)	29	636	35	45	1244	19	60	25	36	16
Future Volume (vph)	29	636	35	45	1244	19	60	25	36	16
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	25.8	25.8	9.6	45.8	9.6	47.8
Total Split (s)	9.6	44.5	44.5	14.1	49.0	49.0	12.1	49.5	11.9	49.3
Total Split (%)	8.0%	37.1%	37.1%	11.8%	40.8%	40.8%	10.1%	41.3%	9.9%	41.1%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	5.2	48.9	48.9	7.1	50.6	50.6	7.1	18.0	6.4	15.1
Actuated g/C Ratio	0.06	0.57	0.57	0.08	0.59	0.59	0.08	0.21	0.07	0.17
v/c Ratio	0.33	0.37	0.04	0.38	0.69	0.02	0.50	0.19	0.33	0.27
Control Delay	55.4	18.3	0.1	51.4	22.4	0.1	57.4	16.3	51.9	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.4	18.3	0.1	51.4	22.4	0.1	57.4	16.3	51.9	12.7
LOS	E	B	A	D	C	A	E	B	D	B
Approach Delay		18.9			23.1			36.3		24.7
Approach LOS		B			C			D		C

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 86.4  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.69  
 Intersection Signal Delay: 22.6  
 Intersection LOS: C  
 Intersection Capacity Utilization 61.8%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 48: Turner Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
48: Turner Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	29	636	35	45	1244	19	60	25	39	36	16	66
Future Volume (veh/h)	29	636	35	45	1244	19	60	25	39	36	16	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	32	707	28	50	1382	12	67	28	30	40	18	50
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	51	1803	804	68	1837	819	83	108	116	59	51	142
Arrive On Green	0.03	0.53	0.53	0.04	0.54	0.54	0.05	0.14	0.14	0.04	0.12	0.12
Sat Flow, veh/h	1619	3420	1525	1619	3420	1525	1619	795	852	1619	421	1169
Grp Volume(v), veh/h	32	707	28	50	1382	12	67	0	58	40	0	68
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1525	1619	0	1647	1619	0	1590
Q Serve(g_s), s	1.6	9.9	0.7	2.5	25.2	0.3	3.3	0.0	2.5	2.0	0.0	3.2
Cycle Q Clear(g_c), s	1.6	9.9	0.7	2.5	25.2	0.3	3.3	0.0	2.5	2.0	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		0.74
Lane Grp Cap(c), veh/h	51	1803	804	68	1837	819	83	0	224	59	0	193
V/C Ratio(X)	0.62	0.39	0.03	0.74	0.75	0.01	0.81	0.00	0.26	0.67	0.00	0.35
Avail Cap(c_a), veh/h	101	1803	804	191	1837	819	151	0	895	147	0	860
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.5	11.3	9.2	38.1	14.5	8.7	37.8	0.0	31.1	38.3	0.0	32.4
Incr Delay (d2), s/veh	4.5	0.6	0.1	5.7	2.9	0.0	6.8	0.0	0.6	4.8	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.3	0.2	1.0	8.6	0.1	1.4	0.0	1.0	0.8	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	12.0	9.2	43.8	17.4	8.7	44.6	0.0	31.7	43.1	0.0	33.5
LnGrp LOS	D	B	A	D	B	A	D	A	C	D	A	C
Approach Vol, veh/h		767			1444			125				108
Approach Delay, s/veh		13.2			18.2			38.6				37.1
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	16.7	8.0	48.2	8.7	15.6	7.2	49.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	7.3	43.7	9.5	38.7	7.5	43.5	5.0	43.2				
Max Q Clear Time (g_c+1), s	4.0	4.5	4.5	11.9	5.3	5.2	3.6	27.2				
Green Ext Time (p_c), s	0.0	0.3	0.0	4.8	0.0	0.3	0.0	8.5				

Intersection Summary

HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Timings

49: Haven Av. & Ontario Ranch Rd.

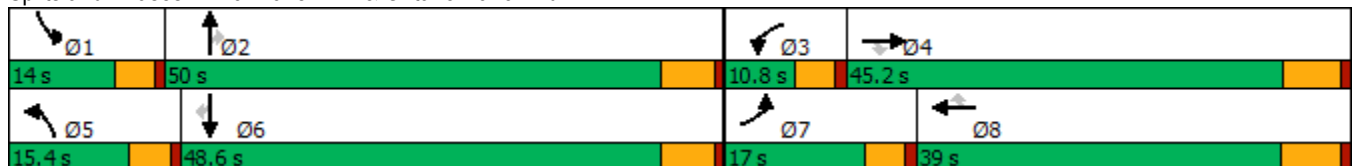
08/20/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	667	30	22	1058	86	65	199	82	124	60	77
Future Volume (vph)	142	667	30	22	1058	86	65	199	82	124	60	77
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	17.0	45.2	45.2	10.8	39.0	39.0	15.4	50.0	50.0	14.0	48.6	48.6
Total Split (%)	14.2%	37.7%	37.7%	9.0%	32.5%	32.5%	12.8%	41.7%	41.7%	11.7%	40.5%	40.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	12.2	46.1	46.1	5.6	32.9	32.9	8.0	19.1	19.1	9.5	22.8	22.8
Actuated g/C Ratio	0.13	0.48	0.48	0.06	0.34	0.34	0.08	0.20	0.20	0.10	0.24	0.24
v/c Ratio	0.74	0.30	0.04	0.24	0.53	0.15	0.51	0.59	0.20	0.82	0.15	0.17
Control Delay	64.1	18.2	0.1	53.4	27.6	1.0	57.8	40.5	1.0	81.6	30.7	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.1	18.2	0.1	53.4	27.6	1.0	57.8	40.5	1.0	81.6	30.7	0.8
LOS	E	B	A	D	C	A	E	D	A	F	C	A
Approach Delay		25.3			26.1			34.4			46.0	
Approach LOS		C			C			C			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 95.5	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 29.0	Intersection LOS: C
Intersection Capacity Utilization 61.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 49: Haven Av. & Ontario Ranch Rd.





HCM 6th Signalized Intersection Summary  
49: Haven Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (veh/h)	142	667	30	22	1058	86	65	199	82	124	60	77
Future Volume (veh/h)	142	667	30	22	1058	86	65	199	82	124	60	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	151	710	19	23	1126	46	69	212	37	132	64	49
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	182	2315	719	40	2376	585	86	272	231	160	355	301
Arrive On Green	0.11	0.47	0.47	0.02	0.38	0.38	0.05	0.15	0.15	0.10	0.20	0.20
Sat Flow, veh/h	1619	4914	1525	1619	6192	1525	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	151	710	19	23	1126	46	69	212	37	132	64	49
Grp Sat Flow(s),veh/h/ln	1619	1638	1525	1619	1548	1525	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	7.7	7.6	0.6	1.2	11.6	1.6	3.6	9.6	1.8	6.8	2.5	2.3
Cycle Q Clear(g_c), s	7.7	7.6	0.6	1.2	11.6	1.6	3.6	9.6	1.8	6.8	2.5	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	182	2315	719	40	2376	585	86	272	231	160	355	301
V/C Ratio(X)	0.83	0.31	0.03	0.58	0.47	0.08	0.80	0.78	0.16	0.82	0.18	0.16
Avail Cap(c_a), veh/h	237	2315	719	119	2376	585	206	939	796	180	910	771
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	13.8	12.0	40.9	19.7	16.6	39.7	34.6	31.3	37.4	28.3	28.2
Incr Delay (d2), s/veh	13.8	0.3	0.1	4.8	0.7	0.3	6.4	4.8	0.3	21.1	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	2.5	0.2	0.5	3.7	0.5	1.5	4.3	0.6	3.5	1.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.6	14.2	12.1	45.7	20.3	16.8	46.1	39.4	31.6	58.5	28.5	28.4
LnGrp LOS	D	B	B	D	C	B	D	D	C	E	C	C
Approach Vol, veh/h		880			1195			318			245	
Approach Delay, s/veh		20.4			20.7			39.9			44.7	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	18.6	6.7	46.4	9.1	22.5	14.1	39.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	9.4	44.2	6.2	* 39	10.8	42.8	12.4	32.5				
Max Q Clear Time (g_c+I1), s	8.8	11.6	3.2	9.6	5.6	4.5	9.7	13.6				
Green Ext Time (p_c), s	0.0	1.2	0.0	4.7	0.0	0.4	0.0	6.9				

Intersection Summary

HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

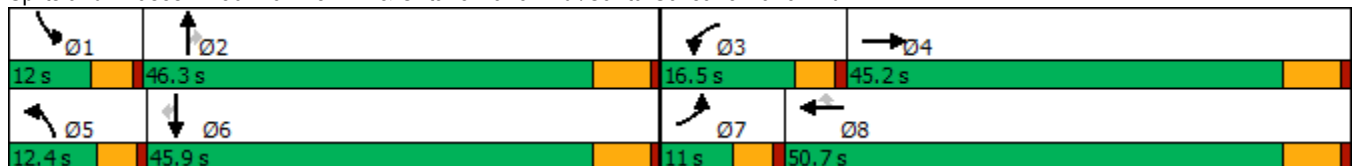


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙↘	↑↑↑	↙↘	↑↑	↗	↙↘	↑↑↑	↗	↙↘	↑↑	↗
Traffic Volume (vph)	103	623	286	994	211	178	731	524	160	218	92
Future Volume (vph)	103	623	286	994	211	178	731	524	160	218	92
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.2	9.6	49.2	49.2	9.6	44.2	44.2	9.6	45.2	45.2
Total Split (s)	11.0	45.2	16.5	50.7	50.7	12.4	46.3	46.3	12.0	45.9	45.9
Total Split (%)	9.2%	37.7%	13.8%	42.3%	42.3%	10.3%	38.6%	38.6%	10.0%	38.3%	38.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.4	36.7	12.0	42.3	42.3	7.8	37.9	37.9	7.4	37.5	37.5
Actuated g/C Ratio	0.06	0.32	0.10	0.37	0.37	0.07	0.33	0.33	0.06	0.32	0.32
v/c Ratio	0.72	0.41	1.07	0.90	0.35	1.02	0.52	0.94	0.96	0.22	0.18
Control Delay	79.8	30.6	120.7	46.3	8.6	122.2	33.0	50.5	112.3	29.4	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.8	30.6	120.7	46.3	8.6	122.2	33.0	50.5	112.3	29.4	1.8
LOS	E	C	F	D	A	F	C	D	F	C	A
Approach Delay		36.8		55.2			50.5			52.2	
Approach LOS		D		E			D			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 115.8  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.07  
 Intersection Signal Delay: 49.7  
 Intersection LOS: D  
 Intersection Capacity Utilization 71.5%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔
Traffic Volume (veh/h)	103	623	86	286	994	211	178	731	524	160	218	92
Future Volume (veh/h)	103	623	86	286	994	211	178	731	524	160	218	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	117	708	98	325	1130	240	202	831	588	182	248	105
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	160	1745	236	298	1233	550	195	1669	518	185	1150	512
Arrive On Green	0.05	0.31	0.31	0.10	0.36	0.36	0.07	0.34	0.34	0.06	0.34	0.34
Sat Flow, veh/h	2956	5556	752	2956	3420	1525	2956	4914	1525	2956	3420	1524
Grp Volume(v), veh/h	117	589	217	325	1130	240	202	831	588	182	248	105
Grp Sat Flow(s),veh/h/ln	1478	1548	1665	1478	1710	1525	1478	1638	1525	1478	1710	1524
Q Serve(g_s), s	4.6	11.8	12.1	11.9	37.3	14.1	7.8	15.9	40.1	7.3	6.1	5.8
Cycle Q Clear(g_c), s	4.6	11.8	12.1	11.9	37.3	14.1	7.8	15.9	40.1	7.3	6.1	5.8
Prop In Lane	1.00		0.45	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	160	1459	523	298	1233	550	195	1669	518	185	1150	512
V/C Ratio(X)	0.73	0.40	0.41	1.09	0.92	0.44	1.03	0.50	1.14	0.98	0.22	0.20
Avail Cap(c_a), veh/h	160	1534	550	298	1289	575	195	1669	518	185	1150	512
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	31.8	31.9	53.1	36.0	28.6	55.1	31.0	39.0	55.3	28.1	27.9
Incr Delay (d2), s/veh	13.8	0.2	0.5	78.7	10.1	0.5	73.7	0.2	82.4	60.7	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	4.2	4.7	7.5	16.2	5.0	4.8	6.0	25.9	4.2	2.4	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.8	32.0	32.5	131.8	46.2	29.2	128.9	31.2	121.4	115.9	28.1	28.1
LnGrp LOS	E	C	C	F	D	C	F	C	F	F	C	C
Approach Vol, veh/h		923			1695			1621				535
Approach Delay, s/veh		36.8			60.2			76.1				58.0
Approach LOS		D			E			E				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	46.3	16.5	43.3	12.4	45.9	11.0	48.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	7.4	40.1	11.9	39.0	7.8	39.7	6.4	44.5				
Max Q Clear Time (g_c+I1), s	9.3	42.1	13.9	14.1	9.8	8.1	6.6	39.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.8	0.0	1.7	0.0	3.3				

Intersection Summary

HCM 6th Ctrl Delay	60.8
HCM 6th LOS	E

Timings  
51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/20/2021

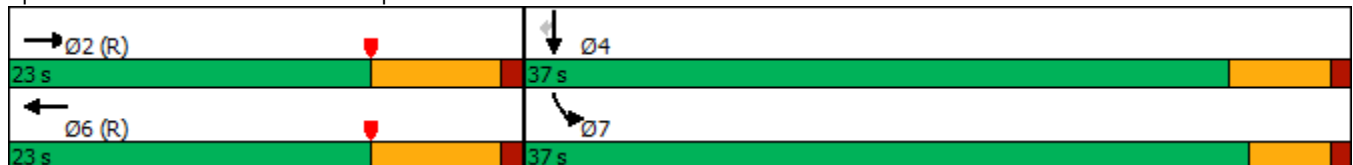


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑	↔	↑
Traffic Volume (vph)	1073	349	562	189	336	0	1300
Future Volume (vph)	1073	349	562	189	336	0	1300
Turn Type	NA	Free	NA	Free	Prot	NA	Perm
Protected Phases	2		6		7	4	
Permitted Phases		Free		Free			4
Detector Phase	2		6		7	4	4
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5	10.5
Total Split (s)	23.0		23.0		37.0	37.0	37.0
Total Split (%)	38.3%		38.3%		61.7%	61.7%	61.7%
Yellow Time (s)	5.8		5.8		3.6	4.5	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max		C-Min		None	Min	Min
Act Effct Green (s)	16.2	60.0	16.2	60.0	32.4	31.5	31.5
Actuated g/C Ratio	0.27	1.00	0.27	1.00	0.54	0.52	0.52
v/c Ratio	0.85	0.24	0.64	0.13	0.36	0.92	0.88
Control Delay	28.4	0.4	19.8	0.2	9.3	32.2	26.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.4	0.4	19.8	0.2	9.3	32.2	26.3
LOS	C	A	B	A	A	C	C
Approach Delay	21.5		14.9			25.6	
Approach LOS	C		B			C	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 22.0  
 Intersection LOS: C  
 Intersection Capacity Utilization 79.4%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑	↗				↘	↔	↗
Traffic Volume (veh/h)	0	1073	349	0	562	189	0	0	0	336	0	1300
Future Volume (veh/h)	0	1073	349	0	562	189	0	0	0	336	0	1300
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1192	0	0	624	0				249	0	1279
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1798		0	1251					839	0	1492
Arrive On Green	0.00	0.35	0.00	0.00	0.35	0.00				0.46	0.00	0.46
Sat Flow, veh/h	0	5358	1610	0	3705	1610				1810	0	3220
Grp Volume(v), veh/h	0	1192	0	0	624	0				249	0	1279
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610				1810	0	1610
Q Serve(g_s), s	0.0	11.7	0.0	0.0	8.2	0.0				5.1	0.0	21.2
Cycle Q Clear(g_c), s	0.0	11.7	0.0	0.0	8.2	0.0				5.1	0.0	21.2
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1798		0	1251					839	0	1492
V/C Ratio(X)	0.00	0.66		0.00	0.50					0.30	0.00	0.86
Avail Cap(c_a), veh/h	0	1798		0	1251					977	0	1739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.68	0.00	0.00	0.92	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.6	0.0	0.0	15.5	0.0				10.0	0.0	14.3
Incr Delay (d2), s/veh	0.0	1.3	0.0	0.0	1.3	0.0				0.2	0.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.9	0.0	0.0	2.9	0.0				1.6	0.0	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.0	0.0	0.0	16.8	0.0				10.2	0.0	18.3
LnGrp LOS	A	B		A	B					B	A	B
Approach Vol, veh/h		1192	A		624	A					1528	
Approach Delay, s/veh		18.0			16.8						17.0	
Approach LOS		B			B						B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		27.6		32.4		27.6						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		16.2		32.4		16.2						
Max Q Clear Time (g_c+I1), s		13.7		23.2		10.2						
Green Ext Time (p_c), s		1.6		4.6		1.9						

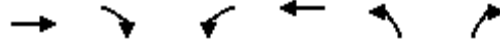
Intersection Summary

HCM 6th Ctrl Delay	17.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

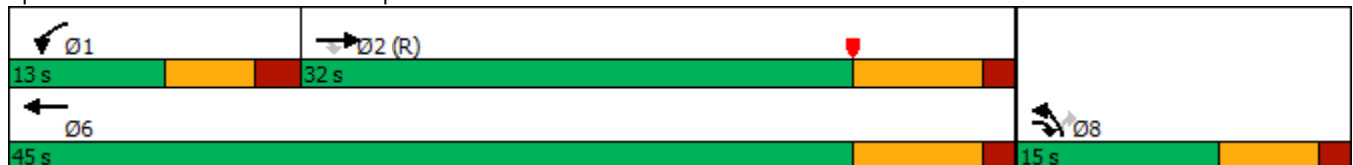


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↘↘	↑↑↑	↘↘	↘
Traffic Volume (vph)	523	885	381	486	265	312
Future Volume (vph)	523	885	381	486	265	312
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	32.0	15.0	13.0	45.0	15.0	15.0
Total Split (%)	53.3%	25.0%	21.7%	75.0%	25.0%	25.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max
Act Effect Green (s)	24.7	41.0	7.0	37.7	9.0	9.0
Actuated g/C Ratio	0.41	0.68	0.12	0.63	0.15	0.15
v/c Ratio	0.27	0.88	1.03	0.16	0.71	0.52
Control Delay	9.2	18.0	82.1	4.8	24.8	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.2	18.0	82.1	4.8	24.8	9.5
LOS	A	B	F	A	C	A
Approach Delay	14.7			38.8	19.9	
Approach LOS	B			D	B	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.03  
 Intersection Signal Delay: 23.1  
 Intersection LOS: C  
 Intersection Capacity Utilization 75.7%  
 ICU Level of Service D  
 Analysis Period (min) 15

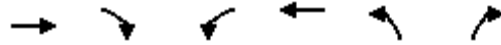
Splits and Phases: 52: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
 52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/20/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↔	↑↑↑	↔	↑
Traffic Volume (veh/h)	523	885	381	486	265	312
Future Volume (veh/h)	523	885	381	486	265	312
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	575	639	419	534	339	171
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2135	904	410	3259	543	242
Arrive On Green	0.69	0.69	0.12	0.63	0.15	0.15
Sat Flow, veh/h	5358	1610	3510	5358	3619	1610
Grp Volume(v), veh/h	575	639	419	534	339	171
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1810	1610
Q Serve(g_s), s	2.6	16.4	7.0	2.6	5.3	6.1
Cycle Q Clear(g_c), s	2.6	16.4	7.0	2.6	5.3	6.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2135	904	410	3259	543	242
V/C Ratio(X)	0.27	0.71	1.02	0.16	0.62	0.71
Avail Cap(c_a), veh/h	2135	904	410	3259	543	242
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.59	0.59	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.9	5.0	26.5	4.6	23.9	24.3
Incr Delay (d2), s/veh	0.2	2.8	50.5	0.0	5.3	16.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.3	5.4	0.5	2.4	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.1	7.7	77.0	4.6	29.3	40.3
LnGrp LOS	A	A	F	A	C	D
Approach Vol, veh/h	1214			953	510	
Approach Delay, s/veh	7.0			36.4	33.0	
Approach LOS	A			D	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.0	32.0			45.0	15.0
Change Period (Y+Rc), s	6.0	7.3			7.3	6.0
Max Green Setting (Gmax), s	7.0	24.7			37.7	9.0
Max Q Clear Time (g_c+I1), s	9.0	18.4			4.6	8.1
Green Ext Time (p_c), s	0.0	3.1			3.4	0.2

Intersection Summary

HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
1: Euclid Av. (SR-83) & SR-60 WB Ramps

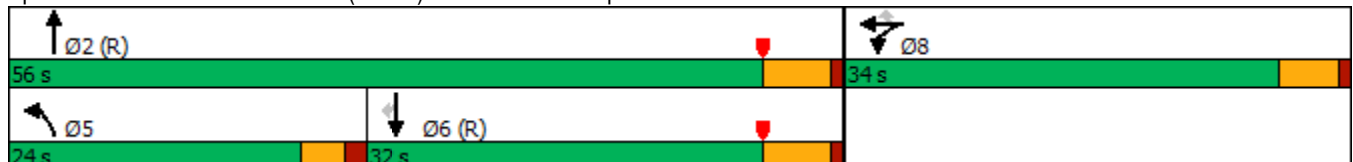


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	639	6	424	396	1132	1049	512
Future Volume (vph)	639	6	424	396	1132	1049	512
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	10.0	10.0	10.0
Minimum Split (s)	11.0	11.0	11.0	9.5	22.5	22.5	22.5
Total Split (s)	34.0	34.0	34.0	24.0	56.0	32.0	32.0
Total Split (%)	37.8%	37.8%	37.8%	26.7%	62.2%	35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.5	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	24.6	24.6	24.6	23.3	54.9	27.1	27.1
Actuated g/C Ratio	0.27	0.27	0.27	0.26	0.61	0.30	0.30
v/c Ratio	0.82	0.84	0.73	0.89	0.54	1.00	0.62
Control Delay	45.3	46.0	31.3	37.0	23.0	61.4	6.0
Queue Delay	0.0	0.0	0.0	0.0	3.1	0.0	0.0
Total Delay	45.3	46.0	31.3	37.0	26.0	61.4	6.0
LOS	D	D	C	D	C	E	A
Approach Delay		41.2			28.9	43.2	
Approach LOS		D			C	D	

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 63 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 37.4  
 Intersection LOS: D  
 Intersection Capacity Utilization 97.0%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 1: Euclid Av. (SR-83) & SR-60 WB Ramps





HCM 6th Signalized Intersection Summary  
 1: Euclid Av. (SR-83) & SR-60 WB Ramps

Ontario Ranch Business Park (JN 13941)

08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↶	↷	↶	↶	↶	↶		↶	↶
Traffic Volume (veh/h)	0	0	0	639	6	424	396	1132	0	0	1049	512
Future Volume (veh/h)	0	0	0	639	6	424	396	1132	0	0	1049	512
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				750	0	176	412	1179	0	0	1093	328
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				859	0	382	392	2332	0	0	1369	611
Arrive On Green				0.24	0.00	0.24	0.43	1.00	0.00	0.00	0.38	0.38
Sat Flow, veh/h				3619	0	1608	1810	3705	0	0	3705	1610
Grp Volume(v), veh/h				750	0	176	412	1179	0	0	1093	328
Grp Sat Flow(s),veh/h/ln				1810	0	1608	1810	1805	0	0	1805	1610
Q Serve(g_s), s				17.9	0.0	8.4	19.5	0.0	0.0	0.0	24.3	14.3
Cycle Q Clear(g_c), s				17.9	0.0	8.4	19.5	0.0	0.0	0.0	24.3	14.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				859	0	382	392	2332	0	0	1369	611
V/C Ratio(X)				0.87	0.00	0.46	1.05	0.51	0.00	0.00	0.80	0.54
Avail Cap(c_a), veh/h				1166	0	518	392	2332	0	0	1369	611
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.27	0.27	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.0	0.0	29.4	25.5	0.0	0.0	0.0	24.9	21.8
Incr Delay (d2), s/veh				4.6	0.0	0.3	38.2	0.2	0.0	0.0	4.9	3.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.9	0.0	3.1	9.6	0.1	0.0	0.0	10.5	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				37.6	0.0	29.7	63.7	0.2	0.0	0.0	29.8	25.1
LnGrp LOS				D	A	C	F	A	A	A	C	C
Approach Vol, veh/h					926			1591			1421	
Approach Delay, s/veh					36.1			16.7			28.7	
Approach LOS					D			B			C	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		63.6			24.0	39.6		26.4				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.0				
Max Green Setting (Gmax), s		50.5			19.5	26.5		29.0				
Max Q Clear Time (g_c+I1), s		2.0			21.5	26.3		19.9				
Green Ext Time (p_c), s		16.2			0.0	0.2		1.4				

Intersection Summary

HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

Ontario Ranch Business Park (JN 13941)

08/20/2021

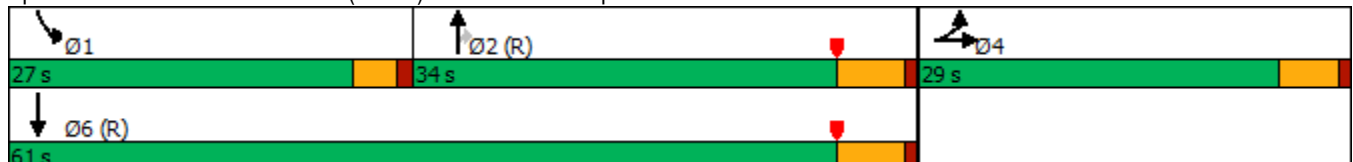


Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	432	3	1093	629	390	1308
Future Volume (vph)	432	3	1093	629	390	1308
Turn Type	Split	NA	NA	Perm	Prot	NA
Protected Phases	4	4	2		1	6
Permitted Phases				2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0	10.0	5.0	10.0
Minimum Split (s)	11.0	11.0	22.5	22.5	9.0	22.5
Total Split (s)	29.0	29.0	34.0	34.0	27.0	61.0
Total Split (%)	32.2%	32.2%	37.8%	37.8%	30.0%	67.8%
Yellow Time (s)	4.0	4.0	4.5	4.5	3.0	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effect Green (s)	24.0	24.0	29.7	29.7	21.8	55.5
Actuated g/C Ratio	0.27	0.27	0.33	0.33	0.24	0.62
v/c Ratio	0.87	0.98	0.94	0.69	0.91	0.60
Control Delay	52.6	67.9	45.6	7.1	52.9	4.5
Queue Delay	46.1	38.6	0.0	0.0	0.0	0.7
Total Delay	98.7	106.5	45.6	7.1	52.9	5.3
LOS	F	F	D	A	D	A
Approach Delay		102.9	31.5			16.2
Approach LOS		F	C			B

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 39.3  
 Intersection LOS: D  
 Intersection Capacity Utilization 97.0%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 2: Euclid Av. (SR-83) & SR-60 EB Ramps



HCM 6th Signalized Intersection Summary  
 2: Euclid Av. (SR-83) & SR-60 EB Ramps

Ontario Ranch Business Park (JN 13941)

08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↔						↕	↗	↘	↕	
Traffic Volume (veh/h)	432	3	394	0	0	0	0	1093	629	390	1308	0
Future Volume (veh/h)	432	3	394	0	0	0	0	1093	629	390	1308	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	389	75	335				0	1115	448	398	1335	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	479	80	359				0	1229	535	422	2233	0
Arrive On Green	0.26	0.26	0.26				0.00	0.34	0.34	0.47	1.00	0.00
Sat Flow, veh/h	1810	303	1353				0	3705	1572	1810	3705	0
Grp Volume(v), veh/h	389	0	410				0	1115	448	398	1335	0
Grp Sat Flow(s),veh/h/ln	1810	0	1656				0	1805	1572	1810	1805	0
Q Serve(g_s), s	18.1	0.0	21.8				0.0	26.5	23.7	18.8	0.0	0.0
Cycle Q Clear(g_c), s	18.1	0.0	21.8				0.0	26.5	23.7	18.8	0.0	0.0
Prop In Lane	1.00		0.82				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	479	0	439				0	1229	535	422	2233	0
V/C Ratio(X)	0.81	0.00	0.93				0.00	0.91	0.84	0.94	0.60	0.00
Avail Cap(c_a), veh/h	483	0	442				0	1229	535	462	2233	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.46	0.46	0.19	0.19	0.00
Uniform Delay (d), s/veh	31.0	0.0	32.3				0.0	28.3	27.4	23.4	0.0	0.0
Incr Delay (d2), s/veh	9.4	0.0	26.7				0.0	5.8	7.2	7.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	0.0	11.3				0.0	11.6	9.3	6.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	0.0	59.0				0.0	34.1	34.6	31.0	0.2	0.0
LnGrp LOS	D	A	E				A	C	C	C	A	A
Approach Vol, veh/h		799						1563			1733	
Approach Delay, s/veh		49.9						34.2			7.3	
Approach LOS		D						C			A	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	25.0	36.1	28.8	61.2								
Change Period (Y+Rc), s	4.0	5.5	5.0	5.5								
Max Green Setting (Gmax), s	23.0	28.5	24.0	55.5								
Max Q Clear Time (g_c+I1), s	20.8	28.5	23.8	2.0								
Green Ext Time (p_c), s	0.2	0.0	0.1	20.4								

Intersection Summary

HCM 6th Ctrl Delay	25.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
3: Euclid Av. (SR-83) & Walnut Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021

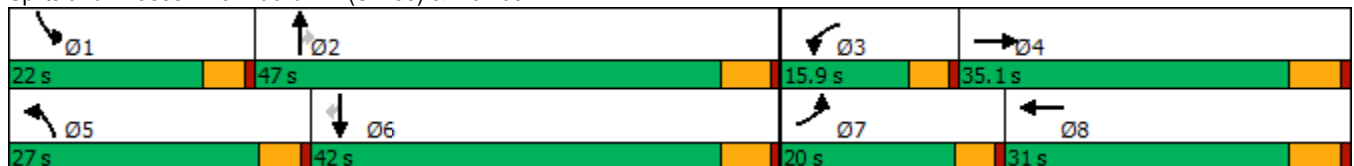


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗	↘	↗	↘	↗	↗	↗	↗	↗
Traffic Volume (vph)	111	385	72	385	208	1443	81	290	1236	161
Future Volume (vph)	111	385	72	385	208	1443	81	290	1236	161
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.8	9.6	29.8	9.6	27.4	27.4	9.6	29.4	29.4
Total Split (s)	20.0	35.1	15.9	31.0	27.0	47.0	47.0	22.0	42.0	42.0
Total Split (%)	16.7%	29.3%	13.3%	25.8%	22.5%	39.2%	39.2%	18.3%	35.0%	35.0%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.4	4.4	3.6	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.4	5.4	4.6	5.4	5.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	11.9	27.4	9.0	22.2	18.5	41.9	41.9	15.0	38.4	38.4
Actuated g/C Ratio	0.11	0.25	0.08	0.20	0.17	0.38	0.38	0.13	0.34	0.34
v/c Ratio	0.69	0.68	0.59	0.83	0.82	0.83	0.14	0.78	0.78	0.27
Control Delay	69.4	40.7	70.1	51.7	70.4	37.8	3.3	62.0	38.4	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.4	40.7	70.1	51.7	70.4	37.8	3.3	62.0	38.4	6.1
LOS	E	D	E	D	E	D	A	E	D	A
Approach Delay		45.7		53.9		40.1			39.4	
Approach LOS		D		D		D			D	

Intersection Summary























Cycle Length: 120  
 Actuated Cycle Length: 111.6  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 42.4  
 Intersection LOS: D  
 Intersection Capacity Utilization 80.1%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 3: Euclid Av. (SR-83) & Walnut Av.



HCM 6th Signalized Intersection Summary  
 3: Euclid Av. (SR-83) & Walnut Av.

Ontario Ranch Business Park (JN 13941)  
 08/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	385	145	72	385	146	208	1443	81	290	1236	161
Future Volume (veh/h)	111	385	145	72	385	146	208	1443	81	290	1236	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	118	410	131	77	410	129	221	1535	59	309	1315	117
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	143	571	180	96	498	155	250	1954	606	366	1805	560
Arrive On Green	0.09	0.22	0.22	0.06	0.20	0.20	0.15	0.40	0.40	0.12	0.37	0.37
Sat Flow, veh/h	1619	2547	804	1619	2553	793	1619	4914	1523	2956	4914	1524
Grp Volume(v), veh/h	118	274	267	77	273	266	221	1535	59	309	1315	117
Grp Sat Flow(s),veh/h/ln	1619	1710	1641	1619	1710	1636	1619	1638	1523	1478	1638	1524
Q Serve(g_s), s	7.5	15.5	15.8	4.9	16.0	16.4	14.0	28.6	2.5	10.7	24.2	5.5
Cycle Q Clear(g_c), s	7.5	15.5	15.8	4.9	16.0	16.4	14.0	28.6	2.5	10.7	24.2	5.5
Prop In Lane	1.00		0.49	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	143	384	368	96	334	319	250	1954	606	366	1805	560
V/C Ratio(X)	0.82	0.71	0.73	0.80	0.82	0.83	0.89	0.79	0.10	0.84	0.73	0.21
Avail Cap(c_a), veh/h	238	479	460	175	412	394	347	1954	606	492	1805	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	37.5	37.6	48.6	40.3	40.5	43.3	27.6	19.8	44.8	28.6	22.7
Incr Delay (d2), s/veh	4.5	3.7	4.3	5.8	10.2	11.9	14.5	3.3	0.3	7.6	2.6	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	6.6	6.5	2.1	7.4	7.4	6.4	11.1	0.9	4.2	9.4	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.4	41.2	41.9	54.4	50.5	52.4	57.9	30.9	20.1	52.4	31.2	23.5
LnGrp LOS	D	D	D	D	D	D	E	C	C	D	C	C
Approach Vol, veh/h		659			616			1815			1741	
Approach Delay, s/veh		43.3			51.8			33.8			34.5	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.6	47.0	10.8	29.3	20.7	43.8	13.8	26.2				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.8	4.6	5.4	4.6	5.8				
Max Green Setting (Gmax), s	17.4	41.6	11.3	29.3	22.4	36.6	15.4	25.2				
Max Q Clear Time (g_c+I1), s	12.7	30.6	6.9	17.8	16.0	26.2	9.5	18.4				
Green Ext Time (p_c), s	0.3	7.3	0.0	2.3	0.2	6.3	0.1	1.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				37.6								
HCM 6th LOS				D								

Timings  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/20/2021

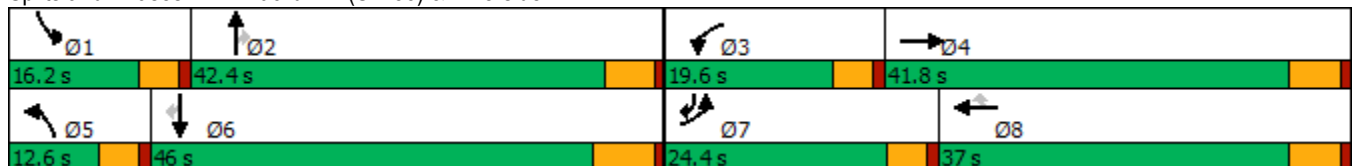


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	157	480	194	427	67	96	1249	265	154	1041	212
Future Volume (vph)	157	480	194	427	67	96	1249	265	154	1041	212
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8		5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	24.4	41.8	19.6	37.0	37.0	12.6	42.4	42.4	16.2	46.0	24.4
Total Split (%)	20.3%	34.8%	16.3%	30.8%	30.8%	10.5%	35.3%	35.3%	13.5%	38.3%	20.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	None
Act Effct Green (s)	15.8	36.0	15.0	35.2	35.2	8.0	37.0	37.0	11.6	39.5	57.2
Actuated g/C Ratio	0.13	0.30	0.12	0.29	0.29	0.07	0.31	0.31	0.10	0.33	0.48
v/c Ratio	0.77	1.11	1.00	0.44	0.13	0.93	1.23	0.46	1.03	0.96	0.28
Control Delay	73.0	110.8	117.5	37.0	0.5	126.9	150.2	13.1	132.3	59.3	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.0	110.8	117.5	37.0	0.5	126.9	150.2	13.1	132.3	59.3	7.6
LOS	E	F	F	D	A	F	F	B	F	E	A
Approach Delay		102.6		56.1			126.3			59.5	
Approach LOS		F		E			F			E	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.23	
Intersection Signal Delay: 90.3	Intersection LOS: F
Intersection Capacity Utilization 107.2%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.



HCM 6th Signalized Intersection Summary  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	157	480	86	194	427	67	96	1249	265	154	1041	212
Future Volume (veh/h)	157	480	86	194	427	67	96	1249	265	154	1041	212
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	164	500	65	202	445	54	100	1301	222	160	1084	130
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	189	464	60	201	1042	464	107	1045	466	155	1147	683
Arrive On Green	0.12	0.30	0.30	0.12	0.30	0.30	0.07	0.31	0.31	0.10	0.34	0.34
Sat Flow, veh/h	1619	1561	203	1619	3420	1524	1619	3420	1525	1619	3420	1506
Grp Volume(v), veh/h	164	0	565	202	445	54	100	1301	222	160	1084	130
Grp Sat Flow(s),veh/h/ln	1619	0	1763	1619	1710	1524	1619	1710	1525	1619	1710	1506
Q Serve(g_s), s	12.1	0.0	36.0	15.0	12.6	3.1	7.4	37.0	14.3	11.6	37.4	6.3
Cycle Q Clear(g_c), s	12.1	0.0	36.0	15.0	12.6	3.1	7.4	37.0	14.3	11.6	37.4	6.3
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	0	524	201	1042	464	107	1045	466	155	1147	683
V/C Ratio(X)	0.87	0.00	1.08	1.01	0.43	0.12	0.93	1.25	0.48	1.03	0.95	0.19
Avail Cap(c_a), veh/h	265	0	524	201	1042	464	107	1045	466	155	1147	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	0.0	42.6	53.1	33.6	30.3	56.3	42.0	34.2	54.8	39.2	19.9
Incr Delay (d2), s/veh	15.2	0.0	61.9	65.4	0.3	0.1	65.7	118.4	3.5	80.9	16.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	0.0	24.0	9.6	5.1	1.1	4.9	31.8	5.6	8.1	17.7	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.8	0.0	104.4	118.5	33.9	30.5	122.0	160.5	37.6	135.6	55.5	20.5
LnGrp LOS	E	A	F	F	C	C	F	F	D	F	E	C
Approach Vol, veh/h		729			701			1623			1374	
Approach Delay, s/veh		96.2			58.0			141.3			61.5	
Approach LOS		F			E			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	43.5	19.6	41.8	12.6	47.1	18.7	42.7				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	11.6	* 37	15.0	36.0	8.0	39.5	19.8	31.2				
Max Q Clear Time (g_c+I1), s	13.6	39.0	17.0	38.0	9.4	39.4	14.1	14.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.1	0.1	2.5				

Intersection Summary

HCM 6th Ctrl Delay	95.9
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Timings  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	100	299	54	81	119	53	1498	252	29	1180	79
Future Volume (vph)	100	299	54	81	119	53	1498	252	29	1180	79
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	28.8	28.8	28.8	33.8	33.8	9.6	24.2	24.2	9.6	31.5	31.5
Total Split (s)	44.0	44.0	44.0	44.0	44.0	12.4	65.0	65.0	11.0	63.6	63.6
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	10.3%	54.2%	54.2%	9.2%	53.0%	53.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.6	4.2	4.2	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8		5.8	4.6	5.2	5.2	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	29.5	29.5	29.5		29.5	7.0	62.7	62.7	5.9	58.2	58.2
Actuated g/C Ratio	0.27	0.27	0.27		0.27	0.06	0.57	0.57	0.05	0.53	0.53
v/c Ratio	0.43	0.66	0.12		1.06	0.55	0.82	0.31	0.36	0.70	0.10
Control Delay	38.6	42.6	4.9		116.8	73.8	26.5	12.3	65.4	24.1	4.7
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	42.6	4.9		116.8	73.8	26.5	12.3	65.4	24.1	4.7
LOS	D	D	A		F	E	C	B	E	C	A
Approach Delay		37.2			116.8		25.9			23.9	
Approach LOS		D			F		C			C	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 109.5  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.06  
 Intersection Signal Delay: 31.7  
 Intersection LOS: C  
 Intersection Capacity Utilization 91.8%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 5: Euclid Av. (SR-83) & Chino Av.





HCM 6th Signalized Intersection Summary  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	299	54	81	119	10	53	1498	252	29	1180	79
Future Volume (veh/h)	100	299	54	81	119	10	53	1498	252	29	1180	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	108	322	35	87	128	7	57	1611	200	31	1269	52
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	275	533	452	122	162	8	71	1804	788	45	1748	763
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.04	0.53	0.53	0.03	0.51	0.51
Sat Flow, veh/h	1204	1800	1525	263	548	26	1619	3420	1494	1619	3420	1494
Grp Volume(v), veh/h	108	322	35	222	0	0	57	1611	200	31	1269	52
Grp Sat Flow(s),veh/h/ln	1204	1800	1525	837	0	0	1619	1710	1494	1619	1710	1494
Q Serve(g_s), s	0.0	17.4	1.9	13.7	0.0	0.0	4.0	47.7	8.3	2.2	32.7	2.0
Cycle Q Clear(g_c), s	15.2	17.4	1.9	31.1	0.0	0.0	4.0	47.7	8.3	2.2	32.7	2.0
Prop In Lane	1.00		1.00	0.39		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	275	533	452	292	0	0	71	1804	788	45	1748	763
V/C Ratio(X)	0.39	0.60	0.08	0.76	0.00	0.00	0.80	0.89	0.25	0.70	0.73	0.07
Avail Cap(c_a), veh/h	324	606	514	349	0	0	111	1804	788	91	1748	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	34.2	28.8	42.5	0.0	0.0	53.7	23.9	14.6	54.7	21.6	14.0
Incr Delay (d2), s/veh	0.9	1.4	0.1	7.8	0.0	0.0	9.5	7.3	0.8	7.1	2.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	7.5	0.7	6.5	0.0	0.0	1.7	18.4	2.7	0.9	12.2	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.3	35.6	28.8	50.3	0.0	0.0	63.2	31.2	15.4	61.8	24.2	14.2
LnGrp LOS	C	D	C	D	A	A	E	C	B	E	C	B
Approach Vol, veh/h		465			222			1868			1352	
Approach Delay, s/veh		34.8			50.3			30.5			24.7	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	66.3		39.4	9.6	64.4		39.4				
Change Period (Y+Rc), s	4.6	* 6.5		5.8	4.6	6.5		5.8				
Max Green Setting (Gmax), s	6.4	* 60		38.2	7.8	57.1		38.2				
Max Q Clear Time (g_c+I1), s	4.2	49.7		19.4	6.0	34.7		33.1				
Green Ext Time (p_c), s	0.0	7.1		2.1	0.0	8.8		0.5				

Intersection Summary

HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021

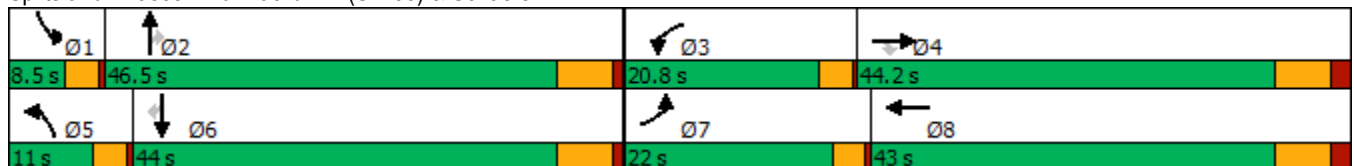


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	303	299	195	82	73	99	1473	91	33	1201	127
Future Volume (vph)	303	299	195	82	73	99	1473	91	33	1201	127
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.0	42.0	13.5	43.0	8.5	33.0	33.0	8.5	28.0	28.0
Total Split (s)	22.0	44.2	44.2	20.8	43.0	11.0	46.5	46.5	8.5	44.0	44.0
Total Split (%)	18.3%	36.8%	36.8%	17.3%	35.8%	9.2%	38.8%	38.8%	7.1%	36.7%	36.7%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	7.0	7.0	3.5	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	18.7	25.6	25.6	11.2	15.1	7.6	44.6	44.6	5.1	38.4	38.4
Actuated g/C Ratio	0.19	0.26	0.26	0.11	0.15	0.08	0.45	0.45	0.05	0.38	0.38
v/c Ratio	1.02	0.66	0.37	0.46	0.37	0.82	0.95	0.12	0.41	0.92	0.20
Control Delay	98.6	41.5	6.3	52.6	33.9	93.0	42.3	4.9	65.1	43.5	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.6	41.5	6.3	52.6	33.9	93.0	42.3	4.9	65.1	43.5	8.7
LOS	F	D	A	D	C	F	D	A	E	D	A
Approach Delay		54.6			42.3		43.2			40.8	
Approach LOS		D			D		D			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 100  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.02  
 Intersection Signal Delay: 44.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 89.6%  
 ICU Level of Service E  
 Analysis Period (min) 15
























Splits and Phases: 6: Euclid Av. (SR-83) & Schaefer Av.



HCM 6th Signalized Intersection Summary  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	303	299	195	82	73	27	99	1473	91	33	1201	127
Future Volume (veh/h)	303	299	195	82	73	27	99	1473	91	33	1201	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	306	302	75	83	74	22	100	1488	74	33	1213	98
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	335	359	304	158	120	36	123	1579	683	51	1377	614
Arrive On Green	0.21	0.20	0.20	0.10	0.09	0.09	0.08	0.45	0.45	0.03	0.40	0.40
Sat Flow, veh/h	1619	1800	1525	1619	1333	396	1619	3528	1525	1619	3420	1525
Grp Volume(v), veh/h	306	302	75	83	0	96	100	1488	74	33	1213	98
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	0	1729	1619	1764	1525	1619	1710	1525
Q Serve(g_s), s	16.5	14.4	3.7	4.3	0.0	4.8	5.4	35.9	2.5	1.8	29.3	3.7
Cycle Q Clear(g_c), s	16.5	14.4	3.7	4.3	0.0	4.8	5.4	35.9	2.5	1.8	29.3	3.7
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	335	359	304	158	0	155	123	1579	683	51	1377	614
V/C Ratio(X)	0.91	0.84	0.25	0.52	0.00	0.62	0.81	0.94	0.11	0.65	0.88	0.16
Avail Cap(c_a), veh/h	336	751	636	314	0	698	136	1602	692	91	1457	650
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.6	34.4	30.1	38.3	0.0	39.1	40.6	23.5	14.3	42.7	24.7	17.0
Incr Delay (d2), s/veh	27.6	4.1	0.3	1.0	0.0	3.0	24.7	11.5	0.1	5.1	6.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	6.3	1.3	1.7	0.0	2.1	2.9	15.0	0.8	0.7	11.3	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.2	38.4	30.4	39.3	0.0	42.1	65.3	35.0	14.4	47.9	31.0	17.1
LnGrp LOS	E	D	C	D	A	D	E	D	B	D	C	B
Approach Vol, veh/h		683			179			1662			1344	
Approach Delay, s/veh		48.2			40.8			35.9			30.4	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.3	45.9	12.2	24.8	10.3	41.9	22.0	15.0				
Change Period (Y+Rc), s	3.5	6.0	3.5	7.0	3.5	6.0	3.5	7.0				
Max Green Setting (Gmax), s	5.0	40.5	17.3	37.2	7.5	38.0	18.5	36.0				
Max Q Clear Time (g_c+1), s	3.8	37.9	6.3	16.4	7.4	31.3	18.5	6.8				
Green Ext Time (p_c), s	0.0	2.0	0.1	1.4	0.0	4.0	0.0	0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			36.4									
HCM 6th LOS			D									

Timings  
7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021

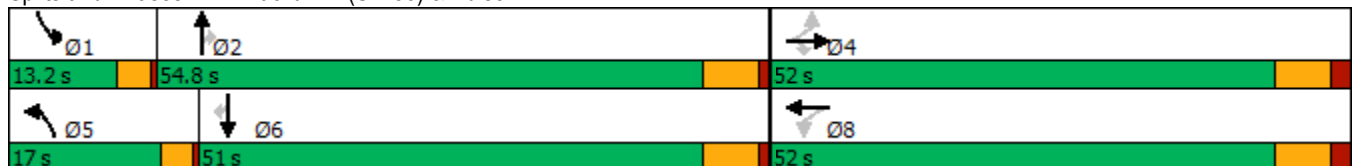


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	286	542	310	57	360	175	1311	100	110	1270	200
Future Volume (vph)	286	542	310	57	360	175	1311	100	110	1270	200
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.0	46.0	46.0	49.0	49.0	8.5	29.0	29.0	8.5	40.0	40.0
Total Split (s)	52.0	52.0	52.0	52.0	52.0	17.0	54.8	54.8	13.2	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	14.2%	45.7%	45.7%	11.0%	42.5%	42.5%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	45.0	45.0	45.0	45.0	45.0	13.5	48.8	48.8	9.7	45.0	45.0
Actuated g/C Ratio	0.38	0.38	0.38	0.38	0.38	0.11	0.41	0.41	0.08	0.38	0.38
v/c Ratio	1.69	0.85	0.47	0.55	0.71	1.02	0.99	0.16	0.89	1.04	0.32
Control Delay	361.6	47.6	12.4	51.8	38.2	124.2	58.2	9.9	109.4	74.1	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	361.6	47.6	12.4	51.8	38.2	124.2	58.2	9.9	109.4	74.1	11.9
LOS	F	D	B	D	D	F	E	A	F	E	B
Approach Delay		116.9			39.7		62.5			68.6	
Approach LOS		F			D		E			E	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.69  
 Intersection Signal Delay: 75.0  
 Intersection LOS: E  
 Intersection Capacity Utilization 111.1%  
 ICU Level of Service H  
 Analysis Period (min) 15
























Splits and Phases: 7: Euclid Av. (SR-83) & Edison Av.



HCM 6th Signalized Intersection Summary  
 7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	286	542	310	57	360	86	175	1311	100	110	1270	200
Future Volume (veh/h)	286	542	310	57	360	86	175	1311	100	110	1270	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	301	571	244	60	379	85	184	1380	97	116	1337	179
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	191	675	572	114	532	119	182	1391	619	131	1282	572
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.11	0.41	0.41	0.08	0.38	0.38
Sat Flow, veh/h	891	1800	1525	643	1420	318	1619	3420	1522	1619	3420	1525
Grp Volume(v), veh/h	301	571	244	60	0	464	184	1380	97	116	1337	179
Grp Sat Flow(s),veh/h/ln	891	1800	1525	643	0	1738	1619	1710	1522	1619	1710	1525
Q Serve(g_s), s	17.7	34.8	14.3	10.2	0.0	27.3	13.5	48.2	4.8	8.5	45.0	10.0
Cycle Q Clear(g_c), s	45.0	34.8	14.3	45.0	0.0	27.3	13.5	48.2	4.8	8.5	45.0	10.0
Prop In Lane	1.00		1.00	1.00		0.18	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	675	572	114	0	652	182	1391	619	131	1283	572
V/C Ratio(X)	1.57	0.85	0.43	0.52	0.00	0.71	1.01	0.99	0.16	0.89	1.04	0.31
Avail Cap(c_a), veh/h	191	675	572	114	0	652	182	1391	619	131	1283	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	34.3	27.9	55.4	0.0	32.0	53.3	35.4	22.6	54.6	37.5	26.6
Incr Delay (d2), s/veh	281.9	9.7	0.5	4.3	0.0	3.6	69.4	22.2	0.1	45.1	36.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.7	16.3	5.1	1.9	0.0	11.6	8.8	22.5	1.7	5.0	23.8	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	335.8	44.1	28.4	59.7	0.0	35.6	122.6	57.6	22.7	99.7	74.4	26.9
LnGrp LOS	F	D	C	E	A	D	F	E	C	F	F	C
Approach Vol, veh/h		1116			524			1661			1632	
Approach Delay, s/veh		119.3			38.4			62.8			71.0	
Approach LOS		F			D			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.2	54.8		52.0	17.0	51.0		52.0				
Change Period (Y+Rc), s	3.5	6.0		7.0	3.5	6.0		7.0				
Max Green Setting (Gmax), s	9.7	48.8		45.0	13.5	45.0		45.0				
Max Q Clear Time (g_c+1), s	10.5	50.2		47.0	15.5	47.0		47.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				75.7								
HCM 6th LOS				E								

Timings  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	41	171	222	8	28	123	1430	19	65	1437	71
Future Volume (vph)	41	171	222	8	28	123	1430	19	65	1437	71
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.8	46.8	46.8	46.8	46.8	8.5	30.7	30.7	8.5	37.7	37.7
Total Split (s)	46.8	46.8	46.8	46.8	46.8	14.0	63.2	63.2	10.0	59.2	59.2
Total Split (%)	39.0%	39.0%	39.0%	39.0%	39.0%	11.7%	52.7%	52.7%	8.3%	49.3%	49.3%
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	3.0	4.7	4.7	3.0	4.7	4.7
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.8	4.8	3.5	5.7	5.7	3.5	5.7	5.7
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	18.3	18.3	18.3	18.3	18.3	10.6	58.3	58.3	6.6	54.2	54.2
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.11	0.60	0.60	0.07	0.56	0.56
v/c Ratio	0.21	0.57	0.63	0.06	0.26	0.78	0.79	0.02	0.67	0.85	0.09
Control Delay	33.4	41.4	23.2	30.1	14.7	73.9	20.6	0.7	76.5	25.5	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	41.4	23.2	30.1	14.7	73.9	20.6	0.7	76.5	25.5	4.1
LOS	C	D	C	C	B	E	C	A	E	C	A
Approach Delay		31.4			16.1		24.5			26.6	
Approach LOS		C			B		C			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 97.3	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 26.0	Intersection LOS: C
Intersection Capacity Utilization 73.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Euclid Av. (SR-83) & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
 8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	171	222	8	28	53	123	1430	19	65	1437	71
Future Volume (veh/h)	41	171	222	8	28	53	123	1430	19	65	1437	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	46	192	133	9	31	57	138	1607	20	73	1615	68
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	214	260	221	137	82	151	169	2108	940	90	1942	848
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.10	0.62	0.62	0.06	0.57	0.57
Sat Flow, veh/h	1256	1800	1525	1012	568	1044	1619	3420	1525	1619	3420	1494
Grp Volume(v), veh/h	46	192	133	9	0	88	138	1607	20	73	1615	68
Grp Sat Flow(s),veh/h/ln	1256	1800	1525	1012	0	1612	1619	1710	1525	1619	1710	1494
Q Serve(g_s), s	2.6	7.8	6.2	0.7	0.0	3.8	6.4	26.0	0.4	3.4	29.5	1.6
Cycle Q Clear(g_c), s	6.4	7.8	6.2	8.5	0.0	3.8	6.4	26.0	0.4	3.4	29.5	1.6
Prop In Lane	1.00		1.00	1.00		0.65	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	214	260	221	137	0	233	169	2108	940	90	1942	848
V/C Ratio(X)	0.22	0.74	0.60	0.07	0.00	0.38	0.82	0.76	0.02	0.81	0.83	0.08
Avail Cap(c_a), veh/h	722	989	838	547	0	886	222	2573	1148	138	2394	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	31.3	30.6	35.4	0.0	29.6	33.5	10.6	5.7	35.7	13.5	7.5
Incr Delay (d2), s/veh	0.4	3.0	2.0	0.1	0.0	0.7	14.6	1.1	0.0	15.0	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.4	2.2	0.2	0.0	1.4	2.9	6.6	0.1	1.6	8.5	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	34.3	32.6	35.5	0.0	30.3	48.2	11.7	5.7	50.7	15.7	7.5
LnGrp LOS	C	C	C	D	A	C	D	B	A	D	B	A
Approach Vol, veh/h		371			97			1765			1756	
Approach Delay, s/veh		33.5			30.8			14.5			16.8	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	52.8		15.8	11.5	49.1		15.8				
Change Period (Y+Rc), s	3.5	5.7		4.8	3.5	5.7		4.8				
Max Green Setting (Gmax), s	6.5	57.5		42.0	10.5	53.5		42.0				
Max Q Clear Time (g_c+1), s	5.4	28.0		9.8	8.4	31.5		10.5				
Green Ext Time (p_c), s	0.0	13.5		1.2	0.0	11.9		0.4				

Intersection Summary

HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B



Timings  
9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	12	31	316	2	5	1310	302	319	1343
Future Volume (vph)	12	31	316	2	5	1310	302	319	1343
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	49.0	49.0	25.0	59.5
Total Split (%)	38.3%	38.3%	38.3%	38.3%	12.1%	40.8%	40.8%	20.8%	49.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)		41.0		41.0	10.0	43.0	43.0	20.5	65.1
Actuated g/C Ratio		0.34		0.34	0.08	0.36	0.36	0.17	0.54
v/c Ratio		0.11		1.25	0.04	1.18	0.54	1.28	0.80
Control Delay		22.2		163.6	51.4	123.3	24.7	190.3	27.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		22.2		163.6	51.4	123.3	24.7	190.3	27.1
LOS		C		F	D	F	C	F	C
Approach Delay		22.2		163.6		104.7			58.4
Approach LOS		C		F		F			E

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.28	
Intersection Signal Delay: 92.2	Intersection LOS: F
Intersection Capacity Utilization 111.5%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

























HCM 6th Signalized Intersection Summary  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	31	13	316	2	238	5	1310	302	319	1343	1
Future Volume (veh/h)	12	31	13	316	2	238	5	1310	302	319	1343	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	13	34	13	347	2	252	5	1440	267	351	1476	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	131	329	117	335	2	209	21	1226	547	277	1766	0
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.01	0.36	0.36	0.17	0.52	0.00
Sat Flow, veh/h	278	964	343	843	5	612	1619	3420	1525	1619	3510	0
Grp Volume(v), veh/h	60	0	0	601	0	0	5	1440	267	351	1476	0
Grp Sat Flow(s),veh/h/ln	1585	0	0	1460	0	0	1619	1710	1525	1619	1710	0
Q Serve(g_s), s	0.0	0.0	0.0	38.2	0.0	0.0	0.4	43.0	16.3	20.5	44.1	0.0
Cycle Q Clear(g_c), s	2.8	0.0	0.0	41.0	0.0	0.0	0.4	43.0	16.3	20.5	44.1	0.0
Prop In Lane	0.22		0.22	0.58		0.42	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	578	0	0	546	0	0	21	1226	547	277	1766	0
V/C Ratio(X)	0.10	0.00	0.00	1.10	0.00	0.00	0.24	1.18	0.49	1.27	0.84	0.00
Avail Cap(c_a), veh/h	578	0	0	546	0	0	135	1226	547	277	1766	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.9	0.0	0.0	41.0	0.0	0.0	58.7	38.5	29.9	49.7	24.7	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	68.8	0.0	0.0	2.2	87.6	0.7	146.4	3.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	26.3	0.0	0.0	0.2	31.5	5.7	19.1	16.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	0.0	0.0	109.9	0.0	0.0	60.9	126.1	30.6	196.2	28.4	0.0
LnGrp LOS	C	A	A	F	A	A	E	F	C	F	C	A
Approach Vol, veh/h		60			601			1712			1827	
Approach Delay, s/veh		27.0			109.9			111.0			60.6	
Approach LOS		C			F			F			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.0	49.0		46.0	6.0	68.0		46.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	20.5	43.0		41.0	10.0	53.5		41.0				
Max Q Clear Time (g_c+1), s	22.5	45.0		4.8	2.4	46.1		43.0				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	5.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				87.7								
HCM 6th LOS				F								

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗		↕		↙	↗			↕	
Traffic Vol, veh/h	0	295	15	8	111	0	23	0	11	0	0	0
Future Vol, veh/h	0	295	15	8	111	0	23	0	11	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	0	-	-	-	200	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	321	16	9	121	0	25	0	12	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	121	0	0	337	0	0	460	460	321	474	476	121
Stage 1	-	-	-	-	-	-	321	321	-	139	139	-
Stage 2	-	-	-	-	-	-	139	139	-	335	337	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1479	-	-	1234	-	-	515	501	724	504	491	936
Stage 1	-	-	-	-	-	-	695	655	-	869	785	-
Stage 2	-	-	-	-	-	-	869	785	-	683	645	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1479	-	-	1234	-	-	512	497	724	492	487	936
Mov Cap-2 Maneuver	-	-	-	-	-	-	512	497	-	492	487	-
Stage 1	-	-	-	-	-	-	695	655	-	869	779	-
Stage 2	-	-	-	-	-	-	862	779	-	672	645	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.5			11.7			0		
HCM LOS							B			A		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	512	724	1479	-	-	1234	-	-	-
HCM Lane V/C Ratio	0.049	0.017	-	-	-	0.007	-	-	-
HCM Control Delay (s)	12.4	10.1	0	-	-	7.9	0	-	0
HCM Lane LOS	B	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0.1	0	-	-	0	-	-	-

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↖		↖	↗
Traffic Vol, veh/h	2	815	592	3	24	17
Future Vol, veh/h	2	815	592	3	24	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	886	643	3	26	18

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	646	0	-	0	1535 645
Stage 1	-	-	-	-	645 -
Stage 2	-	-	-	-	890 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	949	-	-	-	129 476
Stage 1	-	-	-	-	526 -
Stage 2	-	-	-	-	404 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	949	-	-	-	129 476
Mov Cap-2 Maneuver	-	-	-	-	129 -
Stage 1	-	-	-	-	525 -
Stage 2	-	-	-	-	404 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	28.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	949	-	-	-	129	476
HCM Lane V/C Ratio	0.002	-	-	-	0.202	0.039
HCM Control Delay (s)	8.8	-	-	-	39.8	12.9
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7	0.1

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	↔
Traffic Vol, veh/h	282	1	1	107	4	0
Future Vol, veh/h	282	1	1	107	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	200	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	307	1	1	116	4	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	308	0	426 308
Stage 1	-	-	-	-	308 -
Stage 2	-	-	-	-	118 -
Critical Hdwy	-	-	4.1	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1264	-	589 737
Stage 1	-	-	-	-	750 -
Stage 2	-	-	-	-	912 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1264	-	588 737
Mov Cap-2 Maneuver	-	-	-	-	588 -
Stage 1	-	-	-	-	750 -
Stage 2	-	-	-	-	911 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	588	-	-	-	1264	-
HCM Lane V/C Ratio	0.007	-	-	-	0.001	-
HCM Control Delay (s)	11.2	0	-	-	7.9	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕	↕	↕	↕
Traffic Vol, veh/h	3	812	577	1	4	9
Future Vol, veh/h	3	812	577	1	4	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	3	883	627	1	4	10

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	628	0	0 1516 627
Stage 1	-	-	- 627 -
Stage 2	-	-	- 889 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	964	-	- 133 487
Stage 1	-	-	- 536 -
Stage 2	-	-	- 405 -
Platoon blocked, %		-	- -
Mov Cap-1 Maneuver	964	-	- 132 487
Mov Cap-2 Maneuver	-	-	- 132 -
Stage 1	-	-	- 533 -
Stage 2	-	-	- 405 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	964	-	-	-	132	487
HCM Lane V/C Ratio	0.003	-	-	-	0.033	0.02
HCM Control Delay (s)	8.7	0	-	-	33.2	12.5
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Vol, veh/h	17	272	6	23	88	9	8	115	46	22	97	14
Future Vol, veh/h	17	272	6	23	88	9	8	115	46	22	97	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	18	296	7	25	96	10	9	125	50	24	105	15
Number of Lanes	0	2	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	10.1	9.6	10	9.8
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	5%	11%	0%	19%	17%
Vol Thru, %	68%	89%	96%	73%	73%
Vol Right, %	27%	0%	4%	7%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	169	153	142	120	133
LT Vol	8	17	0	23	22
Through Vol	115	136	136	88	97
RT Vol	46	0	6	9	14
Lane Flow Rate	184	166	154	130	145
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.263	0.255	0.233	0.194	0.214
Departure Headway (Hd)	5.147	5.631	5.545	5.342	5.328
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	702	642	651	673	677
Service Time	3.151	3.331	3.245	3.363	3.335
HCM Lane V/C Ratio	0.262	0.259	0.237	0.193	0.214
HCM Control Delay	10	10.2	9.9	9.6	9.8
HCM Lane LOS	A	B	A	A	A
HCM 95th-tile Q	1.1	1	0.9	0.7	0.8

Intersection						
Int Delay, s/veh	8.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↔	
Traffic Vol, veh/h	96	721	500	41	66	64
Future Vol, veh/h	96	721	500	41	66	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	104	784	543	45	72	70

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	588	0	-	0	1558 294
Stage 1	-	-	-	-	566 -
Stage 2	-	-	-	-	992 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	997	-	-	-	115 708
Stage 1	-	-	-	-	537 -
Stage 2	-	-	-	-	362 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	997	-	-	-	94 708
Mov Cap-2 Maneuver	-	-	-	-	94 -
Stage 1	-	-	-	-	438 -
Stage 2	-	-	-	-	362 -

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	93.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	997	-	-	-	164
HCM Lane V/C Ratio	0.105	-	-	-	0.862
HCM Control Delay (s)	9	0	-	-	93.2
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.3	-	-	-	6

Intersection	
Intersection Delay, s/veh	804.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕			↕			↕	
Traffic Vol, veh/h	146	142	78	16	46	103	17	436	27	44	262	50
Future Vol, veh/h	146	142	78	16	46	103	17	436	27	44	262	50
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.25	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	162	158	87	18	51	114	19	1744	30	49	291	56
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	41.4	28.6	1222.5	54.1
HCM LOS	E	D	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	4%	51%	0%	10%	12%
Vol Thru, %	91%	49%	0%	28%	74%
Vol Right, %	6%	0%	100%	62%	14%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	480	288	78	165	356
LT Vol	17	146	0	16	44
Through Vol	436	142	0	46	262
RT Vol	27	0	78	103	50
Lane Flow Rate	1793	320	87	183	396
Geometry Grp	2	7	7	5	2
Degree of Util (X)	3.671	0.753	0.181	0.426	0.826
Departure Headway (Hd)	7.372	13.38	12.351	14.961	12.26
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	520	275	293	244	301
Service Time	5.434	11.08	10.051	12.961	10.26
HCM Lane V/C Ratio	3.448	1.164	0.297	0.75	1.316
HCM Control Delay	1222.5	47.8	17.8	28.6	54.1
HCM Lane LOS	F	E	C	D	F
HCM 95th-tile Q	165.7	5.5	0.6	2	6.9



Intersection	
Intersection Delay, s/veh	53.8
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	230	604	416	210	257	131
Future Vol, veh/h	230	604	416	210	257	131
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	240	629	433	219	268	136
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left			WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	258.5	96.8	20.5
HCM LOS	F	F	C

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	28%	0%	100%	0%
Vol Thru, %	72%	66%	0%	0%
Vol Right, %	0%	34%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	834	626	257	131
LT Vol	230	0	257	0
Through Vol	604	416	0	0
RT Vol	0	210	0	131
Lane Flow Rate	869	652	268	136
Geometry Grp	2	2	7	7
Degree of Util (X)	1.513	1.107	0.596	0.258
Departure Headway (Hd)	6.594	6.796	9.016	7.768
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	556	541	404	465
Service Time	4.594	4.796	6.716	5.468
HCM Lane V/C Ratio	1.563	1.205	0.663	0.292
HCM Control Delay	258.5	96.8	24.2	13.1
HCM Lane LOS	F	F	C	B
HCM 95th-tile Q	42.3	18.8	3.7	1

Intersection

Intersection Delay, s/veh 26.7

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	22	739	1	74	410	32	3	21	224	69	14	10
Future Vol, veh/h	22	739	1	74	410	32	3	21	224	69	14	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	23	778	1	78	432	34	3	22	236	73	15	11
Number of Lanes	0	1	0	0	1	0	0	0	1	0	0	1

Approach	EB	WB	WB	NB	SB
Opposing Approach	WB	EB	SB	SB	NB
Opposing Lanes	1	1	1	1	1
Conflicting Approach Left SB	SB	NB	EB	EB	WB
Conflicting Lanes Left	1	1	1	1	1
Conflicting Approach Right NB	NB	SB	WB	WB	EB
Conflicting Lanes Right	1	1	1	1	1
HCM Control Delay	224.1	55.2	18.3	15	15
HCM LOS	F	F	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	3%	14%	74%
Vol Thru, %	8%	97%	79%	15%
Vol Right, %	90%	0%	6%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	248	762	516	93
LT Vol	3	22	74	69
Through Vol	21	739	410	14
RT Vol	224	1	32	10
Lane Flow Rate	261	802	543	98
Geometry Grp	1	1	1	1
Degree of Util (X)	0.499	1.434	0.952	0.225
Departure Headway (Hd)	7.788	6.435	7.034	9.309
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	467	569	521	389
Service Time	5.788	4.443	5.034	7.309
HCM Lane V/C Ratio	0.559	1.409	1.042	0.252
HCM Control Delay	18.3	224.1	55.2	15
HCM Lane LOS	C	F	F	B
HCM 95th-tile Q	2.7	38.2	12.1	0.9

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	235	88	41	34	25	63
Future Vol, veh/h	235	88	41	34	25	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	255	96	45	37	27	68

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	82	0	-	0	670
Stage 1	-	-	-	-	64
Stage 2	-	-	-	-	606
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1528	-	-	-	425
Stage 1	-	-	-	-	964
Stage 2	-	-	-	-	548
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1528	-	-	-	350
Mov Cap-2 Maneuver	-	-	-	-	350
Stage 1	-	-	-	-	794
Stage 2	-	-	-	-	548

Approach	EB	WB	SB
HCM Control Delay, s	5.7	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1528	-	-	-	656
HCM Lane V/C Ratio	0.167	-	-	-	0.146
HCM Control Delay (s)	7.8	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	0.5

Intersection												
Int Delay, s/veh	20.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	11	723	121	90	466	9	113	2	127	26	7	32
Future Vol, veh/h	11	723	121	90	466	9	113	2	127	26	7	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	75	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	91	91	91	91	92	91	92	91	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	12	795	133	99	512	10	124	2	140	28	8	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	522	0	0	928	0	0	1556	1539	795	1672	1667	517
Stage 1	-	-	-	-	-	-	819	819	-	715	715	-
Stage 2	-	-	-	-	-	-	737	720	-	957	952	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1055	-	-	745	-	-	~ 93	117	391	77	97	562
Stage 1	-	-	-	-	-	-	372	392	-	425	438	-
Stage 2	-	-	-	-	-	-	413	435	-	312	341	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1055	-	-	745	-	-	~ 72	100	391	44	83	562
Mov Cap-2 Maneuver	-	-	-	-	-	-	188	217	-	44	83	-
Stage 1	-	-	-	-	-	-	368	388	-	420	380	-
Stage 2	-	-	-	-	-	-	329	377	-	197	337	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.7	105.3	127.9
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	259	1055	-	-	745	-	-	89
HCM Lane V/C Ratio	1.027	0.011	-	-	0.133	-	-	0.794
HCM Control Delay (s)	105.3	8.5	-	-	10.6	-	-	127.9
HCM Lane LOS	F	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	10.4	0	-	-	0.5	-	-	4.1

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑			↑↓				
Traffic Vol, veh/h	7	889	11	10	503	8	24	0	14	23	0	19
Future Vol, veh/h	7	889	11	10	503	8	24	0	14	23	0	19
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	1010	13	11	572	9	27	0	16	26	0	22

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	581	0	0	1024	0	0	1633	1637	513
Stage 1	-	-	-	-	-	-	1034	1034	-
Stage 2	-	-	-	-	-	-	599	603	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.6	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	1003	-	-	686	-	-	103	102	512
Stage 1	-	-	-	-	-	-	308	312	-
Stage 2	-	-	-	-	-	-	553	492	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1003	-	-	685	-	-	99	0	512
Mov Cap-2 Maneuver	-	-	-	-	-	-	217	0	-
Stage 1	-	-	-	-	-	-	302	0	-
Stage 2	-	-	-	-	-	-	544	0	-

Approach	EB			WB			NB		
HCM Control Delay, s	0.1			0.2			20.5		
HCM LOS							C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	275	1003	-	-	685	-	-
HCM Lane V/C Ratio	0.157	0.008	-	-	0.017	-	-
HCM Control Delay (s)	20.5	8.6	-	-	10.3	-	-
HCM Lane LOS	C	A	-	-	B	-	-
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↗		↖	↗		↖	↗	
Traffic Vol, veh/h	3	920	8	15	505	11	10	2	20	32	7	10
Future Vol, veh/h	3	920	8	15	505	11	10	2	20	32	7	10
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	200	-	-	200	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	1022	9	17	561	12	11	2	22	36	8	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	573	0	0	1032	0	0	1645	1641	517	1119	1639	567
Stage 1	-	-	-	-	-	-	1034	1034	-	601	601	-
Stage 2	-	-	-	-	-	-	611	607	-	518	1038	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.4	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1010	-	-	681	-	-	111	101	509	175	101	527
Stage 1	-	-	-	-	-	-	252	312	-	491	493	-
Stage 2	-	-	-	-	-	-	484	489	-	514	311	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1010	-	-	680	-	-	103	98	509	163	98	527
Mov Cap-2 Maneuver	-	-	-	-	-	-	189	214	-	293	207	-
Stage 1	-	-	-	-	-	-	251	311	-	490	481	-
Stage 2	-	-	-	-	-	-	454	477	-	487	310	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.3			17.1			18.3		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	189	452	1010	-	-	680	-	-	293	322
HCM Lane V/C Ratio	0.059	0.054	0.003	-	-	0.025	-	-	0.121	0.059
HCM Control Delay (s)	25.2	13.4	8.6	-	-	10.4	-	-	19	16.9
HCM Lane LOS	D	B	A	-	-	B	-	-	C	C
HCM 95th %tile Q(veh)	0.2	0.2	0	-	-	0.1	-	-	0.4	0.2

Intersection	
Intersection Delay, s/veh	264.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	8	935	23	34	466	14	36	4	123	76	5	11
Future Vol, veh/h	8	935	23	34	466	14	36	4	123	76	5	11
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	9	1039	26	38	518	16	40	4	137	84	6	12
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	3
HCM Control Delay	421.1	93.5	17.7	16.6
HCM LOS	F	F	C	C

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	22%	100%	0%	0%	100%	0%	83%
Vol Thru, %	2%	0%	100%	0%	0%	97%	5%
Vol Right, %	75%	0%	0%	100%	0%	3%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	163	8	935	23	34	480	92
LT Vol	36	8	0	0	34	0	76
Through Vol	4	0	935	0	0	466	5
RT Vol	123	0	0	23	0	14	11
Lane Flow Rate	181	9	1039	26	38	533	102
Geometry Grp	7	7	7	7	8	8	7
Degree of Util (X)	0.387	0.018	1.914	0.042	0.082	1.085	0.248
Departure Headway (Hd)	9.253	7.362	6.85	6.132	9.407	8.868	10.479
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	391	489	540	588	383	416	346
Service Time	6.953	5.062	4.55	3.832	7.107	6.568	8.179
HCM Lane V/C Ratio	0.463	0.018	1.924	0.044	0.099	1.281	0.295
HCM Control Delay	17.7	10.2	434.7	9.1	12.9	99.2	16.6
HCM Lane LOS	C	B	F	A	B	F	C
HCM 95th-tile Q	1.8	0.1	65.8	0.1	0.3	15.2	1

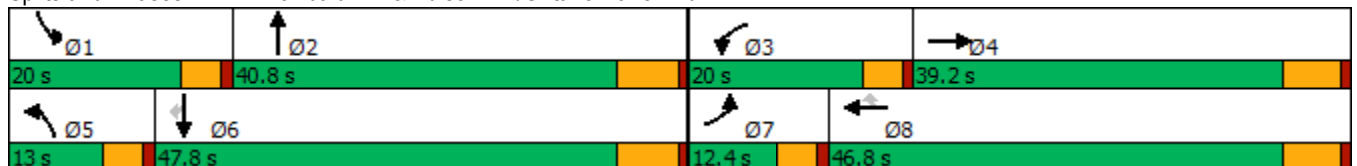
Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	711	137	326	272	76	87	657	392	150	863	100
Future Volume (vph)	152	711	137	326	272	76	87	657	392	150	863	100
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	12.4	39.2		20.0	46.8	46.8	13.0	40.8		20.0	47.8	47.8
Total Split (%)	10.3%	32.7%		16.7%	39.0%	39.0%	10.8%	34.0%		16.7%	39.8%	39.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	7.8	27.8	107.1	14.8	34.8	34.8	8.2	28.8	107.1	13.5	34.0	34.0
Actuated g/C Ratio	0.07	0.26	1.00	0.14	0.32	0.32	0.08	0.27	1.00	0.13	0.32	0.32
v/c Ratio	0.73	0.83	0.09	0.83	0.48	0.13	0.73	0.74	0.27	0.77	0.82	0.18
Control Delay	71.7	47.0	0.1	64.4	32.8	0.4	84.7	42.0	0.4	71.9	41.1	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.7	47.0	0.1	64.4	32.8	0.4	84.7	42.0	0.4	71.9	41.1	1.7
LOS	E	D	A	E	C	A	F	D	A	E	D	A
Approach Delay		44.3			44.4			31.0			41.8	
Approach LOS		D			D			C			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 107.1  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 39.7  
 Intersection LOS: D  
 Intersection Capacity Utilization 80.9%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 44: Archibald Av. & Edison Av./Ontario Ranch Rd.





HCM 6th Signalized Intersection Summary  
44: Archibald Av. & Edison Av./Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑	↖	↖	↑↑	↖	↖	↑↑	↖
Traffic Volume (veh/h)	152	711	137	326	272	76	87	657	392	150	863	100
Future Volume (veh/h)	152	711	137	326	272	76	87	657	392	150	863	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	157	733	0	336	280	44	90	677	0	155	890	81
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	212	880		394	574	487	111	931		183	1083	472
Arrive On Green	0.07	0.26	0.00	0.13	0.32	0.32	0.07	0.27	0.00	0.11	0.32	0.32
Sat Flow, veh/h	2956	3420	1525	2956	1800	1525	1619	3420	1525	1619	3420	1491
Grp Volume(v), veh/h	157	733	0	336	280	44	90	677	0	155	890	81
Grp Sat Flow(s),veh/h/ln	1478	1710	1525	1478	1800	1525	1619	1710	1525	1619	1710	1491
Q Serve(g_s), s	5.1	19.8	0.0	10.9	12.3	2.0	5.4	17.6	0.0	9.2	23.5	3.8
Cycle Q Clear(g_c), s	5.1	19.8	0.0	10.9	12.3	2.0	5.4	17.6	0.0	9.2	23.5	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	880		394	574	487	111	931		183	1083	472
V/C Ratio(X)	0.74	0.83		0.85	0.49	0.09	0.81	0.73		0.84	0.82	0.17
Avail Cap(c_a), veh/h	236	1154		465	747	633	139	1199		255	1444	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	34.3	0.0	41.4	26.9	23.4	44.9	32.3	0.0	42.5	30.9	24.2
Incr Delay (d2), s/veh	8.7	4.1	0.0	11.0	0.6	0.1	19.5	1.6	0.0	12.6	2.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	8.2	0.0	4.3	5.0	0.7	2.6	6.9	0.0	4.1	9.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.2	38.5	0.0	52.5	27.5	23.4	64.4	33.9	0.0	55.2	33.8	24.3
LnGrp LOS	D	D		D	C	C	E	C		E	C	C
Approach Vol, veh/h		890	A		660			767	A		1126	
Approach Delay, s/veh		41.1			39.9			37.5			36.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	33.1	17.6	31.4	11.3	37.5	11.6	37.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	15.4	34.3	15.4	33.0	8.4	41.3	7.8	40.6				
Max Q Clear Time (g_c+I1), s	11.2	19.6	12.9	21.8	7.4	25.5	7.1	14.3				
Green Ext Time (p_c), s	0.1	3.4	0.2	3.3	0.0	5.1	0.0	1.5				

Intersection Summary

HCM 6th Ctrl Delay	38.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
45: Archibald Av. & Eucalyptus Av.

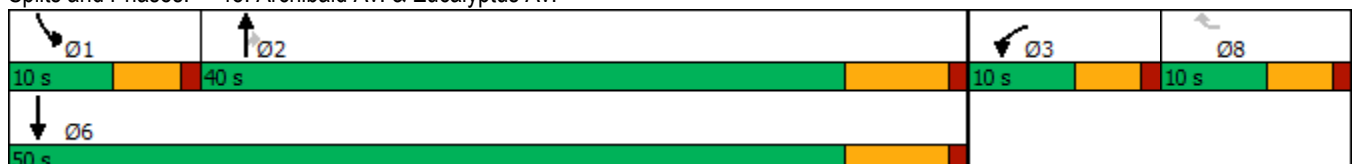


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖↗	↕↕	↖	↗	↕↕
Traffic Volume (vph)	2	11	1124	1	10	1315
Future Volume (vph)	2	11	1124	1	10	1315
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		8		2		
Detector Phase	3	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.5	9.5	32.5	32.5	9.6	16.5
Total Split (s)	10.0	10.0	40.0	40.0	10.0	50.0
Total Split (%)	14.3%	14.3%	57.1%	57.1%	14.3%	71.4%
Yellow Time (s)	3.5	3.5	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	5.6	5.6	56.7	56.7	5.2	58.5
Actuated g/C Ratio	0.09	0.09	0.90	0.90	0.08	0.92
v/c Ratio	0.01	0.03	0.39	0.00	0.08	0.44
Control Delay	26.5	0.1	4.7	6.0	28.3	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	0.1	4.7	6.0	28.3	3.0
LOS	C	A	A	A	C	A
Approach Delay			4.7			3.2
Approach LOS			A			A

Intersection Summary

Cycle Length: 70	
Actuated Cycle Length: 63.3	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.44	
Intersection Signal Delay: 3.9	Intersection LOS: A
Intersection Capacity Utilization 50.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 45: Archibald Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)  
08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔		↔		↑↑	↗	↘	↑↑	
Traffic Volume (veh/h)	0	0	0	2	0	11	0	1124	1	10	1315	0
Future Volume (veh/h)	0	0	0	2	0	11	0	1124	1	10	1315	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1700	0	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				2	0	3	0	1196	1	11	1399	0
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				21	0	18	0	2377	1059	23	2711	0
Arrive On Green				0.01	0.00	0.01	0.00	0.69	0.69	0.01	0.79	0.00
Sat Flow, veh/h				3141	0	2685	0	3510	1524	1619	3510	0
Grp Volume(v), veh/h				2	0	3	0	1196	1	11	1399	0
Grp Sat Flow(s),veh/h/ln				1570	0	1342	0	1710	1524	1619	1710	0
Q Serve(g_s), s				0.0	0.0	0.1	0.0	9.0	0.0	0.4	7.9	0.0
Cycle Q Clear(g_c), s				0.0	0.0	0.1	0.0	9.0	0.0	0.4	7.9	0.0
Prop In Lane				1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h				21	0	18	0	2377	1059	23	2711	0
V/C Ratio(X)				0.10	0.00	0.17	0.00	0.50	0.00	0.48	0.52	0.00
Avail Cap(c_a), veh/h				315	0	269	0	2377	1059	159	2711	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				27.1	0.0	27.1	0.0	3.9	2.6	26.8	2.0	0.0
Incr Delay (d2), s/veh				1.9	0.0	4.3	0.0	0.8	0.0	5.8	0.7	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	0.0	0.0	0.0	0.8	0.0	0.2	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				29.0	0.0	31.4	0.0	4.7	2.6	32.6	2.7	0.0
LnGrp LOS				C	A	C	A	A	A	C	A	A
Approach Vol, veh/h					5			1197			1410	
Approach Delay, s/veh					30.4			4.7			2.9	
Approach LOS					C			A			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	5.4	44.6				50.0		4.9				
Change Period (Y+Rc), s	4.6	6.5				6.5		4.5				
Max Green Setting (Gmax), s	5.4	33.5				43.5		5.5				
Max Q Clear Time (g_c+I1), s	2.4	11.0				9.9		2.1				
Green Ext Time (p_c), s	0.0	8.0				11.5		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				3.8								
HCM 6th LOS				A								

Timings  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

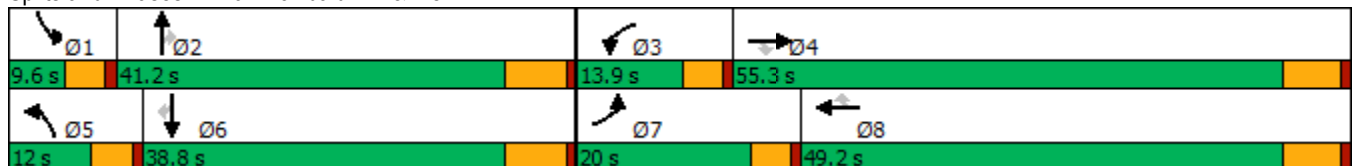
08/20/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	399	79	584	47	26	55	185	636	44	77	1039	231
Future Volume (vph)	399	79	584	47	26	55	185	636	44	77	1039	231
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	20.0	55.3	55.3	13.9	49.2	49.2	12.0	41.2	41.2	9.6	38.8	38.8
Total Split (%)	16.7%	46.1%	46.1%	11.6%	41.0%	41.0%	10.0%	34.3%	34.3%	8.0%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	16.9	34.9	34.9	7.4	27.2	27.2	7.6	38.4	38.4	5.2	33.3	33.3
Actuated g/C Ratio	0.16	0.34	0.34	0.07	0.26	0.26	0.07	0.37	0.37	0.05	0.32	0.32
v/c Ratio	1.56	0.13	0.91	0.42	0.06	0.11	1.61	0.36	0.07	0.54	0.97	0.40
Control Delay	300.0	23.6	39.4	61.8	26.7	0.4	341.2	28.4	0.2	67.2	58.3	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	300.0	23.6	39.4	61.8	26.7	0.4	341.2	28.4	0.2	67.2	58.3	14.5
LOS	F	C	D	E	C	A	F	C	A	E	E	B
Approach Delay		136.1			28.1			93.9			51.3	
Approach LOS		F			C			F			D	

Intersection Summary

























Cycle Length: 120  
 Actuated Cycle Length: 103.1  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.61  
 Intersection Signal Delay: 87.7  
 Intersection LOS: F  
 Intersection Capacity Utilization 87.6%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 46: Archibald Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)  
08/20/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	399	79	584	47	26	55	185	636	44	77	1039	231
Future Volume (veh/h)	399	79	584	47	26	55	185	636	44	77	1039	231
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	411	81	417	48	27	18	191	656	31	79	1071	180
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	271	546	462	62	314	266	130	1837	563	139	1165	519
Arrive On Green	0.17	0.30	0.30	0.04	0.17	0.17	0.08	0.37	0.37	0.05	0.34	0.34
Sat Flow, veh/h	1619	1800	1525	1619	1800	1525	1619	4914	1506	2956	3420	1525
Grp Volume(v), veh/h	411	81	417	48	27	18	191	656	31	79	1071	180
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	1800	1525	1619	1638	1506	1478	1710	1525
Q Serve(g_s), s	15.4	3.0	24.2	2.7	1.2	0.9	7.4	8.9	1.2	2.4	27.7	8.1
Cycle Q Clear(g_c), s	15.4	3.0	24.2	2.7	1.2	0.9	7.4	8.9	1.2	2.4	27.7	8.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	271	546	462	62	314	266	130	1837	563	139	1165	519
V/C Ratio(X)	1.52	0.15	0.90	0.77	0.09	0.07	1.47	0.36	0.06	0.57	0.92	0.35
Avail Cap(c_a), veh/h	271	959	813	163	840	712	130	1850	567	160	1199	535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.4	23.4	30.8	43.9	31.9	31.8	42.4	20.9	18.5	43.0	29.2	22.7
Incr Delay (d2), s/veh	251.8	0.1	7.3	7.4	0.1	0.1	248.1	0.1	0.0	1.4	11.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.6	1.2	9.4	1.2	0.5	0.3	11.7	3.1	0.4	0.9	11.8	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	290.1	23.6	38.1	51.3	32.0	31.9	290.5	21.0	18.5	44.4	40.4	23.1
LnGrp LOS	F	C	D	D	C	C	F	C	B	D	D	C
Approach Vol, veh/h		909			93			878			1330	
Approach Delay, s/veh		150.7			41.9			79.5			38.3	
Approach LOS		F			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	41.0	8.1	34.1	12.0	37.9	20.0	22.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	34.7	9.3	49.1	7.4	32.3	15.4	43.0				
Max Q Clear Time (g_c+I1), s	4.4	10.9	4.7	26.2	9.4	29.7	17.4	3.2				
Green Ext Time (p_c), s	0.0	4.0	0.0	1.8	0.0	1.7	0.0	0.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			81.5									
HCM 6th LOS			F									

Timings  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)

08/20/2021



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖ ↗	↖	↖	↖	↖ ↗	↖
Traffic Volume (vph)	369	309	586	402	723	950
Future Volume (vph)	369	309	586	402	723	950
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	37.0	46.7	36.3	37.0	83.7
Total Split (%)	30.3%	30.8%	38.9%	30.3%	30.8%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min
Act Effct Green (s)	16.7	54.5	37.0	53.7	32.4	74.8
Actuated g/C Ratio	0.16	0.53	0.36	0.53	0.32	0.73
v/c Ratio	0.66	0.34	0.87	0.48	1.29	0.70
Control Delay	45.8	10.0	45.4	13.0	173.7	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.8	10.0	45.4	13.0	173.7	12.2
LOS	D	A	D	B	F	B
Approach Delay	29.5		32.2			82.0
Approach LOS	C		C			F

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 102  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.29  
 Intersection Signal Delay: 56.6  
 Intersection LOS: E  
 Intersection Capacity Utilization 94.4%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 47: Archibald Av. & Limonite Av.



HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
08/20/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↖	↖	↖	↖
Traffic Volume (veh/h)	369	309	586	402	723	950
Future Volume (veh/h)	369	309	586	402	723	950
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	377	265	598	389	738	969
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	465	759	690	786	614	1435
Arrive On Green	0.13	0.13	0.36	0.36	0.34	0.76
Sat Flow, veh/h	3510	1610	1900	1576	1810	1900
Grp Volume(v), veh/h	377	265	598	389	738	969
Grp Sat Flow(s),veh/h/ln	1755	1610	1900	1576	1810	1900
Q Serve(g_s), s	9.8	9.8	27.6	15.6	32.0	24.0
Cycle Q Clear(g_c), s	9.8	9.8	27.6	15.6	32.0	24.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	465	759	690	786	614	1435
V/C Ratio(X)	0.81	0.35	0.87	0.50	1.20	0.68
Avail Cap(c_a), veh/h	1153	1075	834	905	614	1585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.8	15.8	27.9	15.9	31.2	5.8
Incr Delay (d2), s/veh	1.3	0.1	8.7	0.6	106.1	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	3.2	12.9	6.8	30.4	5.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.1	15.9	36.6	16.5	137.2	6.5
LnGrp LOS	D	B	D	B	F	A
Approach Vol, veh/h	642		987			1707
Approach Delay, s/veh	30.7		28.7			63.0
Approach LOS	C		C			E
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	37.0	39.5			76.5	17.8
Change Period (Y+Rc), s	5.0	5.3			* 5.3	5.3
Max Green Setting (Gmax), s	32.0	41.4			* 79	31.0
Max Q Clear Time (g_c+I1), s	34.0	29.6			26.0	11.8
Green Ext Time (p_c), s	0.0	4.6			4.3	0.7

Intersection Summary

HCM 6th Ctrl Delay	46.6
HCM 6th LOS	D

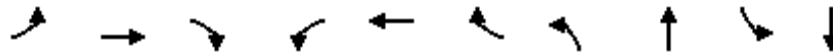
Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

48: Turner Av. & Ontario Ranch Rd.

08/20/2021

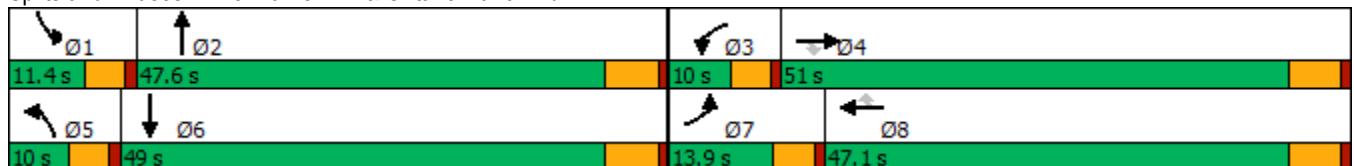


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗	↘	↗
Traffic Volume (vph)	51	1296	41	33	697	14	27	8	29	8
Future Volume (vph)	51	1296	41	33	697	14	27	8	29	8
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	25.8	25.8	9.6	45.8	9.6	47.8
Total Split (s)	13.9	51.0	51.0	10.0	47.1	47.1	10.0	47.6	11.4	49.0
Total Split (%)	11.6%	42.5%	42.5%	8.3%	39.3%	39.3%	8.3%	39.7%	9.5%	40.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	7.3	57.6	57.6	5.6	56.0	56.0	5.5	14.9	6.1	15.5
Actuated g/C Ratio	0.09	0.68	0.68	0.07	0.66	0.66	0.07	0.18	0.07	0.18
v/c Ratio	0.40	0.61	0.04	0.34	0.34	0.01	0.29	0.17	0.27	0.11
Control Delay	51.6	19.2	0.1	54.6	16.1	0.0	53.2	13.1	50.9	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.6	19.2	0.1	54.6	16.1	0.0	53.2	13.1	50.9	15.3
LOS	D	B	A	D	B	A	D	B	D	B
Approach Delay		19.8			17.5			27.5		32.3
Approach LOS		B			B			C		C

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 84.4  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.61  
 Intersection Signal Delay: 19.6  
 Intersection LOS: B  
 Intersection Capacity Utilization 66.9%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 48: Turner Av. & Ontario Ranch Rd.





HCM 6th Signalized Intersection Summary  
48: Turner Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	51	1296	41	33	697	14	27	8	41	29	8	24
Future Volume (veh/h)	51	1296	41	33	697	14	27	8	41	29	8	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	56	1424	33	36	766	12	30	9	26	32	9	12
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	71	1899	847	55	1866	832	49	50	144	51	87	116
Arrive On Green	0.04	0.56	0.56	0.03	0.55	0.55	0.03	0.12	0.12	0.03	0.12	0.12
Sat Flow, veh/h	1619	3420	1525	1619	3420	1525	1619	405	1171	1619	699	933
Grp Volume(v), veh/h	56	1424	33	36	766	12	30	0	35	32	0	21
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1525	1619	0	1576	1619	0	1632
Q Serve(g_s), s	2.8	25.8	0.8	1.8	10.7	0.3	1.5	0.0	1.6	1.6	0.0	0.9
Cycle Q Clear(g_c), s	2.8	25.8	0.8	1.8	10.7	0.3	1.5	0.0	1.6	1.6	0.0	0.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.74	1.00		0.57
Lane Grp Cap(c), veh/h	71	1899	847	55	1866	832	49	0	194	51	0	203
V/C Ratio(X)	0.78	0.75	0.04	0.65	0.41	0.01	0.61	0.00	0.18	0.62	0.00	0.10
Avail Cap(c_a), veh/h	185	1899	847	107	1866	832	107	0	809	135	0	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.5	13.8	8.2	38.8	10.8	8.5	39.0	0.0	32.0	38.9	0.0	31.6
Incr Delay (d2), s/veh	6.9	2.8	0.1	4.7	0.7	0.0	4.5	0.0	0.4	4.6	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	8.6	0.2	0.7	3.5	0.1	0.6	0.0	0.6	0.7	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	16.6	8.3	43.5	11.5	8.5	43.5	0.0	32.4	43.5	0.0	31.8
LnGrp LOS	D	B	A	D	B	A	D	A	C	D	A	C
Approach Vol, veh/h		1513			814			65				53
Approach Delay, s/veh		17.4			12.9			37.6				38.9
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	15.8	7.4	51.0	7.1	15.9	8.2	50.2				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.8	41.8	5.4	45.2	5.4	43.2	9.3	41.3				
Max Q Clear Time (g_c+I1), s	3.6	3.6	3.8	27.8	3.5	2.9	4.8	12.7				
Green Ext Time (p_c), s	0.0	0.1	0.0	9.3	0.0	0.1	0.0	5.3				

Intersection Summary

HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

Timings

49: Haven Av. & Ontario Ranch Rd.

08/20/2021

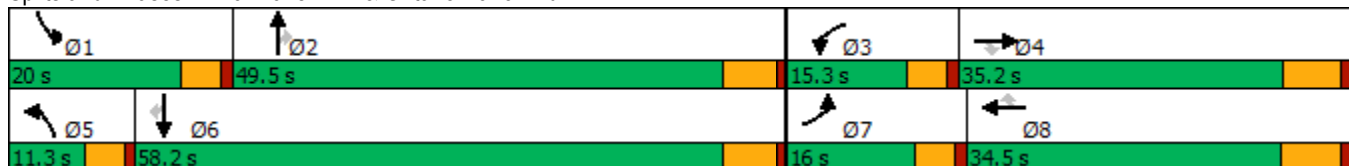


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (vph)	131	1081	70	64	612	136	30	93	24	175	274	118
Future Volume (vph)	131	1081	70	64	612	136	30	93	24	175	274	118
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	16.0	35.2	35.2	15.3	34.5	34.5	11.3	49.5	49.5	20.0	58.2	58.2
Total Split (%)	13.3%	29.3%	29.3%	12.8%	28.8%	28.8%	9.4%	41.3%	41.3%	16.7%	48.5%	48.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	11.2	35.3	35.3	7.8	29.0	29.0	6.0	15.7	15.7	14.9	27.1	27.1
Actuated g/C Ratio	0.13	0.40	0.40	0.09	0.33	0.33	0.07	0.18	0.18	0.17	0.31	0.31
v/c Ratio	0.67	0.58	0.10	0.47	0.32	0.24	0.28	0.31	0.06	0.67	0.52	0.22
Control Delay	58.5	27.3	0.3	54.2	25.8	5.9	52.0	34.6	0.3	51.8	28.7	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	27.3	0.3	54.2	25.8	5.9	52.0	34.6	0.3	51.8	28.7	5.3
LOS	E	C	A	D	C	A	D	C	A	D	C	A
Approach Delay		29.0			24.8			32.5			31.0	
Approach LOS		C			C			C			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 88.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 28.4	Intersection LOS: C
Intersection Capacity Utilization 63.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 49: Haven Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
49: Haven Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (veh/h)	131	1081	70	64	612	136	30	93	24	175	274	118
Future Volume (veh/h)	131	1081	70	64	612	136	30	93	24	175	274	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	136	1126	42	67	638	68	31	97	11	182	285	50
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	166	2018	627	83	2224	548	51	231	196	217	416	352
Arrive On Green	0.10	0.41	0.41	0.05	0.36	0.36	0.03	0.13	0.13	0.13	0.23	0.23
Sat Flow, veh/h	1619	4914	1525	1619	6192	1525	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	136	1126	42	67	638	68	31	97	11	182	285	50
Grp Sat Flow(s),veh/h/ln	1619	1638	1525	1619	1548	1525	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	6.4	13.7	1.3	3.2	5.7	2.3	1.5	3.9	0.5	8.6	11.3	2.0
Cycle Q Clear(g_c), s	6.4	13.7	1.3	3.2	5.7	2.3	1.5	3.9	0.5	8.6	11.3	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	166	2018	627	83	2224	548	51	231	196	217	416	352
V/C Ratio(X)	0.82	0.56	0.07	0.81	0.29	0.12	0.61	0.42	0.06	0.84	0.69	0.14
Avail Cap(c_a), veh/h	237	2018	627	222	2224	548	139	1009	855	320	1210	1025
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	17.6	13.9	36.6	17.8	16.8	37.3	31.3	29.8	32.9	27.4	23.8
Incr Delay (d2), s/veh	9.4	1.1	0.2	6.8	0.3	0.5	4.4	1.2	0.1	8.1	2.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	4.6	0.4	1.3	1.8	0.8	0.6	1.6	0.2	3.6	4.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.7	18.7	14.1	43.4	18.2	17.2	41.6	32.5	30.0	41.0	29.4	24.0
LnGrp LOS	D	B	B	D	B	B	D	C	C	D	C	C
Approach Vol, veh/h		1304			773			139			517	
Approach Delay, s/veh		21.1			20.3			34.3			33.0	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	15.8	8.6	38.5	7.0	23.8	12.6	34.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	15.4	43.7	10.7	* 29	6.7	52.4	11.4	28.0				
Max Q Clear Time (g_c+I1), s	10.6	5.9	5.2	15.7	3.5	13.3	8.4	7.7				
Green Ext Time (p_c), s	0.1	0.5	0.0	5.9	0.0	1.7	0.0	3.8				

Intersection Summary

HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

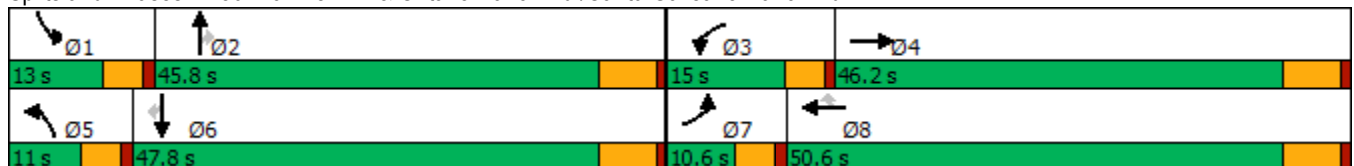


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	102	985	627	532	116	211	404	252	488	857	119
Future Volume (vph)	102	985	627	532	116	211	404	252	488	857	119
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.2	9.6	49.2	49.2	9.6	44.2	44.2	9.6	45.2	45.2
Total Split (s)	10.6	46.2	15.0	50.6	50.6	11.0	45.8	45.8	13.0	47.8	47.8
Total Split (%)	8.8%	38.5%	12.5%	42.2%	42.2%	9.2%	38.2%	38.2%	10.8%	39.8%	39.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.1	31.1	10.6	35.6	35.6	6.5	31.3	31.3	8.5	33.4	33.4
Actuated g/C Ratio	0.06	0.30	0.10	0.34	0.34	0.06	0.30	0.30	0.08	0.32	0.32
v/c Ratio	0.62	0.72	2.17	0.47	0.20	1.19	0.28	0.48	2.09	0.81	0.22
Control Delay	67.1	33.3	562.3	28.5	5.4	170.2	28.3	17.1	530.1	39.1	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.1	33.3	562.3	28.5	5.4	170.2	28.3	17.1	530.1	39.1	7.2
LOS	E	C	F	C	A	F	C	B	F	D	A
Approach Delay		35.8		288.9			59.5			200.1	
Approach LOS		D		F			E			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 103.5	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.17	
Intersection Signal Delay: 153.1	Intersection LOS: F
Intersection Capacity Utilization 91.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔
Traffic Volume (veh/h)	102	985	284	627	532	116	211	404	252	488	857	119
Future Volume (veh/h)	102	985	284	627	532	116	211	404	252	488	857	119
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	106	1026	239	653	554	87	220	421	183	508	893	69
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	156	1441	331	318	1160	517	196	1463	454	257	1089	485
Arrive On Green	0.05	0.28	0.28	0.11	0.34	0.34	0.07	0.30	0.30	0.09	0.32	0.32
Sat Flow, veh/h	2956	5069	1165	2956	3420	1525	2956	4914	1524	2956	3420	1524
Grp Volume(v), veh/h	106	939	326	653	554	87	220	421	183	508	893	69
Grp Sat Flow(s),veh/h/ln	1478	1548	1590	1478	1710	1525	1478	1638	1524	1478	1710	1524
Q Serve(g_s), s	3.4	17.5	17.8	10.4	12.3	3.9	6.4	6.4	9.3	8.4	23.3	3.1
Cycle Q Clear(g_c), s	3.4	17.5	17.8	10.4	12.3	3.9	6.4	6.4	9.3	8.4	23.3	3.1
Prop In Lane	1.00		0.73	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	1320	452	318	1160	517	196	1463	454	257	1089	485
V/C Ratio(X)	0.68	0.71	0.72	2.05	0.48	0.17	1.12	0.29	0.40	1.98	0.82	0.14
Avail Cap(c_a), veh/h	184	1922	658	318	1571	701	196	2013	624	257	1472	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.0	31.0	31.1	43.1	25.2	22.4	45.1	26.1	27.1	44.1	30.4	23.5
Incr Delay (d2), s/veh	5.3	0.7	2.2	484.6	0.3	0.2	101.6	0.1	0.6	453.5	2.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	6.0	6.5	25.0	4.7	1.3	5.0	2.3	3.2	19.1	9.2	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.2	31.7	33.3	527.7	25.5	22.5	146.7	26.2	27.7	497.7	33.2	23.6
LnGrp LOS	D	C	C	F	C	C	F	C	C	F	C	C
Approach Vol, veh/h		1371			1294			824			1470	
Approach Delay, s/veh		33.6			278.7			58.7			193.2	
Approach LOS		C			F			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	35.0	15.0	33.7	11.0	37.0	9.7	39.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	8.4	39.6	10.4	40.0	6.4	41.6	6.0	44.4				
Max Q Clear Time (g_c+I1), s	10.4	11.3	12.4	19.8	8.4	25.3	5.4	14.3				
Green Ext Time (p_c), s	0.0	3.2	0.0	7.6	0.0	5.3	0.0	3.7				

Intersection Summary

HCM 6th Ctrl Delay	149.0
HCM 6th LOS	F

Timings  
51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/20/2021

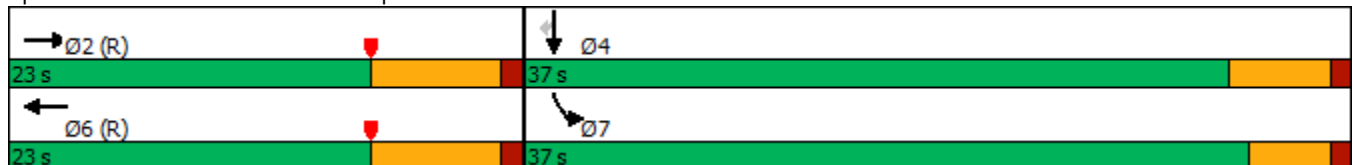


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑	↔	↑
Traffic Volume (vph)	1289	535	489	452	313	0	1082
Future Volume (vph)	1289	535	489	452	313	0	1082
Turn Type	NA	Free	NA	Free	Prot	NA	Perm
Protected Phases	2		6		7	4	
Permitted Phases		Free		Free			4
Detector Phase	2		6		7	4	4
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5	10.5
Total Split (s)	23.0		23.0		37.0	37.0	37.0
Total Split (%)	38.3%		38.3%		61.7%	61.7%	61.7%
Yellow Time (s)	5.8		5.8		3.6	4.5	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max		C-Min		None	Min	Min
Act Effct Green (s)	16.2	60.0	16.2	60.0	32.4	31.5	31.5
Actuated g/C Ratio	0.27	1.00	0.27	1.00	0.54	0.52	0.52
v/c Ratio	0.95	0.34	0.52	0.29	0.31	0.71	0.67
Control Delay	38.0	0.6	16.7	1.0	8.8	14.7	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	0.6	16.7	1.0	8.8	14.7	13.5
LOS	D	A	B	A	A	B	B
Approach Delay	27.0		9.2			13.0	
Approach LOS	C		A			B	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 18.3  
 Intersection LOS: B  
 Intersection Capacity Utilization 68.4%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/20/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑	↗				↘	↔	↗
Traffic Volume (veh/h)	0	1289	535	0	489	452	0	0	0	313	0	1082
Future Volume (veh/h)	0	1289	535	0	489	452	0	0	0	313	0	1082
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1329	0	0	504	0				215	0	898
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2373		0	1651					638	0	1135
Arrive On Green	0.00	0.46	0.00	0.00	0.46	0.00				0.35	0.00	0.35
Sat Flow, veh/h	0	5358	1610	0	3705	1610				1810	0	3220
Grp Volume(v), veh/h	0	1329	0	0	504	0				215	0	898
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610				1810	0	1610
Q Serve(g_s), s	0.0	11.2	0.0	0.0	5.3	0.0				5.2	0.0	15.0
Cycle Q Clear(g_c), s	0.0	11.2	0.0	0.0	5.3	0.0				5.2	0.0	15.0
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2373		0	1651					638	0	1135
V/C Ratio(X)	0.00	0.56		0.00	0.31					0.34	0.00	0.79
Avail Cap(c_a), veh/h	0	2373		0	1651					977	0	1739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.96	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	11.9	0.0	0.0	10.3	0.0				14.3	0.0	17.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.5	0.0				0.3	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.2	0.0	0.0	1.6	0.0				1.8	0.0	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	12.0	0.0	0.0	10.7	0.0				14.6	0.0	18.9
LnGrp LOS	A	B		A	B					B	A	B
Approach Vol, veh/h		1329	A		504	A					1113	
Approach Delay, s/veh		12.0			10.7						18.0	
Approach LOS		B			B						B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		34.2		25.8		34.2						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		16.2		32.4		16.2						
Max Q Clear Time (g_c+I1), s		13.2		17.0		7.3						
Green Ext Time (p_c), s		2.1		4.1		1.9						

Intersection Summary

HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

Notes

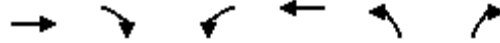
User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Timings  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/20/2021

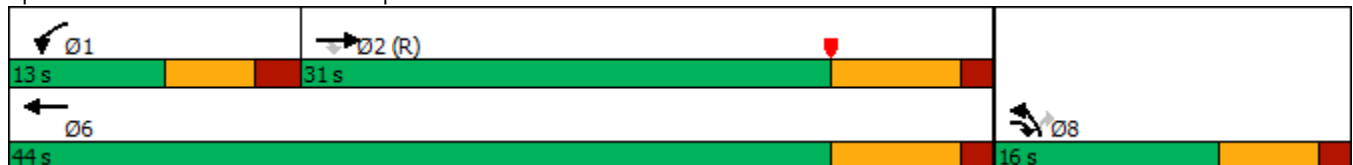


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	696	941	316	733	213	247
Future Volume (vph)	696	941	316	733	213	247
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	31.0	16.0	13.0	44.0	16.0	16.0
Total Split (%)	51.7%	26.7%	21.7%	73.3%	26.7%	26.7%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max
Act Effect Green (s)	23.7	41.0	7.0	36.7	10.0	10.0
Actuated g/C Ratio	0.40	0.68	0.12	0.61	0.17	0.17
v/c Ratio	0.36	0.89	0.82	0.24	0.51	0.41
Control Delay	10.7	18.2	44.5	5.5	18.3	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	18.2	44.5	5.5	18.3	8.4
LOS	B	B	D	A	B	A
Approach Delay	15.0			17.3	15.2	
Approach LOS	B			B	B	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.89  
 Intersection Signal Delay: 15.8  
 Intersection LOS: B  
 Intersection Capacity Utilization 77.3%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 52: I-15 NB Ramps & Cantu Galleano Ranch Rd.





HCM 6th Signalized Intersection Summary  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/20/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑	↑
Traffic Volume (veh/h)	696	941	316	733	213	247
Future Volume (veh/h)	696	941	316	733	213	247
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	733	775	333	772	252	127
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2049	904	410	3173	603	268
Arrive On Green	0.66	0.66	0.12	0.61	0.17	0.17
Sat Flow, veh/h	5358	1610	3510	5358	3619	1610
Grp Volume(v), veh/h	733	775	333	772	252	127
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1810	1610
Q Serve(g_s), s	3.8	23.7	5.6	4.1	3.7	4.3
Cycle Q Clear(g_c), s	3.8	23.7	5.6	4.1	3.7	4.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2049	904	410	3173	603	268
V/C Ratio(X)	0.36	0.86	0.81	0.24	0.42	0.47
Avail Cap(c_a), veh/h	2049	904	410	3173	603	268
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.44	0.44	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	6.2	25.9	5.3	22.4	22.6
Incr Delay (d2), s/veh	0.2	4.9	16.1	0.0	2.1	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	5.0	2.9	0.8	1.6	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.0	11.0	41.9	5.4	24.5	28.5
LnGrp LOS	A	B	D	A	C	C
Approach Vol, veh/h	1508			1105	379	
Approach Delay, s/veh	9.1			16.4	25.9	
Approach LOS	A			B	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.0	31.0			44.0	16.0
Change Period (Y+Rc), s	6.0	7.3			7.3	6.0
Max Green Setting (Gmax), s	7.0	23.7			36.7	10.0
Max Q Clear Time (g_c+I1), s	7.6	25.7			6.1	6.3
Green Ext Time (p_c), s	0.0	0.0			5.2	0.5

Intersection Summary

HCM 6th Ctrl Delay			13.9			
HCM 6th LOS			B			

Notes

User approved volume balancing among the lanes for turning movement.



**APPENDIX 6.2:**

**OPENING YEAR CUMULATIVE (2023) WITH PROJECT CONDITIONS INTERSECTION  
OPERATIONS ANALYSIS WORKSHEETS**

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**Volume Development  
AM Peak Hour**

<b>1: SR-60 WB Ramps &amp; Euclid Av.</b>													
	PHF:	<u>0.939</u>		7:15						Count Date:	<u>1/30/2019</u>		
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	422	984	0	0	986	508	0	0	0	677	6	442	4,026
<b>2: SR-60 EB Ramps &amp; Euclid Av.</b>													
	PHF:	<u>0.953</u>		7:30						Count Date:	<u>1/30/2019</u>		
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	0	971	731	393	1,344	0	437	2	485	0	0	0	4,362
<b>3: Euclid Av. &amp; Walnut Av.</b>													
	PHF:	<u>0.954</u>		7:15						Count Date:	<u>1/30/2019</u>		
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	145	1,307	52	171	1,466	68	122	312	125	77	332	221	4,400
<b>4: Euclid Av. &amp; Riverside Dr</b>													
	PHF:	<u>0.946</u>		7:30						Count Date:	<u>1/22/2019</u>		
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	84	1,077	179	199	1,271	174	166	337	77	204	531	126	4,425
<b>5: Euclid Av. &amp; Chino Av.</b>													
	PHF:	<u>0.941</u>		7:15						Count Date:	<u>1/24/2019</u>		
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	57	1,172	148	64	1,368	106	112	180	49	77	167	56	3,554
<b>6: Euclid Av. &amp; Schaefer Av.</b>													
	PHF:	<u>0.933</u>		7:15						Count Date:	<u>1/22/2019</u>		
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	120	1,196	40	34	1,277	139	166	81	70	152	192	13	3,480
<b>7: Euclid Av. &amp; Edison Av.</b>													
	PHF:	<u>0.956</u>		7:15						Count Date:	<u>1/23/2019</u>		
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	251	1,036	51	116	1,116	192	168	332	140	57	483	79	4,023
<b>8: Euclid Av. &amp; Eucalyptus Av.</b>													
	PHF:	<u>0.976</u>		7:15						Count Date:	<u>1/22/2019</u>		
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	196	1,238	14	123	1,255	47	72	34	167	35	166	67	3,413
<b>9: Euclid Av. &amp; Merrill Av.</b>													
	PHF:	<u>0.965</u>		7:15						Count Date:	<u>1/22/2019</u>		
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	11	1,156	304	269	1,131	44	4	9	18	287	51	284	3,569
<b>10: Sultana Av. &amp; Eucalyptus Av.</b>													
	PHF:									Count Date:			
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	11	0	14	0	0	0	0	142	42	47	298	0	554
<b>11: Sultana Av. &amp; Driveway 1</b>													
	PHF:									Count Date:			
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	0	19	10	7	71	12	2	0	1	3	0	2	127
<b>12: Sultana Av. &amp; Driveway 2</b>													
	PHF:									Count Date:			
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	0	26	11	5	61	9	2	0	0	3	0	2	119
<b>13: Sultana Av. &amp; Driveway 3</b>													
	PHF:									Count Date:			
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	0	35	8	7	57	0	0	0	0	2	0	2	111
<b>14: Sultana Av. &amp; Driveway 4</b>													
	PHF:									Count Date:			

**Volume Development  
AM Peak Hour**

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	0	39	4	5	45	0	0	0	0	1	0	2	96
<b>15: Sultana Av. &amp; Driveway 5</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	0	41	8	5	37	0	0	0	0	2	0	2	95
<b>16: Sultana Av. &amp; Driveway 6</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	2	59	12	6	31	7	1	0	1	4	0	2	125
<b>17: Sultana Av. &amp; Driveway 7</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	0	71	2	6	24	5	0	0	2	0	0	2	114
<b>18: Sultana Av. &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	0	0	0	18	0	21	54	544	0	0	733	34	1,405
<b>19: Driveway 8 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	0	0	0	2	0	1	2	546	0	0	721	6	1,278
<b>20: Driveway 9 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	3	0	5	0	0	0	0	138	11	17	322	0	496
<b>21: Driveway 10 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	3	0	4	0	0	0	0	131	12	16	336	0	502
<b>22: Driveway 11 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	0	0	0	2	0	1	2	546	0	0	726	6	1,283
<b>23: Campus Av. &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	16	0	5	0	0	0	0	105	31	14	336	0	507
<b>24: Campus Av. &amp; Driveway 12</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	12	19	0	0	40	5	2	0	3	0	0	0	80
<b>25: Campus Av. &amp; Driveway 13</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	11	29	0	0	38	5	2	0	3	0	0	0	87
<b>26: Campus Av. &amp; Driveway 14</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	10	39	0	0	35	5	2	0	3	0	0	0	93
<b>27: Campus Av. &amp; Driveway 15</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	6	48	0	0	35	4	1	0	2	0	0	0	95

Volume Development  
AM Peak Hour

		Count Date: _____											TOTAL	
PHF: _____		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2023 WP(PCE):	28: Campus Av. & Driveway 16	8	52	0	0	31	5	2	0	2	0	0	0	99
2023 WP(PCE):	29: Campus Av. & Driveway 17	12	58	0	0	27	6	2	0	4	0	0	0	108
2023 WP(PCE):	30: Campus Av. & Driveway 18	4	70	0	0	27	4	1	0	1	0	0	0	106
2023 WP(PCE):	31: Campus Av. & Merrill Av.	0	0	0	13	0	15	38	510	0	0	717	46	1,339
2023 WP(PCE):	32: Bon View Av. & Eucalyptus Av.	19	88	19	31	72	54	20	89	6	36	291	21	745
2023 WP(PCE):	33: Bon View Av. & Merrill Av.	0	0	0	34	0	47	55	454	0	0	718	84	1,392
2023 WP(PCE):	34: Grove Av. & Eucalyptus Av.	70	270	17	94	305	115	42	73	16	42	175	34	1,254
2023 WP(PCE):	35: Grove Av. & Merrill Av.	0	0	0	187	0	130	122	366	0	0	721	298	1,824
2023 WP(PCE):	36: Walker Av. & Edison Av.	11	34	37	62	72	12	18	339	33	226	451	159	1,454
2023 WP(PCE):	37: Walker Av. & Eucalyptus Av.	0	0	0	131	0	223	88	49	0	0	83	24	599
2023 WP(PCE):	38: Walker Av./Flight Av. & Merrill Av.	190	6	103	7	2	8	31	397	104	111	769	25	1,751
2023 WP(PCE):	39: Baker Av./Van Vliet Av. & Merrill Av.	18	0	27	6	0	5	19	441	44	27	902	22	1,509
2023 WP(PCE):	40: Vineyard Av. & Edison Av.	0	0	0	0	0	0	0	80	0	0	218	0	298
2023 WP(PCE):	41: Vineyard Av./Hellman Av. & Merrill Av.													

**Volume Development  
AM Peak Hour**

2023 WP(PCE): 7 6 13 8 2 3 10 467 6 18 925 31 1,494

**42: Carpenter Av. & Merrill Av.**

PHF: 0.940 7:30

Count Date: 1/30/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
21 0 120 128 0 13 19 416 29 209 922 61 1,937

**43: Hellman Av. & Edison Av.**

PHF: 0.920

Count Date: \_\_\_\_\_

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
0 0 0 0 0 0 0 80 0 0 218 0 298

**44: Archibald Av. & Edison Av./Ontario Ranch Rd.**

PHF: 0.973 7:00

Count Date: 1/22/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
174 1,040 422 72 487 162 41 259 54 454 641 144 3,949

**45: Archibald Av. & Eucalyptus Av.**

PHF: 0.934 7:00

Count Date: 1/22/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
0 1,620 9 26 969 0 0 0 0 11 0 16 2,652

**46: Archibald Av. & Merrill Av.**

PHF: 0.970 7:00

Count Date: 1/22/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
618 1,204 41 42 546 396 240 23 151 78 53 130 3,524

**47: Archibald Av. & Limonite Av.**

PHF: 0.959 7:00

Count Date: 1/22/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
0 901 328 243 516 0 0 0 0 318 0 986 3,292

**48: Turner Av. & Edison Av./Ontario Ranch Rd.**

PHF: 0.902 7:00

Count Date: 1/30/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
60 25 39 36 16 68 30 651 35 45 1,297 19 2,322

**49: Haven Av. & Ontario Ranch Rd.**

PHF: 0.938 7:00

Count Date: 2/6/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
65 199 82 124 60 79 143 681 30 22 1,109 86 2,681

**50: Hamner Av. & Ontario Ranch Rd./Cantu-Galleano Ranch Rd.**

PHF: 0.882 7:00

Count Date: 1/30/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
178 731 524 160 218 94 104 637 86 286 1,043 211 4,271

**51: I-215 SB Ramps & Cantu-Galleano Ranch Rd.**

PHF: 0.896 7:00

Count Date: 1/30/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
0 0 0 336 0 1,347 0 1,087 349 0 564 189 3,871

**52: I-215 NB Ramps & Cantu-Galleano Ranch Rd.**

PHF: 0.914 7:00

Count Date: 1/30/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
265 0 312 0 0 0 0 524 898 381 488 0 2,868



**Volume Development  
PM Peak Hour**

	<b>1: SR-60 WB Ramps &amp; Euclid Av.</b>												
	PHF:	<u>0.962</u>		4:30							Count Date:	<u>1/30/2019</u>	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	433	1,134	0	0	1,050	512	0	0	0	650	6	424	4,210
	<b>2: SR-60 EB Ramps &amp; Euclid Av.</b>												
	PHF:	<u>0.977</u>		4:30							Count Date:	<u>1/30/2019</u>	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	0	1,132	660	390	1,320	0	432	3	407	0	0	0	4,346
	<b>3: Euclid Av. &amp; Walnut Av.</b>												
	PHF:	<u>0.941</u>		4:45							Count Date:	<u>1/30/2019</u>	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	212	1,512	81	290	1,261	161	111	385	146	72	385	146	4,763
	<b>4: Euclid Av. &amp; Riverside Dr</b>												
	PHF:	<u>0.958</u>		5:00							Count Date:	<u>1/22/2019</u>	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	100	1,323	265	154	1,067	212	157	480	87	194	427	67	4,533
	<b>5: Euclid Av. &amp; Chino Av.</b>												
	PHF:	<u>0.930</u>		4:45							Count Date:	<u>1/24/2019</u>	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	55	1,576	252	29	1,207	79	100	299	55	81	119	10	3,862
	<b>6: Euclid Av. &amp; Schaefer Av.</b>												
	PHF:	<u>0.986</u>		4:45							Count Date:	<u>1/22/2019</u>	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	101	1,553	91	33	1,229	127	303	299	196	82	73	27	4,116
	<b>7: Euclid Av. &amp; Edison Av.</b>												
	PHF:	<u>0.950</u>		4:45							Count Date:	<u>1/23/2019</u>	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	200	1,393	100	110	1,299	200	286	542	319	57	360	86	4,953
	<b>8: Euclid Av. &amp; Eucalyptus Av.</b>												
	PHF:	<u>0.890</u>		4:45							Count Date:	<u>1/22/2019</u>	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	123	1,470	19	88	1,452	71	41	172	222	8	30	120	3,817
	<b>9: Euclid Av. &amp; Merrill Av.</b>												
	PHF:	<u>0.905</u>		4:30							Count Date:	<u>1/22/2019</u>	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	5	1,310	314	334	1,343	1	12	31	13	351	2	278	3,993
	<b>10: Sultana Av. &amp; Eucalyptus Av.</b>												
	PHF:	<u>0.905</u>		4:30							Count Date:	<u>1/22/2019</u>	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	42	0	42	0	0	0	0	312	21	22	162	0	600
	<b>11: Sultana Av. &amp; Driveway 1</b>												
	PHF:	<u>0.905</u>		4:30							Count Date:	<u>1/22/2019</u>	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	0	65	4	3	37	4	9	0	3	10	0	8	144
	<b>12: Sultana Av. &amp; Driveway 2</b>												
	PHF:	<u>0.905</u>		4:30							Count Date:	<u>1/22/2019</u>	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	0	53	4	2	45	3	10	0	0	11	0	6	134
	<b>13: Sultana Av. &amp; Driveway 3</b>												
	PHF:	<u>0.905</u>		4:30							Count Date:	<u>1/22/2019</u>	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	0	49	3	3	53	0	0	0	0	8	0	8	124
	<b>14: Sultana Av. &amp; Driveway 4</b>												
	PHF:	<u>0.905</u>		4:30							Count Date:	<u>1/22/2019</u>	

**Volume Development  
PM Peak Hour**

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2023 WP(PCE):	0	38	1	2	56	0	0	0	0	4	0	6	107
<b>15: Sultana Av. &amp; Driveway 5</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	33	3	2	62	0	0	0	0	8	0	6	114
<b>16: Sultana Av. &amp; Driveway 6</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	1	29	5	2	84	3	5	0	5	13	0	7	154
<b>17: Sultana Av. &amp; Driveway 7</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	28	1	2	99	2	0	0	9	2	0	7	150
<b>18: Sultana Av. &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	42	0	59	17	827	0	0	625	9	1,579
<b>19: Driveway 8 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	6	0	2	1	844	0	0	623	2	1,479
<b>20: Driveway 9 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	12	0	19	0	0	0	0	327	4	7	163	0	532
<b>21: Driveway 10 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	13	0	18	0	0	0	0	341	5	6	157	0	540
<b>22: Driveway 11 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	6	0	2	1	850	0	0	623	2	1,485
<b>23: Campus Av. &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	36	0	15	0	0	0	0	340	20	6	127	0	544
<b>24: Campus Av. &amp; Driveway 12</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	4	45	0	0	24	2	6	0	13	0	0	0	94
<b>25: Campus Av. &amp; Driveway 13</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	4	43	0	0	34	2	6	0	11	0	0	0	100
<b>26: Campus Av. &amp; Driveway 14</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	4	41	0	0	43	2	6	0	11	0	0	0	107
<b>27: Campus Av. &amp; Driveway 15</b>													
PHF: _____ Count Date: _____													
2023 WP(PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	2	41	0	0	52	1	4	0	7	0	0	0	107

Volume Development  
PM Peak Hour

	Count Date: _____												TOTAL
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	
<b>28: Campus Av. &amp; Driveway 16</b>													
PHF: _____													
2023 WP(PCE):	3	37	0	0	57	2	6	0	8	0	0	0	113
<b>29: Campus Av. &amp; Driveway 17</b>													
PHF: _____													
2023 WP(PCE):	5	33	0	0	63	2	7	0	13	0	0	0	123
<b>30: Campus Av. &amp; Driveway 18</b>													
PHF: _____													
2023 WP(PCE):	1	33	0	0	74	2	4	0	4	0	0	0	118
<b>31: Campus Av. &amp; Merrill Av.</b>													
PHF: _____													
2023 WP(PCE):	0	0	0	50	0	39	18	838	0	0	586	17	1,549
<b>32: Bon View Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.866</u> 4:45 Count Date: <u>1/30/2019</u>													
2023 WP(PCE):	8	115	46	22	97	15	19	345	6	23	117	9	823
<b>33: Bon View Av. &amp; Merrill Av.</b>													
PHF: <u>0.938</u> 4:30 Count Date: <u>1/30/2019</u>													
2023 WP(PCE):	0	0	0	66	0	64	96	793	0	0	525	41	1,584
<b>34: Grove Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.897</u> 4:45 Count Date: <u>1/30/2019</u>													
2023 WP(PCE):	17	436	27	44	262	57	167	192	78	16	63	103	1,463
<b>35: Grove Av. &amp; Merrill Av.</b>													
PHF: <u>0.959</u> 4:30 Count Date: <u>1/30/2019</u>													
2023 WP(PCE):	0	0	0	257	0	131	230	676	0	0	441	210	1,946
<b>36: Walker Av. &amp; Edison Av.</b>													
PHF: <u>0.951</u> 4:30 Count Date: <u>1/30/2019</u>													
2023 WP(PCE):	3	21	274	69	14	10	22	739	1	91	410	32	1,686
<b>37: Walker Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.915</u> 4:15pm Count Date: <u>1/30/2019</u>													
2023 WP(PCE):	0	0	0	25	0	80	285	88	0	0	41	34	554
<b>38: Walker Av./Flight Av. &amp; Merrill Av.</b>													
PHF: <u>0.913</u> 4:30 Count Date: <u>1/30/2019</u>													
2023 WP(PCE):	114	2	127	26	7	32	11	791	125	90	490	9	1,823
<b>39: Baker Av./Van Vliet Av. &amp; Merrill Av.</b>													
PHF: <u>0.882</u> 5:00 Count Date: <u>1/30/2019</u>													
2023 WP(PCE):	25	0	14	23	0	19	7	953	15	10	525	8	1,597
<b>40: Vineyard Av. &amp; Edison Av.</b>													
PHF: <u>0.920</u> Count Date: _____													
2023 WP(PCE):	0	0	0	0	0	0	0	253	0	0	104	0	357
<b>41: Vineyard Av./Hellman Av. &amp; Merrill Av.</b>													
PHF: <u>0.903</u> 5:00 Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>

Volume Development  
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2023 WP(PCE): 10 2 20 32 7 10 3 984 8 15 527 11 1,627

42: Carpenter Av. & Merrill Av.

PHF: 0.902 4:30

Count Date: 1/30/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
36 4 123 76 5 11 8 999 23 34 488 14 1,821

43: Hellman Av. & Edison Av.

PHF: 0.920

Count Date:

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
0 0 0 0 0 0 0 253 0 0 104 0 357

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

PHF: 0.970 5:00

Count Date: 1/22/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
87 661 408 150 864 102 158 755 137 332 287 76 4,016

45: Archibald Av. & Eucalyptus Av.

PHF: 0.938 5:00

Count Date: 1/22/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
0 1,144 1 10 1,322 0 0 0 0 2 0 11 2,491

46: Archibald Av. & Merrill Av.

PHF: 0.973 4:45

Count Date: 1/22/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
199 636 44 77 1,039 238 419 81 626 47 27 55 3,488

47: Archibald Av. & Limonite Av.

PHF: 0.983 4:45

Count Date: 1/22/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
0 589 402 756 958 0 0 0 0 369 0 321 3,394

48: Turner Av. & Edison Av./Ontario Ranch Rd.

PHF: 0.905 4:30

Count Date: 1/30/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
27 8 41 29 8 25 53 1,354 41 33 717 14 2,349

49: Haven Av. & Ontario Ranch Rd.

PHF: 0.955 5:00

Count Date: 2/6/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
30 93 24 175 274 119 133 1,137 70 64 631 136 2,887

50: Hamner Av. & Ontario Ranch Rd./Cantu-Galleano Ranch Rd.

PHF: 0.960 4:45

Count Date: 1/30/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
211 404 252 488 857 120 104 1,039 284 627 551 116 5,052

51: I-215 SB Ramps & Cantu-Galleano Ranch Rd.

PHF: 0.972 5:00

Count Date: 1/30/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
0 0 0 313 0 1,100 0 1,343 535 0 490 452 4,233

52: I-215 NB Ramps & Cantu-Galleano Ranch Rd.

PHF: 0.950 5:00

Count Date: 1/30/2019

2023 WP(PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
213 0 247 0 0 0 0 698 993 316 734 0 3,201

Timings  
1: Euclid Av. (SR-83) & SR-60 WB Ramps



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	677	6	442	422	984	986	508
Future Volume (vph)	677	6	442	422	984	986	508
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	10.0	10.0	10.0
Minimum Split (s)	11.0	11.0	11.0	9.5	22.5	22.5	22.5
Total Split (s)	32.0	32.0	32.0	28.0	58.0	30.0	30.0
Total Split (%)	35.6%	35.6%	35.6%	31.1%	64.4%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.5	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	25.2	25.2	25.2	23.6	54.3	26.2	26.2
Actuated g/C Ratio	0.28	0.28	0.28	0.26	0.60	0.29	0.29
v/c Ratio	0.86	0.89	0.75	0.95	0.48	1.00	0.63
Control Delay	48.8	52.1	31.4	41.9	20.3	61.3	6.3
Queue Delay	0.0	0.0	0.0	0.0	1.7	0.0	0.0
Total Delay	48.8	52.1	31.4	41.9	22.0	61.3	6.3
LOS	D	D	C	D	C	E	A
Approach Delay		44.5			28.0	42.6	
Approach LOS		D			C	D	

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 63 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 38.0  
 Intersection LOS: D  
 Intersection Capacity Utilization 106.6%  
 ICU Level of Service G  
 Analysis Period (min) 15

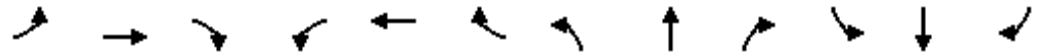
Splits and Phases: 1: Euclid Av. (SR-83) & SR-60 WB Ramps



HCM 6th Signalized Intersection Summary  
 1: Euclid Av. (SR-83) & SR-60 WB Ramps

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↶	↷	↶	↶	↶	↶		↶	↶
Traffic Volume (veh/h)	0	0	0	677	6	442	422	984	0	0	986	508
Future Volume (veh/h)	0	0	0	677	6	442	422	984	0	0	986	508
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				800	0	169	449	1047	0	0	1049	312
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				901	0	401	469	2290	0	0	1173	523
Arrive On Green				0.25	0.00	0.25	0.52	1.00	0.00	0.00	0.33	0.33
Sat Flow, veh/h				3619	0	1610	1810	3705	0	0	3705	1610
Grp Volume(v), veh/h				800	0	169	449	1047	0	0	1049	312
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1810	1805	0	0	1805	1610
Q Serve(g_s), s				19.2	0.0	7.9	21.3	0.0	0.0	0.0	24.9	14.6
Cycle Q Clear(g_c), s				19.2	0.0	7.9	21.3	0.0	0.0	0.0	24.9	14.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				901	0	401	469	2290	0	0	1173	523
V/C Ratio(X)				0.89	0.00	0.42	0.96	0.46	0.00	0.00	0.89	0.60
Avail Cap(c_a), veh/h				1086	0	483	472	2290	0	0	1173	523
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.33	0.33	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				32.6	0.0	28.4	21.2	0.0	0.0	0.0	28.9	25.4
Incr Delay (d2), s/veh				7.2	0.0	0.3	14.5	0.2	0.0	0.0	10.6	4.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.7	0.0	2.9	7.2	0.1	0.0	0.0	11.7	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				39.8	0.0	28.6	35.7	0.2	0.0	0.0	39.5	30.4
LnGrp LOS				D	A	C	D	A	A	A	D	C
Approach Vol, veh/h					969			1496			1361	
Approach Delay, s/veh					37.8			10.9			37.4	
Approach LOS					D			B			D	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		62.6			27.8	34.8		27.4				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.0				
Max Green Setting (Gmax), s		52.5			23.5	24.5		27.0				
Max Q Clear Time (g_c+I1), s		2.0			23.3	26.9		21.2				
Green Ext Time (p_c), s		13.7			0.0	0.0		1.2				

Intersection Summary

HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

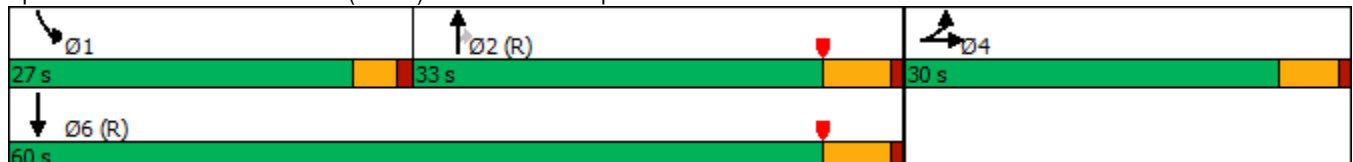


Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	437	2	971	731	393	1344
Future Volume (vph)	437	2	971	731	393	1344
Turn Type	Split	NA	NA	Perm	Prot	NA
Protected Phases	4	4	2		1	6
Permitted Phases				2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0	10.0	5.0	10.0
Minimum Split (s)	11.0	11.0	22.5	22.5	9.0	22.5
Total Split (s)	30.0	30.0	33.0	33.0	27.0	60.0
Total Split (%)	33.3%	33.3%	36.7%	36.7%	30.0%	66.7%
Yellow Time (s)	4.0	4.0	4.5	4.5	3.0	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)	25.0	25.0	28.3	28.3	22.2	54.5
Actuated g/C Ratio	0.28	0.28	0.31	0.31	0.25	0.61
v/c Ratio	0.87	1.20	0.90	0.84	0.93	0.65
Control Delay	51.5	140.2	42.1	15.6	54.4	5.7
Queue Delay	7.8	0.8	0.0	0.0	0.0	1.0
Total Delay	59.4	140.9	42.1	15.6	54.4	6.7
LOS	E	F	D	B	D	A
Approach Delay		106.2	30.7			17.5
Approach LOS		F	C			B

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.20  
 Intersection Signal Delay: 41.5  
 Intersection LOS: D  
 Intersection Capacity Utilization 106.6%  
 ICU Level of Service G  
 Analysis Period (min) 15

Splits and Phases: 2: Euclid Av. (SR-83) & SR-60 EB Ramps



HCM 6th Signalized Intersection Summary  
 2: Euclid Av. (SR-83) & SR-60 EB Ramps

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	437	2	485	0	0	0	0	971	731	393	1344	0
Future Volume (veh/h)	437	2	485	0	0	0	0	971	731	393	1344	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	438	33	414				0	1022	570	414	1415	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	503	33	419				0	1141	495	443	2186	0
Arrive On Green	0.28	0.28	0.28				0.00	0.32	0.32	0.33	0.81	0.00
Sat Flow, veh/h	1810	120	1508				0	3705	1566	1810	3705	0
Grp Volume(v), veh/h	438	0	447				0	1022	570	414	1415	0
Grp Sat Flow(s),veh/h/ln	1810	0	1629				0	1805	1566	1810	1805	0
Q Serve(g_s), s	20.8	0.0	24.6				0.0	24.3	28.5	20.0	14.3	0.0
Cycle Q Clear(g_c), s	20.8	0.0	24.6				0.0	24.3	28.5	20.0	14.3	0.0
Prop In Lane	1.00		0.93				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	503	0	452				0	1141	495	443	2186	0
V/C Ratio(X)	0.87	0.00	0.99				0.00	0.90	1.15	0.93	0.65	0.00
Avail Cap(c_a), veh/h	503	0	452				0	1141	495	462	2186	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.68	0.68	0.19	0.19	0.00
Uniform Delay (d), s/veh	31.0	0.0	32.4				0.0	29.4	30.8	29.6	4.8	0.0
Incr Delay (d2), s/veh	14.8	0.0	39.0				0.0	7.9	83.4	7.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	0.0	13.8				0.0	11.1	21.4	8.3	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.7	0.0	71.4				0.0	37.2	114.2	36.7	5.1	0.0
LnGrp LOS	D	A	E				A	D	F	D	A	A
Approach Vol, veh/h		885						1592			1829	
Approach Delay, s/veh		58.7						64.8			12.3	
Approach LOS		E						E			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	26.0	34.0	30.0	60.0								
Change Period (Y+Rc), s	4.0	5.5	5.0	5.5								
Max Green Setting (Gmax), s	23.0	27.5	25.0	54.5								
Max Q Clear Time (g_c+I1), s	22.0	30.5	26.6	16.3								
Green Ext Time (p_c), s	0.1	0.0	0.0	19.3								

Intersection Summary

HCM 6th Ctrl Delay	41.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.



Timings  
3: Euclid Av. (SR-83) & Walnut Av.

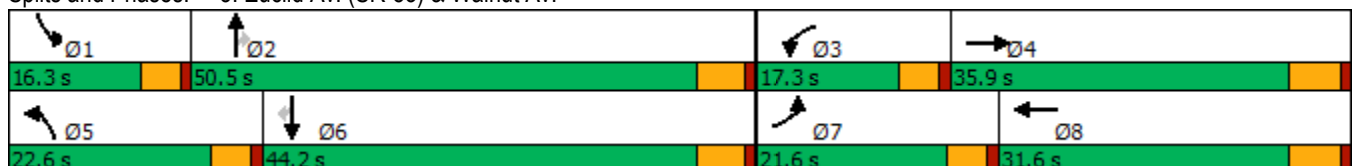


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	122	312	77	332	145	1307	52	171	1466	68
Future Volume (vph)	122	312	77	332	145	1307	52	171	1466	68
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.8	9.6	29.8	9.6	27.4	27.4	9.6	29.4	29.4
Total Split (s)	21.6	35.9	17.3	31.6	22.6	50.5	50.5	16.3	44.2	44.2
Total Split (%)	18.0%	29.9%	14.4%	26.3%	18.8%	42.1%	42.1%	13.6%	36.8%	36.8%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.4	4.4	3.6	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.4	5.4	4.6	5.4	5.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	12.6	26.6	9.5	21.2	14.0	45.5	45.5	10.2	41.6	41.6
Actuated g/C Ratio	0.11	0.24	0.09	0.19	0.13	0.41	0.41	0.09	0.38	0.38
v/c Ratio	0.69	0.56	0.58	0.82	0.74	0.68	0.08	0.66	0.83	0.11
Control Delay	67.5	36.3	66.9	43.8	69.1	29.8	0.2	61.9	37.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.5	36.3	66.9	43.8	69.1	29.8	0.2	61.9	37.7	0.3
LOS	E	D	E	D	E	C	A	E	D	A
Approach Delay		43.1		46.7		32.5			38.6	
Approach LOS		D		D		C			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 110	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 38.3	Intersection LOS: D
Intersection Capacity Utilization 80.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Euclid Av. (SR-83) & Walnut Av.



HCM 6th Signalized Intersection Summary  
 3: Euclid Av. (SR-83) & Walnut Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	312	125	77	332	221	145	1307	52	171	1466	68
Future Volume (veh/h)	122	312	125	77	332	221	145	1307	52	171	1466	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	128	328	96	81	349	193	153	1376	37	180	1543	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	154	603	174	101	421	229	181	2126	659	235	1968	610
Arrive On Green	0.10	0.23	0.23	0.06	0.20	0.20	0.11	0.43	0.43	0.08	0.40	0.40
Sat Flow, veh/h	1619	2619	755	1619	2137	1160	1619	4914	1524	2956	4914	1524
Grp Volume(v), veh/h	128	212	212	81	278	264	153	1376	37	180	1543	51
Grp Sat Flow(s),veh/h/ln	1619	1710	1664	1619	1710	1587	1619	1638	1524	1478	1638	1524
Q Serve(g_s), s	8.1	11.4	11.7	5.1	16.2	16.7	9.7	23.0	1.5	6.2	28.6	2.2
Cycle Q Clear(g_c), s	8.1	11.4	11.7	5.1	16.2	16.7	9.7	23.0	1.5	6.2	28.6	2.2
Prop In Lane	1.00		0.45	1.00		0.73	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	154	393	383	101	337	313	181	2126	659	235	1968	610
V/C Ratio(X)	0.83	0.54	0.55	0.80	0.82	0.84	0.85	0.65	0.06	0.77	0.78	0.08
Avail Cap(c_a), veh/h	264	494	480	197	423	393	280	2126	659	332	1968	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	35.3	35.4	48.2	40.1	40.3	45.4	23.3	17.2	47.0	27.3	19.4
Incr Delay (d2), s/veh	4.3	1.2	1.2	5.5	10.2	12.8	8.3	1.5	0.2	3.9	3.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	4.7	4.7	2.2	7.5	7.3	4.2	8.6	0.5	2.4	11.1	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	36.4	36.7	53.8	50.4	53.1	53.7	24.8	17.4	50.9	30.5	19.7
LnGrp LOS	D	D	D	D	D	D	D	C	B	D	C	B
Approach Vol, veh/h		552			623			1566			1774	
Approach Delay, s/veh		39.8			52.0			27.5			32.3	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.9	50.5	11.1	29.8	16.2	47.2	14.5	26.4				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.8	4.6	5.4	4.6	5.8				
Max Green Setting (Gmax), s	11.7	45.1	12.7	30.1	18.0	38.8	17.0	25.8				
Max Q Clear Time (g_c+1), s	8.2	25.0	7.1	13.7	11.7	30.6	10.1	18.7				
Green Ext Time (p_c), s	0.1	9.7	0.0	2.0	0.1	5.8	0.1	1.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			34.3									
HCM 6th LOS			C									

Timings

4: Euclid Av. (SR-83) & Riverside Dr.

08/23/2021

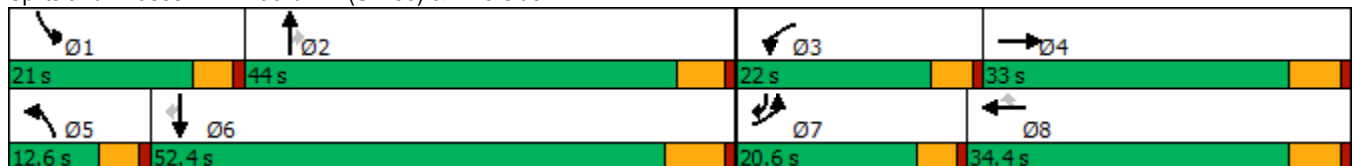


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	166	337	204	531	126	84	1077	179	199	1271	174
Future Volume (vph)	166	337	204	531	126	84	1077	179	199	1271	174
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8		5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	20.6	33.0	22.0	34.4	34.4	12.6	44.0	44.0	21.0	52.4	20.6
Total Split (%)	17.2%	27.5%	18.3%	28.7%	28.7%	10.5%	36.7%	36.7%	17.5%	43.7%	17.2%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	None
Act Effct Green (s)	15.1	27.2	17.1	29.2	29.2	7.9	38.6	38.6	16.4	46.0	63.0
Actuated g/C Ratio	0.13	0.23	0.14	0.24	0.24	0.07	0.32	0.32	0.14	0.38	0.53
v/c Ratio	0.86	1.08	0.93	0.67	0.27	0.83	1.03	0.32	0.95	1.02	0.22
Control Delay	87.1	110.8	95.6	45.7	4.9	106.7	74.7	9.0	100.2	66.1	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.1	110.8	95.6	45.7	4.9	106.7	74.7	9.0	100.2	66.1	7.6
LOS	F	F	F	D	A	F	E	A	F	E	A
Approach Delay		104.0		51.6			68.0			64.1	
Approach LOS		F		D			E			E	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 119.7	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.08	
Intersection Signal Delay: 68.1	Intersection LOS: E
Intersection Capacity Utilization 97.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.



HCM 6th Signalized Intersection Summary  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	166	337	77	204	531	126	84	1077	179	199	1271	174
Future Volume (veh/h)	166	337	77	204	531	126	84	1077	179	199	1271	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	175	355	65	215	559	104	88	1134	148	209	1338	124
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	199	332	61	233	840	375	107	1090	486	219	1327	779
Arrive On Green	0.12	0.22	0.22	0.14	0.25	0.25	0.07	0.32	0.32	0.14	0.39	0.39
Sat Flow, veh/h	1619	1480	271	1619	3420	1525	1619	3420	1525	1619	3420	1524
Grp Volume(v), veh/h	175	0	420	215	559	104	88	1134	148	209	1338	124
Grp Sat Flow(s),veh/h/ln	1619	0	1751	1619	1710	1525	1619	1710	1525	1619	1710	1524
Q Serve(g_s), s	12.9	0.0	27.2	15.9	17.9	6.7	6.5	38.6	8.9	15.5	47.0	5.2
Cycle Q Clear(g_c), s	12.9	0.0	27.2	15.9	17.9	6.7	6.5	38.6	8.9	15.5	47.0	5.2
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	199	0	393	233	840	375	107	1090	486	219	1327	779
V/C Ratio(X)	0.88	0.00	1.07	0.92	0.67	0.28	0.82	1.04	0.30	0.95	1.01	0.16
Avail Cap(c_a), veh/h	214	0	393	233	840	375	107	1090	486	219	1327	779
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	0.0	47.0	51.2	41.2	37.0	55.8	41.2	31.1	52.0	37.1	15.8
Incr Delay (d2), s/veh	28.9	0.0	64.6	38.3	2.0	0.4	36.2	38.3	1.6	47.2	26.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	0.0	18.5	8.7	7.5	2.5	3.6	20.9	3.4	9.0	23.6	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.2	0.0	111.5	89.5	43.2	37.4	92.1	79.6	32.7	99.1	63.7	16.2
LnGrp LOS	F	A	F	F	D	D	F	F	C	F	F	B
Approach Vol, veh/h		595			878			1370			1671	
Approach Delay, s/veh		102.6			53.8			75.3			64.6	
Approach LOS		F			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	45.1	22.0	33.0	12.6	53.5	19.5	35.5				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	16.4	* 39	17.4	27.2	8.0	45.9	16.0	28.6				
Max Q Clear Time (g_c+I1), s	17.5	40.6	17.9	29.2	8.5	49.0	14.9	19.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5				

Intersection Summary

HCM 6th Ctrl Delay	70.8
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	112	180	49	77	167	57	1172	148	64	1368	106
Future Volume (vph)	112	180	49	77	167	57	1172	148	64	1368	106
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	28.8	28.8	28.8	33.8	33.8	9.6	24.2	24.2	9.6	31.5	31.5
Total Split (s)	44.0	44.0	44.0	44.0	44.0	15.0	60.0	60.0	16.0	61.0	61.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	12.5%	50.0%	50.0%	13.3%	50.8%	50.8%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.6	4.2	4.2	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8		5.8	4.6	5.2	5.2	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	27.6	27.6	27.6		27.6	8.1	56.3	56.3	8.5	55.4	55.4
Actuated g/C Ratio	0.26	0.26	0.26		0.26	0.08	0.53	0.53	0.08	0.52	0.52
v/c Ratio	0.63	0.41	0.12		0.91	0.50	0.69	0.19	0.52	0.81	0.14
Control Delay	51.2	35.2	3.7		67.7	64.4	23.5	10.5	64.7	28.4	6.1
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.2	35.2	3.7		67.7	64.4	23.5	10.5	64.7	28.4	6.1
LOS	D	D	A		E	E	C	B	E	C	A
Approach Delay		35.9			67.7		23.8			28.4	
Approach LOS		D			E		C			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 105.9	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 30.7	Intersection LOS: C
Intersection Capacity Utilization 90.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Euclid Av. (SR-83) & Chino Av.



HCM 6th Signalized Intersection Summary  
 5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	180	49	77	167	56	57	1172	148	64	1368	106
Future Volume (veh/h)	112	180	49	77	167	56	57	1172	148	64	1368	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	119	191	36	82	178	48	61	1247	133	68	1455	82
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	224	479	406	116	219	54	76	1781	794	85	1800	786
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.05	0.52	0.52	0.05	0.53	0.53
Sat Flow, veh/h	1108	1800	1524	275	823	203	1619	3420	1525	1619	3420	1494
Grp Volume(v), veh/h	119	191	36	308	0	0	61	1247	133	68	1455	82
Grp Sat Flow(s),veh/h/ln	1108	1800	1524	1301	0	0	1619	1710	1525	1619	1710	1494
Q Serve(g_s), s	0.0	9.2	1.9	15.6	0.0	0.0	3.9	28.9	4.8	4.4	36.9	2.9
Cycle Q Clear(g_c), s	23.3	9.2	1.9	24.7	0.0	0.0	3.9	28.9	4.8	4.4	36.9	2.9
Prop In Lane	1.00		1.00	0.27		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	224	479	406	390	0	0	76	1781	794	85	1800	786
V/C Ratio(X)	0.53	0.40	0.09	0.79	0.00	0.00	0.80	0.70	0.17	0.80	0.81	0.10
Avail Cap(c_a), veh/h	331	653	553	538	0	0	160	1781	794	175	1800	786
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	31.7	29.0	38.4	0.0	0.0	49.7	19.0	13.2	49.3	20.6	12.5
Incr Delay (d2), s/veh	2.0	0.5	0.1	5.4	0.0	0.0	7.1	2.3	0.5	6.4	4.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.9	0.7	7.9	0.0	0.0	1.7	10.4	1.6	1.8	13.5	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	32.2	29.1	43.8	0.0	0.0	56.8	21.3	13.7	55.7	24.6	12.8
LnGrp LOS	D	C	C	D	A	A	E	C	B	E	C	B
Approach Vol, veh/h		346			308			1441			1605	
Approach Delay, s/veh		34.2			43.8			22.1			25.3	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	61.3		33.8	9.5	61.9		33.8				
Change Period (Y+Rc), s	4.6	* 6.5		5.8	4.6	6.5		5.8				
Max Green Setting (Gmax), s	11.4	* 55		38.2	10.4	54.5		38.2				
Max Q Clear Time (g_c+I1), s	6.4	30.9		25.3	5.9	38.9		26.7				
Green Ext Time (p_c), s	0.0	9.2		1.2	0.0	8.6		1.3				

Intersection Summary

HCM 6th Ctrl Delay	26.4
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

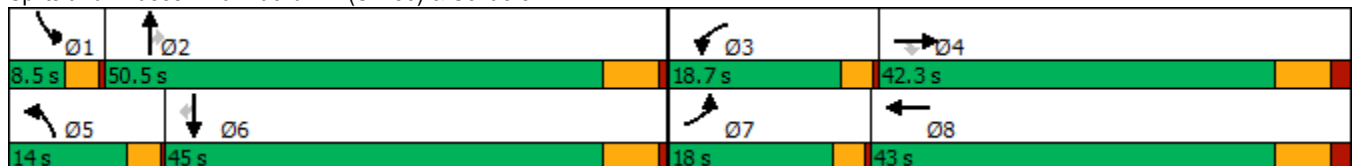


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	166	81	70	152	192	120	1196	40	34	1277	139
Future Volume (vph)	166	81	70	152	192	120	1196	40	34	1277	139
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.0	42.0	13.5	43.0	8.5	33.0	33.0	8.5	28.0	28.0
Total Split (s)	18.0	42.3	42.3	18.7	43.0	14.0	50.5	50.5	8.5	45.0	45.0
Total Split (%)	15.0%	35.3%	35.3%	15.6%	35.8%	11.7%	42.1%	42.1%	7.1%	37.5%	37.5%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	7.0	7.0	3.5	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	14.1	19.4	19.4	13.7	19.0	10.5	48.4	48.4	5.0	39.3	39.3
Actuated g/C Ratio	0.14	0.19	0.19	0.13	0.18	0.10	0.47	0.47	0.05	0.38	0.38
v/c Ratio	0.81	0.26	0.19	0.76	0.67	0.79	0.80	0.06	0.47	1.05	0.23
Control Delay	71.9	37.0	2.2	67.5	48.1	78.7	30.4	0.1	70.8	72.7	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.9	37.0	2.2	67.5	48.1	78.7	30.4	0.1	70.8	72.7	7.0
LOS	E	D	A	E	D	E	C	A	E	E	A
Approach Delay		47.6			56.3		33.8			66.3	
Approach LOS		D			E		C			E	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 103  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.05  
 Intersection Signal Delay: 50.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 85.7%  
 ICU Level of Service E  
 Analysis Period (min) 15
























Splits and Phases: 6: Euclid Av. (SR-83) & Schaefer Av.





HCM 6th Signalized Intersection Summary  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	81	70	152	192	13	120	1196	40	34	1277	139
Future Volume (veh/h)	166	81	70	152	192	13	120	1196	40	34	1277	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	178	87	56	163	206	12	129	1286	33	37	1373	115
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	207	298	253	192	263	15	156	1617	721	53	1400	623
Arrive On Green	0.13	0.17	0.17	0.12	0.16	0.16	0.10	0.47	0.47	0.03	0.41	0.41
Sat Flow, veh/h	1619	1800	1525	1619	1684	98	1619	3420	1525	1619	3420	1522
Grp Volume(v), veh/h	178	87	56	163	0	218	129	1286	33	37	1373	115
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	0	1782	1619	1710	1525	1619	1710	1522
Q Serve(g_s), s	10.3	4.0	3.0	9.4	0.0	11.2	7.5	30.3	1.1	2.2	37.7	4.6
Cycle Q Clear(g_c), s	10.3	4.0	3.0	9.4	0.0	11.2	7.5	30.3	1.1	2.2	37.7	4.6
Prop In Lane	1.00		1.00	1.00		0.06	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	207	298	253	192	0	279	156	1617	721	53	1400	623
V/C Ratio(X)	0.86	0.29	0.22	0.85	0.00	0.78	0.83	0.80	0.05	0.70	0.98	0.18
Avail Cap(c_a), veh/h	246	667	565	258	0	673	178	1617	721	85	1400	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	34.8	34.4	41.1	0.0	38.6	42.3	21.2	13.5	45.6	27.8	18.0
Incr Delay (d2), s/veh	19.7	0.4	0.3	13.9	0.0	3.6	21.5	2.9	0.0	6.0	19.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	1.7	1.1	4.3	0.0	4.9	3.7	10.9	0.4	0.9	17.1	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	35.2	34.7	55.0	0.0	42.2	63.8	24.1	13.6	51.6	47.3	18.1
LnGrp LOS	E	D	C	E	A	D	E	C	B	D	D	B
Approach Vol, veh/h		321			381			1448			1525	
Approach Delay, s/veh		49.1			47.7			27.4			45.2	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	51.0	14.8	22.8	12.7	45.0	15.7	21.9				
Change Period (Y+Rc), s	3.5	6.0	3.5	7.0	3.5	6.0	3.5	7.0				
Max Green Setting (Gmax), s	5.0	44.5	15.2	35.3	10.5	39.0	14.5	36.0				
Max Q Clear Time (g_c+I1), s	4.2	32.3	11.4	6.0	9.5	39.7	12.3	13.2				
Green Ext Time (p_c), s	0.0	6.4	0.1	0.4	0.0	0.0	0.1	0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				38.8								
HCM 6th LOS				D								



Timings  
7: Euclid Av. (SR-83) & Edison Av.

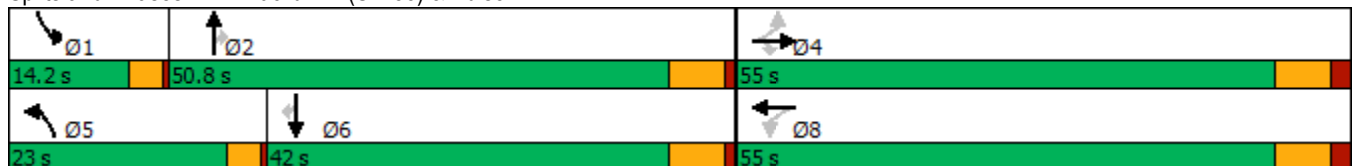


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	168	332	140	57	483	251	1036	51	116	1116	192
Future Volume (vph)	168	332	140	57	483	251	1036	51	116	1116	192
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.0	46.0	46.0	49.0	49.0	8.5	29.0	29.0	8.5	40.0	40.0
Total Split (s)	55.0	55.0	55.0	55.0	55.0	23.0	50.8	50.8	14.2	42.0	42.0
Total Split (%)	45.8%	45.8%	45.8%	45.8%	45.8%	19.2%	42.3%	42.3%	11.8%	35.0%	35.0%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	48.0	48.0	48.0	48.0	48.0	19.5	45.1	45.1	10.4	36.0	36.0
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.16	0.38	0.38	0.09	0.30	0.30
v/c Ratio	1.37	0.48	0.21	0.20	0.83	1.00	0.84	0.09	0.86	1.13	0.37
Control Delay	238.5	29.5	4.4	25.8	43.3	105.3	41.4	4.1	101.3	111.4	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	238.5	29.5	4.4	25.8	43.3	105.3	41.4	4.1	101.3	111.4	14.8
LOS	F	C	A	C	D	F	D	A	F	F	B
Approach Delay		78.9			41.7		52.0			97.6	
Approach LOS		E			D		D			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 110	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.37	
Intersection Signal Delay: 70.8	Intersection LOS: E
Intersection Capacity Utilization 110.5%	ICU Level of Service H
Analysis Period (min) 15	
























Splits and Phases: 7: Euclid Av. (SR-83) & Edison Av.



HCM 6th Signalized Intersection Summary  
 7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	332	140	57	483	79	251	1036	51	116	1116	192
Future Volume (veh/h)	168	332	140	57	483	79	251	1036	51	116	1116	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	175	346	91	59	503	77	261	1079	45	121	1162	149
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	144	720	610	295	610	93	263	1278	570	144	1026	447
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.16	0.37	0.37	0.09	0.30	0.30
Sat Flow, veh/h	800	1800	1524	913	1524	233	1619	3420	1525	1619	3420	1489
Grp Volume(v), veh/h	175	346	91	59	0	580	261	1079	45	121	1162	149
Grp Sat Flow(s),veh/h/ln	800	1800	1524	913	0	1758	1619	1710	1525	1619	1710	1489
Q Serve(g_s), s	12.5	17.1	4.6	6.2	0.0	35.5	19.3	34.6	2.3	8.8	36.0	9.3
Cycle Q Clear(g_c), s	48.0	17.1	4.6	23.3	0.0	35.5	19.3	34.6	2.3	8.8	36.0	9.3
Prop In Lane	1.00		1.00	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	720	610	295	0	703	263	1278	570	144	1026	447
V/C Ratio(X)	1.22	0.48	0.15	0.20	0.00	0.82	0.99	0.84	0.08	0.84	1.13	0.33
Avail Cap(c_a), veh/h	144	720	610	295	0	703	263	1278	570	144	1026	447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	26.7	23.0	35.4	0.0	32.2	50.2	34.4	24.2	53.9	42.0	32.7
Incr Delay (d2), s/veh	145.5	0.5	0.1	0.3	0.0	7.9	53.1	5.3	0.1	32.4	72.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	7.1	1.6	1.4	0.0	15.8	11.3	14.2	0.8	4.7	24.4	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	201.8	27.2	23.1	35.7	0.0	40.2	103.3	39.7	24.3	86.2	114.1	33.1
LnGrp LOS	F	C	C	D	A	D	F	D	C	F	F	C
Approach Vol, veh/h		612			639			1385			1432	
Approach Delay, s/veh		76.5			39.8			51.2			103.3	
Approach LOS		E			D			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.1	50.9		55.0	23.0	42.0		55.0				
Change Period (Y+Rc), s	3.5	6.0		7.0	3.5	6.0		7.0				
Max Green Setting (Gmax), s	10.7	44.8		48.0	19.5	36.0		48.0				
Max Q Clear Time (g_c+I1), s	10.8	36.6		50.0	21.3	38.0		37.5				
Green Ext Time (p_c), s	0.0	4.1		0.0	0.0	0.0		2.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				71.5								
HCM 6th LOS				E								

Timings  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	72	34	167	35	166	196	1238	14	123	1255	47
Future Volume (vph)	72	34	167	35	166	196	1238	14	123	1255	47
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.8	46.8	46.8	46.8	46.8	8.5	30.7	30.7	8.5	37.7	37.7
Total Split (s)	46.8	46.8	46.8	46.8	46.8	24.0	63.5	63.5	9.7	49.2	49.2
Total Split (%)	39.0%	39.0%	39.0%	39.0%	39.0%	20.0%	52.9%	52.9%	8.1%	41.0%	41.0%
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	3.0	4.7	4.7	3.0	4.7	4.7
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.8	4.8	3.5	5.7	5.7	3.5	5.7	5.7
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	19.3	19.3	19.3	19.3	19.3	15.8	53.9	53.9	6.3	44.4	44.4
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21	0.17	0.57	0.57	0.07	0.47	0.47
v/c Ratio	0.52	0.09	0.38	0.14	0.64	0.74	0.64	0.02	1.16	0.79	0.06
Control Delay	46.0	29.6	7.1	30.7	39.1	55.8	17.2	0.0	178.5	28.0	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.0	29.6	7.1	30.7	39.1	55.8	17.2	0.0	178.5	28.0	1.9
LOS	D	C	A	C	D	E	B	A	F	C	A
Approach Delay		20.1			38.0		22.2			40.2	
Approach LOS		C			D		C			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 93.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.16	
Intersection Signal Delay: 30.8	Intersection LOS: C
Intersection Capacity Utilization 82.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 8: Euclid Av. (SR-83) & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
 8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (veh/h)	72	34	167	35	166	67	196	1238	14	123	1255	47
Future Volume (veh/h)	72	34	167	35	166	67	196	1238	14	123	1255	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	73	35	84	36	169	60	200	1263	13	126	1281	37
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	201	391	331	340	275	98	239	1776	792	131	1549	690
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.15	0.52	0.52	0.08	0.45	0.45
Sat Flow, veh/h	1105	1800	1525	1221	1269	450	1619	3420	1525	1619	3420	1524
Grp Volume(v), veh/h	73	35	84	36	0	229	200	1263	13	126	1281	37
Grp Sat Flow(s),veh/h/ln	1105	1800	1525	1221	0	1719	1619	1710	1525	1619	1710	1524
Q Serve(g_s), s	4.9	1.2	3.5	1.9	0.0	9.2	9.2	21.6	0.3	5.9	25.1	1.0
Cycle Q Clear(g_c), s	14.1	1.2	3.5	3.0	0.0	9.2	9.2	21.6	0.3	5.9	25.1	1.0
Prop In Lane	1.00		1.00	1.00		0.26	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	201	391	331	340	0	373	239	1776	792	131	1549	690
V/C Ratio(X)	0.36	0.09	0.25	0.11	0.00	0.61	0.84	0.71	0.02	0.96	0.83	0.05
Avail Cap(c_a), veh/h	567	987	836	744	0	942	433	2580	1151	131	1941	865
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	23.9	24.9	25.2	0.0	27.1	31.8	14.0	8.9	35.1	18.3	11.8
Incr Delay (d2), s/veh	0.8	0.1	0.3	0.1	0.0	1.2	5.8	0.5	0.0	66.5	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.5	1.2	0.5	0.0	3.6	3.6	6.4	0.1	4.5	8.4	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.3	24.0	25.1	25.3	0.0	28.3	37.6	14.6	8.9	101.6	20.9	11.8
LnGrp LOS	C	C	C	C	A	C	D	B	A	F	C	B
Approach Vol, veh/h		192			265			1476			1444	
Approach Delay, s/veh		28.4			27.9			17.6			27.7	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	45.5		21.4	14.8	40.4		21.4				
Change Period (Y+Rc), s	3.5	5.7		4.8	3.5	5.7		4.8				
Max Green Setting (Gmax), s	6.2	57.8		42.0	20.5	43.5		42.0				
Max Q Clear Time (g_c+I1), s	7.9	23.6		16.1	11.2	27.1		11.2				
Green Ext Time (p_c), s	0.0	9.9		0.5	0.2	7.6		1.1				

Intersection Summary

HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

Timings  
9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

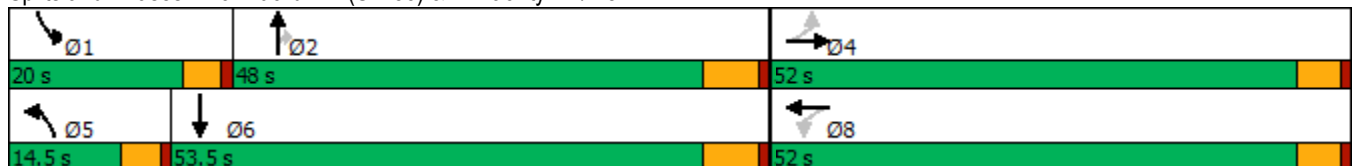


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	4	9	287	51	11	1156	304	269	1131
Future Volume (vph)	4	9	287	51	11	1156	304	269	1131
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	52.0	52.0	52.0	52.0	14.5	48.0	48.0	20.0	53.5
Total Split (%)	43.3%	43.3%	43.3%	43.3%	12.1%	40.0%	40.0%	16.7%	44.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)		47.0		47.0	10.0	42.0	42.0	15.5	59.1
Actuated g/C Ratio		0.39		0.39	0.08	0.35	0.35	0.13	0.49
v/c Ratio		0.05		1.11	0.08	1.00	0.52	1.33	0.72
Control Delay		13.0		104.7	52.4	64.2	24.0	219.1	28.0
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		13.0		104.7	52.4	64.2	24.0	219.1	28.0
LOS		B		F	D	E	C	F	C
Approach Delay		13.0		104.7		55.8			63.6
Approach LOS		B		F		E			E

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.33  
 Intersection Signal Delay: 67.1  
 Intersection LOS: E  
 Intersection Capacity Utilization 107.9%  
 ICU Level of Service G  
 Analysis Period (min) 15

Splits and Phases: 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 6th Signalized Intersection Summary  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕	↗	↗	↕	↕
Traffic Volume (veh/h)	4	9	18	287	51	284	11	1156	304	269	1131	44
Future Volume (veh/h)	4	9	18	287	51	284	11	1156	304	269	1131	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	4	9	18	296	53	266	11	1192	270	277	1166	31
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	92	204	363	326	50	253	41	1197	534	209	1543	41
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.03	0.35	0.35	0.13	0.45	0.45
Sat Flow, veh/h	148	521	926	718	129	645	1619	3420	1525	1619	3401	90
Grp Volume(v), veh/h	31	0	0	615	0	0	11	1192	270	277	586	611
Grp Sat Flow(s),veh/h/ln	1594	0	0	1492	0	0	1619	1710	1525	1619	1710	1781
Q Serve(g_s), s	0.0	0.0	0.0	45.6	0.0	0.0	0.8	41.7	16.8	15.5	34.2	34.2
Cycle Q Clear(g_c), s	1.4	0.0	0.0	47.0	0.0	0.0	0.8	41.7	16.8	15.5	34.2	34.2
Prop In Lane	0.13		0.58	0.48		0.43	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	658	0	0	629	0	0	41	1197	534	209	776	808
V/C Ratio(X)	0.05	0.00	0.00	0.98	0.00	0.00	0.27	1.00	0.51	1.32	0.76	0.76
Avail Cap(c_a), veh/h	658	0	0	629	0	0	135	1197	534	209	776	808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	0.0	0.0	37.5	0.0	0.0	57.4	38.9	30.8	52.2	27.3	27.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	30.2	0.0	0.0	1.3	25.0	0.8	175.3	4.3	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	22.5	0.0	0.0	0.3	20.3	5.9	16.2	13.6	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	0.0	0.0	67.7	0.0	0.0	58.6	63.9	31.6	227.6	31.5	31.4
LnGrp LOS	C	A	A	E	A	A	E	E	C	F	C	C
Approach Vol, veh/h		31			615			1473				1474
Approach Delay, s/veh		22.6			67.7			57.9				68.3
Approach LOS		C			E			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.0	48.0		52.0	7.6	60.4		52.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	15.5	42.0		47.0	10.0	47.5		47.0				
Max Q Clear Time (g_c+1), s	17.5	43.7		3.4	2.8	36.2		49.0				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	5.1		0.0				

Intersection Summary

HCM 6th Ctrl Delay	63.5
HCM 6th LOS	E

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	<b>T</b>	<b>4T</b>		<b>T</b>	<b>T</b>		<b>T</b>	<b>T</b>			<b>4T</b>	
Traffic Vol, veh/h	0	142	42	47	298	0	11	0	14	0	0	0
Future Vol, veh/h	0	142	42	47	298	0	11	0	14	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	200	-	-	200	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	154	46	51	324	0	12	0	15	0	0	0

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	324	0	200	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.1	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.2	-	2.2	-
Pot Cap-1 Maneuver	1247	-	1384	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1247	-	1384	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB					
HCM Control Delay, s	0	1	11.4	0					
HCMLOS		B	A						
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	389	943	1247	-	-	1384	-	-	-
HCM Lane V/C Ratio	0.031	0.016	-	-	-	0.037	-	-	-
HCM Control Delay (s)	14.5	8.9	0	-	-	7.7	-	-	0
HCM Lane LOS	B	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	0	-	-	0.1	-	-	-

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	2	0	1	3	0	2	0	19	10	7	71	12
Future Vol, veh/h	2	0	1	3	0	2	0	19	10	7	71	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	0	1	3	0	2	0	21	11	8	77	13

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	128	132	84	127	133	27	90	0	0	32	0	0
Stage 1	100	100	-	27	27	-	-	-	-	-	-	-
Stage 2	28	32	-	100	106	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	850	762	981	851	761	1054	1518	-	-	1593	-	-
Stage 1	911	816	-	996	877	-	-	-	-	-	-	-
Stage 2	994	872	-	911	811	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	845	758	981	847	757	1054	1518	-	-	1593	-	-
Mov Cap-2 Maneuver	856	763	-	854	761	-	-	-	-	-	-	-
Stage 1	911	812	-	996	877	-	-	-	-	-	-	-
Stage 2	992	872	-	905	807	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	8.9	0	0.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1518	-	-	894	924	1593	-	-
HCM Lane V/C Ratio	-	-	-	0.004	0.006	0.005	-	-
HCM Control Delay (s)	0	-	-	9	8.9	7.3	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-



Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	2	0	0	3	0	2	0	26	11	5	61	9
Future Vol, veh/h	2	0	0	3	0	2	0	26	11	5	61	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	2	0	0	3	0	2	0	28	12	5	66	10

Major/Minor	Minor2		Minor1			Major1		Major2				
Conflicting Flow All	116	121	71	115	120	34	76	0	0	40	0	0
Stage 1	81	81	-	34	34	-	-	-	-	-	-	-
Stage 2	35	40	-	81	86	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	865	773	997	867	774	1045	1536	-	-	1583	-	-
Stage 1	932	832	-	987	871	-	-	-	-	-	-	-
Stage 2	986	866	-	932	827	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	862	771	997	865	772	1045	1536	-	-	1583	-	-
Mov Cap-2 Maneuver	872	776	-	872	775	-	-	-	-	-	-	-
Stage 1	932	830	-	987	871	-	-	-	-	-	-	-
Stage 2	984	866	-	929	825	-	-	-	-	-	-	-

Approach	EB		WB			NB		SB		
HCM Control Delay, s	9.1		8.9			0		0.5		
HCM LOS	A		A							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1536	-	-	872	934	1583	-	-
HCM Lane V/C Ratio	-	-	-	0.002	0.006	0.003	-	-
HCM Control Delay (s)	0	-	-	9.1	8.9	7.3	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	2	2	35	8	7	57
Future Vol, veh/h	2	2	35	8	7	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	2	38	9	8	62

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	121	43	0	0	47	0
Stage 1	43	-	-	-	-	-
Stage 2	78	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	879	1033	-	-	1573	-
Stage 1	985	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	875	1033	-	-	1573	-
Mov Cap-2 Maneuver	884	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	945	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	953	1573
HCM Lane V/C Ratio	-	-	0.005	0.005
HCM Control Delay (s)	-	-	8.8	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	2	39	4	5	45
Future Vol, veh/h	1	2	39	4	5	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	2	42	4	5	49

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	103	44	0	0	46	0
Stage 1	44	-	-	-	-	-
Stage 2	59	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	900	1032	-	-	1575	-
Stage 1	984	-	-	-	-	-
Stage 2	969	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	897	1032	-	-	1575	-
Mov Cap-2 Maneuver	900	-	-	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	966	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	984	1575
HCM Lane V/C Ratio	-	-	0.003	0.003
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	2	41	8	5	37
Future Vol, veh/h	2	2	41	8	5	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	2	45	9	5	40

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	100	50	0	0	54
Stage 1	50	-	-	-	-
Stage 2	50	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	904	1024	-	-	1564
Stage 1	978	-	-	-	-
Stage 2	978	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	901	1024	-	-	1564
Mov Cap-2 Maneuver	903	-	-	-	-
Stage 1	978	-	-	-	-
Stage 2	975	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	960	1564
HCM Lane V/C Ratio	-	-	0.005	0.003
HCM Control Delay (s)	-	-	8.8	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	1	0	1	4	0	2	2	59	12	6	31	7
Future Vol, veh/h	1	0	1	4	0	2	2	59	12	6	31	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	0	1	4	0	2	2	64	13	7	34	8

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	128	133	38	128	131	71	42	0	0	77	0	0
Stage 1	52	52	-	75	75	-	-	-	-	-	-	-
Stage 2	76	81	-	53	56	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	850	761	1040	850	763	997	1580	-	-	1535	-	-
Stage 1	966	856	-	939	836	-	-	-	-	-	-	-
Stage 2	938	832	-	965	852	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	844	756	1040	846	758	997	1580	-	-	1535	-	-
Mov Cap-2 Maneuver	863	767	-	867	771	-	-	-	-	-	-	-
Stage 1	965	852	-	938	835	-	-	-	-	-	-	-
Stage 2	935	831	-	960	848	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	9	0.2	1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1580	-	-	943	906	1535	-
HCM Lane V/C Ratio	0.001	-	-	0.002	0.007	0.004	-
HCM Control Delay (s)	7.3	-	-	8.8	9	7.4	-
HCM Lane LOS	A	-	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↔		↔	↔	
Traffic Vol, veh/h	0	0	2	0	0	2	0	71	2	6	24	5
Future Vol, veh/h	0	0	2	0	0	2	0	71	2	6	24	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	2	0	0	2	0	77	2	7	26	5

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	122	122	29	122	123	78	-	0	0	79	0	0
Stage 1	43	43	-	78	78	-	-	-	-	-	-	-
Stage 2	79	79	-	44	45	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	858	772	1052	858	771	988	0	-	-	1532	-	-
Stage 1	976	863	-	936	834	-	0	-	-	-	-	-
Stage 2	935	833	-	975	861	-	0	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	853	768	1052	853	767	988	-	-	-	1532	-	-
Mov Cap-2 Maneuver	866	773	-	870	776	-	-	-	-	-	-	-
Stage 1	976	859	-	936	834	-	-	-	-	-	-	-
Stage 2	933	833	-	969	857	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.4	8.7	0	1.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	1052	988	1532	-	-
HCM Lane V/C Ratio	-	-	0.002	0.002	0.004	-	-
HCM Control Delay (s)	-	-	8.4	8.7	7.4	-	-
HCM Lane LOS	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	-	-	0	0	0	-	-

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑↑		↘	↘
Traffic Vol, veh/h	54	544	733	34	18	21
Future Vol, veh/h	54	544	733	34	18	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	59	591	797	37	20	23

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	834	0	-	0	1525 417
Stage 1	-	-	-	-	816 -
Stage 2	-	-	-	-	709 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	808	-	-	-	120 590
Stage 1	-	-	-	-	400 -
Stage 2	-	-	-	-	491 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	808	-	-	-	111 590
Mov Cap-2 Maneuver	-	-	-	-	111 -
Stage 1	-	-	-	-	371 -
Stage 2	-	-	-	-	491 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	26.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	808	-	-	-	111	590
HCM Lane V/C Ratio	0.073	-	-	-	0.176	0.039
HCM Control Delay (s)	9.8	-	-	-	44.2	11.3
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6	0.1

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	546	721	6	2	1
Future Vol, veh/h	2	546	721	6	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	593	784	7	2	1

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	791	0	-	0	1385 396
Stage 1	-	-	-	-	788 -
Stage 2	-	-	-	-	597 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	838	-	-	-	148 609
Stage 1	-	-	-	-	414 -
Stage 2	-	-	-	-	554 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	838	-	-	-	148 609
Mov Cap-2 Maneuver	-	-	-	-	340 -
Stage 1	-	-	-	-	413 -
Stage 2	-	-	-	-	554 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	838	-	-	-	399
HCM Lane V/C Ratio	0.003	-	-	-	0.008
HCM Control Delay (s)	9.3	-	-	-	14.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0



Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑	↘	
Traffic Vol, veh/h	138	11	17	322	3	5
Future Vol, veh/h	138	11	17	322	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	150	12	18	350	3	5

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	162	0	542 81
Stage 1	-	-	-	-	156 -
Stage 2	-	-	-	-	386 -
Critical Hdwy	-	-	4.1	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1429	-	490 969
Stage 1	-	-	-	-	862 -
Stage 2	-	-	-	-	691 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1429	-	484 969
Mov Cap-2 Maneuver	-	-	-	-	619 -
Stage 1	-	-	-	-	862 -
Stage 2	-	-	-	-	682 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	799	-	-	1429	-
HCM Lane V/C Ratio	0.011	-	-	0.013	-
HCM Control Delay (s)	9.6	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑	↘	
Traffic Vol, veh/h	131	12	16	336	3	4
Future Vol, veh/h	131	12	16	336	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	142	13	17	365	3	4

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	155	0	548 78
Stage 1	-	-	-	-	149 -
Stage 2	-	-	-	-	399 -
Critical Hdwy	-	-	4.1	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1438	-	486 973
Stage 1	-	-	-	-	869 -
Stage 2	-	-	-	-	682 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1438	-	480 973
Mov Cap-2 Maneuver	-	-	-	-	613 -
Stage 1	-	-	-	-	869 -
Stage 2	-	-	-	-	674 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	777	-	-	1438	-
HCM Lane V/C Ratio	0.01	-	-	0.012	-
HCM Control Delay (s)	9.7	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	546	726	6	2	1
Future Vol, veh/h	2	546	726	6	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	593	789	7	2	1

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	796	0	-	0	1390 398
Stage 1	-	-	-	-	793 -
Stage 2	-	-	-	-	597 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	835	-	-	-	147 607
Stage 1	-	-	-	-	411 -
Stage 2	-	-	-	-	554 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	835	-	-	-	147 607
Mov Cap-2 Maneuver	-	-	-	-	339 -
Stage 1	-	-	-	-	410 -
Stage 2	-	-	-	-	554 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	835	-	-	-	398
HCM Lane V/C Ratio	0.003	-	-	-	0.008
HCM Control Delay (s)	9.3	-	-	-	14.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↘	↘
Traffic Vol, veh/h	105	31	14	336	16	5
Future Vol, veh/h	105	31	14	336	16	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	200	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	114	34	15	365	17	5

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	148	0	526
Stage 1	-	-	-	-	131
Stage 2	-	-	-	-	395
Critical Hdwy	-	-	4.1	-	6.6
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1446	-	501
Stage 1	-	-	-	-	887
Stage 2	-	-	-	-	685
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1446	-	496
Mov Cap-2 Maneuver	-	-	-	-	496
Stage 1	-	-	-	-	887
Stage 2	-	-	-	-	678

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	496	979	-	-	1446	-
HCM Lane V/C Ratio	0.035	0.006	-	-	0.011	-
HCM Control Delay (s)	12.5	8.7	-	-	7.5	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	3	12	19	40	5
Future Vol, veh/h	2	3	12	19	40	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	3	13	21	43	5

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	93	46	48	0	0
Stage 1	46	-	-	-	-
Stage 2	47	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	912	1029	1572	-	-
Stage 1	982	-	-	-	-
Stage 2	981	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	905	1029	1572	-	-
Mov Cap-2 Maneuver	905	-	-	-	-
Stage 1	974	-	-	-	-
Stage 2	981	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	2.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1572	-	976	-	-
HCM Lane V/C Ratio	0.008	-	0.006	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	2	3	11	29	38	5
Future Vol, veh/h	2	3	11	29	38	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	3	12	32	41	5

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	100	44	46	0	0
Stage 1	44	-	-	-	-
Stage 2	56	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	904	1032	1575	-	-
Stage 1	984	-	-	-	-
Stage 2	972	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	897	1032	1575	-	-
Mov Cap-2 Maneuver	900	-	-	-	-
Stage 1	976	-	-	-	-
Stage 2	972	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1575	-	975	-	-
HCM Lane V/C Ratio	0.008	-	0.006	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑	↑	
Traffic Vol, veh/h	2	3	10	39	35	5
Future Vol, veh/h	2	3	10	39	35	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	3	11	42	38	5

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	105	41	43	0	0
Stage 1	41	-	-	-	-
Stage 2	64	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	898	1036	1579	-	-
Stage 1	987	-	-	-	-
Stage 2	964	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	892	1036	1579	-	-
Mov Cap-2 Maneuver	897	-	-	-	-
Stage 1	980	-	-	-	-
Stage 2	964	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	1.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1579	-	976	-	-
HCM Lane V/C Ratio	0.007	-	0.006	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	2	6	48	35	4
Future Vol, veh/h	1	2	6	48	35	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	2	7	52	38	4

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	106	40	42	0	0
Stage 1	40	-	-	-	-
Stage 2	66	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	897	1037	1580	-	-
Stage 1	988	-	-	-	-
Stage 2	962	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	893	1037	1580	-	-
Mov Cap-2 Maneuver	897	-	-	-	-
Stage 1	984	-	-	-	-
Stage 2	962	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1580	-	986	-	-
HCM Lane V/C Ratio	0.004	-	0.003	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	2	2	8	52	31	5
Future Vol, veh/h	2	2	8	52	31	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	2	9	57	34	5

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	112	37	39	0	0
Stage 1	37	-	-	-	-
Stage 2	75	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	890	1041	1584	-	-
Stage 1	991	-	-	-	-
Stage 2	953	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	885	1041	1584	-	-
Mov Cap-2 Maneuver	891	-	-	-	-
Stage 1	985	-	-	-	-
Stage 2	953	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1584	-	960	-	-
HCM Lane V/C Ratio	0.005	-	0.005	-	-
HCM Control Delay (s)	7.3	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	2	4	12	58	27	6
Future Vol, veh/h	2	4	12	58	27	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	4	13	63	29	7

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	122	33	36	0	0
Stage 1	33	-	-	-	-
Stage 2	89	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	878	1046	1588	-	-
Stage 1	995	-	-	-	-
Stage 2	940	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	871	1046	1588	-	-
Mov Cap-2 Maneuver	880	-	-	-	-
Stage 1	987	-	-	-	-
Stage 2	940	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1588	-	984	-	-
HCM Lane V/C Ratio	0.008	-	0.007	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	4	70	27	4
Future Vol, veh/h	1	1	4	70	27	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	1	4	76	29	4

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	115	31	33	0	0
Stage 1	31	-	-	-	-
Stage 2	84	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	886	1049	1592	-	-
Stage 1	997	-	-	-	-
Stage 2	944	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	883	1049	1592	-	-
Mov Cap-2 Maneuver	887	-	-	-	-
Stage 1	994	-	-	-	-
Stage 2	944	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1592	-	961	-	-
HCM Lane V/C Ratio	0.003	-	0.002	-	-
HCM Control Delay (s)	7.3	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↕		↖	↖
Traffic Vol, veh/h	38	510	717	46	13	15
Future Vol, veh/h	38	510	717	46	13	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	41	554	779	50	14	16

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	829	0	-	0	1440 415
Stage 1	-	-	-	-	804 -
Stage 2	-	-	-	-	636 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	811	-	-	-	136 592
Stage 1	-	-	-	-	406 -
Stage 2	-	-	-	-	531 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	811	-	-	-	129 592
Mov Cap-2 Maneuver	-	-	-	-	129 -
Stage 1	-	-	-	-	385 -
Stage 2	-	-	-	-	531 -

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	22.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	811	-	-	-	129	592
HCM Lane V/C Ratio	0.051	-	-	-	0.11	0.028
HCM Control Delay (s)	9.7	-	-	-	36.3	11.3
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4	0.1

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Vol, veh/h	20	89	6	36	291	21	19	88	19	31	72	54
Future Vol, veh/h	20	89	6	36	291	21	19	88	19	31	72	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	22	97	7	39	316	23	21	96	21	34	78	59
Number of Lanes	0	2	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	9.3	13.7	9.9	10.1
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	15%	31%	0%	10%	20%
Vol Thru, %	70%	69%	88%	84%	46%
Vol Right, %	15%	0%	12%	6%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	126	65	51	348	157
LT Vol	19	20	0	36	31
Through Vol	88	45	45	291	72
RT Vol	19	0	6	21	54
Lane Flow Rate	137	70	55	378	171
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.207	0.116	0.087	0.532	0.251
Departure Headway (Hd)	5.453	5.963	5.721	5.06	5.292
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	657	602	626	719	677
Service Time	3.492	3.694	3.453	3.06	3.329
HCM Lane V/C Ratio	0.209	0.116	0.088	0.526	0.253
HCM Control Delay	9.9	9.5	9	13.7	10.1
HCM Lane LOS	A	A	A	B	B
HCM 95th-tile Q	0.8	0.4	0.3	3.2	1

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↔	
Traffic Vol, veh/h	55	454	718	84	34	47
Future Vol, veh/h	55	454	718	84	34	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	60	493	780	91	37	51

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	871	0	-	0	1439 436
Stage 1	-	-	-	-	826 -
Stage 2	-	-	-	-	613 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	783	-	-	-	137 574
Stage 1	-	-	-	-	395 -
Stage 2	-	-	-	-	544 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	783	-	-	-	122 574
Mov Cap-2 Maneuver	-	-	-	-	122 -
Stage 1	-	-	-	-	353 -
Stage 2	-	-	-	-	544 -

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	30.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	783	-	-	-	225
HCM Lane V/C Ratio	0.076	-	-	-	0.391
HCM Control Delay (s)	10	0	-	-	30.9
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	1.8

Intersection	
Intersection Delay, s/veh	41.4
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕			↕			↕	
Traffic Vol, veh/h	42	73	16	42	175	34	70	270	17	94	305	115
Future Vol, veh/h	42	73	16	42	175	34	70	270	17	94	305	115
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	46	80	18	46	192	37	77	297	19	103	335	126
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	14.7	20.5	27.7	67.9
HCM LOS	B	C	D	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	20%	37%	0%	17%	18%
Vol Thru, %	76%	63%	0%	70%	59%
Vol Right, %	5%	0%	100%	14%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	357	115	16	251	514
LT Vol	70	42	0	42	94
Through Vol	270	73	0	175	305
RT Vol	17	0	16	34	115
Lane Flow Rate	392	126	18	276	565
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.745	0.301	0.037	0.575	1.017
Departure Headway (Hd)	6.98	8.762	7.846	7.666	6.483
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	522	413	459	474	565
Service Time	4.98	6.462	5.546	5.666	4.483
HCM Lane V/C Ratio	0.751	0.305	0.039	0.582	1
HCM Control Delay	27.7	15.2	10.8	20.5	67.9
HCM Lane LOS	D	C	B	C	F
HCM 95th-tile Q	6.3	1.2	0.1	3.6	15.2

Intersection	
Intersection Delay, s/veh	193.3
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	122	366	721	298	187	130
Future Vol, veh/h	122	366	721	298	187	130
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	126	377	743	307	193	134
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left			WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	35.8	323.9	16
HCM LOS	E	F	C

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	25%	0%	100%	0%
Vol Thru, %	75%	71%	0%	0%
Vol Right, %	0%	29%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	488	1019	187	130
LT Vol	122	0	187	0
Through Vol	366	721	0	0
RT Vol	0	298	0	130
Lane Flow Rate	503	1051	193	134
Geometry Grp	2	2	7	7
Degree of Util (X)	0.836	1.67	0.423	0.25
Departure Headway (Hd)	6.877	5.723	8.983	7.736
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	533	641	403	468
Service Time	4.877	3.737	6.683	5.436
HCM Lane V/C Ratio	0.944	1.64	0.479	0.286
HCM Control Delay	35.8	323.9	18.1	13
HCM Lane LOS	E	F	C	B
HCM 95th-tile Q	8.5	59.2	2.1	1



Intersection

Intersection Delay, s/veh91.7

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕		↕		↕			↕	
Traffic Vol, veh/h	18	339	33	226	451	159	11	34	37	62	72	12
Future Vol, veh/h	18	339	33	226	451	159	11	34	37	62	72	12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	18	346	34	231	460	162	11	35	38	63	73	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	WB	NB	SB
Opposing Approach	WB	EB		SB	NB
Opposing Lanes	1	1		1	1
Conflicting Approach Left SB		NB		EB	WB
Conflicting Lanes Left	1	1		1	1
Conflicting Approach Right NB		SB		WB	EB
Conflicting Lanes Right	1	1		1	1
HCM Control Delay	18.7	147.2		11.9	13.4
HCM LOS	C	F		B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	5%	27%	42%
Vol Thru, %	41%	87%	54%	49%
Vol Right, %	45%	8%	19%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	82	390	836	146
LT Vol	11	18	226	62
Through Vol	34	339	451	72
RT Vol	37	33	159	12
Lane Flow Rate	84	398	853	149
Geometry Grp	1	1	1	1
Degree of Util (X)	0.16	0.627	1.26	0.285
Departure Headway (Hd)	7.488	6.047	5.317	7.476
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	482	601	682	484
Service Time	5.488	4.047	3.351	5.476
HCM Lane V/C Ratio	0.174	0.662	1.251	0.308
HCM Control Delay	11.9	18.7	147.2	13.4
HCM Lane LOS	B	C	F	B
HCM 95th-tile Q	0.6	4.4	31.8	1.2

Intersection						
Int Delay, s/veh	9.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	88	49	83	24	131	223
Future Vol, veh/h	88	49	83	24	131	223
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	96	53	90	26	142	242

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	116	0	-	0	348 103
Stage 1	-	-	-	-	103 -
Stage 2	-	-	-	-	245 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1485	-	-	-	653 957
Stage 1	-	-	-	-	926 -
Stage 2	-	-	-	-	800 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1485	-	-	-	609 957
Mov Cap-2 Maneuver	-	-	-	-	609 -
Stage 1	-	-	-	-	864 -
Stage 2	-	-	-	-	800 -

Approach	EB	WB	SB
HCM Control Delay, s	4.9	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1485	-	-	-	790
HCM Lane V/C Ratio	0.064	-	-	-	0.487
HCM Control Delay (s)	7.6	0	-	-	13.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	2.7

Intersection												
Int Delay, s/veh	41.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	397	104	111	769	25	190	6	103	7	2	8
Future Vol, veh/h	31	397	104	111	769	25	190	6	103	7	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	75	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	97	97	97	97	92	97	92	97	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	34	409	107	114	793	27	196	7	106	8	2	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	820	0	0	516	0	0	1517	1525	409	1622	1619	807
Stage 1	-	-	-	-	-	-	477	477	-	1035	1035	-
Stage 2	-	-	-	-	-	-	1040	1048	-	587	584	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	818	-	-	1060	-	-	~ 99	119	647	83	104	385
Stage 1	-	-	-	-	-	-	573	559	-	282	312	-
Stage 2	-	-	-	-	-	-	281	307	-	499	501	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	818	-	-	1060	-	-	~ 84	102	647	60	89	385
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 167	189	-	60	89	-
Stage 1	-	-	-	-	-	-	549	536	-	270	278	-
Stage 2	-	-	-	-	-	-	243	274	-	395	480	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1.1	234.4	46
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	225	818	-	-	1060	-	-	106
HCM Lane V/C Ratio	1.371	0.041	-	-	0.108	-	-	0.174
HCM Control Delay (s)	234.4	9.6	-	-	8.8	-	-	46
HCM Lane LOS	F	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	17.2	0.1	-	-	0.4	-	-	0.6

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑			↑↓				
Traffic Vol, veh/h	19	441	44	27	902	22	18	0	27	6	0	5
Future Vol, veh/h	19	441	44	27	902	22	18	0	27	6	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	21	485	48	30	991	24	20	0	30	7	0	5

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1015	0	0	533	0	0	1614	1626	267
Stage 1	-	-	-	-	-	-	551	551	-
Stage 2	-	-	-	-	-	-	1063	1075	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.6	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	691	-	-	1045	-	-	106	103	737
Stage 1	-	-	-	-	-	-	547	519	-
Stage 2	-	-	-	-	-	-	335	298	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	691	-	-	1045	-	-	98	0	737
Mov Cap-2 Maneuver	-	-	-	-	-	-	216	0	-
Stage 1	-	-	-	-	-	-	523	0	-
Stage 2	-	-	-	-	-	-	325	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.4	0.2	16.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	375	691	-	-	1045	-	-
HCM Lane V/C Ratio	0.132	0.03	-	-	0.028	-	-
HCM Control Delay (s)	16.1	10.4	-	-	8.5	-	-
HCM Lane LOS	C	B	-	-	A	-	-
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.1	-	-

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↷		↶	↷		↶	↷		↶	↷	
Traffic Vol, veh/h	10	467	6	18	925	31	7	6	13	8	2	3
Future Vol, veh/h	10	467	6	18	925	31	7	6	13	8	2	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	200	-	-	200	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	502	6	19	995	33	8	6	14	9	2	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1028	0	0	508	0	0	1579	1593	254	1326	1580	1012
Stage 1	-	-	-	-	-	-	527	527	-	1050	1050	-
Stage 2	-	-	-	-	-	-	1052	1066	-	276	530	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	683	-	-	1067	-	-	82	108	752	124	110	293
Stage 1	-	-	-	-	-	-	508	532	-	277	307	-
Stage 2	-	-	-	-	-	-	276	301	-	712	530	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	683	-	-	1067	-	-	78	104	752	116	106	293
Mov Cap-2 Maneuver	-	-	-	-	-	-	185	210	-	217	216	-
Stage 1	-	-	-	-	-	-	500	523	-	273	301	-
Stage 2	-	-	-	-	-	-	266	296	-	679	522	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			17.1			21.2		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	185	414	683	-	-	1067	-	-	217	256
HCM Lane V/C Ratio	0.041	0.049	0.016	-	-	0.018	-	-	0.04	0.021
HCM Control Delay (s)	25.3	14.1	10.4	-	-	8.4	-	-	22.3	19.4
HCM Lane LOS	D	B	B	-	-	A	-	-	C	C
HCM 95th %tile Q(veh)	0.1	0.2	0	-	-	0.1	-	-	0.1	0.1

Intersection	
Intersection Delay, s/veh	278.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	19	416	29	209	922	61	21	0	120	128	0	13
Future Vol, veh/h	19	416	29	209	922	61	21	0	120	128	0	13
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	20	443	31	222	981	65	22	0	128	136	0	14
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	3
HCM Control Delay	39.2	433.7	15.8	17.9
HCM LOS	E	F	C	C

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	15%	100%	0%	0%	100%	0%	91%
Vol Thru, %	0%	0%	100%	0%	0%	94%	0%
Vol Right, %	85%	0%	0%	100%	0%	6%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	141	19	416	29	209	983	141
LT Vol	21	19	0	0	209	0	128
Through Vol	0	0	416	0	0	922	0
RT Vol	120	0	0	29	0	61	13
Lane Flow Rate	150	20	443	31	222	1046	150
Geometry Grp	7	7	7	7	8	8	7
Degree of Util (X)	0.32	0.042	0.854	0.054	0.483	2.108	0.355
Departure Headway (Hd)	8.969	8.559	8.043	7.32	7.814	7.257	9.84
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	404	421	456	492	460	502	368
Service Time	6.669	6.259	5.743	5.02	5.592	5.034	7.54
HCM Lane V/C Ratio	0.371	0.048	0.971	0.063	0.483	2.084	0.408
HCM Control Delay	15.8	11.6	42.5	10.4	17.7	522.2	17.9
HCM Lane LOS	C	B	E	B	C	F	C
HCM 95th-tile Q	1.4	0.1	8.6	0.2	2.6	73.3	1.6

Timings

Ontario Ranch Business Park (JN 13941)

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

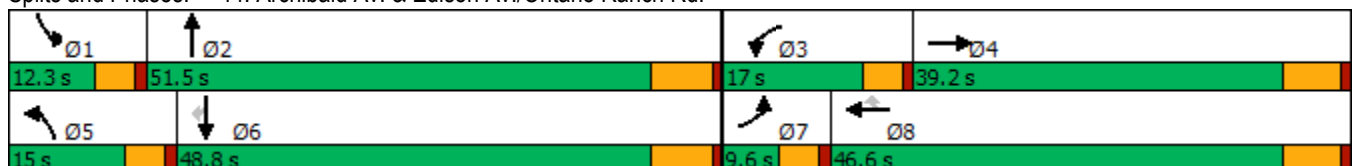
08/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	259	54	454	641	144	174	1040	422	72	487	162
Future Volume (vph)	41	259	54	454	641	144	174	1040	422	72	487	162
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	39.2		17.0	46.6	46.6	15.0	51.5		12.3	48.8	48.8
Total Split (%)	8.0%	32.7%		14.2%	38.8%	38.8%	12.5%	42.9%		10.3%	40.7%	40.7%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.1	31.1	111.0	12.7	41.3	41.3	10.6	40.3	111.0	7.4	34.2	34.2
Actuated g/C Ratio	0.05	0.28	1.00	0.11	0.37	0.37	0.10	0.36	1.00	0.07	0.31	0.31
v/c Ratio	0.31	0.28	0.04	1.39	0.99	0.23	1.16	0.86	0.29	0.69	0.48	0.29
Control Delay	61.8	33.5	0.0	232.3	70.1	9.4	169.8	41.8	0.5	86.4	32.0	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.8	33.5	0.0	232.3	70.1	9.4	169.8	41.8	0.5	86.4	32.0	6.6
LOS	E	C	A	F	E	A	F	D	A	F	C	A
Approach Delay		31.6			122.5			44.7			31.7	
Approach LOS		C			F			D			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 111	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.39	
Intersection Signal Delay: 65.6	Intersection LOS: E
Intersection Capacity Utilization 92.8%	ICU Level of Service F
Analysis Period (min) 15	






























Splits and Phases: 44: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
 44: Archibald Av. & Edison Av./Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 				 			 	
Traffic Volume (veh/h)	41	259	54	454	641	144	174	1040	422	72	487	162
Future Volume (veh/h)	41	259	54	454	641	144	174	1040	422	72	487	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	42	267	0	468	661	94	179	1072	0	74	502	134
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	96	967		328	650	551	150	1210		92	1086	485
Arrive On Green	0.03	0.28	0.00	0.11	0.36	0.36	0.09	0.35	0.00	0.06	0.32	0.32
Sat Flow, veh/h	2956	3420	1525	2956	1800	1525	1619	3420	1525	1619	3420	1525
Grp Volume(v), veh/h	42	267	0	468	661	94	179	1072	0	74	502	134
Grp Sat Flow(s),veh/h/ln	1478	1710	1525	1478	1800	1525	1619	1710	1525	1619	1710	1525
Q Serve(g_s), s	1.6	6.8	0.0	12.4	40.4	4.7	10.4	33.0	0.0	5.1	13.1	7.4
Cycle Q Clear(g_c), s	1.6	6.8	0.0	12.4	40.4	4.7	10.4	33.0	0.0	5.1	13.1	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	967		328	650	551	150	1210		92	1086	485
V/C Ratio(X)	0.44	0.28		1.43	1.02	0.17	1.19	0.89		0.81	0.46	0.28
Avail Cap(c_a), veh/h	132	1009		328	650	551	150	1375		111	1293	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.1	31.2	0.0	49.7	35.7	24.3	50.7	34.0	0.0	52.2	30.5	28.6
Incr Delay (d2), s/veh	1.2	0.2	0.0	209.7	39.6	0.1	133.3	6.7	0.0	24.2	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.7	0.0	13.9	23.5	1.6	9.6	13.7	0.0	2.6	5.1	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.3	31.4	0.0	259.4	75.4	24.5	184.0	40.7	0.0	76.4	30.8	28.9
LnGrp LOS	D	C		F	F	C	F	D		E	C	C
Approach Vol, veh/h		309	A		1223			1251	A		710	
Approach Delay, s/veh		34.5			141.9			61.2			35.2	
Approach LOS		C			F			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	46.1	17.0	37.8	15.0	42.0	8.2	46.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.7	45.0	12.4	33.0	10.4	42.3	5.0	40.4				
Max Q Clear Time (g_c+I1), s	7.1	35.0	14.4	8.8	12.4	15.1	3.6	42.4				
Green Ext Time (p_c), s	0.0	4.6	0.0	1.4	0.0	3.4	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	81.8
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.



Timings  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021

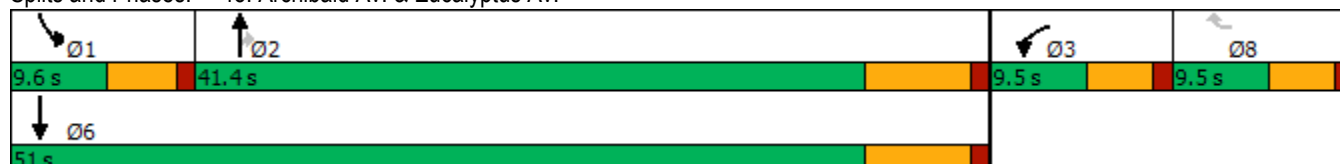


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙↙	↙↙	↕↕	↘	↙	↕↕
Traffic Volume (vph)	11	16	1620	9	26	969
Future Volume (vph)	11	16	1620	9	26	969
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		8		2		
Detector Phase	3	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.5	9.5	32.5	32.5	9.6	16.5
Total Split (s)	9.5	9.5	41.4	41.4	9.6	51.0
Total Split (%)	13.6%	13.6%	59.1%	59.1%	13.7%	72.9%
Yellow Time (s)	3.5	3.5	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effct Green (s)	5.1	5.1	54.7	54.7	5.1	56.4
Actuated g/C Ratio	0.08	0.08	0.90	0.90	0.08	0.93
v/c Ratio	0.05	0.04	0.57	0.01	0.21	0.33
Control Delay	26.4	0.2	7.1	4.8	30.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	0.2	7.1	4.8	30.0	2.2
LOS	C	A	A	A	C	A
Approach Delay			7.1			3.0
Approach LOS			A			A

Intersection Summary

Cycle Length: 70  
 Actuated Cycle Length: 60.8  
 Natural Cycle: 80  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.57  
 Intersection Signal Delay: 5.6  
 Intersection LOS: A  
 Intersection Capacity Utilization 60.6%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 45: Archibald Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖↗		↖↗		↕	↖↗	↖↗	↕	↖↗
Traffic Volume (veh/h)	0	0	0	11	0	16	0	1620	9	26	969	0
Future Volume (veh/h)	0	0	0	11	0	16	0	1620	9	26	969	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1700	0	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				12	0	6	0	1742	7	28	1042	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				68	0	58	0	2298	1025	51	2682	0
Arrive On Green				0.02	0.00	0.02	0.00	0.67	0.67	0.03	0.78	0.00
Sat Flow, veh/h				3141	0	2685	0	3510	1525	1619	3510	0
Grp Volume(v), veh/h				12	0	6	0	1742	7	28	1042	0
Grp Sat Flow(s),veh/h/ln				1570	0	1342	0	1710	1525	1619	1710	0
Q Serve(g_s), s				0.2	0.0	0.1	0.0	19.3	0.1	1.0	5.4	0.0
Cycle Q Clear(g_c), s				0.2	0.0	0.1	0.0	19.3	0.1	1.0	5.4	0.0
Prop In Lane				1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h				68	0	58	0	2298	1025	51	2682	0
V/C Ratio(X)				0.18	0.00	0.10	0.00	0.76	0.01	0.55	0.39	0.00
Avail Cap(c_a), veh/h				277	0	237	0	2298	1025	143	2682	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				27.3	0.0	27.2	0.0	6.2	3.1	27.1	1.9	0.0
Incr Delay (d2), s/veh				1.2	0.0	0.8	0.0	2.4	0.0	3.4	0.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.1	0.0	0.0	0.0	2.8	0.0	0.4	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				28.5	0.0	28.0	0.0	8.6	3.1	30.5	2.3	0.0
LnGrp LOS				C	A	C	A	A	A	C	A	A
Approach Vol, veh/h					18			1749			1070	
Approach Delay, s/veh					28.3			8.6			3.1	
Approach LOS					C			A			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	6.4	44.6				51.0		5.7				
Change Period (Y+Rc), s	4.6	6.5				6.5		4.5				
Max Green Setting (Gmax), s	5.0	34.9				44.5		5.0				
Max Q Clear Time (g_c+I1), s	3.0	21.3				7.4		2.2				
Green Ext Time (p_c), s	0.0	9.2				7.6		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				6.6								
HCM 6th LOS				A								

Timings  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

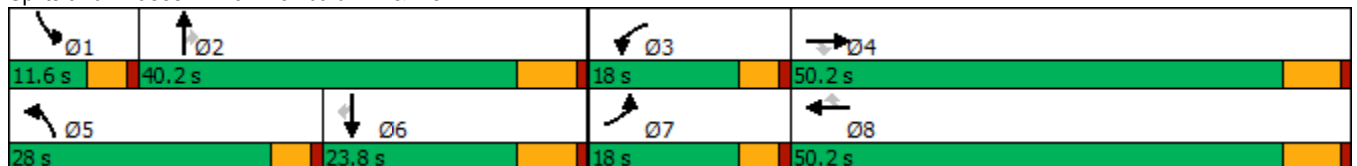
08/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	23	151	78	53	130	618	1204	41	42	546	396
Future Volume (vph)	240	23	151	78	53	130	618	1204	41	42	546	396
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	18.0	50.2	50.2	18.0	50.2	50.2	28.0	40.2	40.2	11.6	23.8	23.8
Total Split (%)	15.0%	41.8%	41.8%	15.0%	41.8%	41.8%	23.3%	33.5%	33.5%	9.7%	19.8%	19.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.6	22.3	22.3	8.7	15.3	15.3	23.8	39.7	39.7	5.8	17.6	17.6
Actuated g/C Ratio	0.15	0.24	0.24	0.09	0.17	0.17	0.26	0.43	0.43	0.06	0.19	0.19
v/c Ratio	1.04	0.06	0.32	0.53	0.19	0.35	1.53	0.59	0.06	0.23	0.87	0.84
Control Delay	110.8	28.3	6.4	54.6	32.6	5.6	281.1	24.7	0.1	47.5	52.7	32.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.8	28.3	6.4	54.6	32.6	5.6	281.1	24.7	0.1	47.5	52.7	32.0
LOS	F	C	A	D	C	A	F	C	A	D	D	C
Approach Delay		68.0			25.7			109.2			44.2	
Approach LOS		E			C			F			D	

Intersection Summary

























Cycle Length: 120  
 Actuated Cycle Length: 92.6  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.53  
 Intersection Signal Delay: 80.0  
 Intersection Capacity Utilization 90.1%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service E

Splits and Phases: 46: Archibald Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	23	151	78	53	130	618	1204	41	42	546	396
Future Volume (veh/h)	240	23	151	78	53	130	618	1204	41	42	546	396
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	247	24	101	80	55	39	637	1241	23	43	563	342
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	252	378	321	100	209	177	441	2142	665	110	688	307
Arrive On Green	0.16	0.21	0.21	0.06	0.12	0.12	0.27	0.44	0.44	0.04	0.20	0.20
Sat Flow, veh/h	1619	1800	1525	1619	1800	1525	1619	4914	1525	2956	3420	1525
Grp Volume(v), veh/h	247	24	101	80	55	39	637	1241	23	43	563	342
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	1800	1525	1619	1638	1525	1478	1710	1525
Q Serve(g_s), s	13.1	0.9	4.8	4.2	2.4	2.0	23.4	16.4	0.7	1.2	13.5	17.3
Cycle Q Clear(g_c), s	13.1	0.9	4.8	4.2	2.4	2.0	23.4	16.4	0.7	1.2	13.5	17.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	252	378	321	100	209	177	441	2142	665	110	688	307
V/C Ratio(X)	0.98	0.06	0.31	0.80	0.26	0.22	1.45	0.58	0.03	0.39	0.82	1.11
Avail Cap(c_a), veh/h	252	921	781	252	921	781	441	2142	665	241	688	307
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.2	27.2	28.7	39.8	34.6	34.5	31.3	18.3	13.9	40.4	32.8	34.3
Incr Delay (d2), s/veh	50.5	0.1	0.6	5.4	0.7	0.6	213.1	0.4	0.0	0.8	7.7	85.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	0.4	1.8	1.8	1.1	0.8	34.2	5.3	0.2	0.4	5.8	13.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.6	27.2	29.3	45.3	35.3	35.1	244.4	18.7	13.9	41.3	40.5	120.1
LnGrp LOS	F	C	C	D	D	D	F	B	B	D	D	F
Approach Vol, veh/h		372			174			1901			948	
Approach Delay, s/veh		67.2			39.8			94.3			69.3	
Approach LOS		E			D			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	44.0	9.9	24.3	28.0	23.8	18.0	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.0	33.7	13.4	44.0	23.4	17.3	13.4	44.0				
Max Q Clear Time (g_c+1), s	3.2	18.4	6.2	6.8	25.4	19.3	15.1	4.4				
Green Ext Time (p_c), s	0.0	6.8	0.0	0.4	0.0	0.0	0.0	0.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			81.5									
HCM 6th LOS			F									

Timings  
47: Archibald Av. & Limonite Av.



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖ ↗	↖	↑	↖	↖	↑
Traffic Volume (vph)	318	986	901	328	243	516
Future Volume (vph)	318	986	901	328	243	516
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	27.0	56.7	36.3	27.0	83.7
Total Split (%)	30.3%	22.5%	47.3%	30.3%	22.5%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min
Act Effct Green (s)	15.8	38.2	51.6	72.8	22.1	79.0
Actuated g/C Ratio	0.15	0.36	0.49	0.69	0.21	0.75
v/c Ratio	0.63	1.66	1.01	0.29	0.67	0.38
Control Delay	46.9	329.8	59.7	3.3	49.4	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.9	329.8	59.7	3.3	49.4	6.4
LOS	D	F	E	A	D	A
Approach Delay	260.9		44.7			20.2
Approach LOS	F		D			C

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 105.2  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.66  
 Intersection Signal Delay: 124.6  
 Intersection LOS: F  
 Intersection Capacity Utilization 117.1%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 47: Archibald Av. & Limonite Av.



HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↑	↗	↖	↑
Traffic Volume (veh/h)	318	986	901	328	243	516
Future Volume (veh/h)	318	986	901	328	243	516
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	331	971	939	295	253	538
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	937	682	841	1142	283	1220
Arrive On Green	0.27	0.27	0.44	0.44	0.16	0.64
Sat Flow, veh/h	3510	1610	1900	1610	1810	1900
Grp Volume(v), veh/h	331	971	939	295	253	538
Grp Sat Flow(s),veh/h/ln	1755	1610	1900	1610	1810	1900
Q Serve(g_s), s	8.9	31.0	51.4	7.6	15.9	16.4
Cycle Q Clear(g_c), s	8.9	31.0	51.4	7.6	15.9	16.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	937	682	841	1142	283	1220
V/C Ratio(X)	0.35	1.42	1.12	0.26	0.89	0.44
Avail Cap(c_a), veh/h	937	682	841	1142	343	1287
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	33.5	32.4	6.0	48.0	10.4
Incr Delay (d2), s/veh	0.1	199.5	68.4	0.1	21.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	55.3	37.4	5.2	8.5	5.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.6	233.0	100.8	6.2	69.7	10.5
LnGrp LOS	C	F	F	A	E	B
Approach Vol, veh/h	1302		1234			791
Approach Delay, s/veh	182.6		78.2			29.4
Approach LOS	F		E			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	23.2	56.7			79.9	36.3
Change Period (Y+Rc), s	5.0	5.3			* 5.3	5.3
Max Green Setting (Gmax), s	22.0	51.4			* 79	31.0
Max Q Clear Time (g_c+I1), s	17.9	53.4			18.4	33.0
Green Ext Time (p_c), s	0.3	0.0			1.8	0.0

Intersection Summary

HCM 6th Ctrl Delay	107.4
HCM 6th LOS	F

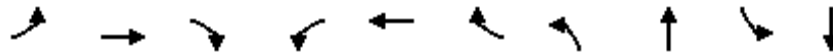
Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

48: Turner Av. & Ontario Ranch Rd.

08/23/2021

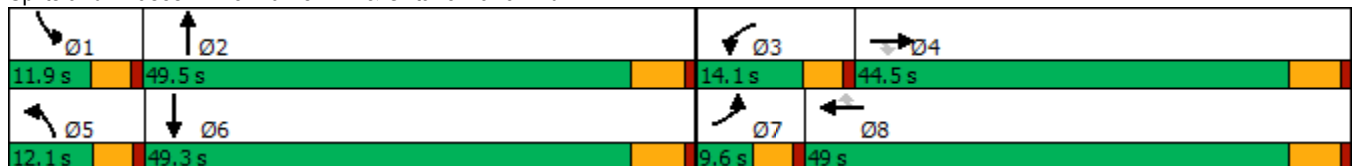


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗	↘	↗
Traffic Volume (vph)	30	651	35	45	1297	19	60	25	36	16
Future Volume (vph)	30	651	35	45	1297	19	60	25	36	16
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	25.8	25.8	9.6	45.8	9.6	47.8
Total Split (s)	9.6	44.5	44.5	14.1	49.0	49.0	12.1	49.5	11.9	49.3
Total Split (%)	8.0%	37.1%	37.1%	11.8%	40.8%	40.8%	10.1%	41.3%	9.9%	41.1%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	5.2	48.9	48.9	7.1	50.6	50.6	7.1	18.0	6.4	15.1
Actuated g/C Ratio	0.06	0.57	0.57	0.08	0.59	0.59	0.08	0.21	0.07	0.17
v/c Ratio	0.34	0.37	0.04	0.38	0.72	0.02	0.50	0.19	0.33	0.28
Control Delay	55.9	18.4	0.1	51.4	23.2	0.1	57.4	16.3	51.9	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.9	18.4	0.1	51.4	23.2	0.1	57.4	16.3	51.9	12.6
LOS	E	B	A	D	C	A	E	B	D	B
Approach Delay		19.0			23.8			36.3		24.3
Approach LOS		B			C			D		C

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 86.4	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 23.0	Intersection LOS: C
Intersection Capacity Utilization 61.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 48: Turner Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
48: Turner Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	30	651	35	45	1297	19	60	25	39	36	16	68
Future Volume (veh/h)	30	651	35	45	1297	19	60	25	39	36	16	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	33	723	28	50	1441	12	67	28	30	40	18	53
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	52	1803	804	68	1835	819	83	108	116	59	49	144
Arrive On Green	0.03	0.53	0.53	0.04	0.54	0.54	0.05	0.14	0.14	0.04	0.12	0.12
Sat Flow, veh/h	1619	3420	1525	1619	3420	1525	1619	795	852	1619	402	1185
Grp Volume(v), veh/h	33	723	28	50	1441	12	67	0	58	40	0	71
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1525	1619	0	1647	1619	0	1587
Q Serve(g_s), s	1.6	10.2	0.7	2.5	27.2	0.3	3.3	0.0	2.5	2.0	0.0	3.3
Cycle Q Clear(g_c), s	1.6	10.2	0.7	2.5	27.2	0.3	3.3	0.0	2.5	2.0	0.0	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		0.75
Lane Grp Cap(c), veh/h	52	1803	804	68	1835	819	83	0	224	59	0	193
V/C Ratio(X)	0.63	0.40	0.03	0.74	0.79	0.01	0.81	0.00	0.26	0.67	0.00	0.37
Avail Cap(c_a), veh/h	101	1803	804	191	1835	819	151	0	894	147	0	857
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.5	11.4	9.2	38.1	14.9	8.7	37.8	0.0	31.2	38.3	0.0	32.5
Incr Delay (d2), s/veh	4.5	0.7	0.1	5.8	3.5	0.0	6.8	0.0	0.6	4.8	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.4	0.2	1.0	9.4	0.1	1.4	0.0	1.0	0.8	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	12.1	9.2	43.9	18.4	8.7	44.6	0.0	31.8	43.1	0.0	33.7
LnGrp LOS	D	B	A	D	B	A	D	A	C	D	A	C
Approach Vol, veh/h		784			1503			125				111
Approach Delay, s/veh		13.3			19.2			38.6				37.1
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	16.7	8.0	48.2	8.7	15.6	7.2	49.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	7.3	43.7	9.5	38.7	7.5	43.5	5.0	43.2				
Max Q Clear Time (g_c+11), s	4.0	4.5	4.5	12.2	5.3	5.3	3.6	29.2				
Green Ext Time (p_c), s	0.0	0.3	0.0	4.9	0.0	0.4	0.0	8.2				

Intersection Summary

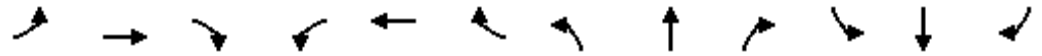
HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B



Timings

49: Haven Av. & Ontario Ranch Rd.

08/23/2021

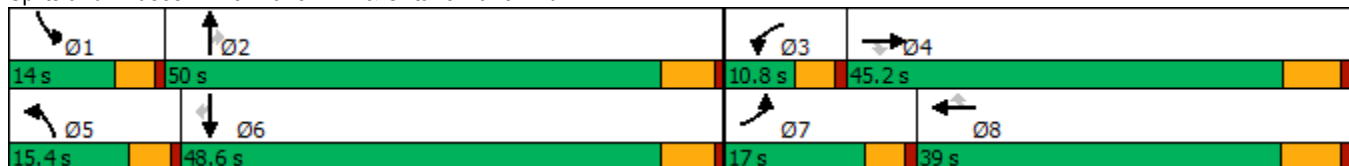


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (vph)	143	681	30	22	1109	86	65	199	82	124	60	79
Future Volume (vph)	143	681	30	22	1109	86	65	199	82	124	60	79
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	17.0	45.2	45.2	10.8	39.0	39.0	15.4	50.0	50.0	14.0	48.6	48.6
Total Split (%)	14.2%	37.7%	37.7%	9.0%	32.5%	32.5%	12.8%	41.7%	41.7%	11.7%	40.5%	40.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	12.2	46.1	46.1	5.6	32.9	32.9	8.0	19.1	19.1	9.5	22.8	22.8
Actuated g/C Ratio	0.13	0.48	0.48	0.06	0.34	0.34	0.08	0.20	0.20	0.10	0.24	0.24
v/c Ratio	0.74	0.31	0.04	0.24	0.55	0.15	0.51	0.59	0.20	0.82	0.15	0.17
Control Delay	64.2	18.2	0.1	53.4	28.0	1.0	57.8	40.5	1.0	81.6	30.7	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.2	18.2	0.1	53.4	28.0	1.0	57.8	40.5	1.0	81.6	30.7	0.8
LOS	E	B	A	D	C	A	E	D	A	F	C	A
Approach Delay		25.3			26.6			34.4			45.7	
Approach LOS		C			C			C			D	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 95.5	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 29.1	Intersection LOS: C
Intersection Capacity Utilization 62.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 49: Haven Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
49: Haven Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (veh/h)	143	681	30	22	1109	86	65	199	82	124	60	79
Future Volume (veh/h)	143	681	30	22	1109	86	65	199	82	124	60	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	152	724	19	23	1180	46	69	212	37	132	64	51
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	183	2317	719	40	2374	585	86	272	231	160	355	301
Arrive On Green	0.11	0.47	0.47	0.02	0.38	0.38	0.05	0.15	0.15	0.10	0.20	0.20
Sat Flow, veh/h	1619	4914	1525	1619	6192	1525	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	152	724	19	23	1180	46	69	212	37	132	64	51
Grp Sat Flow(s),veh/h/ln	1619	1638	1525	1619	1548	1525	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	7.8	7.7	0.6	1.2	12.3	1.6	3.6	9.6	1.8	6.8	2.5	2.4
Cycle Q Clear(g_c), s	7.8	7.7	0.6	1.2	12.3	1.6	3.6	9.6	1.8	6.8	2.5	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	2317	719	40	2374	585	86	272	231	160	355	301
V/C Ratio(X)	0.83	0.31	0.03	0.58	0.50	0.08	0.80	0.78	0.16	0.82	0.18	0.17
Avail Cap(c_a), veh/h	237	2317	719	118	2374	585	206	938	795	180	909	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	13.9	12.0	40.9	19.9	16.6	39.7	34.6	31.3	37.5	28.3	28.3
Incr Delay (d2), s/veh	14.1	0.4	0.1	4.8	0.7	0.3	6.4	4.8	0.3	21.2	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	2.5	0.2	0.5	3.9	0.5	1.5	4.3	0.6	3.5	1.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.9	14.2	12.1	45.7	20.7	16.9	46.1	39.4	31.6	58.6	28.6	28.5
LnGrp LOS	D	B	B	D	C	B	D	D	C	E	C	C
Approach Vol, veh/h		895			1249			318			247	
Approach Delay, s/veh		20.4			21.0			40.0			44.6	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	18.6	6.7	46.5	9.1	22.5	14.2	39.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	9.4	44.2	6.2	* 39	10.8	42.8	12.4	32.5				
Max Q Clear Time (g_c+I1), s	8.8	11.6	3.2	9.7	5.6	4.5	9.8	14.3				
Green Ext Time (p_c), s	0.0	1.2	0.0	4.8	0.0	0.5	0.0	7.1				

Intersection Summary

HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

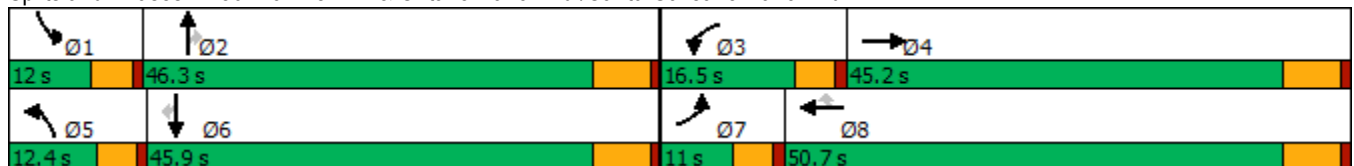


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	104	637	286	1043	211	178	731	524	160	218	94
Future Volume (vph)	104	637	286	1043	211	178	731	524	160	218	94
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.2	9.6	49.2	49.2	9.6	44.2	44.2	9.6	45.2	45.2
Total Split (s)	11.0	45.2	16.5	50.7	50.7	12.4	46.3	46.3	12.0	45.9	45.9
Total Split (%)	9.2%	37.7%	13.8%	42.3%	42.3%	10.3%	38.6%	38.6%	10.0%	38.3%	38.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.4	37.6	11.9	43.2	43.2	7.8	38.2	38.2	7.4	37.8	37.8
Actuated g/C Ratio	0.05	0.32	0.10	0.37	0.37	0.07	0.33	0.33	0.06	0.32	0.32
v/c Ratio	0.73	0.42	1.08	0.94	0.35	1.03	0.52	0.95	0.97	0.22	0.18
Control Delay	80.9	30.7	124.8	50.6	8.6	125.5	33.2	51.6	115.6	29.6	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.9	30.7	124.8	50.6	8.6	125.5	33.2	51.6	115.6	29.6	2.0
LOS	F	C	F	D	A	F	C	D	F	C	A
Approach Delay		37.0		58.6			51.4			53.2	
Approach LOS		D		E			D			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 116.9  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.08  
 Intersection Signal Delay: 51.4  
 Intersection LOS: D  
 Intersection Capacity Utilization 72.9%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

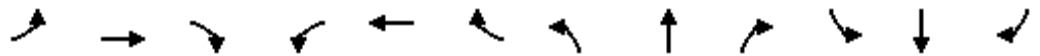


HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔
Traffic Volume (veh/h)	104	637	86	286	1043	211	178	731	524	160	218	94
Future Volume (veh/h)	104	637	86	286	1043	211	178	731	524	160	218	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	118	724	98	325	1185	240	202	831	588	182	248	107
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	159	1789	237	295	1256	560	193	1652	513	183	1138	507
Arrive On Green	0.05	0.32	0.32	0.10	0.37	0.37	0.07	0.34	0.34	0.06	0.33	0.33
Sat Flow, veh/h	2956	5572	739	2956	3420	1525	2956	4914	1525	2956	3420	1524
Grp Volume(v), veh/h	118	601	221	325	1185	240	202	831	588	182	248	107
Grp Sat Flow(s),veh/h/ln	1478	1548	1667	1478	1710	1525	1478	1638	1525	1478	1710	1524
Q Serve(g_s), s	4.7	12.0	12.4	11.9	40.0	14.1	7.8	16.1	40.1	7.3	6.2	6.0
Cycle Q Clear(g_c), s	4.7	12.0	12.4	11.9	40.0	14.1	7.8	16.1	40.1	7.3	6.2	6.0
Prop In Lane	1.00		0.44	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	1491	535	295	1256	560	193	1652	513	183	1138	507
V/C Ratio(X)	0.74	0.40	0.41	1.10	0.94	0.43	1.05	0.50	1.15	0.99	0.22	0.21
Avail Cap(c_a), veh/h	159	1518	545	295	1276	569	193	1652	513	183	1138	507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	31.6	31.7	53.7	36.6	28.4	55.8	31.6	39.6	55.9	28.6	28.6
Incr Delay (d2), s/veh	15.4	0.2	0.5	82.6	13.8	0.5	77.1	0.2	86.9	64.1	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	4.3	4.8	7.7	18.0	5.0	4.9	6.1	26.4	4.3	2.5	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	31.8	32.2	136.3	50.4	28.9	132.9	31.9	126.5	120.0	28.7	28.8
LnGrp LOS	E	C	C	F	D	C	F	C	F	F	C	C
Approach Vol, veh/h		940			1750			1621				537
Approach Delay, s/veh		36.8			63.4			78.8				59.7
Approach LOS		D			E			E				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	46.3	16.5	44.5	12.4	45.9	11.0	50.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	7.4	40.1	11.9	39.0	7.8	39.7	6.4	44.5				
Max Q Clear Time (g_c+1), s	9.3	42.1	13.9	14.4	9.8	8.2	6.7	42.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.9	0.0	1.7	0.0	1.8				

Intersection Summary

HCM 6th Ctrl Delay	63.0
HCM 6th LOS	E

Timings  
51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021

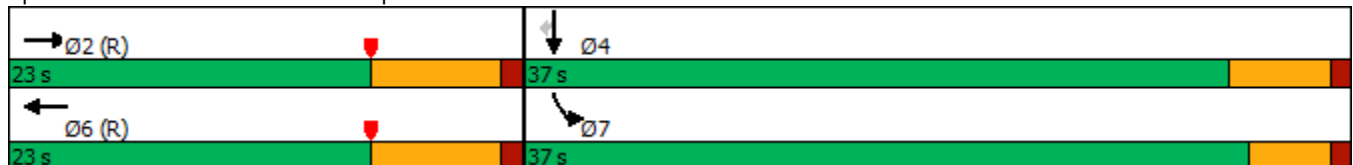


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑	↔	↑
Traffic Volume (vph)	1087	349	564	189	336	0	1347
Future Volume (vph)	1087	349	564	189	336	0	1347
Turn Type	NA	Free	NA	Free	Prot	NA	Perm
Protected Phases	2		6		7	4	
Permitted Phases		Free		Free			4
Detector Phase	2		6		7	4	4
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5	10.5
Total Split (s)	23.0		23.0		37.0	37.0	37.0
Total Split (%)	38.3%		38.3%		61.7%	61.7%	61.7%
Yellow Time (s)	5.8		5.8		3.6	4.5	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max		C-Min		None	Min	Min
Act Effct Green (s)	16.2	60.0	16.2	60.0	32.4	31.5	31.5
Actuated g/C Ratio	0.27	1.00	0.27	1.00	0.54	0.52	0.52
v/c Ratio	0.86	0.24	0.64	0.13	0.36	0.95	0.91
Control Delay	29.1	0.4	19.9	0.2	9.3	37.7	30.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.1	0.4	19.9	0.2	9.3	37.7	30.3
LOS	C	A	B	A	A	D	C
Approach Delay	22.1		15.0			29.6	
Approach LOS	C		B			C	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 24.0  
 Intersection LOS: C  
 Intersection Capacity Utilization 81.4%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
 08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑	↗				↘	↔	↗
Traffic Volume (veh/h)	0	1087	349	0	564	189	0	0	0	336	0	1347
Future Volume (veh/h)	0	1087	349	0	564	189	0	0	0	336	0	1347
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1208	0	0	627	0				249	0	1332
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1730		0	1204					862	0	1534
Arrive On Green	0.00	0.33	0.00	0.00	0.33	0.00				0.48	0.00	0.48
Sat Flow, veh/h	0	5358	1610	0	3705	1610				1810	0	3220
Grp Volume(v), veh/h	0	1208	0	0	627	0				249	0	1332
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610				1810	0	1610
Q Serve(g_s), s	0.0	12.1	0.0	0.0	8.4	0.0				5.0	0.0	22.2
Cycle Q Clear(g_c), s	0.0	12.1	0.0	0.0	8.4	0.0				5.0	0.0	22.2
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1730		0	1204					862	0	1534
V/C Ratio(X)	0.00	0.70		0.00	0.52					0.29	0.00	0.87
Avail Cap(c_a), veh/h	0	1730		0	1204					977	0	1739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.68	0.00	0.00	0.92	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.4	0.0	0.0	16.1	0.0				9.5	0.0	14.0
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.0	1.5	0.0				0.2	0.0	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.1	0.0	0.0	3.0	0.0				1.5	0.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	19.0	0.0	0.0	17.6	0.0				9.7	0.0	18.6
LnGrp LOS	A	B		A	B					A	A	B
Approach Vol, veh/h		1208	A		627	A					1581	
Approach Delay, s/veh		19.0			17.6						17.2	
Approach LOS		B			B						B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		26.8		33.2		26.8						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		16.2		32.4		16.2						
Max Q Clear Time (g_c+I1), s		14.1		24.2		10.4						
Green Ext Time (p_c), s		1.4		4.4		1.8						

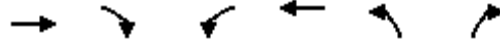
Intersection Summary

HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

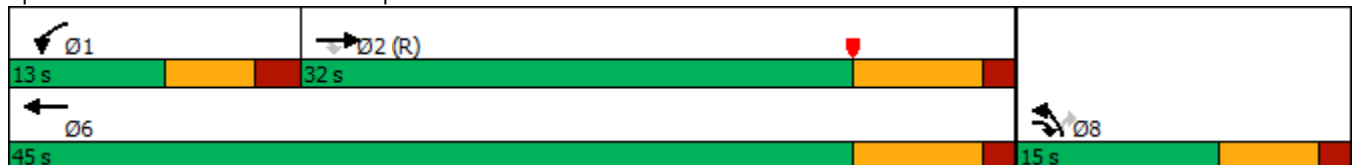


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	524	898	381	488	265	312
Future Volume (vph)	524	898	381	488	265	312
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	32.0	15.0	13.0	45.0	15.0	15.0
Total Split (%)	53.3%	25.0%	21.7%	75.0%	25.0%	25.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max
Act Effct Green (s)	24.7	41.0	7.0	37.7	9.0	9.0
Actuated g/C Ratio	0.41	0.68	0.12	0.63	0.15	0.15
v/c Ratio	0.27	0.89	1.03	0.16	0.71	0.52
Control Delay	9.3	19.0	82.1	4.8	24.8	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.3	19.0	82.1	4.8	24.8	9.5
LOS	A	B	F	A	C	A
Approach Delay	15.4			38.7	19.9	
Approach LOS	B			D	B	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.03  
 Intersection Signal Delay: 23.4  
 Intersection LOS: C  
 Intersection Capacity Utilization 76.5%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 52: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↵↵	↑↑↑	↵↵	↑
Traffic Volume (veh/h)	524	898	381	488	265	312
Future Volume (veh/h)	524	898	381	488	265	312
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	576	653	419	536	339	171
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2135	904	410	3259	543	242
Arrive On Green	0.69	0.69	0.12	0.63	0.15	0.15
Sat Flow, veh/h	5358	1610	3510	5358	3619	1610
Grp Volume(v), veh/h	576	653	419	536	339	171
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1810	1610
Q Serve(g_s), s	2.6	17.6	7.0	2.6	5.3	6.1
Cycle Q Clear(g_c), s	2.6	17.6	7.0	2.6	5.3	6.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2135	904	410	3259	543	242
V/C Ratio(X)	0.27	0.72	1.02	0.16	0.62	0.71
Avail Cap(c_a), veh/h	2135	904	410	3259	543	242
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.9	5.1	26.5	4.6	23.9	24.3
Incr Delay (d2), s/veh	0.2	2.9	50.5	0.0	5.3	16.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.4	5.4	0.5	2.4	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.1	8.0	77.0	4.6	29.3	40.3
LnGrp LOS	A	A	F	A	C	D
Approach Vol, veh/h	1229			955	510	
Approach Delay, s/veh	7.1			36.4	33.0	
Approach LOS	A			D	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.0	32.0			45.0	15.0
Change Period (Y+Rc), s	6.0	7.3			7.3	6.0
Max Green Setting (Gmax), s	7.0	24.7			37.7	9.0
Max Q Clear Time (g_c+I1), s	9.0	19.6			4.6	8.1
Green Ext Time (p_c), s	0.0	2.7			3.4	0.2

Intersection Summary

HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Timings  
1: Euclid Av. (SR-83) & SR-60 WB Ramps

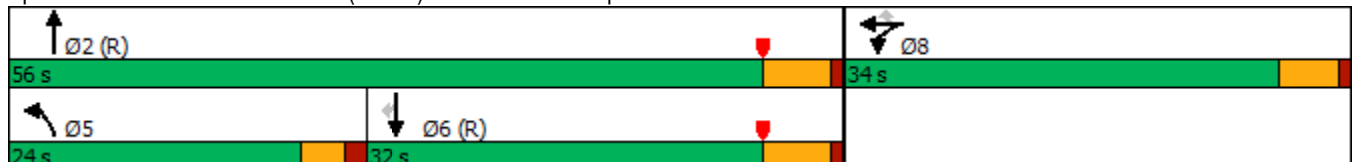


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	650	6	424	433	1134	1050	512
Future Volume (vph)	650	6	424	433	1134	1050	512
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	10.0	10.0	10.0
Minimum Split (s)	11.0	11.0	11.0	9.5	22.5	22.5	22.5
Total Split (s)	34.0	34.0	34.0	24.0	56.0	32.0	32.0
Total Split (%)	37.8%	37.8%	37.8%	26.7%	62.2%	35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.5	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	24.8	24.8	24.8	23.7	54.7	26.5	26.5
Actuated g/C Ratio	0.28	0.28	0.28	0.26	0.61	0.29	0.29
v/c Ratio	0.82	0.85	0.74	0.95	0.54	1.03	0.63
Control Delay	44.5	46.7	31.6	43.8	23.2	68.2	6.1
Queue Delay	0.0	0.0	0.0	0.0	3.1	0.0	0.0
Total Delay	44.5	46.7	31.6	43.8	26.3	68.2	6.1
LOS	D	D	C	D	C	E	A
Approach Delay		41.2			31.1	47.9	
Approach LOS		D			C	D	

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 63 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.03  
 Intersection Signal Delay: 39.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 99.3%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 1: Euclid Av. (SR-83) & SR-60 WB Ramps



HCM 6th Signalized Intersection Summary  
 1: Euclid Av. (SR-83) & SR-60 WB Ramps

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↔	↗	↖	↕			↕	↗
Traffic Volume (veh/h)	0	0	0	650	6	424	433	1134	0	0	1050	512
Future Volume (veh/h)	0	0	0	650	6	424	433	1134	0	0	1050	512
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				761	0	176	451	1181	0	0	1094	328
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				870	0	386	392	2321	0	0	1359	606
Arrive On Green				0.24	0.00	0.24	0.43	1.00	0.00	0.00	0.38	0.38
Sat Flow, veh/h				3619	0	1608	1810	3705	0	0	3705	1610
Grp Volume(v), veh/h				761	0	176	451	1181	0	0	1094	328
Grp Sat Flow(s),veh/h/ln				1810	0	1608	1810	1805	0	0	1805	1610
Q Serve(g_s), s				18.2	0.0	8.4	19.5	0.0	0.0	0.0	24.4	14.4
Cycle Q Clear(g_c), s				18.2	0.0	8.4	19.5	0.0	0.0	0.0	24.4	14.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				870	0	386	392	2321	0	0	1359	606
V/C Ratio(X)				0.88	0.00	0.46	1.15	0.51	0.00	0.00	0.81	0.54
Avail Cap(c_a), veh/h				1166	0	518	392	2321	0	0	1359	606
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.22	0.22	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				32.9	0.0	29.2	25.5	0.0	0.0	0.0	25.1	22.0
Incr Delay (d2), s/veh				4.8	0.0	0.3	74.6	0.2	0.0	0.0	5.2	3.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.0	0.0	3.1	13.6	0.1	0.0	0.0	10.6	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				37.7	0.0	29.5	100.1	0.2	0.0	0.0	30.3	25.4
LnGrp LOS				D	A	C	F	A	A	A	C	C
Approach Vol, veh/h					937			1632			1422	
Approach Delay, s/veh					36.2			27.8			29.2	
Approach LOS					D			C			C	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		63.4			24.0	39.4		26.6				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.0				
Max Green Setting (Gmax), s		50.5			19.5	26.5		29.0				
Max Q Clear Time (g_c+I1), s		2.0			21.5	26.4		20.2				
Green Ext Time (p_c), s		16.3			0.0	0.1		1.4				

Intersection Summary

HCM 6th Ctrl Delay	30.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

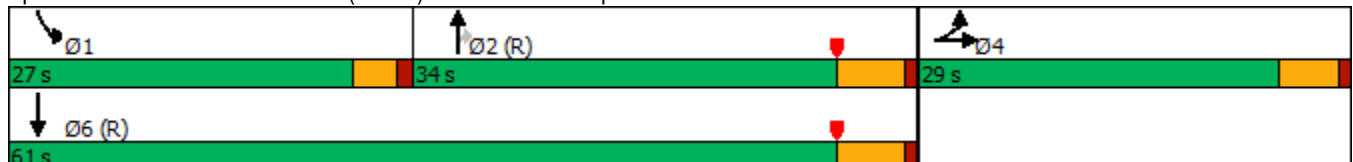


Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	432	3	1132	660	390	1320
Future Volume (vph)	432	3	1132	660	390	1320
Turn Type	Split	NA	NA	Perm	Prot	NA
Protected Phases	4	4	2		1	6
Permitted Phases				2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0	10.0	5.0	10.0
Minimum Split (s)	11.0	11.0	22.5	22.5	9.0	22.5
Total Split (s)	29.0	29.0	34.0	34.0	27.0	61.0
Total Split (%)	32.2%	32.2%	37.8%	37.8%	30.0%	67.8%
Yellow Time (s)	4.0	4.0	4.5	4.5	3.0	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effect Green (s)	24.0	24.0	29.7	29.7	21.8	55.5
Actuated g/C Ratio	0.27	0.27	0.33	0.33	0.24	0.62
v/c Ratio	0.87	1.01	0.97	0.72	0.91	0.61
Control Delay	52.6	75.6	51.4	8.5	53.0	4.6
Queue Delay	49.5	31.8	0.0	0.0	0.0	0.7
Total Delay	102.2	107.4	51.4	8.5	53.0	5.3
LOS	F	F	D	A	D	A
Approach Delay		105.0	35.6			16.2
Approach LOS		F	D			B

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.01  
 Intersection Signal Delay: 41.4  
 Intersection LOS: D  
 Intersection Capacity Utilization 99.3%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 2: Euclid Av. (SR-83) & SR-60 EB Ramps



HCM 6th Signalized Intersection Summary  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷						↶↷	↷	↶	↶↷	
Traffic Volume (veh/h)	432	3	407	0	0	0	0	1132	660	390	1320	0
Future Volume (veh/h)	432	3	407	0	0	0	0	1132	660	390	1320	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	396	66	348				0	1155	479	398	1347	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	483	70	370				0	1223	532	422	2226	0
Arrive On Green	0.27	0.27	0.27				0.00	0.34	0.34	0.47	1.00	0.00
Sat Flow, veh/h	1810	263	1387				0	3705	1572	1810	3705	0
Grp Volume(v), veh/h	396	0	414				0	1155	479	398	1347	0
Grp Sat Flow(s),veh/h/ln	1810	0	1650				0	1805	1572	1810	1805	0
Q Serve(g_s), s	18.5	0.0	22.1				0.0	28.0	26.1	18.8	0.0	0.0
Cycle Q Clear(g_c), s	18.5	0.0	22.1				0.0	28.0	26.1	18.8	0.0	0.0
Prop In Lane	1.00		0.84				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	483	0	440				0	1223	532	422	2226	0
V/C Ratio(X)	0.82	0.00	0.94				0.00	0.94	0.90	0.94	0.61	0.00
Avail Cap(c_a), veh/h	483	0	440				0	1223	532	462	2226	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.39	0.39	0.15	0.15	0.00
Uniform Delay (d), s/veh	31.0	0.0	32.3				0.0	28.9	28.3	23.4	0.0	0.0
Incr Delay (d2), s/veh	10.2	0.0	28.1				0.0	7.5	9.7	6.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	0.0	11.6				0.0	12.5	10.5	5.9	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.1	0.0	60.4				0.0	36.4	38.0	29.7	0.2	0.0
LnGrp LOS	D	A	E				A	D	D	C	A	A
Approach Vol, veh/h		810						1634			1745	
Approach Delay, s/veh		51.0						36.9			6.9	
Approach LOS		D						D			A	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	25.0	36.0	29.0	61.0								
Change Period (Y+Rc), s	4.0	5.5	5.0	5.5								
Max Green Setting (Gmax), s	23.0	28.5	24.0	55.5								
Max Q Clear Time (g_c+I1), s	20.8	30.0	24.1	2.0								
Green Ext Time (p_c), s	0.2	0.0	0.0	20.7								

Intersection Summary

HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
3: Euclid Av. (SR-83) & Walnut Av.

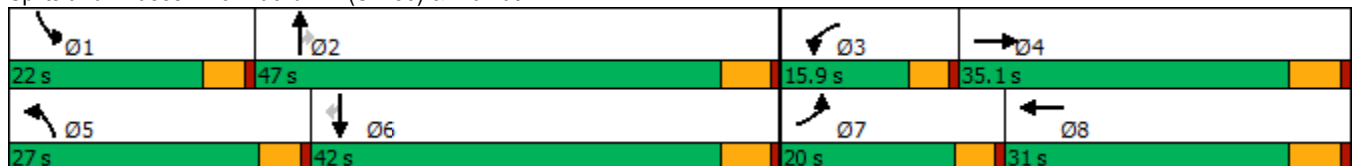


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕	↖	↕	↖	↕↕↕	↗	↖↗	↕↕↕	↗
Traffic Volume (vph)	111	385	72	385	212	1512	81	290	1261	161
Future Volume (vph)	111	385	72	385	212	1512	81	290	1261	161
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.8	9.6	29.8	9.6	27.4	27.4	9.6	29.4	29.4
Total Split (s)	20.0	35.1	15.9	31.0	27.0	47.0	47.0	22.0	42.0	42.0
Total Split (%)	16.7%	29.3%	13.3%	25.8%	22.5%	39.2%	39.2%	18.3%	35.0%	35.0%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.4	4.4	3.6	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.4	5.4	4.6	5.4	5.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	11.9	27.4	9.0	22.2	18.8	41.9	41.9	15.0	38.1	38.1
Actuated g/C Ratio	0.11	0.25	0.08	0.20	0.17	0.38	0.38	0.13	0.34	0.34
v/c Ratio	0.69	0.68	0.59	0.83	0.83	0.87	0.14	0.78	0.80	0.27
Control Delay	69.4	40.8	70.1	51.7	70.9	40.0	3.3	62.0	39.3	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.4	40.8	70.1	51.7	70.9	40.0	3.3	62.0	39.3	6.5
LOS	E	D	E	D	E	D	A	E	D	A
Approach Delay		45.7		53.9		42.0			40.0	
Approach LOS		D		D		D			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 111.6  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 43.3  
 Intersection LOS: D  
 Intersection Capacity Utilization 81.5%  
 ICU Level of Service D  
 Analysis Period (min) 15































Splits and Phases: 3: Euclid Av. (SR-83) & Walnut Av.



HCM 6th Signalized Intersection Summary  
 3: Euclid Av. (SR-83) & Walnut Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  		  	  	
Traffic Volume (veh/h)	111	385	146	72	385	146	212	1512	81	290	1261	161
Future Volume (veh/h)	111	385	146	72	385	146	212	1512	81	290	1261	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	118	410	132	77	410	129	226	1609	59	309	1341	117
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	143	570	181	96	498	155	254	1954	606	366	1790	555
Arrive On Green	0.09	0.22	0.22	0.06	0.20	0.20	0.16	0.40	0.40	0.12	0.36	0.36
Sat Flow, veh/h	1619	2542	809	1619	2553	793	1619	4914	1523	2956	4914	1524
Grp Volume(v), veh/h	118	274	268	77	273	266	226	1609	59	309	1341	117
Grp Sat Flow(s),veh/h/ln	1619	1710	1641	1619	1710	1636	1619	1638	1523	1478	1638	1524
Q Serve(g_s), s	7.5	15.5	15.8	4.9	16.0	16.4	14.3	30.7	2.5	10.7	25.0	5.5
Cycle Q Clear(g_c), s	7.5	15.5	15.8	4.9	16.0	16.4	14.3	30.7	2.5	10.7	25.0	5.5
Prop In Lane	1.00		0.49	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	143	384	368	96	334	319	254	1954	606	366	1790	555
V/C Ratio(X)	0.82	0.72	0.73	0.80	0.82	0.83	0.89	0.82	0.10	0.84	0.75	0.21
Avail Cap(c_a), veh/h	238	479	459	175	412	394	347	1954	606	492	1790	555
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	37.5	37.6	48.6	40.3	40.5	43.2	28.2	19.8	44.8	29.1	22.9
Incr Delay (d2), s/veh	4.5	3.8	4.4	5.8	10.2	11.9	15.5	4.1	0.3	7.6	2.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	6.6	6.5	2.1	7.4	7.4	6.6	12.0	0.9	4.2	9.8	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.4	41.3	42.0	54.4	50.5	52.4	58.6	32.3	20.1	52.4	32.0	23.8
LnGrp LOS	D	D	D	D	D	D	E	C	C	D	C	C
Approach Vol, veh/h		660			616			1894			1767	
Approach Delay, s/veh		43.4			51.8			35.1			35.0	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.6	47.0	10.8	29.3	21.0	43.5	13.8	26.2				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.8	4.6	5.4	4.6	5.8				
Max Green Setting (Gmax), s	17.4	41.6	11.3	29.3	22.4	36.6	15.4	25.2				
Max Q Clear Time (g_c+I1), s	12.7	32.7	6.9	17.8	16.3	27.0	9.5	18.4				
Green Ext Time (p_c), s	0.3	6.4	0.0	2.3	0.2	6.0	0.1	1.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			38.3									
HCM 6th LOS			D									

Timings  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/23/2021

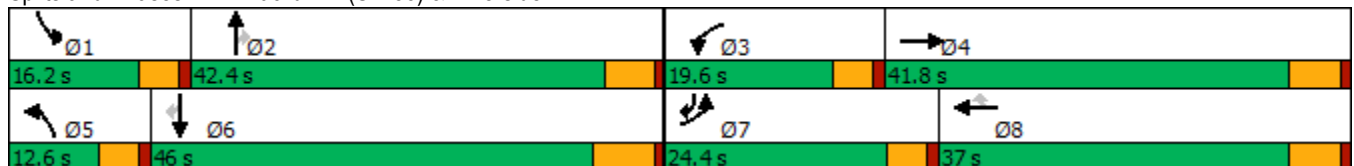


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	157	480	194	427	67	100	1323	265	154	1067	212
Future Volume (vph)	157	480	194	427	67	100	1323	265	154	1067	212
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8		5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	24.4	41.8	19.6	37.0	37.0	12.6	42.4	42.4	16.2	46.0	24.4
Total Split (%)	20.3%	34.8%	16.3%	30.8%	30.8%	10.5%	35.3%	35.3%	13.5%	38.3%	20.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	None
Act Effct Green (s)	15.8	36.0	15.0	35.2	35.2	8.0	37.0	37.0	11.6	39.5	57.2
Actuated g/C Ratio	0.13	0.30	0.12	0.29	0.29	0.07	0.31	0.31	0.10	0.33	0.48
v/c Ratio	0.77	1.11	1.00	0.44	0.13	0.97	1.31	0.46	1.03	0.99	0.28
Control Delay	73.0	111.4	117.5	37.0	0.5	136.0	180.3	14.2	132.3	64.3	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.0	111.4	117.5	37.0	0.5	136.0	180.3	14.2	132.3	64.3	7.8
LOS	E	F	F	D	A	F	F	B	F	E	A
Approach Delay		103.1		56.1			151.6			63.2	
Approach LOS		F		E			F			E	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.31  
 Intersection Signal Delay: 101.4  
 Intersection Capacity Utilization 109.4%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service H
























Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.



HCM 6th Signalized Intersection Summary  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	480	87	194	427	67	100	1323	265	154	1067	212
Future Volume (veh/h)	157	480	87	194	427	67	100	1323	265	154	1067	212
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	164	500	66	202	445	54	104	1378	222	160	1111	130
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	189	463	61	201	1042	464	107	1045	466	155	1147	683
Arrive On Green	0.12	0.30	0.30	0.12	0.30	0.30	0.07	0.31	0.31	0.10	0.34	0.34
Sat Flow, veh/h	1619	1557	206	1619	3420	1524	1619	3420	1525	1619	3420	1506
Grp Volume(v), veh/h	164	0	566	202	445	54	104	1378	222	160	1111	130
Grp Sat Flow(s),veh/h/ln	1619	0	1763	1619	1710	1524	1619	1710	1525	1619	1710	1506
Q Serve(g_s), s	12.1	0.0	36.0	15.0	12.6	3.1	7.8	37.0	14.3	11.6	38.7	6.3
Cycle Q Clear(g_c), s	12.1	0.0	36.0	15.0	12.6	3.1	7.8	37.0	14.3	11.6	38.7	6.3
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	189	0	524	201	1042	464	107	1045	466	155	1147	683
V/C Ratio(X)	0.87	0.00	1.08	1.01	0.43	0.12	0.97	1.32	0.48	1.03	0.97	0.19
Avail Cap(c_a), veh/h	265	0	524	201	1042	464	107	1045	466	155	1147	683
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	0.0	42.6	53.1	33.6	30.3	56.4	42.0	34.2	54.8	39.6	19.9
Incr Delay (d2), s/veh	15.2	0.0	62.6	65.4	0.3	0.1	77.6	150.2	3.5	80.9	20.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	0.0	24.1	9.6	5.1	1.1	5.4	36.4	5.6	8.1	18.9	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.8	0.0	105.2	118.5	33.9	30.5	134.1	192.3	37.6	135.6	59.7	20.5
LnGrp LOS	E	A	F	F	C	C	F	F	D	F	E	C
Approach Vol, veh/h		730			701			1704			1401	
Approach Delay, s/veh		96.8			58.0			168.6			64.8	
Approach LOS		F			E			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	43.5	19.6	41.8	12.6	47.1	18.7	42.7				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	11.6	* 37	15.0	36.0	8.0	39.5	19.8	31.2				
Max Q Clear Time (g_c+I1), s	13.6	39.0	17.0	38.0	9.8	40.7	14.1	14.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.5				

Intersection Summary

HCM 6th Ctrl Delay	107.9
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Timings  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	100	299	55	81	119	55	1576	252	29	1207	79
Future Volume (vph)	100	299	55	81	119	55	1576	252	29	1207	79
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	28.8	28.8	28.8	33.8	33.8	9.6	24.2	24.2	9.6	31.5	31.5
Total Split (s)	44.0	44.0	44.0	44.0	44.0	12.4	65.0	65.0	11.0	63.6	63.6
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	10.3%	54.2%	54.2%	9.2%	53.0%	53.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.6	4.2	4.2	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8		5.8	4.6	5.2	5.2	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	29.6	29.6	29.6		29.6	7.0	62.7	62.7	5.9	58.3	58.3
Actuated g/C Ratio	0.27	0.27	0.27		0.27	0.06	0.57	0.57	0.05	0.53	0.53
v/c Ratio	0.43	0.66	0.13		1.05	0.57	0.87	0.31	0.36	0.71	0.10
Control Delay	38.6	42.6	5.1		115.3	75.0	28.8	12.3	65.4	24.7	4.9
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	42.6	5.1		115.3	75.0	28.8	12.3	65.4	24.7	4.9
LOS	D	D	A		F	E	C	B	E	C	A
Approach Delay		37.2			115.3		28.0			24.4	
Approach LOS		D			F		C			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 109.6	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 32.6	Intersection LOS: C
Intersection Capacity Utilization 93.7%	ICU Level of Service F
Analysis Period (min) 15	























Splits and Phases: 5: Euclid Av. (SR-83) & Chino Av.



HCM 6th Signalized Intersection Summary  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	299	55	81	119	10	55	1576	252	29	1207	79
Future Volume (veh/h)	100	299	55	81	119	10	55	1576	252	29	1207	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	108	322	36	87	128	7	59	1695	200	31	1298	52
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	275	533	452	122	162	8	74	1803	788	45	1742	761
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.05	0.53	0.53	0.03	0.51	0.51
Sat Flow, veh/h	1204	1800	1525	263	547	26	1619	3420	1494	1619	3420	1494
Grp Volume(v), veh/h	108	322	36	222	0	0	59	1695	200	31	1298	52
Grp Sat Flow(s),veh/h/ln	1204	1800	1525	837	0	0	1619	1710	1494	1619	1710	1494
Q Serve(g_s), s	0.0	17.4	1.9	13.7	0.0	0.0	4.1	52.7	8.3	2.2	34.0	2.0
Cycle Q Clear(g_c), s	15.2	17.4	1.9	31.1	0.0	0.0	4.1	52.7	8.3	2.2	34.0	2.0
Prop In Lane	1.00		1.00	0.39		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	275	533	452	292	0	0	74	1803	788	45	1742	761
V/C Ratio(X)	0.39	0.60	0.08	0.76	0.00	0.00	0.80	0.94	0.25	0.70	0.75	0.07
Avail Cap(c_a), veh/h	324	606	514	349	0	0	111	1803	788	91	1742	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	34.2	28.8	42.5	0.0	0.0	53.6	25.1	14.6	54.7	22.0	14.1
Incr Delay (d2), s/veh	0.9	1.4	0.1	7.8	0.0	0.0	11.9	11.1	0.8	7.1	2.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	7.5	0.7	6.5	0.0	0.0	1.8	21.1	2.7	0.9	12.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.3	35.6	28.8	50.4	0.0	0.0	65.5	36.2	15.4	61.8	24.9	14.3
LnGrp LOS	C	D	C	D	A	A	E	D	B	E	C	B
Approach Vol, veh/h		466			222			1954			1381	
Approach Delay, s/veh		34.8			50.4			34.9			25.4	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	66.3		39.4	9.7	64.3		39.4				
Change Period (Y+Rc), s	4.6	* 6.5		5.8	4.6	6.5		5.8				
Max Green Setting (Gmax), s	6.4	* 60		38.2	7.8	57.1		38.2				
Max Q Clear Time (g_c+1), s	4.2	54.7		19.4	6.1	36.0		33.1				
Green Ext Time (p_c), s	0.0	4.1		2.1	0.0	8.8		0.5				

Intersection Summary

HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

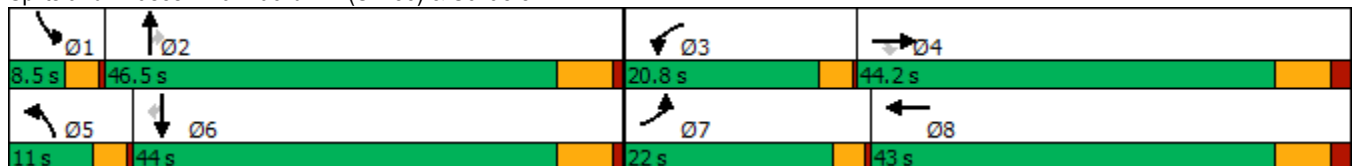


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	303	299	196	82	73	101	1553	91	33	1229	127
Future Volume (vph)	303	299	196	82	73	101	1553	91	33	1229	127
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.0	42.0	13.5	43.0	8.5	33.0	33.0	8.5	28.0	28.0
Total Split (s)	22.0	44.2	44.2	20.8	43.0	11.0	46.5	46.5	8.5	44.0	44.0
Total Split (%)	18.3%	36.8%	36.8%	17.3%	35.8%	9.2%	38.8%	38.8%	7.1%	36.7%	36.7%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	7.0	7.0	3.5	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	18.7	25.6	25.6	11.2	15.1	7.6	44.6	44.6	5.1	38.4	38.4
Actuated g/C Ratio	0.19	0.26	0.26	0.11	0.15	0.08	0.45	0.45	0.05	0.38	0.38
v/c Ratio	1.02	0.66	0.37	0.46	0.37	0.84	1.00	0.12	0.41	0.95	0.20
Control Delay	98.6	41.5	6.3	52.6	33.9	95.8	52.2	4.9	65.1	46.4	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.6	41.5	6.3	52.6	33.9	95.8	52.2	4.9	65.1	46.4	8.7
LOS	F	D	A	D	C	F	D	A	E	D	A
Approach Delay		54.5			42.3		52.2			43.4	
Approach LOS		D			D		D			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 100  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.02  
 Intersection Signal Delay: 49.3  
 Intersection LOS: D  
 Intersection Capacity Utilization 91.9%  
 ICU Level of Service F  
 Analysis Period (min) 15
























Splits and Phases: 6: Euclid Av. (SR-83) & Schaefer Av.



HCM 6th Signalized Intersection Summary  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	303	299	196	82	73	27	101	1553	91	33	1229	127
Future Volume (veh/h)	303	299	196	82	73	27	101	1553	91	33	1229	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	306	302	76	83	74	22	102	1569	74	33	1241	98
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	333	358	303	157	121	36	126	1589	687	51	1381	616
Arrive On Green	0.21	0.20	0.20	0.10	0.09	0.09	0.08	0.45	0.45	0.03	0.40	0.40
Sat Flow, veh/h	1619	1800	1525	1619	1333	396	1619	3528	1525	1619	3420	1525
Grp Volume(v), veh/h	306	302	76	83	0	96	102	1569	74	33	1241	98
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	0	1729	1619	1764	1525	1619	1710	1525
Q Serve(g_s), s	16.6	14.5	3.8	4.4	0.0	4.8	5.6	39.6	2.5	1.8	30.5	3.7
Cycle Q Clear(g_c), s	16.6	14.5	3.8	4.4	0.0	4.8	5.6	39.6	2.5	1.8	30.5	3.7
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	333	358	303	157	0	156	126	1589	687	51	1381	616
V/C Ratio(X)	0.92	0.84	0.25	0.53	0.00	0.61	0.81	0.99	0.11	0.65	0.90	0.16
Avail Cap(c_a), veh/h	333	744	631	311	0	692	135	1589	687	90	1445	644
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	34.7	30.4	38.6	0.0	39.4	40.8	24.5	14.3	43.1	25.1	17.1
Incr Delay (d2), s/veh	29.0	4.1	0.3	1.0	0.0	2.9	25.9	19.6	0.1	5.2	7.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	6.4	1.3	1.7	0.0	2.1	3.0	18.1	0.8	0.8	12.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.0	38.8	30.7	39.7	0.0	42.3	66.8	44.1	14.4	48.3	32.8	17.2
LnGrp LOS	E	D	C	D	A	D	E	D	B	D	C	B
Approach Vol, veh/h		684			179			1745			1372	
Approach Delay, s/veh		49.2			41.1			44.2			32.0	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.3	46.5	12.2	24.9	10.5	42.3	22.0	15.1				
Change Period (Y+Rc), s	3.5	6.0	3.5	7.0	3.5	6.0	3.5	7.0				
Max Green Setting (Gmax), s	5.0	40.5	17.3	37.2	7.5	38.0	18.5	36.0				
Max Q Clear Time (g_c+11), s	3.8	41.6	6.4	16.5	7.6	32.5	18.6	6.8				
Green Ext Time (p_c), s	0.0	0.0	0.1	1.4	0.0	3.5	0.0	0.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			40.7									
HCM 6th LOS			D									

Timings  
7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

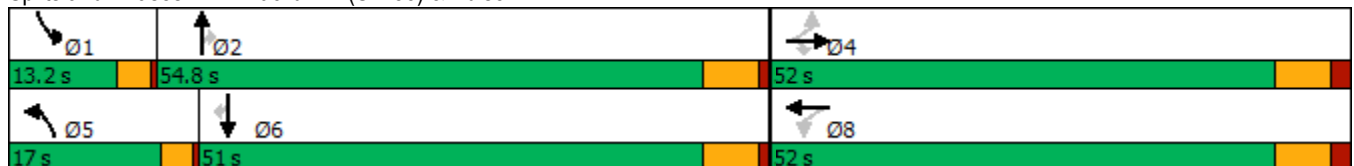


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	286	542	319	57	360	200	1393	100	110	1299	200
Future Volume (vph)	286	542	319	57	360	200	1393	100	110	1299	200
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.0	46.0	46.0	49.0	49.0	8.5	29.0	29.0	8.5	40.0	40.0
Total Split (s)	52.0	52.0	52.0	52.0	52.0	17.0	54.8	54.8	13.2	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	14.2%	45.7%	45.7%	11.0%	42.5%	42.5%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	45.0	45.0	45.0	45.0	45.0	13.5	48.8	48.8	9.7	45.0	45.0
Actuated g/C Ratio	0.38	0.38	0.38	0.38	0.38	0.11	0.41	0.41	0.08	0.38	0.38
v/c Ratio	1.69	0.85	0.48	0.55	0.71	1.17	1.05	0.16	0.89	1.07	0.32
Control Delay	361.6	47.6	13.1	51.8	38.2	165.2	75.0	9.9	109.4	81.4	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	361.6	47.6	13.1	51.8	38.2	165.2	75.0	9.9	109.4	81.4	12.1
LOS	F	D	B	D	D	F	E	A	F	F	B
Approach Delay		116.2			39.7		81.9			74.7	
Approach LOS		F			D		F			E	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.69	
Intersection Signal Delay: 83.2	Intersection LOS: F
Intersection Capacity Utilization 113.5%	ICU Level of Service H
Analysis Period (min) 15	
























Splits and Phases: 7: Euclid Av. (SR-83) & Edison Av.



HCM 6th Signalized Intersection Summary  
7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	286	542	319	57	360	86	200	1393	100	110	1299	200
Future Volume (veh/h)	286	542	319	57	360	86	200	1393	100	110	1299	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	301	571	254	60	379	85	211	1466	97	116	1367	179
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	191	675	572	114	532	119	182	1391	619	131	1282	572
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.11	0.41	0.41	0.08	0.38	0.38
Sat Flow, veh/h	891	1800	1525	637	1420	318	1619	3420	1522	1619	3420	1525
Grp Volume(v), veh/h	301	571	254	60	0	464	211	1466	97	116	1367	179
Grp Sat Flow(s),veh/h/ln	891	1800	1525	637	0	1738	1619	1710	1522	1619	1710	1525
Q Serve(g_s), s	17.7	34.8	15.0	10.2	0.0	27.3	13.5	48.8	4.8	8.5	45.0	10.0
Cycle Q Clear(g_c), s	45.0	34.8	15.0	45.0	0.0	27.3	13.5	48.8	4.8	8.5	45.0	10.0
Prop In Lane	1.00		1.00	1.00		0.18	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	675	572	114	0	652	182	1391	619	131	1283	572
V/C Ratio(X)	1.57	0.85	0.44	0.53	0.00	0.71	1.16	1.05	0.16	0.89	1.07	0.31
Avail Cap(c_a), veh/h	191	675	572	114	0	652	182	1391	619	131	1283	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	34.3	28.1	55.4	0.0	32.0	53.3	35.6	22.6	54.6	37.5	26.6
Incr Delay (d2), s/veh	281.9	9.7	0.5	4.4	0.0	3.6	115.8	39.8	0.1	45.1	44.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.7	16.3	5.3	1.9	0.0	11.6	11.1	26.1	1.7	5.0	25.2	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	335.8	44.1	28.7	59.9	0.0	35.6	169.0	75.4	22.7	99.7	82.2	26.9
LnGrp LOS	F	D	C	E	A	D	F	F	C	F	F	C
Approach Vol, veh/h		1126			524			1774			1662	
Approach Delay, s/veh		118.6			38.4			83.6			77.5	
Approach LOS		F			D			F			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.2	54.8		52.0	17.0	51.0		52.0				
Change Period (Y+Rc), s	3.5	6.0		7.0	3.5	6.0		7.0				
Max Green Setting (Gmax), s	9.7	48.8		45.0	13.5	45.0		45.0				
Max Q Clear Time (g_c+1), s	10.5	50.8		47.0	15.5	47.0		47.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				84.7								
HCM 6th LOS				F								

Timings  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	41	172	222	8	30	123	1470	19	88	1452	71
Future Volume (vph)	41	172	222	8	30	123	1470	19	88	1452	71
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.8	46.8	46.8	46.8	46.8	8.5	30.7	30.7	8.5	37.7	37.7
Total Split (s)	46.8	46.8	46.8	46.8	46.8	14.0	63.2	63.2	10.0	59.2	59.2
Total Split (%)	39.0%	39.0%	39.0%	39.0%	39.0%	11.7%	52.7%	52.7%	8.3%	49.3%	49.3%
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	3.0	4.7	4.7	3.0	4.7	4.7
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.8	4.8	3.5	5.7	5.7	3.5	5.7	5.7
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	18.3	18.3	18.3	18.3	18.3	10.6	58.3	58.3	6.6	54.2	54.2
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.11	0.60	0.60	0.07	0.56	0.56
v/c Ratio	0.27	0.57	0.63	0.06	0.42	0.78	0.81	0.02	0.91	0.86	0.09
Control Delay	35.9	41.5	23.4	30.1	13.0	73.9	21.3	0.7	113.0	25.9	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.9	41.5	23.4	30.1	13.0	73.9	21.3	0.7	113.0	25.9	4.1
LOS	D	D	C	C	B	E	C	A	F	C	A
Approach Delay		31.7			13.9		25.1			29.7	
Approach LOS		C			B		C			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 97.3	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 27.3	Intersection LOS: C
Intersection Capacity Utilization 79.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 8: Euclid Av. (SR-83) & Eucalyptus Av.




























HCM 6th Signalized Intersection Summary  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	172	222	8	30	120	123	1470	19	88	1452	71
Future Volume (veh/h)	41	172	222	8	30	120	123	1470	19	88	1452	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	46	193	133	9	34	132	138	1652	20	99	1631	68
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	176	313	265	162	56	218	168	1993	889	123	1898	829
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.10	0.58	0.58	0.08	0.55	0.55
Sat Flow, veh/h	1170	1800	1525	1011	323	1252	1619	3420	1525	1619	3420	1494
Grp Volume(v), veh/h	46	193	133	9	0	166	138	1652	20	99	1631	68
Grp Sat Flow(s),veh/h/ln	1170	1800	1525	1011	0	1575	1619	1710	1525	1619	1710	1494
Q Serve(g_s), s	3.2	8.3	6.6	0.7	0.0	8.1	7.0	32.6	0.5	5.0	33.9	1.8
Cycle Q Clear(g_c), s	11.3	8.3	6.6	9.0	0.0	8.1	7.0	32.6	0.5	5.0	33.9	1.8
Prop In Lane	1.00		1.00	1.00		0.80	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	176	313	265	162	0	274	168	1993	889	123	1898	829
V/C Ratio(X)	0.26	0.62	0.50	0.06	0.00	0.61	0.82	0.83	0.02	0.81	0.86	0.08
Avail Cap(c_a), veh/h	560	905	767	494	0	791	203	2353	1050	126	2190	956
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.1	31.9	31.2	36.1	0.0	31.9	36.7	14.1	7.4	38.0	15.8	8.7
Incr Delay (d2), s/veh	0.6	1.5	1.1	0.1	0.0	1.6	18.7	2.3	0.0	29.5	3.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.6	2.3	0.2	0.0	3.0	3.4	9.7	0.1	2.8	10.7	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	33.4	32.3	36.2	0.0	33.5	55.4	16.3	7.4	67.5	19.1	8.7
LnGrp LOS	D	C	C	D	A	C	E	B	A	E	B	A
Approach Vol, veh/h		372			175			1810			1798	
Approach Delay, s/veh		33.5			33.6			19.2			21.4	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	54.4		19.3	12.1	52.1		19.3				
Change Period (Y+Rc), s	3.5	5.7		4.8	3.5	5.7		4.8				
Max Green Setting (Gmax), s	6.5	57.5		42.0	10.5	53.5		42.0				
Max Q Clear Time (g_c+I1), s	7.0	34.6		13.3	9.0	35.9		11.0				
Green Ext Time (p_c), s	0.0	12.3		1.3	0.0	10.5		0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				22.0								
HCM 6th LOS				C								



Timings  
9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	12	31	351	2	5	1310	314	334	1343
Future Volume (vph)	12	31	351	2	5	1310	314	334	1343
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	49.0	49.0	25.0	59.5
Total Split (%)	38.3%	38.3%	38.3%	38.3%	12.1%	40.8%	40.8%	20.8%	49.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)		41.0		41.0	10.0	43.0	43.0	20.5	65.1
Actuated g/C Ratio		0.34		0.34	0.08	0.36	0.36	0.17	0.54
v/c Ratio		0.11		1.41	0.04	1.18	0.56	1.33	0.80
Control Delay		22.2		228.9	51.4	123.3	25.6	212.4	27.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		22.2		228.9	51.4	123.3	25.6	212.4	27.1
LOS		C		F	D	F	C	F	C
Approach Delay		22.2		228.9		104.3			64.0
Approach LOS		C		F		F			E

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.41  
 Intersection Signal Delay: 105.9  
 Intersection Capacity Utilization 117.1%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service H





















Splits and Phases: 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 6th Signalized Intersection Summary  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	31	13	351	2	278	5	1310	314	334	1343	1
Future Volume (veh/h)	12	31	13	351	2	278	5	1310	314	334	1343	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	13	34	13	386	2	295	5	1440	280	367	1476	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	131	328	117	329	1	216	21	1226	547	277	1766	0
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.01	0.36	0.36	0.17	0.52	0.00
Sat Flow, veh/h	276	959	342	826	4	631	1619	3420	1525	1619	3510	0
Grp Volume(v), veh/h	60	0	0	683	0	0	5	1440	280	367	1476	0
Grp Sat Flow(s),veh/h/ln	1576	0	0	1462	0	0	1619	1710	1525	1619	1710	0
Q Serve(g_s), s	0.0	0.0	0.0	38.2	0.0	0.0	0.4	43.0	17.3	20.5	44.1	0.0
Cycle Q Clear(g_c), s	2.8	0.0	0.0	41.0	0.0	0.0	0.4	43.0	17.3	20.5	44.1	0.0
Prop In Lane	0.22		0.22	0.57		0.43	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	575	0	0	546	0	0	21	1226	547	277	1766	0
V/C Ratio(X)	0.10	0.00	0.00	1.25	0.00	0.00	0.24	1.18	0.51	1.33	0.84	0.00
Avail Cap(c_a), veh/h	575	0	0	546	0	0	135	1226	547	277	1766	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.9	0.0	0.0	41.0	0.0	0.0	58.7	38.5	30.3	49.7	24.7	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	127.1	0.0	0.0	2.2	87.6	0.8	170.0	3.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	35.1	0.0	0.0	0.2	31.5	6.1	20.9	16.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	0.0	0.0	168.1	0.0	0.0	60.9	126.1	31.1	219.7	28.4	0.0
LnGrp LOS	C	A	A	F	A	A	E	F	C	F	C	A
Approach Vol, veh/h		60			683			1725			1843	
Approach Delay, s/veh		27.0			168.1			110.5			66.5	
Approach LOS		C			F			F			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.0	49.0		46.0	6.0	68.0		46.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	20.5	43.0		41.0	10.0	53.5		41.0				
Max Q Clear Time (g_c+1), s	22.5	45.0		4.8	2.4	46.1		43.0				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	5.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				99.6								
HCM 6th LOS				F								

Intersection													
Int Delay, s/veh													
	2												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	<b>T</b>	<b>4T</b>		<b>T</b>	<b>B</b>		<b>T</b>	<b>B</b>			<b>4B</b>		
Traffic Vol, veh/h	0	312	21	22	162	0	42	0	42	0	0	0	0
Future Vol, veh/h	0	312	21	22	162	0	42	0	42	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	-
Storage Length	200	-	-	200	-	-	200	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	339	23	24	176	0	46	0	46	0	0	0	0

Major/Minor	Major1	Major2	Minor1	Minor2	Minor1	Minor2
Conflicting Flow All	176	0	362	0	575	575
Stage 1	-	-	-	-	351	351
Stage 2	-	-	-	-	224	224
Critical Hdwy	4.1	-	4.1	-	7.3	6.5
Critical Hdwy Stg 1	-	-	-	-	6.5	5.5
Critical Hdwy Stg 2	-	-	-	-	6.1	5.5
Follow-up Hdwy	2.2	-	2.2	-	3.5	4
Pot Cap-1 Maneuver	1412	-	1208	-	418	431
Stage 1	-	-	-	-	644	636
Stage 2	-	-	-	-	783	722
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1412	-	1208	-	412	422
Mov Cap-2 Maneuver	-	-	-	-	412	422
Stage 1	-	-	-	-	644	636
Stage 2	-	-	-	-	767	708

Approach	EB	WB	NB	SB					
HCM Control Delay, s	0	1	12.2	0					
HCMLOS			B	A					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	412	837	1412	-	-	1208	-	-	-
HCM Lane V/C Ratio	0.111	0.055	-	-	-	0.02	-	-	-
HCM Control Delay (s)	14.8	9.5	0	-	-	8	-	-	0
HCM Lane LOS	B	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.4	0.2	0	-	-	0.1	-	-	-

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	9	0	3	10	0	8	0	65	4	3	37	4
Future Vol, veh/h	9	0	3	10	0	8	0	65	4	3	37	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	10	0	3	11	0	9	0	71	4	3	40	4

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	126	123	42	123	123	73	44	0	0	75	0	0
Stage 1	48	48	-	73	73	-	-	-	-	-	-	-
Stage 2	78	75	-	50	50	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	852	771	1034	856	771	995	1577	-	-	1537	-	-
Stage 1	971	859	-	942	838	-	-	-	-	-	-	-
Stage 2	936	836	-	968	857	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	843	769	1034	852	769	995	1577	-	-	1537	-	-
Mov Cap-2 Maneuver	862	776	-	871	778	-	-	-	-	-	-	-
Stage 1	971	857	-	942	838	-	-	-	-	-	-	-
Stage 2	928	836	-	963	855	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	9	0	0.5
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1577	-	-	899	922	1537	-	-
HCM Lane V/C Ratio	-	-	-	0.015	0.021	0.002	-	-
HCM Control Delay (s)	0	-	-	9.1	9	7.3	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	10	0	0	11	0	6	0	53	4	2	45	3
Future Vol, veh/h	10	0	0	11	0	6	0	53	4	2	45	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	11	0	0	12	0	7	0	58	4	2	49	3

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	119	117	51	115	116	60	52	0	0	62	0	0
Stage 1	55	55	-	60	60	-	-	-	-	-	-	-
Stage 2	64	62	-	55	56	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	861	777	1023	867	778	1011	1567	-	-	1554	-	-
Stage 1	962	853	-	957	849	-	-	-	-	-	-	-
Stage 2	952	847	-	962	852	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	855	776	1023	866	777	1011	1567	-	-	1554	-	-
Mov Cap-2 Maneuver	873	782	-	881	784	-	-	-	-	-	-	-
Stage 1	962	852	-	957	849	-	-	-	-	-	-	-
Stage 2	946	847	-	961	851	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.2	9	0	0.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1567	-	-	873	923	1554	-
HCM Lane V/C Ratio	-	-	-	0.012	0.02	0.001	-
HCM Control Delay (s)	0	-	-	9.2	9	7.3	-
HCM Lane LOS	A	-	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	8	49	3	3	53
Future Vol, veh/h	8	8	49	3	3	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	9	53	3	3	58

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	119	55	0	0	56
Stage 1	55	-	-	-	-
Stage 2	64	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	882	1018	-	-	1562
Stage 1	973	-	-	-	-
Stage 2	964	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	880	1018	-	-	1562
Mov Cap-2 Maneuver	890	-	-	-	-
Stage 1	973	-	-	-	-
Stage 2	962	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	950	1562
HCM Lane V/C Ratio	-	-	0.018	0.002
HCM Control Delay (s)	-	-	8.9	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	6	38	1	2	56
Future Vol, veh/h	4	6	38	1	2	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	7	41	1	2	61

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	107	42	0	0	42	0
Stage 1	42	-	-	-	-	-
Stage 2	65	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	895	1034	-	-	1580	-
Stage 1	986	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	894	1034	-	-	1580	-
Mov Cap-2 Maneuver	898	-	-	-	-	-
Stage 1	986	-	-	-	-	-
Stage 2	962	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	975	1580
HCM Lane V/C Ratio	-	-	0.011	0.001
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	8	6	33	3	2	62
Future Vol, veh/h	8	6	33	3	2	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	7	36	3	2	67

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	109	38	0	0	39
Stage 1	38	-	-	-	-
Stage 2	71	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	893	1040	-	-	1584
Stage 1	990	-	-	-	-
Stage 2	957	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	892	1040	-	-	1584
Mov Cap-2 Maneuver	895	-	-	-	-
Stage 1	990	-	-	-	-
Stage 2	956	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	952	1584
HCM Lane V/C Ratio	-	-	0.016	0.001
HCM Control Delay (s)	-	-	8.8	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0



Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	5	0	5	13	0	7	1	29	5	2	84	3
Future Vol, veh/h	5	0	5	13	0	7	1	29	5	2	84	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	5	0	5	14	0	8	1	32	5	2	91	3

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	138	136	93	136	135	35	94	0	0	37	0	0
Stage 1	97	97	-	37	37	-	-	-	-	-	-	-
Stage 2	41	39	-	99	98	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	837	759	970	840	760	1044	1513	-	-	1587	-	-
Stage 1	914	819	-	984	868	-	-	-	-	-	-	-
Stage 2	979	866	-	912	818	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	829	757	970	834	758	1044	1513	-	-	1587	-	-
Mov Cap-2 Maneuver	852	766	-	850	766	-	-	-	-	-	-	-
Stage 1	913	818	-	983	867	-	-	-	-	-	-	-
Stage 2	971	865	-	906	817	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	9.1	0.2	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1513	-	-	907	909	1587	-	-
HCM Lane V/C Ratio	0.001	-	-	0.012	0.024	0.001	-	-
HCM Control Delay (s)	7.4	-	-	9	9.1	7.3	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↕	↕	
Traffic Vol, veh/h	0	0	9	2	0	7	0	28	1	2	99	2
Future Vol, veh/h	0	0	9	2	0	7	0	28	1	2	99	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	10	2	0	8	0	30	1	2	108	2

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	148	144	109	149	145	31	-	0	0	31	0	0
Stage 1	113	113	-	31	31	-	-	-	-	-	-	-
Stage 2	35	31	-	118	114	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	825	751	950	824	750	1049	0	-	-	1595	-	-
Stage 1	897	806	-	991	873	-	0	-	-	-	-	-
Stage 2	986	873	-	891	805	-	0	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	818	750	950	815	749	1049	-	-	-	1595	-	-
Mov Cap-2 Maneuver	841	758	-	830	757	-	-	-	-	-	-	-
Stage 1	897	805	-	991	873	-	-	-	-	-	-	-
Stage 2	979	873	-	881	804	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	8.7	0	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	950	991	1595	-	-
HCM Lane V/C Ratio	-	-	0.01	0.01	0.001	-	-
HCM Control Delay (s)	-	-	8.8	8.7	7.3	-	-
HCM Lane LOS	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	-	-	0	0	0	-	-

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑	↑↑		↙	↙
Traffic Vol, veh/h	17	827	625	9	42	59
Future Vol, veh/h	17	827	625	9	42	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	18	899	679	10	46	64

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	689	0	-	0	1619 345
Stage 1	-	-	-	-	684 -
Stage 2	-	-	-	-	935 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	915	-	-	-	105 657
Stage 1	-	-	-	-	468 -
Stage 2	-	-	-	-	385 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	915	-	-	-	103 657
Mov Cap-2 Maneuver	-	-	-	-	103 -
Stage 1	-	-	-	-	459 -
Stage 2	-	-	-	-	385 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	33.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	103	657
HCM Lane V/C Ratio	0.02	-	-	-	0.443	0.098
HCM Control Delay (s)	9	-	-	-	65.2	11.1
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.9	0.3

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	844	623	2	6	2
Future Vol, veh/h	1	844	623	2	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	917	677	2	7	2

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	679	0	0 1597 340
Stage 1	-	-	- 678 -
Stage 2	-	-	- 919 -
Critical Hdwy	4.1	-	- 6.6 6.9
Critical Hdwy Stg 1	-	-	- 5.8 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	923	-	- 108 662
Stage 1	-	-	- 471 -
Stage 2	-	-	- 392 -
Platoon blocked, %		-	- -
Mov Cap-1 Maneuver	923	-	- 108 662
Mov Cap-2 Maneuver	-	-	- 303 -
Stage 1	-	-	- 471 -
Stage 2	-	-	- 392 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	923	-	-	-	351
HCM Lane V/C Ratio	0.001	-	-	-	0.025
HCM Control Delay (s)	8.9	-	-	-	15.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑	↘	
Traffic Vol, veh/h	327	4	7	163	12	19
Future Vol, veh/h	327	4	7	163	12	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	355	4	8	177	13	21

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	359	0	550 180
Stage 1	-	-	-	-	357 -
Stage 2	-	-	-	-	193 -
Critical Hdwy	-	-	4.1	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1211	-	484 838
Stage 1	-	-	-	-	685 -
Stage 2	-	-	-	-	845 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1211	-	481 838
Mov Cap-2 Maneuver	-	-	-	-	617 -
Stage 1	-	-	-	-	685 -
Stage 2	-	-	-	-	839 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	736	-	-	1211	-
HCM Lane V/C Ratio	0.046	-	-	0.006	-
HCM Control Delay (s)	10.1	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑	↘	
Traffic Vol, veh/h	341	5	6	157	13	18
Future Vol, veh/h	341	5	6	157	13	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	371	5	7	171	14	20

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	376	0	559 188
Stage 1	-	-	-	-	374 -
Stage 2	-	-	-	-	185 -
Critical Hdwy	-	-	4.1	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1194	-	478 828
Stage 1	-	-	-	-	672 -
Stage 2	-	-	-	-	852 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1194	-	475 828
Mov Cap-2 Maneuver	-	-	-	-	609 -
Stage 1	-	-	-	-	672 -
Stage 2	-	-	-	-	847 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	719	-	-	1194	-
HCM Lane V/C Ratio	0.047	-	-	0.005	-
HCM Control Delay (s)	10.3	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	850	623	2	6	2
Future Vol, veh/h	1	850	623	2	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	924	677	2	7	2

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	679	0	-	0	1604 340
Stage 1	-	-	-	-	678 -
Stage 2	-	-	-	-	926 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	923	-	-	-	107 662
Stage 1	-	-	-	-	471 -
Stage 2	-	-	-	-	389 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	923	-	-	-	107 662
Mov Cap-2 Maneuver	-	-	-	-	302 -
Stage 1	-	-	-	-	471 -
Stage 2	-	-	-	-	389 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	923	-	-	-	350
HCM Lane V/C Ratio	0.001	-	-	-	0.025
HCM Control Delay (s)	8.9	-	-	-	15.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑	↖	↖
Traffic Vol, veh/h	340	20	6	127	36	15
Future Vol, veh/h	340	20	6	127	36	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	200	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	370	22	7	138	39	16

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	392	0	533
Stage 1	-	-	-	-	381
Stage 2	-	-	-	-	152
Critical Hdwy	-	-	4.1	-	6.6
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1178	-	496
Stage 1	-	-	-	-	666
Stage 2	-	-	-	-	881
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1178	-	493
Mov Cap-2 Maneuver	-	-	-	-	493
Stage 1	-	-	-	-	666
Stage 2	-	-	-	-	876

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	493	819	-	-	1178	-
HCM Lane V/C Ratio	0.079	0.02	-	-	0.006	-
HCM Control Delay (s)	12.9	9.5	-	-	8.1	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-



Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	13	4	45	24	2
Future Vol, veh/h	6	13	4	45	24	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	14	4	49	26	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	84	27	28	0	0
Stage 1	27	-	-	-	-
Stage 2	57	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	923	1054	1599	-	-
Stage 1	1001	-	-	-	-
Stage 2	971	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	920	1054	1599	-	-
Mov Cap-2 Maneuver	912	-	-	-	-
Stage 1	998	-	-	-	-
Stage 2	971	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1599	-	1005	-	-
HCM Lane V/C Ratio	0.003	-	0.021	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	11	4	43	34	2
Future Vol, veh/h	6	11	4	43	34	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	12	4	47	37	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	93	38	39	0	0
Stage 1	38	-	-	-	-
Stage 2	55	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	912	1040	1584	-	-
Stage 1	990	-	-	-	-
Stage 2	973	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	909	1040	1584	-	-
Mov Cap-2 Maneuver	907	-	-	-	-
Stage 1	987	-	-	-	-
Stage 2	973	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1584	-	989	-	-
HCM Lane V/C Ratio	0.003	-	0.019	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	6	11	4	41	43	2
Future Vol, veh/h	6	11	4	41	43	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	12	4	45	47	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	101	48	49	0	0
Stage 1	48	-	-	-	-
Stage 2	53	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	902	1027	1571	-	-
Stage 1	980	-	-	-	-
Stage 2	975	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	899	1027	1571	-	-
Mov Cap-2 Maneuver	902	-	-	-	-
Stage 1	977	-	-	-	-
Stage 2	975	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1571	-	979	-	-
HCM Lane V/C Ratio	0.003	-	0.019	-	-
HCM Control Delay (s)	7.3	-	8.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑	↑	
Traffic Vol, veh/h	4	7	2	41	52	1
Future Vol, veh/h	4	7	2	41	52	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	8	2	45	57	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	107	58	58	0	0
Stage 1	58	-	-	-	-
Stage 2	49	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	895	1014	1559	-	-
Stage 1	970	-	-	-	-
Stage 2	979	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	894	1014	1559	-	-
Mov Cap-2 Maneuver	899	-	-	-	-
Stage 1	969	-	-	-	-
Stage 2	979	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1559	-	969	-	-
HCM Lane V/C Ratio	0.001	-	0.012	-	-
HCM Control Delay (s)	7.3	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	6	8	3	37	57	2
Future Vol, veh/h	6	8	3	37	57	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	9	3	40	62	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	109	63	64	0	0
Stage 1	63	-	-	-	-
Stage 2	46	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	893	1007	1551	-	-
Stage 1	965	-	-	-	-
Stage 2	982	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	891	1007	1551	-	-
Mov Cap-2 Maneuver	896	-	-	-	-
Stage 1	963	-	-	-	-
Stage 2	982	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1551	-	956	-	-
HCM Lane V/C Ratio	0.002	-	0.016	-	-
HCM Control Delay (s)	7.3	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	7	13	5	33	63	2
Future Vol, veh/h	7	13	5	33	63	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	14	5	36	68	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	115	69	70	0	0
Stage 1	69	-	-	-	-
Stage 2	46	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	886	1000	1544	-	-
Stage 1	959	-	-	-	-
Stage 2	982	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	883	1000	1544	-	-
Mov Cap-2 Maneuver	891	-	-	-	-
Stage 1	956	-	-	-	-
Stage 2	982	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1544	-	959	-	-
HCM Lane V/C Ratio	0.004	-	0.023	-	-
HCM Control Delay (s)	7.3	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	4	4	1	33	74	2
Future Vol, veh/h	4	4	1	33	74	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	4	1	36	80	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	119	81	82	0	0
Stage 1	81	-	-	-	-
Stage 2	38	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	882	985	1528	-	-
Stage 1	947	-	-	-	-
Stage 2	990	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	881	985	1528	-	-
Mov Cap-2 Maneuver	887	-	-	-	-
Stage 1	946	-	-	-	-
Stage 2	990	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1528	-	933	-	-
HCM Lane V/C Ratio	0.001	-	0.009	-	-
HCM Control Delay (s)	7.4	-	8.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	2.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗		↖	↗
Traffic Vol, veh/h	18	838	586	17	50	39
Future Vol, veh/h	18	838	586	17	50	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	20	911	637	18	54	42

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	655	0	-	0	1597 328
Stage 1	-	-	-	-	646 -
Stage 2	-	-	-	-	951 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	942	-	-	-	108 674
Stage 1	-	-	-	-	489 -
Stage 2	-	-	-	-	379 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	942	-	-	-	106 674
Mov Cap-2 Maneuver	-	-	-	-	106 -
Stage 1	-	-	-	-	479 -
Stage 2	-	-	-	-	379 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	44.1
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	942	-	-	-	106	674
HCM Lane V/C Ratio	0.021	-	-	-	0.513	0.063
HCM Control Delay (s)	8.9	-	-	-	70.2	10.7
HCM Lane LOS	A	-	-	-	F	B
HCM 95th %tile Q(veh)	0.1	-	-	-	2.3	0.2



Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Vol, veh/h	19	345	6	23	117	9	8	115	46	22	97	15
Future Vol, veh/h	19	345	6	23	117	9	8	115	46	22	97	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	21	375	7	25	127	10	9	125	50	24	105	16
Number of Lanes	0	2	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	11	10.4	10.5	10.3
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	5%	10%	0%	15%	16%
Vol Thru, %	68%	90%	97%	79%	72%
Vol Right, %	27%	0%	3%	6%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	169	192	179	149	134
LT Vol	8	19	0	23	22
Through Vol	115	173	173	117	97
RT Vol	46	0	6	9	15
Lane Flow Rate	184	208	194	162	146
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.277	0.33	0.303	0.248	0.227
Departure Headway (Hd)	5.432	5.7	5.626	5.503	5.617
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	661	631	640	653	639
Service Time	3.468	3.428	3.354	3.537	3.655
HCM Lane V/C Ratio	0.278	0.33	0.303	0.248	0.228
HCM Control Delay	10.5	11.2	10.8	10.4	10.3
HCM Lane LOS	B	B	B	B	B
HCM 95th-tile Q	1.1	1.4	1.3	1	0.9

Intersection						
Int Delay, s/veh	12.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↕	
Traffic Vol, veh/h	96	793	525	41	66	64
Future Vol, veh/h	96	793	525	41	66	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	104	862	571	45	72	70

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	616	0	-	0	1664 308
Stage 1	-	-	-	-	594 -
Stage 2	-	-	-	-	1070 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	974	-	-	-	98 694
Stage 1	-	-	-	-	520 -
Stage 2	-	-	-	-	332 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	974	-	-	-	78 694
Mov Cap-2 Maneuver	-	-	-	-	78 -
Stage 1	-	-	-	-	413 -
Stage 2	-	-	-	-	332 -

Approach	EB	WB	SB
HCM Control Delay, s	1	0	143.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	974	-	-	-	139
HCM Lane V/C Ratio	0.107	-	-	-	1.017
HCM Control Delay (s)	9.1	0	-	-	143.5
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.4	-	-	-	7.4

Intersection	
Intersection Delay, s/veh	887.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕			↕			↕	
Traffic Vol, veh/h	167	192	78	16	63	103	17	436	27	44	262	57
Future Vol, veh/h	167	192	78	16	63	103	17	436	27	44	262	57
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.25	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	186	213	87	18	70	114	19	1744	30	49	291	63
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	75.5	36.5	1386	75.9
HCM LOS	F	E	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	4%	47%	0%	9%	12%
Vol Thru, %	91%	53%	0%	35%	72%
Vol Right, %	6%	0%	100%	57%	16%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	480	359	78	182	363
LT Vol	17	167	0	16	44
Through Vol	436	192	0	63	262
RT Vol	27	0	78	103	57
Lane Flow Rate	1793	399	87	202	403
Geometry Grp	2	7	7	5	2
Degree of Util (X)	4.031	0.962	0.187	0.504	0.909
Departure Headway (Hd)	8.093	14.345	13.332	17.194	14.267
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	466	255	271	212	258
Service Time	6.192	12.045	11.032	15.194	12.267
HCM Lane V/C Ratio	3.848	1.565	0.321	0.953	1.562
HCM Control Delay	1386	87.8	19.1	36.5	75.9
HCM Lane LOS	F	F	C	E	F
HCM 95th-tile Q	170.4	8.9	0.7	2.5	7.9

**Intersection**

Intersection Delay, s/veh 191.3

Intersection LOS F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	230	676	441	210	257	131
Future Vol, veh/h	230	676	441	210	257	131
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	240	704	459	219	268	136
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left SB			WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	324.2	107.7	21
HCM LOS	F	F	C

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	25%	0%	100%	0%
Vol Thru, %	75%	68%	0%	0%
Vol Right, %	0%	32%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	906	651	257	131
LT Vol	230	0	257	0
Through Vol	676	441	0	0
RT Vol	0	210	0	131
Lane Flow Rate	944	678	268	136
Geometry Grp	2	2	7	7
Degree of Util (X)	1.664	1.136	0.6	0.26
Departure Headway (Hd)	6.632	6.988	9.224	7.972
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	557	522	394	453
Service Time	4.632	4.988	6.924	5.672
HCM Lane V/C Ratio	1.695	1.299	0.68	0.3
HCM Control Delay	324.2	107.7	24.8	13.4
HCM Lane LOS	F	F	C	B
HCM 95th-tile Q	51.6	19.8	3.8	1

Intersection

Intersection Delay, s/veh 11.5

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	22	739	1	91	410	32	3	21	274	69	14	10
Future Vol, veh/h	22	739	1	91	410	32	3	21	274	69	14	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	23	778	1	96	432	34	3	22	288	73	15	11
Number of Lanes	0	1	0	0	1	0	0	0	1	0	0	1
Approach	EB	WB	WB	WB	NB	SB	SB	SB	SB	SB	SB	SB
Opposing Approach	WB	EB	EB	EB	SB	SB	SB	SB	NB	NB	NB	NB
Opposing Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Conflicting Approach Left SB	SB	NB	NB	EB	EB	WB	WB	WB	WB	WB	WB	WB
Conflicting Lanes Left	1	1	1	1	1	1	1	1	1	1	1	1
Conflicting Approach Right NB	SB	SB	SB	WB	WB	EB	EB	EB	EB	EB	EB	EB
Conflicting Lanes Right	1	1	1	1	1	1	1	1	1	1	1	1
HCM Control Delay	246.5	79.7		79.7		22.7		22.7	16		16	
HCM LOS	F	F	F	F	C	C	C	C	C	C	C	C

Lane NBLn1EBLn1WBLn1SBLn1

Vol Left, %	1%	3%	17%	74%
Vol Thru, %	7%	97%	77%	15%
Vol Right, %	92%	0%	6%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	298	762	533	93
LT Vol	3	22	91	69
Through Vol	21	739	410	14
RT Vol	274	1	32	10
Lane Flow Rate	314	802	561	98
Geometry Grp	1	1	1	1
Degree of Util (X)	0.608	1.483	1.042	0.236
Departure Headway (Hd)	8.014	6.855	7.439	9.945
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	455	537	494	363
Service Time	6.014	4.855	5.439	7.945
HCM Lane V/C Ratio	0.69	1.493	1.136	0.27
HCM Control Delay	22.7	246.5	79.7	16
HCM Lane LOS	C	F	F	C
HCM 95th-tile Q	3.9	39.2	15.1	0.9

Intersection						
Int Delay, s/veh	6.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	285	88	41	34	25	80
Future Vol, veh/h	285	88	41	34	25	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	310	96	45	37	27	87

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	82	0	-	0	780 64
Stage 1	-	-	-	-	64 -
Stage 2	-	-	-	-	716 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1528	-	-	-	367 1006
Stage 1	-	-	-	-	964 -
Stage 2	-	-	-	-	488 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1528	-	-	-	288 1006
Mov Cap-2 Maneuver	-	-	-	-	288 -
Stage 1	-	-	-	-	758 -
Stage 2	-	-	-	-	488 -

Approach	EB	WB	SB
HCM Control Delay, s	6.1	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1528	-	-	-	631
HCM Lane V/C Ratio	0.203	-	-	-	0.181
HCM Control Delay (s)	8	0	-	-	12
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.7

Intersection												
Int Delay, s/veh	26.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	11	791	125	90	490	9	114	2	127	26	7	32
Future Vol, veh/h	11	791	125	90	490	9	114	2	127	26	7	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	75	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	91	91	91	91	92	91	92	91	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	12	869	137	99	538	10	125	2	140	28	8	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	548	0	0	1006	0	0	1656	1639	869	1774	1771	543
Stage 1	-	-	-	-	-	-	893	893	-	741	741	-
Stage 2	-	-	-	-	-	-	763	746	-	1033	1030	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1032	-	-	697	-	-	~ 79	101	354	65	84	544
Stage 1	-	-	-	-	-	-	339	363	-	411	426	-
Stage 2	-	-	-	-	-	-	400	424	-	283	313	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1032	-	-	697	-	-	~ 60	86	354	35	71	544
Mov Cap-2 Maneuver	-	-	-	-	-	-	173	201	-	35	71	-
Stage 1	-	-	-	-	-	-	335	359	-	406	366	-
Stage 2	-	-	-	-	-	-	315	364	-	168	309	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.7	142.8	199.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	236	1032	-	-	697	-	-	72
HCM Lane V/C Ratio	1.131	0.012	-	-	0.142	-	-	0.981
HCM Control Delay (s)	142.8	8.5	-	-	11	-	-	199.4
HCM Lane LOS	F	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	12.1	0	-	-	0.5	-	-	5.1

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑			↑↑				
Traffic Vol, veh/h	7	953	15	10	525	8	25	0	14	23	0	19
Future Vol, veh/h	7	953	15	10	525	8	25	0	14	23	0	19
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	1083	17	11	597	9	28	0	16	26	0	22

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	606	0	0	1101	0	0	1733	1737	551
Stage 1	-	-	-	-	-	-	1109	1109	-
Stage 2	-	-	-	-	-	-	624	628	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.6	6.5	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	982	-	-	642	-	-	89	88	483
Stage 1	-	-	-	-	-	-	282	288	-
Stage 2	-	-	-	-	-	-	538	479	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	982	-	-	641	-	-	86	0	483
Mov Cap-2 Maneuver	-	-	-	-	-	-	199	0	-
Stage 1	-	-	-	-	-	-	276	0	-
Stage 2	-	-	-	-	-	-	529	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.1	0.2	22.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	252	982	-	-	641	-	-
HCM Lane V/C Ratio	0.176	0.008	-	-	0.018	-	-
HCM Control Delay (s)	22.3	8.7	-	-	10.7	-	-
HCM Lane LOS	C	A	-	-	B	-	-
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-



Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Traffic Vol, veh/h	3	984	8	15	527	11	10	2	20	32	7	10
Future Vol, veh/h	3	984	8	15	527	11	10	2	20	32	7	10
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	200	-	-	200	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	1093	9	17	586	12	11	2	22	36	8	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	598	0	0	1103	0	0	1741	1737	552	1180	1735	592
Stage 1	-	-	-	-	-	-	1105	1105	-	626	626	-
Stage 2	-	-	-	-	-	-	636	632	-	554	1109	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.4	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	989	-	-	640	-	-	97	88	483	158	89	510
Stage 1	-	-	-	-	-	-	228	289	-	475	480	-
Stage 2	-	-	-	-	-	-	469	477	-	489	288	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	989	-	-	639	-	-	90	85	483	146	86	510
Mov Cap-2 Maneuver	-	-	-	-	-	-	172	198	-	276	192	-
Stage 1	-	-	-	-	-	-	227	288	-	474	467	-
Stage 2	-	-	-	-	-	-	439	464	-	461	287	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.3			18.1			19.2		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	172	427	989	-	-	639	-	-	276	303
HCM Lane V/C Ratio	0.065	0.057	0.003	-	-	0.026	-	-	0.129	0.062
HCM Control Delay (s)	27.4	13.9	8.7	-	-	10.8	-	-	20	17.7
HCM Lane LOS	D	B	A	-	-	B	-	-	C	C
HCM 95th %tile Q(veh)	0.2	0.2	0	-	-	0.1	-	-	0.4	0.2

Intersection	
Intersection Delay, s/veh	306.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	8	999	23	34	488	14	36	4	123	76	5	11
Future Vol, veh/h	8	999	23	34	488	14	36	4	123	76	5	11
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	9	1110	26	38	542	16	40	4	137	84	6	12
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	3
HCM Control Delay	480.1	110.7	18	16.9
HCM LOS	F	F	C	C

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	22%	100%	0%	0%	100%	0%	83%
Vol Thru, %	2%	0%	100%	0%	0%	97%	5%
Vol Right, %	75%	0%	0%	100%	0%	3%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	163	8	999	23	34	502	92
LT Vol	36	8	0	0	34	0	76
Through Vol	4	0	999	0	0	488	5
RT Vol	123	0	0	23	0	14	11
Lane Flow Rate	181	9	1110	26	38	558	102
Geometry Grp	7	7	7	7	8	8	7
Degree of Util (X)	0.384	0.018	2.049	0.042	0.082	1.137	0.245
Departure Headway (Hd)	9.479	7.398	6.885	6.167	9.601	9.061	10.734
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	382	487	544	584	376	407	337
Service Time	7.179	5.098	4.585	3.867	7.301	6.761	8.434
HCM Lane V/C Ratio	0.474	0.018	2.04	0.045	0.101	1.371	0.303
HCM Control Delay	18	10.2	494.7	9.1	13.2	117.3	16.9
HCM Lane LOS	C	B	F	A	B	F	C
HCM 95th-tile Q	1.8	0.1	74	0.1	0.3	16.9	0.9

Timings

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

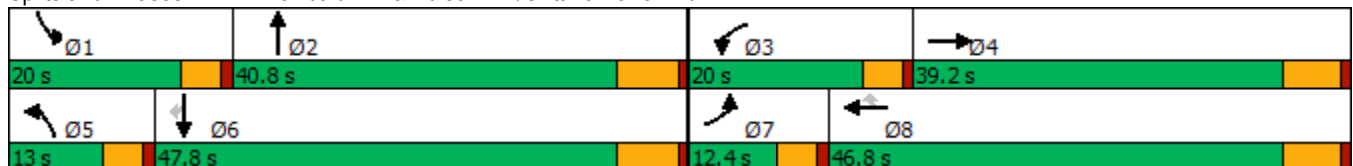
08/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	755	137	332	287	76	87	661	408	150	864	102
Future Volume (vph)	158	755	137	332	287	76	87	661	408	150	864	102
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	12.4	39.2		20.0	46.8	46.8	13.0	40.8		20.0	47.8	47.8
Total Split (%)	10.3%	32.7%		16.7%	39.0%	39.0%	10.8%	34.0%		16.7%	39.8%	39.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	7.9	29.5	109.5	14.9	36.5	36.5	8.2	29.4	109.5	13.5	34.7	34.7
Actuated g/C Ratio	0.07	0.27	1.00	0.14	0.33	0.33	0.07	0.27	1.00	0.12	0.32	0.32
v/c Ratio	0.77	0.84	0.09	0.85	0.49	0.13	0.75	0.74	0.28	0.78	0.82	0.18
Control Delay	76.2	48.2	0.1	68.2	33.2	0.4	87.9	42.9	0.5	74.9	42.0	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.2	48.2	0.1	68.2	33.2	0.4	87.9	42.9	0.5	74.9	42.0	1.8
LOS	E	D	A	E	C	A	F	D	A	E	D	A
Approach Delay		46.1			46.4			31.3			42.8	
Approach LOS		D			D			C			D	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 109.5  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 41.0  
 Intersection LOS: D  
 Intersection Capacity Utilization 82.4%  
 ICU Level of Service E  
 Analysis Period (min) 15






























Splits and Phases: 44: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
 44: Archibald Av. & Edison Av./Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 				 			 	
Traffic Volume (veh/h)	158	755	137	332	287	76	87	661	408	150	864	102
Future Volume (veh/h)	158	755	137	332	287	76	87	661	408	150	864	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	163	778	0	342	296	44	90	681	0	155	891	83
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	216	913		397	591	501	111	922		183	1073	468
Arrive On Green	0.07	0.27	0.00	0.13	0.33	0.33	0.07	0.27	0.00	0.11	0.31	0.31
Sat Flow, veh/h	2956	3420	1525	2956	1800	1525	1619	3420	1525	1619	3420	1491
Grp Volume(v), veh/h	163	778	0	342	296	44	90	681	0	155	891	83
Grp Sat Flow(s),veh/h/ln	1478	1710	1525	1478	1800	1525	1619	1710	1525	1619	1710	1491
Q Serve(g_s), s	5.5	21.9	0.0	11.5	13.4	2.0	5.6	18.4	0.0	9.5	24.5	4.1
Cycle Q Clear(g_c), s	5.5	21.9	0.0	11.5	13.4	2.0	5.6	18.4	0.0	9.5	24.5	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	913		397	591	501	111	922		183	1073	468
V/C Ratio(X)	0.75	0.85		0.86	0.50	0.09	0.81	0.74		0.85	0.83	0.18
Avail Cap(c_a), veh/h	228	1114		449	721	611	134	1158		246	1394	608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	35.2	0.0	42.9	27.4	23.5	46.5	33.7	0.0	44.1	32.3	25.3
Incr Delay (d2), s/veh	11.1	5.5	0.0	13.0	0.7	0.1	21.6	1.9	0.0	14.5	3.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	9.2	0.0	4.7	5.5	0.7	2.8	7.3	0.0	4.3	9.7	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.1	40.8	0.0	55.9	28.0	23.6	68.1	35.7	0.0	58.6	35.7	25.4
LnGrp LOS	E	D		E	C	C	E	D		E	D	C
Approach Vol, veh/h		941	A		682			771	A		1129	
Approach Delay, s/veh		43.6			41.7			39.4			38.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	33.8	18.2	33.2	11.6	38.3	12.0	39.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	15.4	34.3	15.4	33.0	8.4	41.3	7.8	40.6				
Max Q Clear Time (g_c+I1), s	11.5	20.4	13.5	23.9	7.6	26.5	7.5	15.4				
Green Ext Time (p_c), s	0.1	3.4	0.1	3.2	0.0	4.9	0.0	1.6				

Intersection Summary

HCM 6th Ctrl Delay	40.5
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
45: Archibald Av. & Eucalyptus Av.



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖↗	↑↑	↖	↗	↑↑
Traffic Volume (vph)	2	11	1144	1	10	1322
Future Volume (vph)	2	11	1144	1	10	1322
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		8		2		
Detector Phase	3	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.5	9.5	32.5	32.5	9.6	16.5
Total Split (s)	10.0	10.0	40.0	40.0	10.0	50.0
Total Split (%)	14.3%	14.3%	57.1%	57.1%	14.3%	71.4%
Yellow Time (s)	3.5	3.5	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	6.5	6.5	4.6	6.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	5.6	5.6	56.7	56.7	5.2	58.5
Actuated g/C Ratio	0.09	0.09	0.90	0.90	0.08	0.92
v/c Ratio	0.01	0.03	0.40	0.00	0.08	0.44
Control Delay	26.5	0.1	4.8	6.0	28.3	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	0.1	4.8	6.0	28.3	3.0
LOS	C	A	A	A	C	A
Approach Delay			4.8			3.2
Approach LOS			A			A

Intersection Summary

Cycle Length: 70  
 Actuated Cycle Length: 63.3  
 Natural Cycle: 65  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.44  
 Intersection Signal Delay: 3.9  
 Intersection LOS: A  
 Intersection Capacity Utilization 51.0%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 45: Archibald Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔		↔		↕	↗	↘	↕	
Traffic Volume (veh/h)	0	0	0	2	0	11	0	1144	1	10	1322	0
Future Volume (veh/h)	0	0	0	2	0	11	0	1144	1	10	1322	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1700	0	1800	0	1800	1800	1700	1800	0
Adj Flow Rate, veh/h				2	0	3	0	1217	1	11	1406	0
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				21	0	18	0	2377	1059	23	2711	0
Arrive On Green				0.01	0.00	0.01	0.00	0.69	0.69	0.01	0.79	0.00
Sat Flow, veh/h				3141	0	2685	0	3510	1524	1619	3510	0
Grp Volume(v), veh/h				2	0	3	0	1217	1	11	1406	0
Grp Sat Flow(s),veh/h/ln				1570	0	1342	0	1710	1524	1619	1710	0
Q Serve(g_s), s				0.0	0.0	0.1	0.0	9.2	0.0	0.4	7.9	0.0
Cycle Q Clear(g_c), s				0.0	0.0	0.1	0.0	9.2	0.0	0.4	7.9	0.0
Prop In Lane				1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h				21	0	18	0	2377	1059	23	2711	0
V/C Ratio(X)				0.10	0.00	0.17	0.00	0.51	0.00	0.48	0.52	0.00
Avail Cap(c_a), veh/h				315	0	269	0	2377	1059	159	2711	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				27.1	0.0	27.1	0.0	4.0	2.6	26.8	2.0	0.0
Incr Delay (d2), s/veh				1.9	0.0	4.3	0.0	0.8	0.0	5.8	0.7	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	0.0	0.0	0.0	0.9	0.0	0.2	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				29.0	0.0	31.4	0.0	4.8	2.6	32.6	2.7	0.0
LnGrp LOS				C	A	C	A	A	A	C	A	A
Approach Vol, veh/h					5			1218			1417	
Approach Delay, s/veh					30.4			4.8			2.9	
Approach LOS					C			A			A	
Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	5.4	44.6				50.0		4.9				
Change Period (Y+Rc), s	4.6	6.5				6.5		4.5				
Max Green Setting (Gmax), s	5.4	33.5				43.5		5.5				
Max Q Clear Time (g_c+I1), s	2.4	11.2				9.9		2.1				
Green Ext Time (p_c), s	0.0	8.1				11.5		0.0				

Intersection Summary

HCM 6th Ctrl Delay	3.8
HCM 6th LOS	A

Timings  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

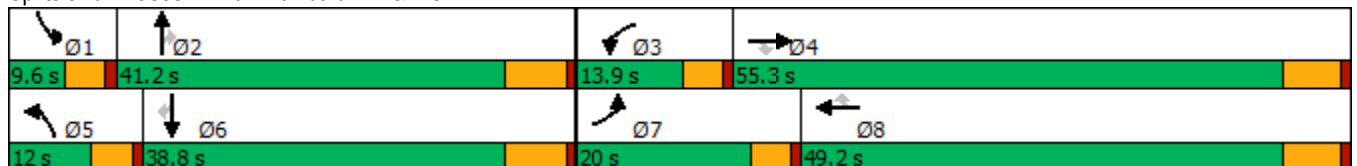
08/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	419	81	626	47	27	55	199	636	44	77	1039	238
Future Volume (vph)	419	81	626	47	27	55	199	636	44	77	1039	238
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	20.0	55.3	55.3	13.9	49.2	49.2	12.0	41.2	41.2	9.6	38.8	38.8
Total Split (%)	16.7%	46.1%	46.1%	11.6%	41.0%	41.0%	10.0%	34.3%	34.3%	8.0%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	17.8	38.7	38.7	7.4	30.1	30.1	7.6	38.2	38.2	5.1	33.1	33.1
Actuated g/C Ratio	0.17	0.36	0.36	0.07	0.28	0.28	0.07	0.36	0.36	0.05	0.31	0.31
v/c Ratio	1.60	0.13	0.93	0.43	0.06	0.10	1.80	0.37	0.07	0.56	1.01	0.42
Control Delay	319.7	23.0	42.6	63.8	26.2	0.4	421.0	30.0	0.2	70.1	69.2	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	319.7	23.0	42.6	63.8	26.2	0.4	421.0	30.0	0.2	70.1	69.2	15.7
LOS	F	C	D	E	C	A	F	C	A	E	E	B
Approach Delay		144.3			28.7			117.0			59.8	
Approach LOS		F			C			F			E	

Intersection Summary

























Cycle Length: 120  
 Actuated Cycle Length: 106.7  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.80  
 Intersection Signal Delay: 100.4  
 Intersection LOS: F  
 Intersection Capacity Utilization 89.8%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 46: Archibald Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	419	81	626	47	27	55	199	636	44	77	1039	238
Future Volume (veh/h)	419	81	626	47	27	55	199	636	44	77	1039	238
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	432	84	460	48	28	18	205	656	31	79	1071	187
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	257	593	503	61	375	318	124	1777	545	134	1131	505
Arrive On Green	0.16	0.33	0.33	0.04	0.21	0.21	0.08	0.36	0.36	0.05	0.33	0.33
Sat Flow, veh/h	1619	1800	1525	1619	1800	1525	1619	4914	1506	2956	3420	1525
Grp Volume(v), veh/h	432	84	460	48	28	18	205	656	31	79	1071	187
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	1800	1525	1619	1638	1506	1478	1710	1525
Q Serve(g_s), s	15.4	3.2	28.1	2.9	1.2	0.9	7.4	9.5	1.3	2.5	29.6	9.1
Cycle Q Clear(g_c), s	15.4	3.2	28.1	2.9	1.2	0.9	7.4	9.5	1.3	2.5	29.6	9.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	257	593	503	61	375	318	124	1777	545	134	1131	505
V/C Ratio(X)	1.68	0.14	0.91	0.79	0.07	0.06	1.66	0.37	0.06	0.59	0.95	0.37
Avail Cap(c_a), veh/h	257	911	772	155	798	676	124	1777	545	152	1139	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	22.9	31.2	46.3	30.9	30.8	44.8	22.8	20.2	45.4	31.6	24.8
Incr Delay (d2), s/veh	322.6	0.1	10.9	8.4	0.1	0.1	329.8	0.1	0.0	2.2	15.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.8	1.3	11.4	1.3	0.5	0.3	14.1	3.4	0.5	0.9	13.4	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	363.4	23.0	42.1	54.7	31.0	30.8	374.6	22.9	20.2	47.6	47.1	25.2
LnGrp LOS	F	C	D	D	C	C	F	C	C	D	D	C
Approach Vol, veh/h		976			94			892			1337	
Approach Delay, s/veh		182.7			43.0			103.7			44.1	
Approach LOS		F			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	41.6	8.2	38.2	12.0	38.6	20.0	26.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	34.7	9.3	49.1	7.4	32.3	15.4	43.0				
Max Q Clear Time (g_c+I1), s	4.5	11.5	4.9	30.1	9.4	31.6	17.4	3.2				
Green Ext Time (p_c), s	0.0	4.0	0.0	1.9	0.0	0.5	0.0	0.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			101.2									
HCM 6th LOS			F									



Timings  
47: Archibald Av. & Limonite Av.



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↑	↖	↖	↑
Traffic Volume (vph)	369	321	589	402	756	958
Future Volume (vph)	369	321	589	402	756	958
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	37.0	46.7	36.3	37.0	83.7
Total Split (%)	30.3%	30.8%	38.9%	30.3%	30.8%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min
Act Effct Green (s)	16.7	54.5	37.2	54.0	32.4	75.0
Actuated g/C Ratio	0.16	0.53	0.36	0.53	0.32	0.73
v/c Ratio	0.66	0.36	0.87	0.48	1.35	0.70
Control Delay	45.9	10.4	45.4	13.2	198.6	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.9	10.4	45.4	13.2	198.6	12.3
LOS	D	B	D	B	F	B
Approach Delay	29.4		32.4			94.4
Approach LOS	C		C			F

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 102.2	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.35	
Intersection Signal Delay: 63.1	Intersection LOS: E
Intersection Capacity Utilization 96.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 47: Archibald Av. & Limonite Av.



HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶↶	↶	↶	↷	↷	↶
Traffic Volume (veh/h)	369	321	589	402	756	958
Future Volume (veh/h)	369	321	589	402	756	958
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	377	278	601	389	771	978
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	484	762	690	794	607	1427
Arrive On Green	0.14	0.14	0.36	0.36	0.34	0.75
Sat Flow, veh/h	3510	1610	1900	1576	1810	1900
Grp Volume(v), veh/h	377	278	601	389	771	978
Grp Sat Flow(s),veh/h/ln	1755	1610	1900	1576	1810	1900
Q Serve(g_s), s	9.9	10.5	28.1	15.6	32.0	25.2
Cycle Q Clear(g_c), s	9.9	10.5	28.1	15.6	32.0	25.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	484	762	690	794	607	1427
V/C Ratio(X)	0.78	0.36	0.87	0.49	1.27	0.69
Avail Cap(c_a), veh/h	1141	1063	825	906	607	1567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	16.0	28.3	15.8	31.7	6.1
Incr Delay (d2), s/veh	1.0	0.1	9.1	0.6	134.2	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	3.4	13.3	6.9	35.1	5.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.8	16.1	37.4	16.3	165.9	6.9
LnGrp LOS	D	B	D	B	F	A
Approach Vol, veh/h	655		990			1749
Approach Delay, s/veh	30.3		29.1			77.0
Approach LOS	C		C			E
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	37.0	39.9			76.9	18.5
Change Period (Y+Rc), s	5.0	5.3			* 5.3	5.3
Max Green Setting (Gmax), s	32.0	41.4			* 79	31.0
Max Q Clear Time (g_c+I1), s	34.0	30.1			27.2	12.5
Green Ext Time (p_c), s	0.0	4.5			4.4	0.7

Intersection Summary

HCM 6th Ctrl Delay	54.0
HCM 6th LOS	D

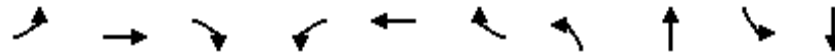
Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

48: Turner Av. & Ontario Ranch Rd.

08/23/2021

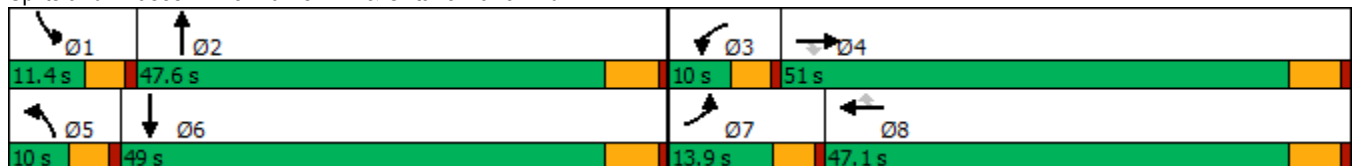


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗	↘	↗
Traffic Volume (vph)	53	1354	41	33	717	14	27	8	29	8
Future Volume (vph)	53	1354	41	33	717	14	27	8	29	8
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	25.8	25.8	9.6	45.8	9.6	47.8
Total Split (s)	13.9	51.0	51.0	10.0	47.1	47.1	10.0	47.6	11.4	49.0
Total Split (%)	11.6%	42.5%	42.5%	8.3%	39.3%	39.3%	8.3%	39.7%	9.5%	40.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	7.4	57.6	57.6	5.6	56.0	56.0	5.5	14.9	6.2	15.5
Actuated g/C Ratio	0.09	0.68	0.68	0.07	0.66	0.66	0.07	0.18	0.07	0.18
v/c Ratio	0.41	0.64	0.04	0.34	0.35	0.01	0.29	0.17	0.27	0.11
Control Delay	51.8	19.7	0.1	54.6	16.2	0.0	53.2	13.2	50.9	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	19.7	0.1	54.6	16.2	0.0	53.2	13.2	50.9	15.0
LOS	D	B	A	D	B	A	D	B	D	B
Approach Delay		20.3			17.6			27.5		31.9
Approach LOS		C			B			C		C

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 84.4  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.64  
 Intersection Signal Delay: 20.0  
 Intersection LOS: B  
 Intersection Capacity Utilization 68.6%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 48: Turner Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
48: Turner Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021

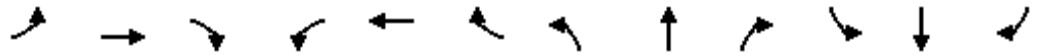


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑	↖	↗	↑↑	↖	↗	↖		↗	↖	
Traffic Volume (veh/h)	53	1354	41	33	717	14	27	8	41	29	8	25
Future Volume (veh/h)	53	1354	41	33	717	14	27	8	41	29	8	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	58	1488	33	36	788	12	30	9	26	32	9	13
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	73	1899	847	55	1862	831	49	50	145	51	83	120
Arrive On Green	0.04	0.56	0.56	0.03	0.54	0.54	0.03	0.12	0.12	0.03	0.12	0.12
Sat Flow, veh/h	1619	3420	1525	1619	3420	1525	1619	405	1171	1619	666	961
Grp Volume(v), veh/h	58	1488	33	36	788	12	30	0	35	32	0	22
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1525	1619	0	1576	1619	0	1627
Q Serve(g_s), s	2.9	27.9	0.8	1.8	11.1	0.3	1.5	0.0	1.6	1.6	0.0	1.0
Cycle Q Clear(g_c), s	2.9	27.9	0.8	1.8	11.1	0.3	1.5	0.0	1.6	1.6	0.0	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.74	1.00		0.59
Lane Grp Cap(c), veh/h	73	1899	847	55	1862	831	49	0	195	51	0	203
V/C Ratio(X)	0.80	0.78	0.04	0.65	0.42	0.01	0.61	0.00	0.18	0.62	0.00	0.11
Avail Cap(c_a), veh/h	185	1899	847	107	1862	831	107	0	809	135	0	863
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	38.5	14.3	8.2	38.8	11.0	8.5	39.0	0.0	32.0	38.9	0.0	31.6
Incr Delay (d2), s/veh	7.3	3.3	0.1	4.7	0.7	0.0	4.5	0.0	0.4	4.6	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	9.4	0.2	0.7	3.6	0.1	0.6	0.0	0.6	0.7	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	17.6	8.3	43.5	11.7	8.5	43.5	0.0	32.4	43.5	0.0	31.8
LnGrp LOS	D	B	A	D	B	A	D	A	C	D	A	C
Approach Vol, veh/h		1579			836			65				54
Approach Delay, s/veh		18.4			13.0			37.6				38.8
Approach LOS		B			B			D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	15.9	7.4	51.0	7.1	16.0	8.3	50.1				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.8	41.8	5.4	45.2	5.4	43.2	9.3	41.3				
Max Q Clear Time (g_c+I1), s	3.6	3.6	3.8	29.9	3.5	3.0	4.9	13.1				
Green Ext Time (p_c), s	0.0	0.1	0.0	9.0	0.0	0.1	0.0	5.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				17.6								
HCM 6th LOS				B								

Timings

49: Haven Av. & Ontario Ranch Rd.

08/23/2021

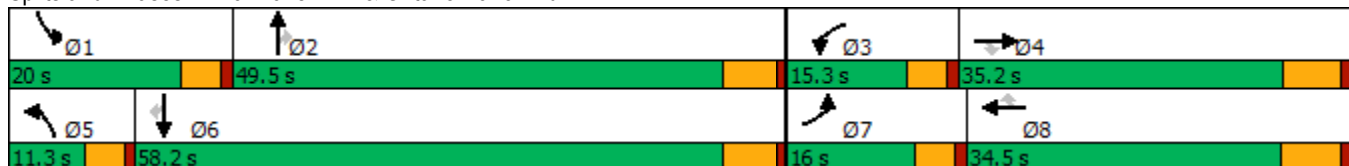


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (vph)	133	1137	70	64	631	136	30	93	24	175	274	119
Future Volume (vph)	133	1137	70	64	631	136	30	93	24	175	274	119
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	16.0	35.2	35.2	15.3	34.5	34.5	11.3	49.5	49.5	20.0	58.2	58.2
Total Split (%)	13.3%	29.3%	29.3%	12.8%	28.8%	28.8%	9.4%	41.3%	41.3%	16.7%	48.5%	48.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	11.3	35.4	35.4	7.8	29.0	29.0	6.0	15.7	15.7	14.9	27.1	27.1
Actuated g/C Ratio	0.13	0.40	0.40	0.09	0.33	0.33	0.07	0.18	0.18	0.17	0.30	0.30
v/c Ratio	0.68	0.61	0.10	0.47	0.33	0.24	0.28	0.31	0.06	0.67	0.52	0.22
Control Delay	58.8	27.8	0.3	54.3	26.0	5.9	52.1	34.6	0.3	51.9	28.7	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.8	27.8	0.3	54.3	26.0	5.9	52.1	34.6	0.3	51.9	28.7	5.3
LOS	E	C	A	D	C	A	D	C	A	D	C	A
Approach Delay		29.4			24.9			32.5			31.0	
Approach LOS		C			C			C			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 88.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 28.6	Intersection LOS: C
Intersection Capacity Utilization 64.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 49: Haven Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
49: Haven Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (veh/h)	133	1137	70	64	631	136	30	93	24	175	274	119
Future Volume (veh/h)	133	1137	70	64	631	136	30	93	24	175	274	119
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	139	1184	42	67	657	68	31	97	11	182	285	51
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	170	2024	628	83	2218	546	51	230	195	217	415	352
Arrive On Green	0.10	0.41	0.41	0.05	0.36	0.36	0.03	0.13	0.13	0.13	0.23	0.23
Sat Flow, veh/h	1619	4914	1525	1619	6192	1525	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	139	1184	42	67	657	68	31	97	11	182	285	51
Grp Sat Flow(s),veh/h/ln	1619	1638	1525	1619	1548	1525	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	6.6	14.6	1.3	3.2	6.0	2.3	1.5	3.9	0.5	8.6	11.3	2.1
Cycle Q Clear(g_c), s	6.6	14.6	1.3	3.2	6.0	2.3	1.5	3.9	0.5	8.6	11.3	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	170	2024	628	83	2218	546	51	230	195	217	415	352
V/C Ratio(X)	0.82	0.59	0.07	0.81	0.30	0.12	0.61	0.42	0.06	0.84	0.69	0.15
Avail Cap(c_a), veh/h	236	2024	628	222	2218	546	139	1006	853	319	1207	1023
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	17.8	13.9	36.7	18.0	16.8	37.4	31.4	29.9	33.0	27.5	23.9
Incr Delay (d2), s/veh	10.4	1.2	0.2	6.8	0.3	0.5	4.4	1.2	0.1	8.2	2.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	4.9	0.4	1.3	1.9	0.8	0.6	1.7	0.2	3.6	4.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	19.1	14.1	43.5	18.3	17.3	41.7	32.6	30.1	41.2	29.5	24.1
LnGrp LOS	D	B	B	D	B	B	D	C	C	D	C	C
Approach Vol, veh/h		1365			792			139			518	
Approach Delay, s/veh		21.5			20.4			34.5			33.1	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.1	15.8	8.6	38.7	7.0	23.8	12.8	34.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	15.4	43.7	10.7	* 29	6.7	52.4	11.4	28.0				
Max Q Clear Time (g_c+I1), s	10.6	5.9	5.2	16.6	3.5	13.3	8.6	8.0				
Green Ext Time (p_c), s	0.1	0.5	0.0	6.0	0.0	1.7	0.0	4.0				

Intersection Summary

HCM 6th Ctrl Delay	24.0
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

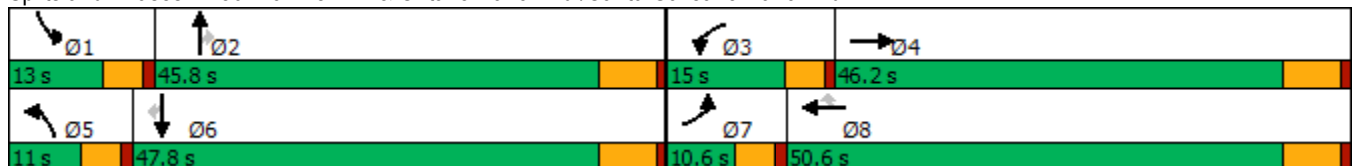


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙↘	↑↑↑	↙↘	↑↑	↗	↙↘	↑↑↑	↗	↙↘	↑↑	↗
Traffic Volume (vph)	104	1039	627	551	116	211	404	252	488	857	120
Future Volume (vph)	104	1039	627	551	116	211	404	252	488	857	120
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.2	9.6	49.2	49.2	9.6	44.2	44.2	9.6	45.2	45.2
Total Split (s)	10.6	46.2	15.0	50.6	50.6	11.0	45.8	45.8	13.0	47.8	47.8
Total Split (%)	8.8%	38.5%	12.5%	42.2%	42.2%	9.2%	38.2%	38.2%	10.8%	39.8%	39.8%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.1	32.0	10.6	36.5	36.5	6.5	31.6	31.6	8.5	33.6	33.6
Actuated g/C Ratio	0.06	0.31	0.10	0.35	0.35	0.06	0.30	0.30	0.08	0.32	0.32
v/c Ratio	0.63	0.73	2.20	0.48	0.20	1.20	0.28	0.48	2.12	0.81	0.22
Control Delay	68.8	33.9	573.4	28.7	5.4	175.7	28.6	17.4	541.8	39.7	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.8	33.9	573.4	28.7	5.4	175.7	28.6	17.4	541.8	39.7	7.4
LOS	E	C	F	C	A	F	C	B	F	D	A
Approach Delay		36.4		290.5			61.1			204.2	
Approach LOS		D		F			E			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 104.7	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.20	
Intersection Signal Delay: 154.3	Intersection LOS: F
Intersection Capacity Utilization 92.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.




























HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	1039	284	627	551	116	211	404	252	488	857	120
Future Volume (veh/h)	104	1039	284	627	551	116	211	404	252	488	857	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	108	1082	239	653	574	87	220	421	183	508	893	70
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	158	1496	327	313	1179	526	193	1458	452	253	1084	483
Arrive On Green	0.05	0.29	0.29	0.11	0.34	0.34	0.07	0.30	0.30	0.09	0.32	0.32
Sat Flow, veh/h	2956	5123	1120	2956	3420	1525	2956	4914	1524	2956	3420	1524
Grp Volume(v), veh/h	108	980	341	653	574	87	220	421	183	508	893	70
Grp Sat Flow(s),veh/h/ln	1478	1548	1598	1478	1710	1525	1478	1638	1524	1478	1710	1524
Q Serve(g_s), s	3.5	18.6	18.9	10.4	13.0	3.9	6.4	6.5	9.4	8.4	23.7	3.2
Cycle Q Clear(g_c), s	3.5	18.6	18.9	10.4	13.0	3.9	6.4	6.5	9.4	8.4	23.7	3.2
Prop In Lane	1.00		0.70	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	158	1356	467	313	1179	526	193	1458	452	253	1084	483
V/C Ratio(X)	0.68	0.72	0.73	2.09	0.49	0.17	1.14	0.29	0.40	2.01	0.82	0.14
Avail Cap(c_a), veh/h	181	1891	651	313	1546	689	193	1981	614	253	1448	645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.7	31.2	31.3	43.9	25.4	22.4	45.9	26.6	27.6	44.9	31.0	24.0
Incr Delay (d2), s/veh	6.2	0.8	2.6	499.7	0.3	0.1	108.3	0.1	0.6	468.0	3.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	6.4	7.0	25.3	4.9	1.3	5.1	2.4	3.3	19.4	9.4	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	32.0	33.9	543.6	25.7	22.5	154.3	26.7	28.2	513.0	34.0	24.2
LnGrp LOS	D	C	C	F	C	C	F	C	C	F	C	C
Approach Vol, veh/h		1429			1314			824			1471	
Approach Delay, s/veh		34.0			282.8			61.1			198.9	
Approach LOS		C			F			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	35.3	15.0	34.9	11.0	37.3	9.8	40.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	8.4	39.6	10.4	40.0	6.4	41.6	6.0	44.4				
Max Q Clear Time (g_c+I1), s	10.4	11.4	12.4	20.9	8.4	25.7	5.5	15.0				
Green Ext Time (p_c), s	0.0	3.2	0.0	7.8	0.0	5.2	0.0	3.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			151.5									
HCM 6th LOS			F									



Timings  
51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



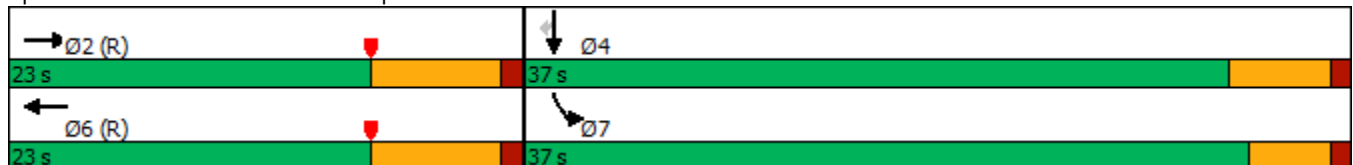
Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑	↔	↑
Traffic Volume (vph)	1343	535	490	452	313	0	1100
Future Volume (vph)	1343	535	490	452	313	0	1100
Turn Type	NA	Free	NA	Free	Prot	NA	Perm
Protected Phases	2		6		7	4	
Permitted Phases		Free		Free			4
Detector Phase	2		6		7	4	4
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5	10.5
Total Split (s)	23.0		23.0		37.0	37.0	37.0
Total Split (%)	38.3%		38.3%		61.7%	61.7%	61.7%
Yellow Time (s)	5.8		5.8		3.6	4.5	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max		C-Min		None	Min	Min
Act Effct Green (s)	16.2	60.0	16.2	60.0	32.4	31.5	31.5
Actuated g/C Ratio	0.27	1.00	0.27	1.00	0.54	0.52	0.52
v/c Ratio	0.99	0.34	0.52	0.29	0.31	0.72	0.68
Control Delay	45.7	0.6	16.7	1.0	8.8	15.3	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	0.6	16.7	1.0	8.8	15.3	13.8
LOS	D	A	B	A	A	B	B
Approach Delay	32.9		9.2			13.4	
Approach LOS	C		A			B	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 21.1  
 Intersection Capacity Utilization 69.2%  
 Analysis Period (min) 15

Intersection LOS: C  
 ICU Level of Service C

Splits and Phases: 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑	↗				↘	↕	↗
Traffic Volume (veh/h)	0	1343	535	0	490	452	0	0	0	313	0	1100
Future Volume (veh/h)	0	1343	535	0	490	452	0	0	0	313	0	1100
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1385	0	0	505	0				215	0	917
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	2342		0	1630					649	0	1155
Arrive On Green	0.00	0.45	0.00	0.00	0.45	0.00				0.36	0.00	0.36
Sat Flow, veh/h	0	5358	1610	0	3705	1610				1810	0	3220
Grp Volume(v), veh/h	0	1385	0	0	505	0				215	0	917
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610				1810	0	1610
Q Serve(g_s), s	0.0	12.0	0.0	0.0	5.4	0.0				5.2	0.0	15.3
Cycle Q Clear(g_c), s	0.0	12.0	0.0	0.0	5.4	0.0				5.2	0.0	15.3
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2342		0	1630					649	0	1155
V/C Ratio(X)	0.00	0.59		0.00	0.31					0.33	0.00	0.79
Avail Cap(c_a), veh/h	0	2342		0	1630					977	0	1739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.96	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.3	0.0	0.0	10.5	0.0				14.0	0.0	17.3
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.5	0.0				0.3	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.4	0.0	0.0	1.7	0.0				1.8	0.0	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	12.4	0.0	0.0	11.0	0.0				14.3	0.0	18.8
LnGrp LOS	A	B		A	B					B	A	B
Approach Vol, veh/h		1385	A		505	A					1132	
Approach Delay, s/veh		12.4			11.0						17.9	
Approach LOS		B			B						B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		33.9		26.1		33.9						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		16.2		32.4		16.2						
Max Q Clear Time (g_c+I1), s		14.0		17.3		7.4						
Green Ext Time (p_c), s		1.6		4.2		1.9						

Intersection Summary

HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B

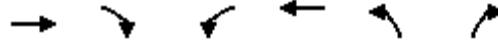
Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↙↘	↑↑↑	↙↘	↑
Traffic Volume (vph)	698	993	316	734	213	247
Future Volume (vph)	698	993	316	734	213	247
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	31.0	16.0	13.0	44.0	16.0	16.0
Total Split (%)	51.7%	26.7%	21.7%	73.3%	26.7%	26.7%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max
Act Effct Green (s)	23.7	41.0	7.0	36.7	10.0	10.0
Actuated g/C Ratio	0.40	0.68	0.12	0.61	0.17	0.17
v/c Ratio	0.36	0.94	0.82	0.24	0.51	0.41
Control Delay	10.9	23.0	44.5	5.6	18.3	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.9	23.0	44.5	5.6	18.3	8.4
LOS	B	C	D	A	B	A
Approach Delay	18.0			17.3	15.2	
Approach LOS	B			B	B	

Intersection Summary

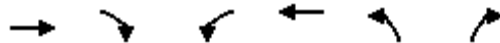
Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 17.4  
 Intersection LOS: B  
 Intersection Capacity Utilization 80.5%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 52: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (veh/h)	698	993	316	734	213	247
Future Volume (veh/h)	698	993	316	734	213	247
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	735	829	333	773	252	127
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2049	904	410	3173	603	268
Arrive On Green	0.66	0.66	0.12	0.61	0.17	0.17
Sat Flow, veh/h	5358	1610	3510	5358	3619	1610
Grp Volume(v), veh/h	735	829	333	773	252	127
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1810	1610
Q Serve(g_s), s	3.8	23.7	5.6	4.1	3.7	4.3
Cycle Q Clear(g_c), s	3.8	23.7	5.6	4.1	3.7	4.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2049	904	410	3173	603	268
V/C Ratio(X)	0.36	0.92	0.81	0.24	0.42	0.47
Avail Cap(c_a), veh/h	2049	904	410	3173	603	268
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.37	0.37	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	6.2	25.9	5.3	22.4	22.6
Incr Delay (d2), s/veh	0.2	6.8	16.1	0.0	2.1	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	5.8	2.9	0.8	1.6	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.0	13.0	41.9	5.4	24.5	28.5
LnGrp LOS	A	B	D	A	C	C
Approach Vol, veh/h	1564			1106	379	
Approach Delay, s/veh	10.2			16.4	25.9	
Approach LOS	B			B	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.0	31.0			44.0	16.0
Change Period (Y+Rc), s	6.0	7.3			7.3	6.0
Max Green Setting (Gmax), s	7.0	23.7			36.7	10.0
Max Q Clear Time (g_c+I1), s	7.6	25.7			6.1	6.3
Green Ext Time (p_c), s	0.0	0.0			5.2	0.5

Intersection Summary

HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

**APPENDIX 6.3:**

**OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT CONDITIONS TRAFFIC  
SIGNAL WARRANT ANALYSIS WORKSHEETS**

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### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>OYC NP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/19/21</u>
Major Street: <u>Eucalyptus Ave</u>				<u>CHK MT</u>		<u>DATE 08/19/21</u>
Minor Street: <u>Sultana Av</u>					Critical Approach Speed (Major) <u>45 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	
Major Street Approach Lanes =	<u>1</u>	lane		Minor Street Approach Lane:	<u>1</u>	lane
Major Street Future ADT =	<u>4,821</u>	vpd		Minor Street Future ADT =	<u>339</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....					<input checked="" type="checkbox"/>	
					or	<b>RURAL (R)</b>
In built up area of isolated community of < 10,000 population .....					<input type="checkbox"/>	

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>1 4,821</u>	<u>1 339</u>	8,000	5,600	2,400	1,680
<u>2 +</u>	<u>1</u>	9,600	6,720	2,400	1,680
<u>2 +</u>	<u>2 +</u>	9,600	6,720	3,200	2,240
<u>1</u>	<u>2 +</u>	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>1 4,821</u>	<u>1 339</u>	12,000	8,400	1,200	850
<u>2 +</u>	<u>1</u>	14,400	10,080	1,200	850
<u>2 +</u>	<u>2 +</u>	14,400	10,080	1,600	1,120
<u>1</u>	<u>2 +</u>	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<b>A</b>				
	<b>20%</b>				
	<b>B</b>				
	<b>40%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>OYC NP</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/19/21</u>	<u>08/19/21</u>
Major Street: <u>Merrill Av</u>					Critical Approach Speed (Major) <u>50</u> mph	
Minor Street: <u>Sultana Av</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = <u>1</u> lane	Minor Street Approach Lane: <u>1</u> lane
Major Street Future ADT = <u>15,978</u> vpd	Minor Street Future ADT = <u>256</u> vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....  or

In built up area of isolated community of < 10,000 population .....  **RURAL (R)**

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
	<b>XX</b>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>1 15,978</u>	<u>1 256</u>	8,000	5,600 *	2,400	1,680
<u>2 +</u>	<u>1</u>	9,600	6,720	2,400	1,680
<u>2 +</u>	<u>2 +</u>	9,600	6,720	3,200	2,240
<u>1</u>	<u>2 +</u>	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>1 15,978</u>	<u>1 256</u>	12,000	8,400 *	1,200	850
<u>2 +</u>	<u>1</u>	14,400	10,080	1,200	850
<u>2 +</u>	<u>2 +</u>	14,400	10,080	1,600	1,120
<u>1</u>	<u>2 +</u>	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<u>A</u>				
	<b>15%</b>				
	<u>B</u>				
	<b>30%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.





### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>OYC NP</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/19/21</u>	<u>08/19/21</u>
Major Street: <u>Merrill Av</u>					Critical Approach Speed (Major) <u>50</u> mph	
Minor Street: <u>Campus Av</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 15,616 vpd      Minor Street Future ADT = 71 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....  or

In built up area of isolated community of < 10,000 population .....  **RURAL (R)**

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 <b>15,616</b>	1 <b>71</b>	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
1 <b>15,616</b>	1 <b>71</b>	12,000	8,400 *	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
	<b>XX</b>				
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<u>A</u>	<u>B</u>			
	<b>4%</b>	<b>8%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **OYC NP Conditions - Weekday PM Peak Hour**

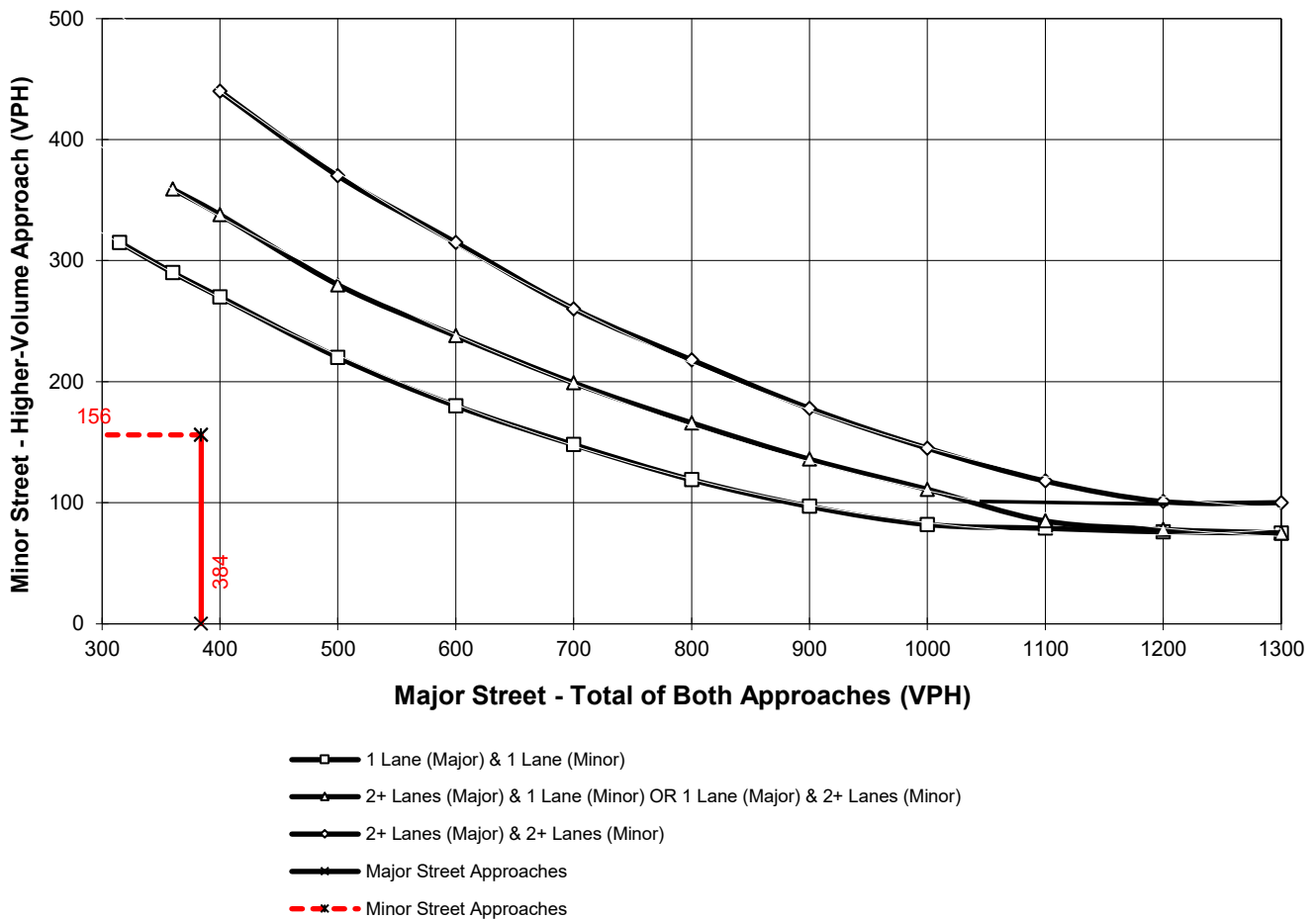
Major Street Name = **Eucalyptus Av.**

Total of Both Approaches (VPH) = **384**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Bon View Av.**

High Volume Approach (VPH) = **156**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

**Figure 4C-4. Warrant 3, Peak Hour (70% Factor)**

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **OYC NP Conditions - Weekday PM Peak Hour**

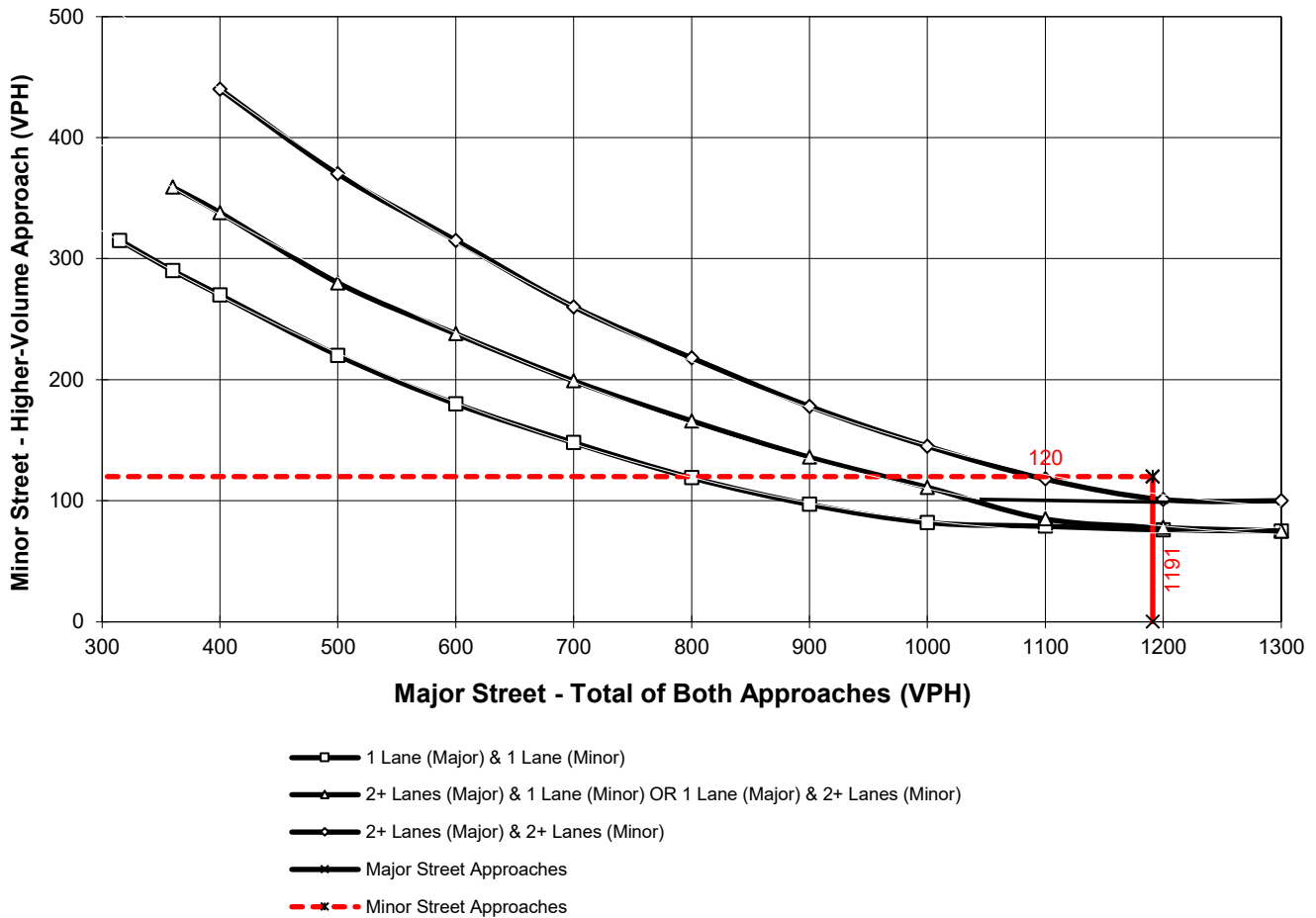
Major Street Name = **Merrill Av.**

Total of Both Approaches (VPH) = **1191**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Bon View Av.**

High Volume Approach (VPH) = **120**  
 Number of Approach Lanes Minor Street = **1**

**WARRANTED FOR A SIGNAL**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

**Figure 4C-4. Warrant 3, Peak Hour (70% Factor)**

**(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)**

Traffic Conditions = **OYC NP Conditions - Weekday PM Peak Hour**

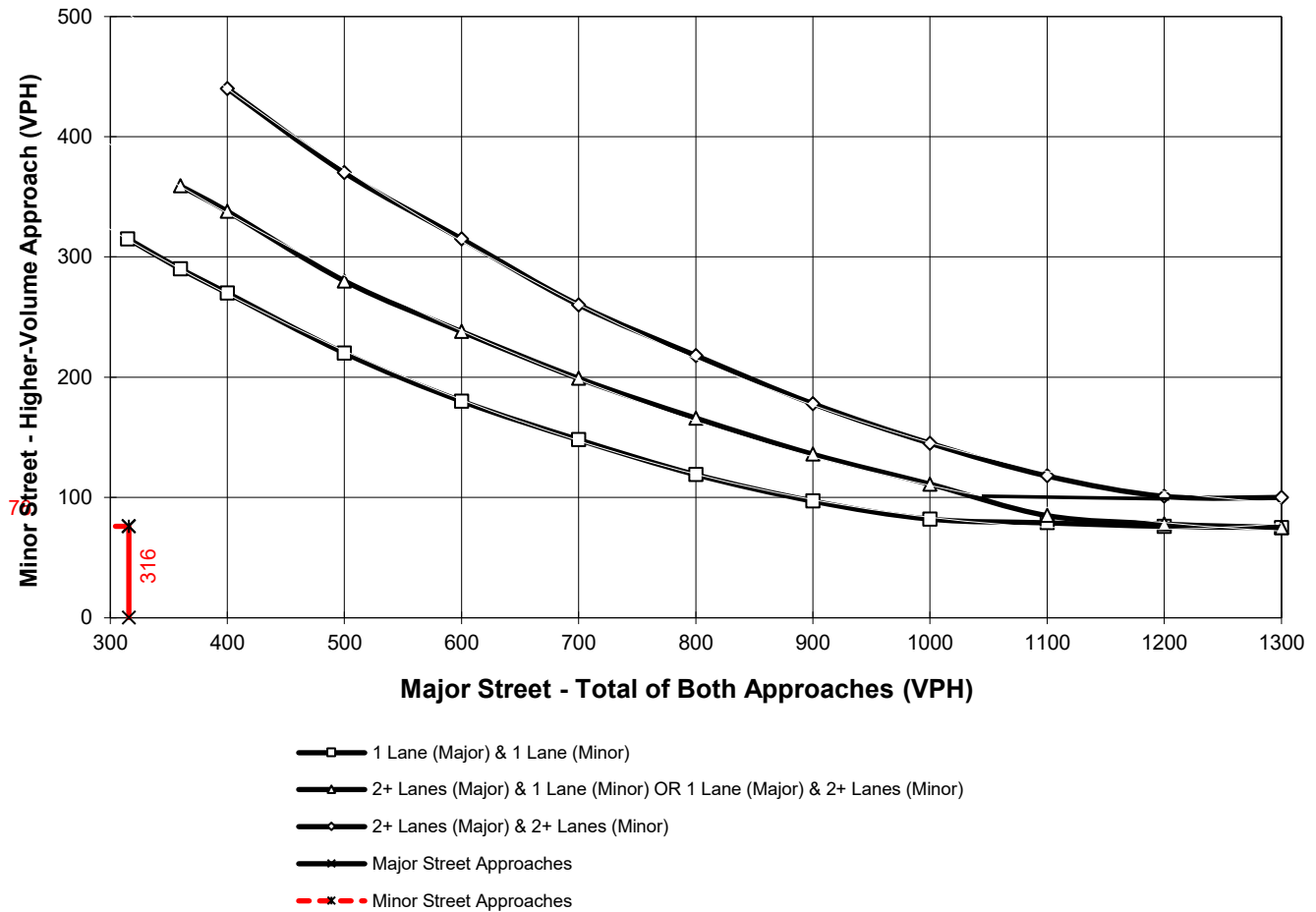
Major Street Name = **Eucalyptus Av.**

Total of Both Approaches (VPH) = **316**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Walker**

High Volume Approach (VPH) = **76**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **OYC NP Conditions - Weekday PM Peak Hour**

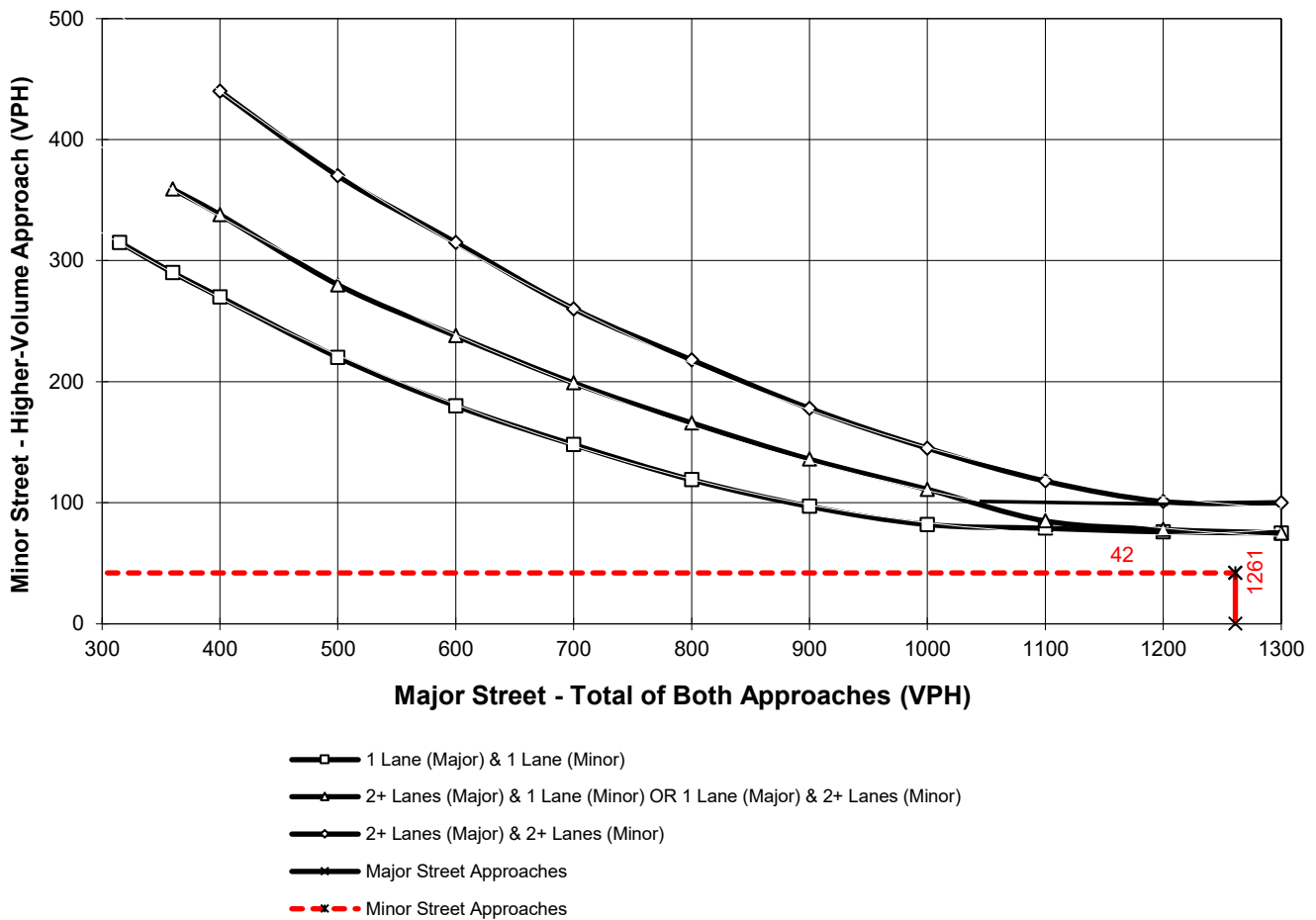
Major Street Name = **Merrill Av.**

Total of Both Approaches (VPH) = **1261**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Baker Av.**

High Volume Approach (VPH) = **42**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **OYC NP Conditions - Weekday PM Peak Hour**

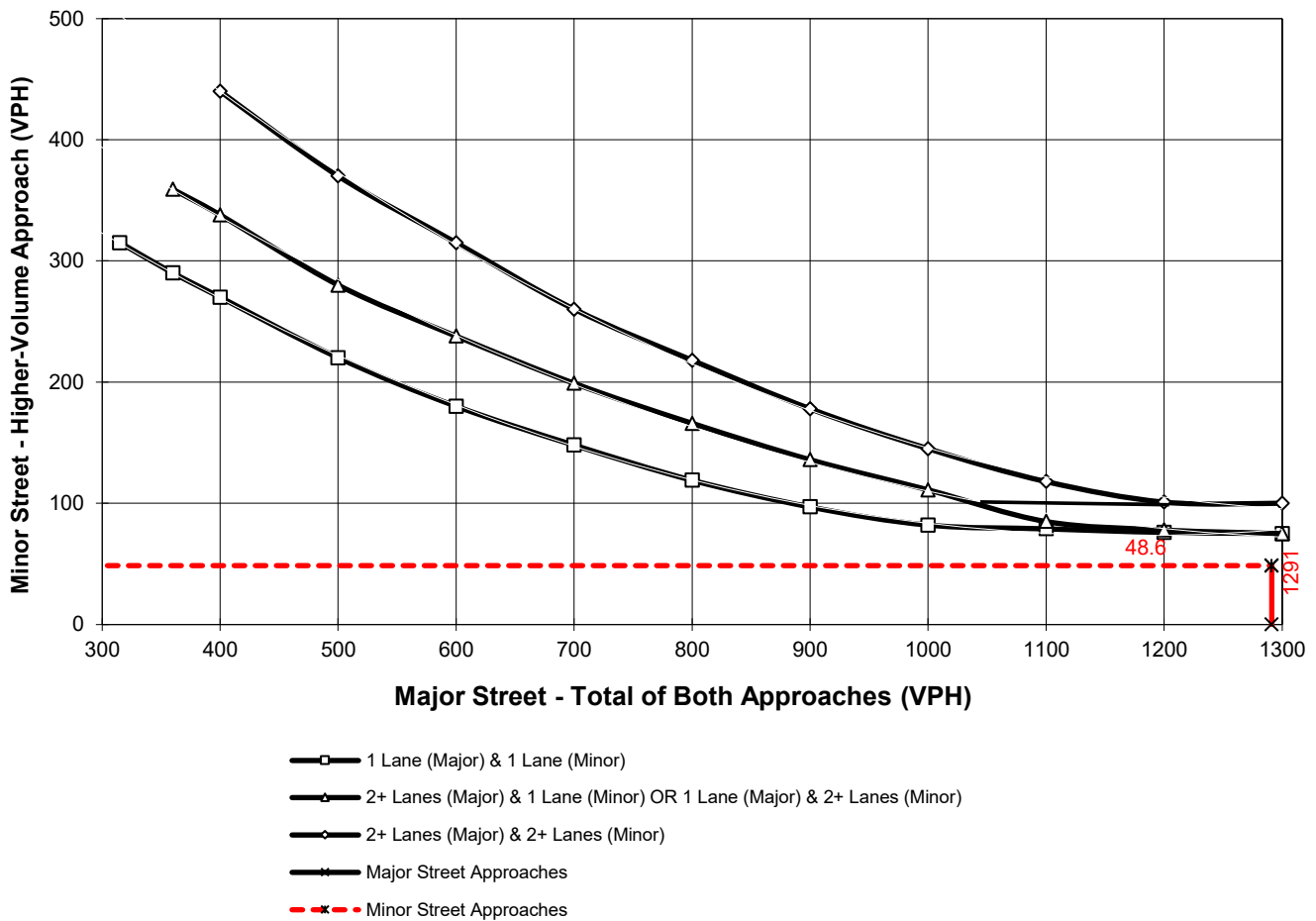
Major Street Name = **Merrill Av.**

Total of Both Approaches (VPH) = **1291**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Hellman Av.**

High Volume Approach (VPH) = **48.6**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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**APPENDIX 6.4:**

**OPENING YEAR CUMULATIVE (2023) WITH PROJECT CONDITIONS TRAFFIC SIGNAL  
WARRANT ANALYSIS WORKSHEETS**

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### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/19/21</u>	DATE <u>08/19/21</u>
Major Street: <u>Eucalyptus</u>					Critical Approach Speed (Major) <u>45</u> mph	
Minor Street: <u>Sultana Av</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 5,883 vpd      Minor Street Future ADT = 701 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....  or  **RURAL (R)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements			
		XX		EADT			
<u>CONDITION A - Minimum Vehicular Volume</u>		<u>Not Satisfied</u>		Vehicles Per Day on		Vehicles Per Day	
<u>Satisfied</u>		<u>Not Satisfied</u>		Major Street		on Higher-Volume	
		XX		(Total of Both Approaches)		Minor Street Approach	
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach		Urban		Urban	
<u>Major Street</u>		<u>Minor Street</u>		Rural		Rural	
1 <b>5,883</b>		1 <b>701</b>		8,000		2,400	
2 +		1		9,600		2,400	
2 +		2 +		9,600		3,200	
1		2 +		8,000		2,240	
<u>CONDITION B - Interruption of Continuous Traffic</u>		<u>Not Satisfied</u>		Vehicles Per Day		Vehicles Per Day	
<u>Satisfied</u>		<u>Not Satisfied</u>		on Major Street		on Higher-Volume	
		XX		(Total of Both Approaches)		Minor Street Approach	
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach		Urban		Urban	
<u>Major Street</u>		<u>Minor Street</u>		Rural		Rural	
1 <b>5,883</b>		1 <b>701</b>		12,000		1,200	
2 +		1		14,400		1,200	
2 +		2 +		14,400		1,600	
1		2 +		12,000		1,600	
<u>Combination of CONDITIONS A + B</u>		<u>Not Satisfied</u>		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>		<u>Not Satisfied</u>					
No one condition satisfied, but following conditions fulfilled 80% of more .....		XX					
		A 42%	B 70%				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/23/21</u>
Major Street: <u>Sultana Av</u>				<u>CHK</u>	<u>MT</u>	<u>DATE 08/23/21</u>
Minor Street: <u>Driveway 1</u>					Critical Approach Speed (Major)	<u>25 mph</u>
					Critical Approach Speed (Minor)	<u>25 mph</u>

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 1,381 vpd                      Minor Street Future ADT = 164 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>	<u>Minor Street</u>	<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>1,381</b>	1 <b>164</b>	1 <b>1,381</b>	1 <b>164</b>	8,000	5,600	2,400	1,680
2 +	1	2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	1	2 +	8,000	5,600	3,200	2,240
Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)		(Total of Both Approaches)		(One Direction Only)	
No one condition satisfied, but following conditions fulfilled 80% of more .....		No one condition satisfied, but following conditions fulfilled 80% of more .....		2 CONDITIONS 80%		2 CONDITIONS 80%	
		<b>XX</b>					
		<b>A</b>					
		<b>7%</b>					
		<b>B</b>					
		<b>12%</b>					

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/23/21</u>
Major Street: <u>Sultana Av</u>				<u>CHK</u>	<u>MT</u>	<u>DATE 08/23/21</u>
Minor Street: <u>Driveway 2</u>					Critical Approach Speed (Major)	<u>25 mph</u>
					Critical Approach Speed (Minor)	<u>25 mph</u>

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 1,368 vpd                      Minor Street Future ADT = 164 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u> <b>XX</b>	<u>RURAL</u>	Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u> <b>XX</b>				
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>1</u> <b>1,368</b>	<u>1</u> <b>164</b>	8,000	5,600	2,400	1,680
<u>2+</u>	<u>1</u>	9,600	6,720	2,400	1,680
<u>2+</u>	<u>2+</u>	9,600	6,720	3,200	2,240
<u>1</u>	<u>2+</u>	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u> <b>XX</b>				
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>1</u> <b>1,368</b>	<u>1</u> <b>164</b>	12,000	8,400	1,200	850
<u>2+</u>	<u>1</u>	14,400	10,080	1,200	850
<u>2+</u>	<u>2+</u>	14,400	10,080	1,600	1,120
<u>1</u>	<u>2+</u>	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u> <b>XX</b>				
No one condition satisfied, but following conditions fulfilled 80% of more .....	<u>A</u> <b>7%</b>	<u>B</u> <b>11%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

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### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>		DATE <u>08/23/21</u>
Major Street: <u>Sultana Av</u>					Critical Approach Speed (Major) <u>25</u> mph	DATE <u>08/23/21</u>
Minor Street: <u>Driveway 3</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 1,407 vpd                      Minor Street Future ADT = 142 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>					
		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach		<u>Urban</u>		<u>Rural</u>	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>		<u>Rural</u>	
1 <b>1,407</b>		1 <b>142</b>		8,000		2,400	
2 +		1		9,600		2,400	
2 +		2 +		9,600		3,200	
1		2 +		8,000		3,200	
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>					
		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach		<u>Urban</u>		<u>Rural</u>	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>		<u>Rural</u>	
1 <b>1,407</b>		1 <b>142</b>		12,000		1,200	
2 +		1		14,400		1,200	
2 +		2 +		14,400		1,600	
1		2 +		12,000		1,600	
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
		<b>XX</b>					
No one condition satisfied, but following conditions fulfilled 80% of more .....		<b>A</b>		<b>B</b>			
		<b>6%</b>		<b>12%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/23/21</u>
Major Street: <u>Sultana Av</u>				<u>CHK</u>	<u>MT</u>	<u>DATE 08/23/21</u>
Minor Street: <u>Driveway 4</u>					Critical Approach Speed (Major)	<u>25 mph</u>
					Critical Approach Speed (Minor)	<u>25 mph</u>
Major Street Approach Lanes =	<u>1</u>	lane		Minor Street Approach Lane:	<u>1</u>	lane
Major Street Future ADT =	<u>1,500</u>	vpd		Minor Street Future ADT =	<u>72</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....			<input type="text"/>	or		
In built up area of isolated community of < 10,000 population .....			<input type="text"/>		<b>URBAN (U)</b>	

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u> <b>XX</b>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b> <b>XX</b>					
<u>Satisfied</u>		<u>Not Satisfied</u>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>		<u>Rural</u>	
1 <b>1,500</b>		1 <b>72</b>		8,000		2,400	
2 +		1		9,600		2,400	
2 +		2 +		9,600		3,200	
1		2 +		8,000		2,240	
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b> <b>XX</b>					
<u>Satisfied</u>		<u>Not Satisfied</u>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>		<u>Rural</u>	
1 <b>1,500</b>		1 <b>72</b>		12,000		1,200	
2 +		1		14,400		1,200	
2 +		2 +		14,400		1,600	
1		2 +		12,000		1,600	
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b> <b>XX</b>					
<u>Satisfied</u>		<u>Not Satisfied</u>		2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<u>A</u> <b>3%</b>		<u>B</u> <b>6%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/23/21</u>
Major Street: <u>Sultana Av</u>				<u>CHK</u>	<u>MT</u>	<u>DATE 08/23/21</u>
Minor Street: <u>Driveway 5</u>					Critical Approach Speed (Major)	<u>25 mph</u>
					Critical Approach Speed (Minor)	<u>25 mph</u>

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 1,531 vpd                      Minor Street Future ADT = 131 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>		<u>Urban</u>		<u>Urban</u>	
<u>Major Street</u>		<u>Minor Street</u>		<u>Rural</u>		<u>Rural</u>	
<b>XX</b>		<b>XX</b>		8,000		2,400	
1 <b>1,531</b>		1 <b>131</b>		5,600		1,680	
2 +		1		6,720		2,400	
2 +		2 +		6,720		3,200	
1		2 +		8,000		2,240	
12,000		8,400		1,200		850	
14,400		10,080		1,200		850	
14,400		10,080		1,600		1,120	
12,000		8,400		1,600		1,120	
<b>Combination of CONDITIONS A + B</b>		<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<b>XX</b>		80%		80%	
		<u>A</u>		<u>B</u>			
		<b>5%</b>		<b>11%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/23/21</u>	DATE <u>08/23/21</u>
Major Street: <u>Sultana Av</u>					Critical Approach Speed (Major) <u>25</u> mph	
Minor Street: <u>Driveway 6</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 1,653 vpd                      Minor Street Future ADT = 185 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u> <b>XX</b>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>							
<u>Satisfied</u>		<u>Not Satisfied</u> <b>XX</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
				<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach	<u>Major Street</u>	<u>Minor Street</u>					
1	<b>1,653</b>	1	<b>185</b>	8,000	5,600	2,400	1,680
2 +		1		9,600	6,720	2,400	1,680
2 +		2 +		9,600	6,720	3,200	2,240
1		2 +		8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>							
<u>Satisfied</u>		<u>Not Satisfied</u> <b>XX</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
				<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach		<u>Major Street</u>		<u>Minor Street</u>			
1		<b>1,653</b>		1		<b>185</b>	
2 +				1			
2 +				2 +			
1				2 +			
<b>Combination of CONDITIONS A + B</b>							
<u>Satisfied</u>		<u>Not Satisfied</u> <b>XX</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<u>A</u> <b>8%</b>		<u>B</u> <b>14%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/23/21</u>
Major Street: <u>Sultana Av</u>				<u>CHK</u>	<u>MT</u>	<u>DATE 08/23/21</u>
Minor Street: <u>Driveway 7</u>					Critical Approach Speed (Major)	<u>25 mph</u>
					Critical Approach Speed (Minor)	<u>25 mph</u>

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 1,712 vpd                      Minor Street Future ADT = 59 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<u>CONDITION A - Minimum Vehicular Volume</u>		<u>Not Satisfied</u>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>					
		<b>XX</b>					
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u> <u>Rural</u>		<u>Urban</u> <u>Rural</u>	
1 <b>1,712</b>		1 <b>59</b>		8,000      5,600		2,400      1,680	
2 +		1		9,600      6,720		2,400      1,680	
2 +		2 +		9,600      6,720		3,200      2,240	
1		2 +		8,000      5,600		3,200      2,240	
<u>CONDITION B - Interruption of Continuous Traffic</u>		<u>Not Satisfied</u>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>					
		<b>XX</b>					
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u> <u>Rural</u>		<u>Urban</u> <u>Rural</u>	
1 <b>1,712</b>		1 <b>59</b>		12,000      8,400		1,200      850	
2 +		1		14,400      10,080		1,200      850	
2 +		2 +		14,400      10,080		1,600      1,120	
1		2 +		12,000      8,400		1,600      1,120	
<u>Combination of CONDITIONS A + B</u>		<u>Not Satisfied</u>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
		<b>XX</b>					
No one condition satisfied, but following conditions fulfilled 80% of more .....		<u>A</u> <u>B</u>					
		<b>2%</b> <b>5%</b>					

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/19/21</u>
Major Street: <u>Merrill Av</u>				<u>CHK MT</u>		<u>DATE 08/19/21</u>
Minor Street: <u>Sultana Av</u>					Critical Approach Speed (Major) <u>50 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 17,276 vpd                      Minor Street Future ADT = 868 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or **RURAL (R)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
<b>CONDITION A - Minimum Vehicular Volume</b>		EADT			
<u>Satisfied</u>	<u>Not Satisfied</u>	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>1 17,276</b>	<b>1 868</b>	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>1 17,276</b>	<b>1 868</b>	12,000	8,400 *	1,200	850 *
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....	<b>A</b>				
	<b>52%</b>				
	<b>B</b>				
	<b>100%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/19/21</u>
Major Street: <u>Merrill Av</u>				<u>CHK MT</u>		<u>DATE 08/19/21</u>
Minor Street: <u>Driveway 8</u>					Critical Approach Speed (Major) <u>50 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	
Major Street Approach Lanes =	<u>1</u>	lane		Minor Street Approach Lane:	<u>1</u>	lane
Major Street Future ADT =	<u>16,676</u>	vpd		Minor Street Future ADT =	<u>57</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....					<input checked="" type="checkbox"/>	
					or	<b>RURAL (R)</b>
In built up area of isolated community of < 10,000 population .....					<input type="checkbox"/>	

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>	<b>XX</b>	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>16,676</b>	1 <b>57</b>	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>16,676</b>	1 <b>57</b>	12,000	8,400 *	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<u>A</u>	<u>B</u>			
	<b>3%</b>	<b>7%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	OYC WP
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/19/21</u>	DATE <u>08/19/21</u>
Major Street: <u>Eucalyptus Ave</u>					Critical Approach Speed (Major) <u>45 mph</u>	
Minor Street: <u>Driveway 10</u>					Critical Approach Speed (Minor) <u>25 mph</u>	

Major Street Approach Lanes = 1 lane      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 5,690 vpd      Minor Street Future ADT = 218 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....  or

In built up area of isolated community of < 10,000 population .....  **RURAL (R)**

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
<b>XX</b>					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>5,690</b>	1 <b>218</b>	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
<b>XX</b>					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>5,690</b>	1 <b>218</b>	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>	<u>Not Satisfied</u>				
<b>XX</b>					
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<u>A</u>	<u>B</u>			
	<b>13%</b>	<b>26%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/19/21</u>	DATE <u>08/19/21</u>
Major Street: <u>Eucalyptus Av</u>					Critical Approach Speed (Major) <u>50</u> mph	
Minor Street: <u>Driveway 11</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 16,734 vpd                      Minor Street Future ADT = 57 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or **RURAL (R)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>16,734</b>	1 <b>57</b>	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>16,734</b>	1 <b>57</b>	12,000	8,400 *	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....	<b>XX</b>				
	<b>A</b>				
	<b>3%</b>				
	<b>B</b>				
	<b>7%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/19/21</u>	DATE <u>08/19/21</u>
Major Street: <u>Eucalyptus Ave</u>					Critical Approach Speed (Major) <u>45 mph</u>	
Minor Street: <u>Campus Av</u>					Critical Approach Speed (Minor) <u>25 mph</u>	

Major Street Approach Lanes = 1 lane      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 5,551 vpd      Minor Street Future ADT = 399 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....  or

In built up area of isolated community of < 10,000 population .....  **RURAL (R)**

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
	<b>XX</b>	EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	<b>XX</b>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 5,551</u>	<u>1 399</u>	8,000	5,600	2,400	1,680
<u>2 +</u>	<u>1</u>	9,600	6,720	2,400	1,680
<u>2 +</u>	<u>2 +</u>	9,600	6,720	3,200	2,240
<u>1</u>	<u>2 +</u>	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	<b>XX</b>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 5,551</u>	<u>1 399</u>	12,000	8,400	1,200	850
<u>2 +</u>	<u>1</u>	14,400	10,080	1,200	850
<u>2 +</u>	<u>2 +</u>	14,400	10,080	1,600	1,120
<u>1</u>	<u>2 +</u>	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....	<b>XX</b>				
	<b>A</b>				
	<b>24%</b>				
	<b>B</b>				
	<b>47%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/19/21</u>
Major Street: <u>Campus Av</u>				<u>CHK MT</u>		<u>DATE 08/19/21</u>
Minor Street: <u>Driveway 12</u>					Critical Approach Speed (Major) <u>25 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	
Major Street Approach Lanes =	<u>1</u>	lane	Minor Street Approach Lane:	<u>1</u>	lane	
Major Street Future ADT =	<u>879</u>	vpd	Minor Street Future ADT =	<u>169</u>	vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....	<input type="text"/>		or		<b>URBAN (U)</b>	
In built up area of isolated community of < 10,000 population .....	<input type="text"/>					

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u> <b>XX</b>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b> <b>XX</b>					
<u>Satisfied</u>		<u>Not Satisfied</u>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u> <u>Rural</u>		<u>Urban</u> <u>Rural</u>	
1 <b>879</b>		1 <b>169</b>					
2 +		1					
2 +		2 +					
1		2 +					
8,000		5,600					
9,600		6,720					
9,600		6,720					
8,000		5,600					
2,400		1,680					
2,400		1,680					
3,200		2,240					
3,200		2,240					
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b> <b>XX</b>					
<u>Satisfied</u>		<u>Not Satisfied</u>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u> <u>Rural</u>		<u>Urban</u> <u>Rural</u>	
1 <b>879</b>		1 <b>169</b>					
2 +		1					
2 +		2 +					
1		2 +					
12,000		8,400					
14,400		10,080					
14,400		10,080					
12,000		8,400					
1,200		850					
1,200		850					
1,600		1,120					
1,600		1,120					
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b> <b>XX</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>		<u>Not Satisfied</u>					
No one condition satisfied, but following conditions fulfilled 80% of more .....		No one condition satisfied, but following conditions fulfilled 80% of more .....					
		<u>A</u> <b>7%</b>		<u>B</u> <b>7%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/19/21</u>
Major Street: <u>Campus Av</u>				<u>CHK MT</u>		<u>DATE 08/19/21</u>
Minor Street: <u>Driveway 14</u>					Critical Approach Speed (Major) <u>25 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 1,176 vpd                      Minor Street Future ADT = 146 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

In built up area of isolated community of < 10,000 population .....  **URBAN (U)**

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u> <b>XX</b>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b> <b>XX</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach		Minor Street					
<u>Major Street</u>	<u>Minor Street</u>						
1 <b>1,176</b>	1 <b>146</b>						
2 +	1						
2 +	2 +						
1	2 +						
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b> <b>XX</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach		Minor Street					
<u>Major Street</u>	<u>Minor Street</u>						
1 <b>1,176</b>	1 <b>146</b>						
2 +	1						
2 +	2 +						
1	2 +						
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b> <b>XX</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<u>A</u>	<u>B</u>				
		<b>6%</b>	<b>10%</b>				

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### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	OYC WP
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/19/21</u>	DATE <u>08/19/21</u>
Major Street: <u>Campus Av</u>					Critical Approach Speed (Major) <u>25</u> mph	
Minor Street: <u>Driveway 16</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 1,315 vpd                      Minor Street Future ADT = 129 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements			
<b>XX</b>				EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>							
<u>Satisfied</u>		<u>Not Satisfied</u>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
		<b>XX</b>		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>1,315</b>		1 <b>129</b>		8,000	5,600	2,400	1,680
2 +		1		9,600	6,720	2,400	1,680
2 +		2 +		9,600	6,720	3,200	2,240
1		2 +		8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>							
<u>Satisfied</u>		<u>Not Satisfied</u>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
		<b>XX</b>		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>1,315</b>		1 <b>129</b>		12,000	8,400	1,200	850
2 +		1		14,400	10,080	1,200	850
2 +		2 +		14,400	10,080	1,600	1,120
1		2 +		12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>							
<u>Satisfied</u>		<u>Not Satisfied</u>		2 CONDITIONS		2 CONDITIONS	
		<b>XX</b>		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<u>A</u>	<u>B</u>				
		<b>5%</b>	<b>11%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/19/21</u>	DATE <u>08/19/21</u>
Major Street: <u>Campus Av</u>					Critical Approach Speed (Major) <u>25</u> mph	
Minor Street: <u>Driveway 17</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 1,451 vpd                      Minor Street Future ADT = 185 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u> <b>XX</b>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b> <b>XX</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach		Minor Street					
<u>Major Street</u>	<u>Minor Street</u>						
1 <b>1,451</b>	1 <b>185</b>						
2 +	1						
2 +	2 +						
1	2 +						
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b> <b>XX</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach		Minor Street					
<u>Major Street</u>	<u>Minor Street</u>						
1 <b>1,451</b>	1 <b>185</b>						
2 +	1						
2 +	2 +						
1	2 +						
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b> <b>XX</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<u>A</u> <b>8%</b>	<u>B</u> <b>12%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

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### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/19/21</u>
Major Street: <u>Campus Av</u>				<u>CHK MT</u>		<u>DATE 08/19/21</u>
Minor Street: <u>Driveway 18</u>					Critical Approach Speed (Major) <u>25 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	
Major Street Approach Lanes =	<u>1</u>	lane	Minor Street Approach Lane:	<u>1</u>	lane	
Major Street Future ADT =	<u>1,543</u>	vpd	Minor Street Future ADT =	<u>61</u>	vpd	
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....				<input type="checkbox"/>		
				or		<b>URBAN (U)</b>
In built up area of isolated community of < 10,000 population .....				<input type="checkbox"/>		

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u> <b>XX</b>	<u>RURAL</u>	Minimum Requirements EADT			
<u>CONDITION A - Minimum Vehicular Volume</u> <u>Satisfied</u>	<u>Not Satisfied</u> <b>XX</b>	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>1 1,543</u>	<u>1 61</u>	8,000	5,600	2,400	1,680
<u>2 +</u>	<u>1</u>	9,600	6,720	2,400	1,680
<u>2 +</u>	<u>2 +</u>	9,600	6,720	3,200	2,240
<u>1</u>	<u>2 +</u>	8,000	5,600	3,200	2,240
<u>CONDITION B - Interruption of Continuous Traffic</u> <u>Satisfied</u>	<u>Not Satisfied</u> <b>XX</b>	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>1 1,543</u>	<u>1 61</u>	12,000	8,400	1,200	850
<u>2 +</u>	<u>1</u>	14,400	10,080	1,200	850
<u>2 +</u>	<u>2 +</u>	14,400	10,080	1,600	1,120
<u>1</u>	<u>2 +</u>	12,000	8,400	1,600	1,120
<u>Combination of CONDITIONS A + B</u> <u>Satisfied</u>	<u>Not Satisfied</u> <b>XX</b>	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....	<u>A</u> <b>3%</b>	<u>B</u> <b>5%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

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### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>OYC WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/19/21</u>
Major Street: <u>Merrill Av</u>				<u>CHK MT</u>		<u>DATE 08/19/21</u>
Minor Street: <u>Campus Av</u>					Critical Approach Speed (Major) <u>50 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	

Major Street Approach Lanes = 1 lane      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 16,797 vpd      Minor Street Future ADT = 812 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....  or  **RURAL (R)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>XX</b>					
<u>Satisfied</u>		<u>Not Satisfied</u>		<b>XX</b>			
				Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>16,797</b>		1 <b>812</b>		8,000	5,600 *	2,400	1,680
2 +		1		9,600	6,720	2,400	1,680
2 +		2 +		9,600	6,720	3,200	2,240
1		2 +		8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>XX</b>					
<u>Satisfied</u>		<u>Not Satisfied</u>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
				<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>16,797</b>		1 <b>812</b>		12,000	8,400 *	1,200	850
2 +		1		14,400	10,080	1,200	850
2 +		2 +		14,400	10,080	1,600	1,120
1		2 +		12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		<b>XX</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>		<u>Not Satisfied</u>					
No one condition satisfied, but following conditions fulfilled 80% of more .....							
		<u>A</u>	<u>B</u>				
		<b>48%</b>	<b>96%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **OYC WP Conditions - Weekday PM Peak Hour**

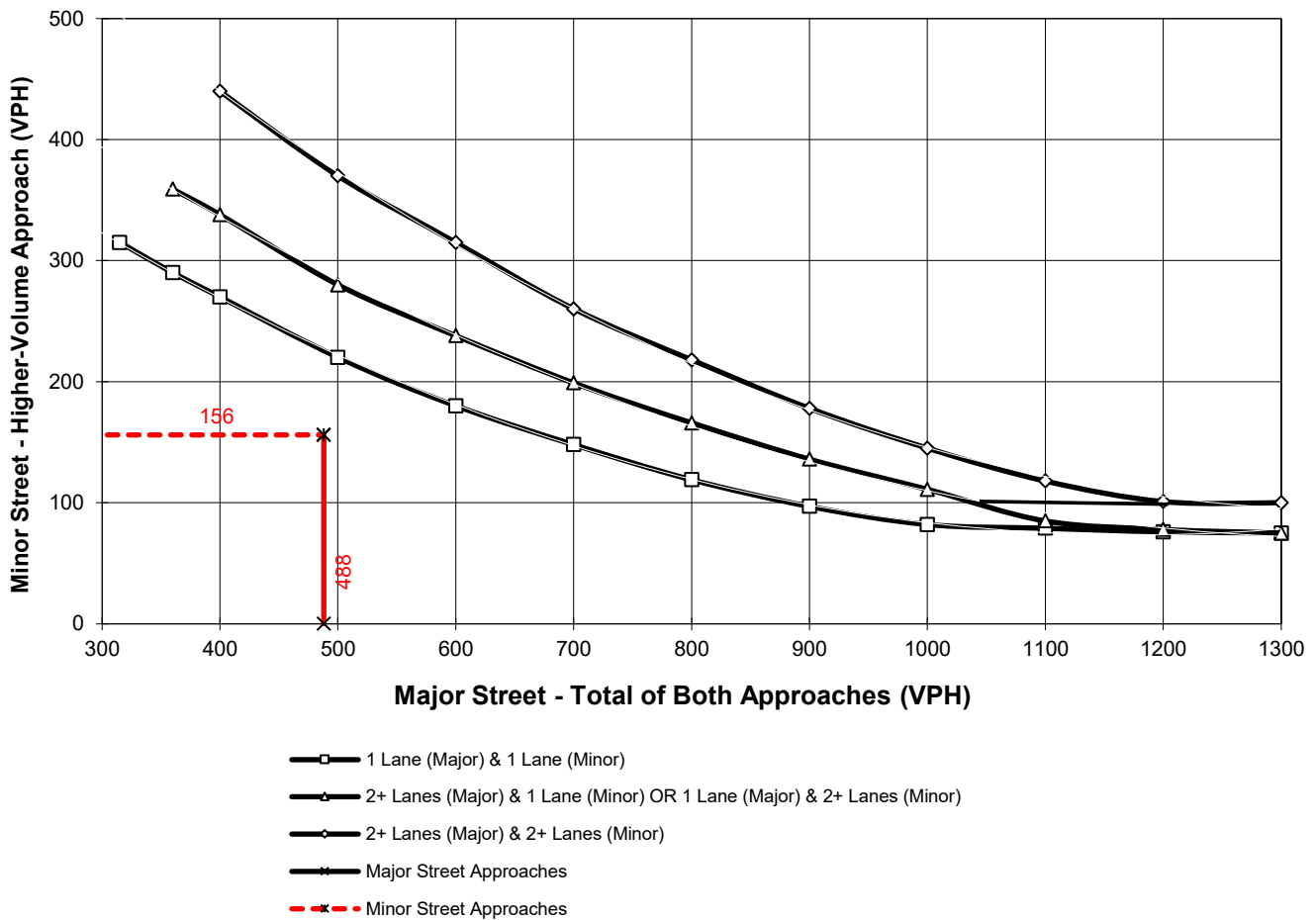
Major Street Name = **Eucalyptus Av.**

Total of Both Approaches (VPH) = **488**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Bon View Av.**

High Volume Approach (VPH) = **156**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **OYC WP Conditions - Weekday PM Peak Hour**

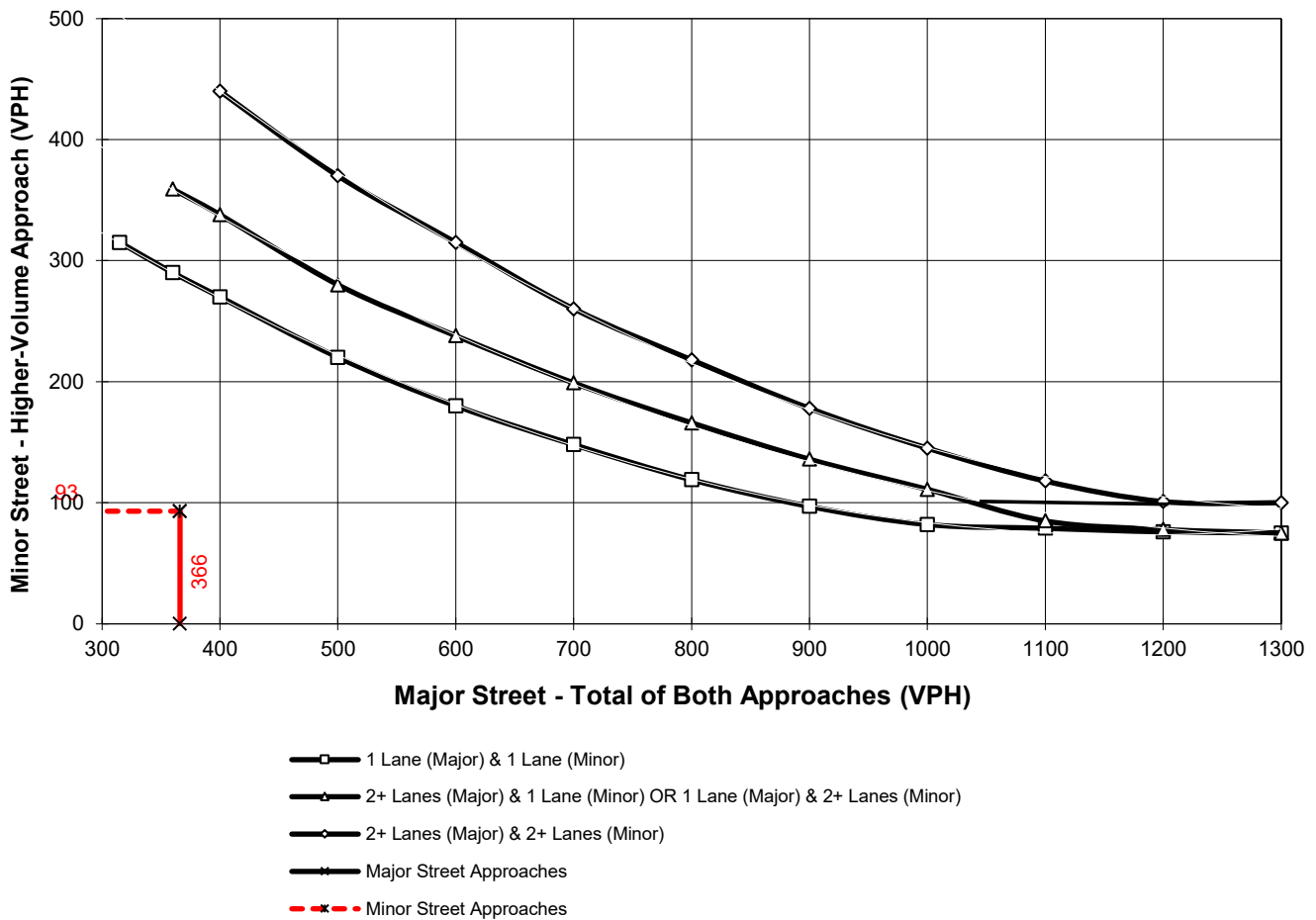
Major Street Name = **Eucalyptus Av.**

Total of Both Approaches (VPH) = **366**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Walker**

High Volume Approach (VPH) = **93**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **OYC WP Conditions - Weekday PM Peak Hour**

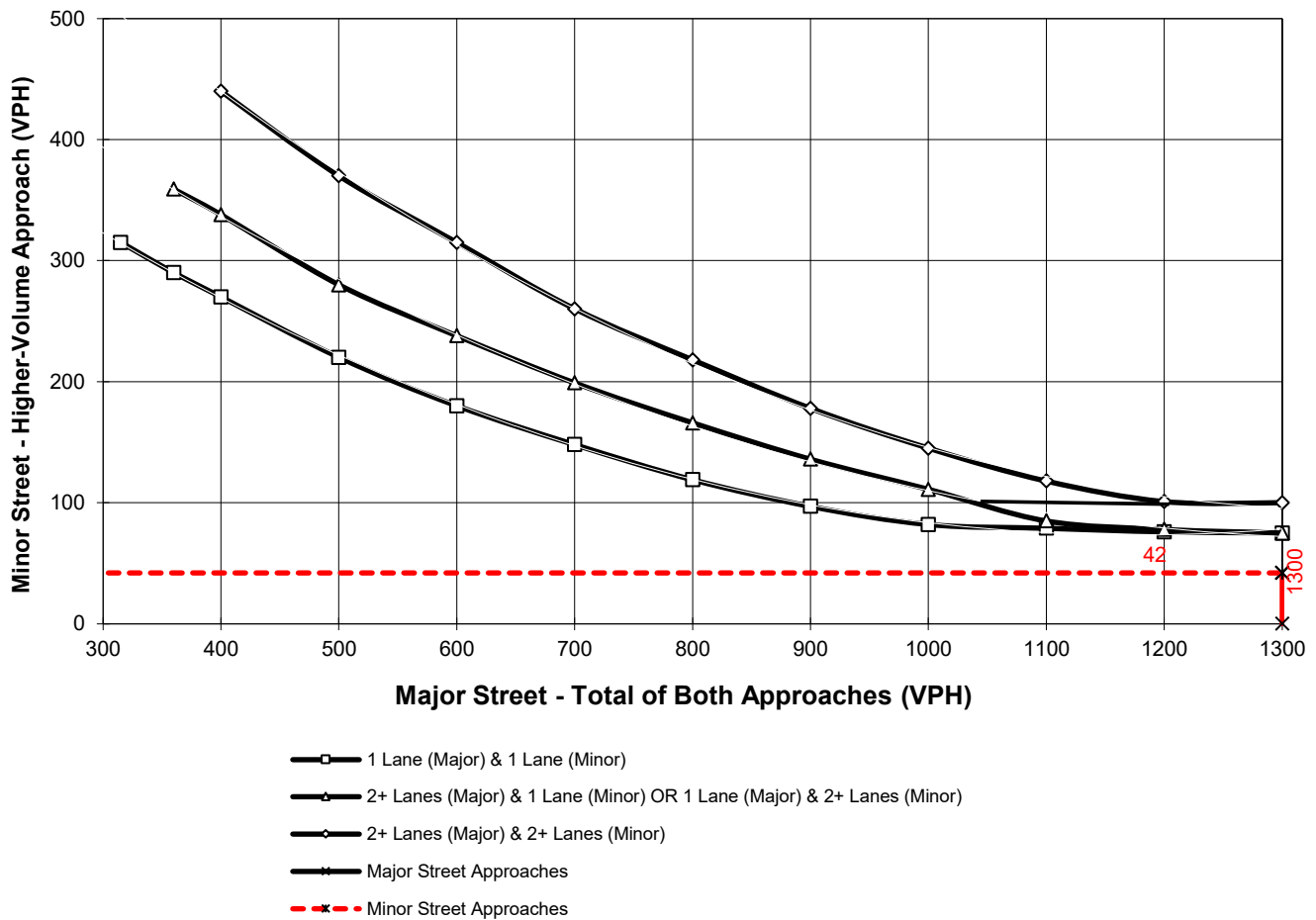
Major Street Name = **Merrill Av.**

Total of Both Approaches (VPH) = **1331**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Baker Av.**

High Volume Approach (VPH) = **42**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **OYC WP Conditions - Weekday PM Peak Hour**

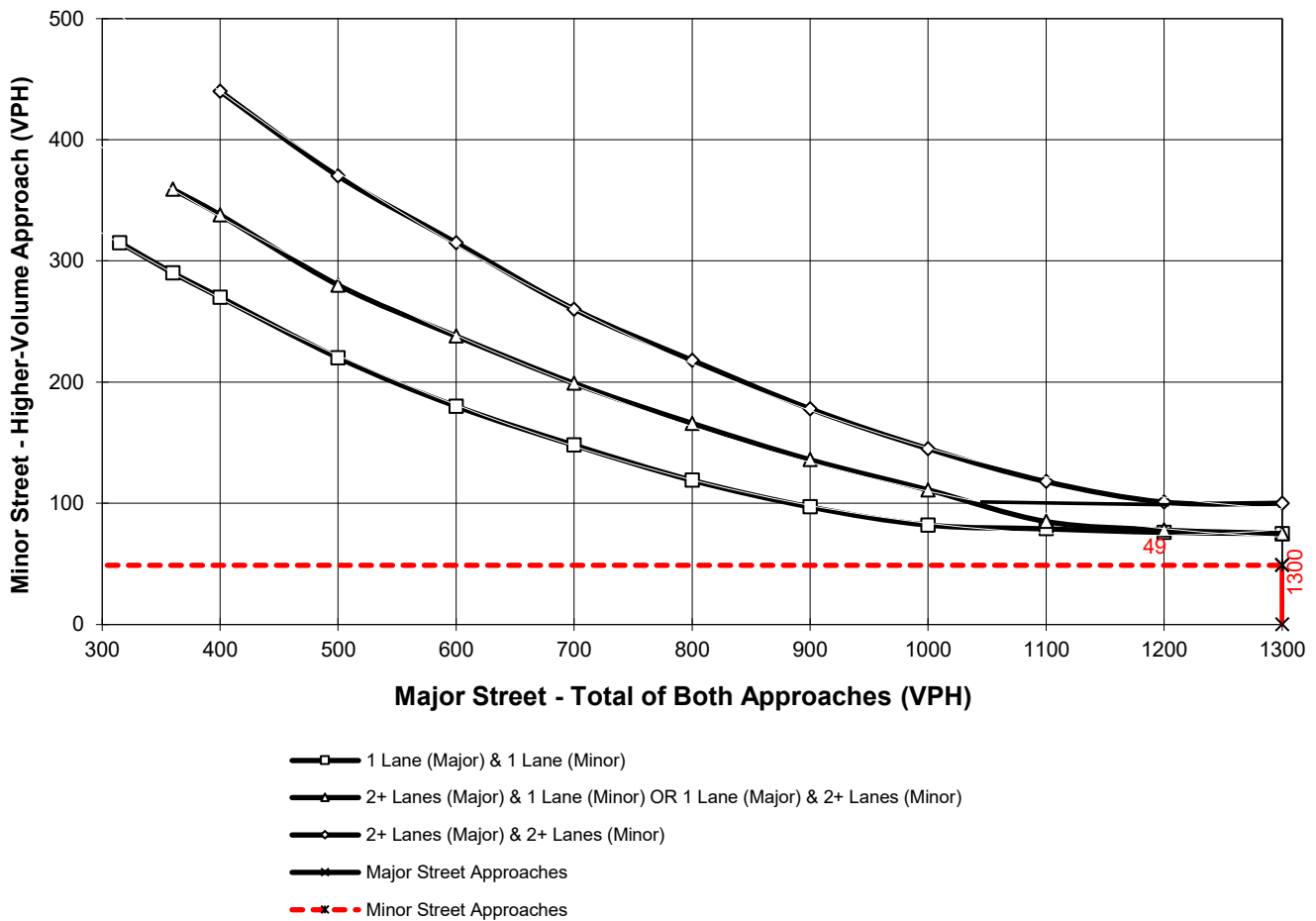
Major Street Name = **Merrill Av.**

Total of Both Approaches (VPH) = **1357**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Hellman Av.**

High Volume Approach (VPH) = **49**  
 Number of Approach Lanes Minor Street = **1**

**SIGNAL WARRANT NOT SATISFIED**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

**APPENDIX 6.5:**

**OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT CONDITIONS OFF-RAMP  
QUEUING ANALYSIS WORKSHEETS**

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Queues  
1: Euclid Av. (SR-83) & SR-60 WB Ramps



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	400	398	367	438	1046	1047	540
v/c Ratio	0.86	0.88	0.75	0.93	0.47	0.97	0.63
Control Delay	49.6	51.9	31.3	39.5	19.8	53.8	6.2
Queue Delay	0.0	0.0	0.0	0.0	1.4	0.0	0.0
Total Delay	49.6	51.9	31.3	39.5	21.3	53.8	6.2
Queue Length 50th (ft)	217	217	140	231	304	~349	0
Queue Length 95th (ft)	#364	#382	247	m#306	m349	#474	80
Internal Link Dist (ft)		1410			396	1540	
Turn Bay Length (ft)	400		400	285			
Base Capacity (vph)	514	494	530	480	2206	1084	862
Starvation Cap Reductn	0	0	0	0	903	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.81	0.69	0.91	0.80	0.97	0.63

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues  
2: Euclid Av. (SR-83) & SR-60 EB Ramps



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	414	522	1012	761	414	1382
v/c Ratio	0.87	1.12	0.89	0.83	0.93	0.63
Control Delay	51.5	106.8	41.3	14.9	55.3	5.4
Queue Delay	7.8	0.7	0.0	0.0	0.0	0.9
Total Delay	59.4	107.6	41.3	14.9	55.3	6.3
Queue Length 50th (ft)	235	~340	290	59	184	70
Queue Length 95th (ft)	#408	#548	#413	#312	m#217	m102
Internal Link Dist (ft)		1071	1048			396
Turn Bay Length (ft)	900					
Base Capacity (vph)	476	468	1135	919	461	2186
Starvation Cap Reductn	0	0	0	0	0	482
Spillback Cap Reductn	41	37	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.95	1.21	0.89	0.83	0.90	0.81

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Queues

51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



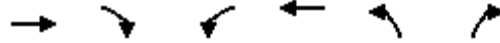
Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1192	388	624	210	336	745	736
v/c Ratio	0.85	0.24	0.64	0.13	0.36	0.92	0.88
Control Delay	28.4	0.4	19.8	0.2	9.3	32.2	26.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.4	0.4	19.8	0.2	9.3	32.2	26.3
Queue Length 50th (ft)	148	0	113	0	66	228	205
Queue Length 95th (ft)	#219	0	164	m0	115	#485	#444
Internal Link Dist (ft)	2023		797			1504	
Turn Bay Length (ft)					620		470
Base Capacity (vph)	1400	1615	974	1615	926	809	838
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.24	0.64	0.13	0.36	0.92	0.88

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	575	973	419	534	432	202
v/c Ratio	0.27	0.88	1.03	0.16	0.71	0.52
Control Delay	9.2	18.0	82.1	4.8	24.8	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.2	18.0	82.1	4.8	24.8	9.5
Queue Length 50th (ft)	28	163	~82	24	55	0
Queue Length 95th (ft)	m45	m#284	#163	36	#101	54
Internal Link Dist (ft)	797			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2135	1106	408	3259	611	392
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.88	1.03	0.16	0.71	0.52

#### Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

## Queues

Ontario Ranch Business Park (JN 13941)

## 1: Euclid Av. (SR-83) &amp; SR-60 WB Ramps

08/24/2021



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	386	379	349	413	1179	1093	533
v/c Ratio	0.82	0.84	0.73	0.89	0.54	1.00	0.62
Control Delay	45.3	46.0	31.3	37.0	23.0	61.4	6.0
Queue Delay	0.0	0.0	0.0	0.0	3.1	0.0	0.0
Total Delay	45.3	46.0	31.3	37.0	26.0	61.4	6.0
Queue Length 50th (ft)	209	206	140	223	372	~353	0
Queue Length 95th (ft)	309	314	234	m#308	m420	#478	76
Internal Link Dist (ft)		1410			396	1540	
Turn Bay Length (ft)				285			400
Base Capacity (vph)	552	528	545	466	2202	1088	859
Starvation Cap Reductn	0	0	0	0	888	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.72	0.64	0.89	0.90	1.00	0.62

## Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues  
2: Euclid Av. (SR-83) & SR-60 EB Ramps



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	397	449	1115	642	398	1335
v/c Ratio	0.87	0.98	0.94	0.69	0.91	0.60
Control Delay	52.6	67.9	45.6	7.1	52.9	4.5
Queue Delay	46.1	38.6	0.0	0.0	0.0	0.7
Total Delay	98.7	106.5	45.6	7.1	52.9	5.3
Queue Length 50th (ft)	226	236	326	9	173	56
Queue Length 95th (ft)	#396	#444	#468	105	m198	m93
Internal Link Dist (ft)		1071	1048			396
Turn Bay Length (ft)	900					
Base Capacity (vph)	457	458	1189	932	461	2226
Starvation Cap Reductn	0	0	0	0	0	510
Spillback Cap Reductn	92	84	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.09	1.20	0.94	0.69	0.86	0.78

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

## Queues

Ontario Ranch Business Park (JN 13941)

51: I-15 SB Ramps &amp; Cantu Galleano Ranch Rd.

08/24/2021



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1329	552	504	466	291	578	569
v/c Ratio	0.95	0.34	0.52	0.29	0.31	0.71	0.67
Control Delay	38.0	0.6	16.7	1.0	8.8	14.7	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	0.6	16.7	1.0	8.8	14.7	13.5
Queue Length 50th (ft)	171	0	49	0	55	130	118
Queue Length 95th (ft)	#260	0	112	0	97	253	226
Internal Link Dist (ft)	2023		797			1504	
Turn Bay Length (ft)					620		470
Base Capacity (vph)	1400	1615	974	1615	926	819	848
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.34	0.52	0.29	0.31	0.71	0.67

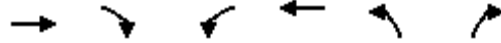
## Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

52: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	733	991	333	772	331	153
v/c Ratio	0.36	0.89	0.82	0.24	0.51	0.41
Control Delay	10.7	18.2	44.5	5.5	18.3	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	18.2	44.5	5.5	18.3	8.4
Queue Length 50th (ft)	42	159	61	39	37	0
Queue Length 95th (ft)	m51	m208	#122	55	71	47
Internal Link Dist (ft)	797			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2048	1110	408	3172	654	372
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.89	0.82	0.24	0.51	0.41

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

**APPENDIX 6.6:**

**OPENING YEAR CUMULATIVE (2023) WITH PROJECT CONDITIONS OFF-RAMP  
QUEUING ANALYSIS WORKSHEETS**

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Queues

1: Euclid Av. (SR-83) & SR-60 WB Ramps

08/24/2021



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	410	410	376	449	1047	1049	540
v/c Ratio	0.86	0.89	0.75	0.95	0.48	1.00	0.63
Control Delay	48.8	52.1	31.4	41.9	20.3	61.3	6.3
Queue Delay	0.0	0.0	0.0	0.0	1.7	0.0	0.0
Total Delay	48.8	52.1	31.4	41.9	22.0	61.3	6.3
Queue Length 50th (ft)	224	228	146	240	304	~350	0
Queue Length 95th (ft)	#380	#403	257	m#319	m345	#475	80
Internal Link Dist (ft)		1410			396	1540	
Turn Bay Length (ft)	400		400	285			
Base Capacity (vph)	514	494	530	477	2179	1052	853
Starvation Cap Reductn	0	0	0	0	903	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.83	0.71	0.94	0.82	1.00	0.63

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues  
2: Euclid Av. (SR-83) & SR-60 EB Ramps



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	414	559	1022	769	414	1415
v/c Ratio	0.87	1.20	0.90	0.84	0.93	0.65
Control Delay	51.5	140.2	42.1	15.6	54.4	5.7
Queue Delay	7.8	0.8	0.0	0.0	0.0	1.0
Total Delay	59.4	140.9	42.1	15.6	54.4	6.7
Queue Length 50th (ft)	235	~391	294	62	185	76
Queue Length 95th (ft)	#408	#605	#420	#323	m205	m104
Internal Link Dist (ft)		1071	1048			396
Turn Bay Length (ft)	900					
Base Capacity (vph)	476	464	1135	919	461	2186
Starvation Cap Reductn	0	0	0	0	0	473
Spillback Cap Reductn	41	38	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.95	1.31	0.90	0.84	0.90	0.83

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

## Queues

Ontario Ranch Business Park (JN 13941)

51: I-15 SB Ramps &amp; Cantu Galleano Ranch Rd.

08/24/2021



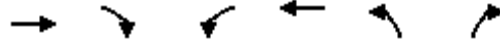
Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1208	388	627	210	336	771	763
v/c Ratio	0.86	0.24	0.64	0.13	0.36	0.95	0.91
Control Delay	29.1	0.4	19.9	0.2	9.3	37.7	30.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.1	0.4	19.9	0.2	9.3	37.7	30.3
Queue Length 50th (ft)	151	0	114	0	66	245	221
Queue Length 95th (ft)	#224	0	164	m0	115	#512	#469
Internal Link Dist (ft)	2023		797			1504	
Turn Bay Length (ft)					620		470
Base Capacity (vph)	1400	1615	974	1615	926	809	838
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.24	0.64	0.13	0.36	0.95	0.91

## Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	576	987	419	536	432	202
v/c Ratio	0.27	0.89	1.03	0.16	0.71	0.52
Control Delay	9.3	19.0	82.1	4.8	24.8	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.3	19.0	82.1	4.8	24.8	9.5
Queue Length 50th (ft)	29	167	~82	24	55	0
Queue Length 95th (ft)	m44	m#288	#163	36	#101	54
Internal Link Dist (ft)	797			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2135	1106	408	3259	611	392
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.89	1.03	0.16	0.71	0.52

#### Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

## Queues

Ontario Ranch Business Park (JN 13941)

## 1: Euclid Av. (SR-83) &amp; SR-60 WB Ramps

08/24/2021



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	386	385	354	451	1181	1094	533
v/c Ratio	0.82	0.85	0.74	0.95	0.54	1.03	0.63
Control Delay	44.5	46.7	31.6	43.8	23.2	68.2	6.1
Queue Delay	0.0	0.0	0.0	0.0	3.1	0.0	0.0
Total Delay	44.5	46.7	31.6	43.8	26.3	68.2	6.1
Queue Length 50th (ft)	208	209	142	~278	376	~353	0
Queue Length 95th (ft)	309	#321	238	m#343	m410	#479	76
Internal Link Dist (ft)		1410			396	1540	
Turn Bay Length (ft)				285			400
Base Capacity (vph)	552	528	545	475	2193	1062	851
Starvation Cap Reductn	0	0	0	0	877	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.73	0.65	0.95	0.90	1.03	0.63

## Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues  
2: Euclid Av. (SR-83) & SR-60 EB Ramps



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	397	462	1155	673	398	1347
v/c Ratio	0.87	1.01	0.97	0.72	0.91	0.61
Control Delay	52.6	75.6	51.4	8.5	53.0	4.6
Queue Delay	49.5	31.8	0.0	0.0	0.0	0.7
Total Delay	102.2	107.4	51.4	8.5	53.0	5.3
Queue Length 50th (ft)	226	~252	~350	22	174	58
Queue Length 95th (ft)	#396	#464	#494	138	m196	m94
Internal Link Dist (ft)		1071	1048			396
Turn Bay Length (ft)	900					
Base Capacity (vph)	457	457	1189	932	461	2226
Starvation Cap Reductn	0	0	0	0	0	505
Spillback Cap Reductn	95	87	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.10	1.25	0.97	0.72	0.86	0.78

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1385	552	505	466	291	588	578
v/c Ratio	0.99	0.34	0.52	0.29	0.31	0.72	0.68
Control Delay	45.7	0.6	16.7	1.0	8.8	15.3	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	0.6	16.7	1.0	8.8	15.3	13.8
Queue Length 50th (ft)	181	0	50	0	55	135	122
Queue Length 95th (ft)	#277	0	113	0	97	261	233
Internal Link Dist (ft)	2023		797			1504	
Turn Bay Length (ft)					620		470
Base Capacity (vph)	1400	1615	974	1615	926	819	848
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.34	0.52	0.29	0.31	0.72	0.68

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	735	1045	333	773	331	153
v/c Ratio	0.36	0.94	0.82	0.24	0.51	0.41
Control Delay	10.9	23.0	44.5	5.6	18.3	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.9	23.0	44.5	5.6	18.3	8.4
Queue Length 50th (ft)	45	211	61	39	37	0
Queue Length 95th (ft)	m49	m#228	#122	55	71	47
Internal Link Dist (ft)	797			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2048	1110	408	3172	654	372
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.94	0.82	0.24	0.51	0.41

#### Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



**APPENDIX 6.7:**

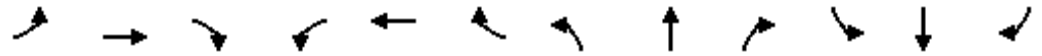
**OPENING YEAR CUMULATIVE (2023) WITH PROJECT CONDITIONS INTERSECTION  
OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Timings

4: Euclid Av. (SR-83) & Riverside Dr.

08/25/2021

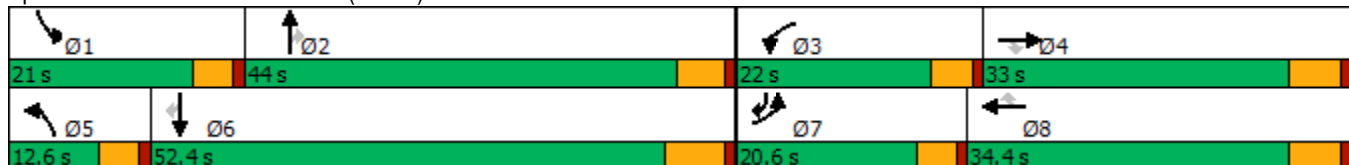


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗	↗	↘	↗↗	↗	↘	↗↗↗	↗	↘	↗↗↗	↗
Traffic Volume (vph)	166	337	77	204	531	126	84	1077	179	199	1271	174
Future Volume (vph)	166	337	77	204	531	126	84	1077	179	199	1271	174
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	20.6	33.0	33.0	22.0	34.4	34.4	12.6	44.0	44.0	21.0	52.4	20.6
Total Split (%)	17.2%	27.5%	27.5%	18.3%	28.7%	28.7%	10.5%	36.7%	36.7%	17.5%	43.7%	17.2%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 114.3  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.



HCM 6th Signalized Intersection Summary  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↑	↗	↘	↑↑↑	↗
Traffic Volume (veh/h)	166	337	77	204	531	126	84	1077	179	199	1271	174
Future Volume (veh/h)	166	337	77	204	531	126	84	1077	179	199	1271	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	175	355	65	215	559	104	88	1134	148	209	1338	124
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	201	590	263	240	674	300	108	1688	524	234	2069	831
Arrive On Green	0.12	0.17	0.17	0.15	0.20	0.20	0.07	0.34	0.34	0.14	0.42	0.42
Sat Flow, veh/h	1619	3420	1525	1619	3420	1525	1619	4914	1525	1619	4914	1524
Grp Volume(v), veh/h	175	355	65	215	559	104	88	1134	148	209	1338	124
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1525	1619	1638	1525	1619	1638	1524
Q Serve(g_s), s	11.9	10.8	4.1	14.7	17.6	6.6	6.0	22.1	7.9	14.3	24.3	4.5
Cycle Q Clear(g_c), s	11.9	10.8	4.1	14.7	17.6	6.6	6.0	22.1	7.9	14.3	24.3	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	201	590	263	240	674	300	108	1688	524	234	2069	831
V/C Ratio(X)	0.87	0.60	0.25	0.90	0.83	0.35	0.81	0.67	0.28	0.89	0.65	0.15
Avail Cap(c_a), veh/h	230	828	369	251	870	388	115	1688	524	236	2069	831
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	42.9	40.2	47.0	43.3	38.9	51.7	31.5	26.8	47.2	25.9	12.7
Incr Delay (d2), s/veh	24.1	1.0	0.5	29.3	5.4	0.7	30.1	2.2	1.3	31.0	1.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	4.5	1.5	7.7	7.7	2.5	3.2	8.4	3.0	7.6	9.3	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.5	43.9	40.7	76.3	48.7	39.6	81.8	33.6	28.2	78.2	27.5	13.0
LnGrp LOS	E	D	D	E	D	D	F	C	C	E	C	B
Approach Vol, veh/h		595			878			1370			1671	
Approach Delay, s/veh		52.0			54.4			36.1			32.7	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.8	45.1	21.3	25.2	12.1	53.8	18.5	27.9				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	16.4	* 39	17.4	27.2	8.0	45.9	16.0	28.6				
Max Q Clear Time (g_c+I1), s	16.3	24.1	16.7	12.8	8.0	26.3	13.9	19.6				
Green Ext Time (p_c), s	0.0	6.4	0.0	1.9	0.0	9.6	0.0	2.5				

Intersection Summary

HCM 6th Ctrl Delay	40.5
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

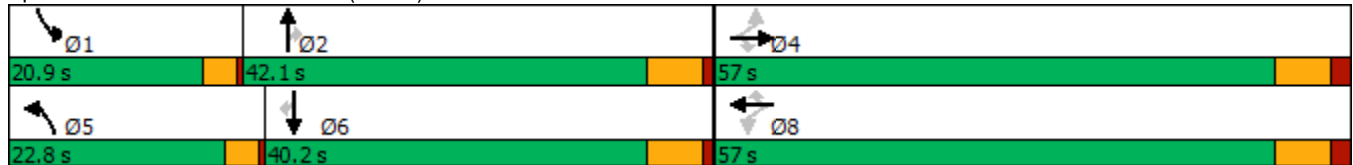
Timings  
7: Euclid Av. (SR-83) & Edison Av.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	168	332	140	57	483	79	251	1036	51	116	1116	192
Future Volume (vph)	168	332	140	57	483	79	251	1036	51	116	1116	192
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.0	46.0	46.0	49.0	49.0	49.0	8.5	29.0	29.0	8.5	40.0	40.0
Total Split (s)	57.0	57.0	57.0	57.0	57.0	57.0	22.8	42.1	42.1	20.9	40.2	40.2
Total Split (%)	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%	19.0%	35.1%	35.1%	17.4%	33.5%	33.5%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 111.3  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 7: Euclid Av. (SR-83) & Edison Av.



HCM 6th Signalized Intersection Summary  
 7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	332	140	57	483	79	251	1036	51	116	1116	192
Future Volume (veh/h)	168	332	140	57	483	79	251	1036	51	116	1116	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	175	346	91	59	503	77	261	1079	45	121	1162	149
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	222	764	647	324	764	647	265	1701	528	145	1335	404
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.16	0.35	0.35	0.09	0.27	0.27
Sat Flow, veh/h	800	1800	1524	913	1800	1524	1619	4914	1525	1619	4914	1488
Grp Volume(v), veh/h	175	346	91	59	503	77	261	1079	45	121	1162	149
Grp Sat Flow(s),veh/h/ln	800	1800	1524	913	1800	1524	1619	1638	1525	1619	1638	1488
Q Serve(g_s), s	23.7	16.1	4.3	5.8	26.3	3.6	18.9	21.7	2.3	8.7	26.6	9.5
Cycle Q Clear(g_c), s	50.0	16.1	4.3	21.9	26.3	3.6	18.9	21.7	2.3	8.7	26.6	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	222	764	647	324	764	647	265	1701	528	145	1335	404
V/C Ratio(X)	0.79	0.45	0.14	0.18	0.66	0.12	0.98	0.63	0.09	0.84	0.87	0.37
Avail Cap(c_a), veh/h	222	764	647	324	764	647	265	1701	528	239	1427	432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	24.2	20.8	32.0	27.1	20.6	49.1	32.3	25.9	52.8	40.9	34.7
Incr Delay (d2), s/veh	17.1	0.4	0.1	0.3	2.1	0.1	50.5	0.8	0.1	5.4	5.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	6.6	1.5	1.3	11.1	1.3	11.0	8.1	0.8	3.6	10.8	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.1	24.6	20.9	32.2	29.2	20.6	99.6	33.0	26.0	58.2	46.8	35.3
LnGrp LOS	E	C	C	C	C	C	F	C	C	E	D	D
Approach Vol, veh/h		612			639			1385			1432	
Approach Delay, s/veh		35.6			28.4			45.4			46.5	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	46.8		57.0	22.8	38.0		57.0				
Change Period (Y+Rc), s	3.5	6.0		7.0	3.5	6.0		7.0				
Max Green Setting (Gmax), s	17.4	36.1		50.0	19.3	34.2		50.0				
Max Q Clear Time (g_c+I1), s	10.7	23.7		52.0	20.9	28.6		28.3				
Green Ext Time (p_c), s	0.1	5.3		0.0	0.0	3.4		3.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				41.6								
HCM 6th LOS				D								

Timings  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↔	↗	↖	↗	↗	↑↑↑	↗	↗	↑↑↑
Traffic Volume (vph)	4	9	287	51	284	11	1156	304	269	1131
Future Volume (vph)	4	9	287	51	284	11	1156	304	269	1131
Turn Type	Perm	NA	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	1	5	2		1	6
Permitted Phases	4		8		8			2		
Detector Phase	4	4	8	8	1	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	33.0	14.5	41.0	41.0	33.0	59.5
Total Split (%)	38.3%	38.3%	38.3%	38.3%	27.5%	12.1%	34.2%	34.2%	27.5%	49.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0	5.0	4.5	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 96  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 6th Signalized Intersection Summary  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗	↖	↖	↑↑↑	↖	↖	↑↑↑	
Traffic Volume (veh/h)	4	9	18	287	51	284	11	1156	304	269	1131	44
Future Volume (veh/h)	4	9	18	287	51	284	11	1156	304	269	1131	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	4	9	18	296	53	266	11	1192	270	277	1166	31
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	78	142	229	435	452	683	44	1687	524	318	2519	67
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.03	0.34	0.34	0.20	0.51	0.51
Sat Flow, veh/h	93	567	914	1327	1800	1525	1619	4914	1525	1619	4918	131
Grp Volume(v), veh/h	31	0	0	296	53	266	11	1192	270	277	777	420
Grp Sat Flow(s),veh/h/ln	1573	0	0	1327	1800	1525	1619	1638	1525	1619	1638	1773
Q Serve(g_s), s	0.0	0.0	0.0	14.5	1.7	8.6	0.5	15.6	10.5	12.3	11.2	11.2
Cycle Q Clear(g_c), s	1.1	0.0	0.0	15.6	1.7	8.6	0.5	15.6	10.5	12.3	11.2	11.2
Prop In Lane	0.13		0.58	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	450	0	0	435	452	683	44	1687	524	318	1678	908
V/C Ratio(X)	0.07	0.00	0.00	0.68	0.12	0.39	0.25	0.71	0.52	0.87	0.46	0.46
Avail Cap(c_a), veh/h	907	0	0	836	996	1144	219	2321	721	623	2366	1280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	0.0	0.0	26.5	21.4	13.7	35.3	21.1	19.4	28.9	11.6	11.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.1	1.1	0.6	0.8	2.9	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	4.5	0.6	2.5	0.2	5.1	3.2	4.5	3.1	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	0.0	0.0	27.2	21.4	13.8	36.4	21.7	20.2	31.8	11.8	11.9
LnGrp LOS	C	A	A	C	C	B	D	C	C	C	B	B
Approach Vol, veh/h		31			615			1473			1474	
Approach Delay, s/veh		21.2			20.9			21.5			15.6	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.0	31.4		23.6	6.5	44.0		23.6				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	28.5	35.0		41.0	10.0	53.5		41.0				
Max Q Clear Time (g_c+1), s	14.3	17.6		3.1	2.5	13.2		17.6				
Green Ext Time (p_c), s	0.3	7.9		0.1	0.0	8.3		1.0				

Intersection Summary

HCM 6th Ctrl Delay	19.0
HCM 6th LOS	B



Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	↘
Traffic Vol, veh/h	54	544	733	34	18	21
Future Vol, veh/h	54	544	733	34	18	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	59	591	797	37	20	23

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	834	0	-	0	1230 417
Stage 1	-	-	-	-	816 -
Stage 2	-	-	-	-	414 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	808	-	-	-	173 590
Stage 1	-	-	-	-	400 -
Stage 2	-	-	-	-	641 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	808	-	-	-	160 590
Mov Cap-2 Maneuver	-	-	-	-	160 -
Stage 1	-	-	-	-	371 -
Stage 2	-	-	-	-	641 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	20.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	808	-	-	-	160	590
HCM Lane V/C Ratio	0.073	-	-	-	0.122	0.039
HCM Control Delay (s)	9.8	-	-	-	30.6	11.3
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4	0.1

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	↗
Traffic Vol, veh/h	38	510	717	46	13	15
Future Vol, veh/h	38	510	717	46	13	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	41	554	779	50	14	16

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	829	0	-	0	1163 415
Stage 1	-	-	-	-	804 -
Stage 2	-	-	-	-	359 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	811	-	-	-	191 592
Stage 1	-	-	-	-	406 -
Stage 2	-	-	-	-	683 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	811	-	-	-	181 592
Mov Cap-2 Maneuver	-	-	-	-	181 -
Stage 1	-	-	-	-	385 -
Stage 2	-	-	-	-	683 -

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	18.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	811	-	-	-	181	592
HCM Lane V/C Ratio	0.051	-	-	-	0.078	0.028
HCM Control Delay (s)	9.7	-	-	-	26.6	11.3
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3	0.1

Timings

33: Merrill Av. & Bon View Av.

08/25/2021

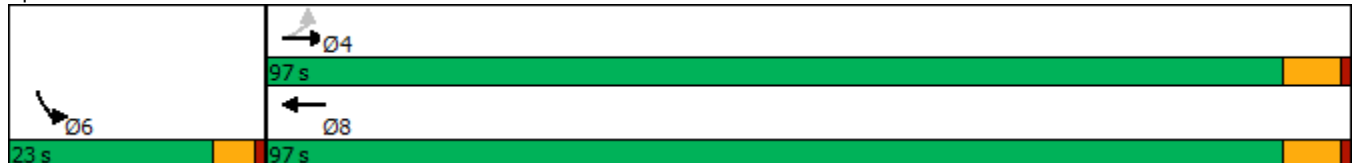


Lane Group	EBL	EBT	WBT	SBL
Lane Configurations		↕	↕↔	↕
Traffic Volume (vph)	55	454	718	34
Future Volume (vph)	55	454	718	34
Turn Type	Perm	NA	NA	Prot
Protected Phases		4	8	6
Permitted Phases	4			
Detector Phase	4	4	8	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	23.2	23.2	23.2	21.7
Total Split (s)	97.0	97.0	97.0	23.0
Total Split (%)	80.8%	80.8%	80.8%	19.2%
Yellow Time (s)	5.2	5.2	5.2	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		6.2	6.2	4.7
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Min	Min	Min	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 50.1  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Merrill Av. & Bon View Av.



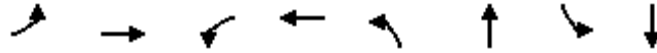
HCM 6th Signalized Intersection Summary  
 33: Merrill Av. & Bon View Av.

Ontario Ranch Business Park (JN 13941)  
 08/25/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↕	
Traffic Volume (veh/h)	55	454	718	84	34	47
Future Volume (veh/h)	55	454	718	84	34	47
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	60	493	780	91	37	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	177	705	1413	165	117	161
Arrive On Green	0.46	0.46	0.46	0.46	0.18	0.18
Sat Flow, veh/h	94	1539	3175	360	666	918
Grp Volume(v), veh/h	553	0	432	439	89	0
Grp Sat Flow(s),veh/h/ln	1633	0	1710	1735	1602	0
Q Serve(g_s), s	1.7	0.0	5.4	5.4	1.4	0.0
Cycle Q Clear(g_c), s	7.5	0.0	5.4	5.4	1.4	0.0
Prop In Lane	0.11			0.21	0.42	0.57
Lane Grp Cap(c), veh/h	882	0	783	795	280	0
V/C Ratio(X)	0.63	0.00	0.55	0.55	0.32	0.00
Avail Cap(c_a), veh/h	4801	0	5227	5304	987	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	6.3	0.0	5.8	5.8	10.7	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.6	0.6	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.5	0.5	0.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.1	0.0	6.5	6.4	11.3	0.0
LnGrp LOS	A	A	A	A	B	A
Approach Vol, veh/h		553	871		89	
Approach Delay, s/veh		7.1	6.4		11.3	
Approach LOS		A	A		B	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				19.8	9.9	19.8
Change Period (Y+Rc), s				6.2	4.7	6.2
Max Green Setting (Gmax), s				90.8	18.3	90.8
Max Q Clear Time (g_c+I1), s				9.5	3.4	7.4
Green Ext Time (p_c), s				4.1	0.2	5.6
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			7.0			
HCM 6th LOS			A			

Timings  
34: Grove Av. & Eucalyptus Av.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↕	↖	↕
Traffic Volume (vph)	42	73	42	175	70	270	94	305
Future Volume (vph)	42	73	42	175	70	270	94	305
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	22.8	22.8	22.8	22.8	9.6	23.2	9.6	23.2
Total Split (s)	46.0	46.0	46.0	46.0	23.0	46.0	28.0	51.0
Total Split (%)	38.3%	38.3%	38.3%	38.3%	19.2%	38.3%	23.3%	42.5%
Yellow Time (s)	4.8	4.8	4.8	4.8	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	4.6	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 48.1  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Grove Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
34: Grove Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

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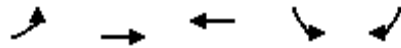


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	42	73	16	42	175	34	70	270	17	94	305	115
Future Volume (veh/h)	42	73	16	42	175	34	70	270	17	94	305	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	46	80	18	46	192	37	77	297	19	103	335	126
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	329	353	79	434	364	70	116	818	52	138	645	238
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.07	0.25	0.25	0.09	0.26	0.26
Sat Flow, veh/h	1105	1422	320	1245	1467	283	1619	3265	208	1619	2444	903
Grp Volume(v), veh/h	46	0	98	46	0	229	77	155	161	103	233	228
Grp Sat Flow(s),veh/h/ln	1105	0	1742	1245	0	1749	1619	1710	1763	1619	1710	1637
Q Serve(g_s), s	1.5	0.0	1.8	1.2	0.0	4.5	1.8	3.0	3.0	2.5	4.6	4.8
Cycle Q Clear(g_c), s	6.0	0.0	1.8	3.0	0.0	4.5	1.8	3.0	3.0	2.5	4.6	4.8
Prop In Lane	1.00		0.18	1.00		0.16	1.00		0.12	1.00		0.55
Lane Grp Cap(c), veh/h	329	0	432	434	0	434	116	428	442	138	451	432
V/C Ratio(X)	0.14	0.00	0.23	0.11	0.00	0.53	0.66	0.36	0.36	0.75	0.52	0.53
Avail Cap(c_a), veh/h	1168	0	1755	1378	0	1762	746	1705	1758	949	1920	1838
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	0.0	12.0	13.1	0.0	13.0	18.0	12.3	12.3	17.8	12.5	12.6
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.1	0.0	1.0	2.4	0.5	0.5	3.0	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.5	0.3	0.0	1.4	0.6	0.8	0.9	0.8	1.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.8	0.0	12.2	13.3	0.0	14.0	20.4	12.8	12.8	20.8	13.4	13.6
LnGrp LOS	B	A	B	B	A	B	C	B	B	C	B	B
Approach Vol, veh/h		144			275			393			564	
Approach Delay, s/veh		13.4			13.9			14.3			14.8	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	16.2		15.7	7.5	16.7		15.7				
Change Period (Y+Rc), s	4.6	6.2		5.8	4.6	6.2		5.8				
Max Green Setting (Gmax), s	23.4	39.8		40.2	18.4	44.8		40.2				
Max Q Clear Time (g_c+11), s	4.5	5.0		8.0	3.8	6.8		6.5				
Green Ext Time (p_c), s	0.1	1.6		0.6	0.1	2.6		1.4				

Intersection Summary

HCM 6th Ctrl Delay	14.3
HCM 6th LOS	B

Timings  
35: Merrill Av. & Grove Av.

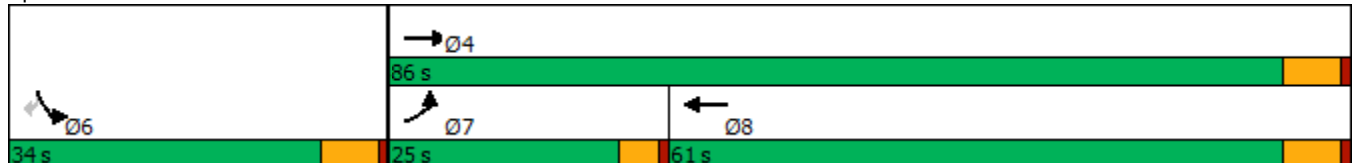


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↖	↗	↕	↖	↗
Traffic Volume (vph)	122	366	721	187	130
Future Volume (vph)	122	366	721	187	130
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	7	4	8	6	
Permitted Phases					6
Detector Phase	7	4	8	6	6
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	23.2	23.2	23.2
Total Split (s)	25.0	86.0	61.0	34.0	34.0
Total Split (%)	20.8%	71.7%	50.8%	28.3%	28.3%
Yellow Time (s)	3.6	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2	6.2
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	Min	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 77.7  
 Natural Cycle: 65  
 Control Type: Actuated-Uncoordinated

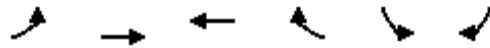
Splits and Phases: 35: Merrill Av. & Grove Av.



HCM 6th Signalized Intersection Summary  
 35: Merrill Av. & Grove Av.

Ontario Ranch Business Park (JN 13941)

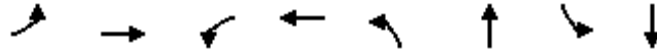
08/25/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↕	↗	↔	↖	↘	↗	
Traffic Volume (veh/h)	122	366	721	298	187	130	
Future Volume (veh/h)	122	366	721	298	187	130	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1700	1800	1800	1800	1700	1800	
Adj Flow Rate, veh/h	126	377	743	307	193	134	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	158	1091	1009	417	284	267	
Arrive On Green	0.10	0.61	0.43	0.43	0.18	0.18	
Sat Flow, veh/h	1619	1800	2450	975	1619	1525	
Grp Volume(v), veh/h	126	377	538	512	193	134	
Grp Sat Flow(s),veh/h/ln	1619	1800	1710	1625	1619	1525	
Q Serve(g_s), s	4.3	5.9	14.9	14.9	6.3	4.5	
Cycle Q Clear(g_c), s	4.3	5.9	14.9	14.9	6.3	4.5	
Prop In Lane	1.00			0.60	1.00	1.00	
Lane Grp Cap(c), veh/h	158	1091	731	694	284	267	
V/C Ratio(X)	0.80	0.35	0.74	0.74	0.68	0.50	
Avail Cap(c_a), veh/h	582	2531	1651	1569	793	747	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	25.0	5.6	13.6	13.6	21.9	21.2	
Incr Delay (d2), s/veh	3.4	0.2	1.5	1.5	2.9	1.5	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.6	1.2	4.4	4.2	2.2	0.1	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	28.5	5.8	15.0	15.1	24.8	22.6	
LnGrp LOS	C	A	B	B	C	C	
Approach Vol, veh/h		503	1050		327		
Approach Delay, s/veh		11.4	15.1		23.9		
Approach LOS		B	B		C		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				40.6	16.1	10.1	30.5
Change Period (Y+Rc), s				6.2	6.2	4.6	6.2
Max Green Setting (Gmax), s				79.8	27.8	20.4	54.8
Max Q Clear Time (g_c+I1), s				7.9	8.3	6.3	16.9
Green Ext Time (p_c), s				2.1	0.9	0.1	7.3
<b>Intersection Summary</b>							
HCM 6th Ctrl Delay			15.6				
HCM 6th LOS			B				



Timings  
36: Walker Av. & Edison Av.

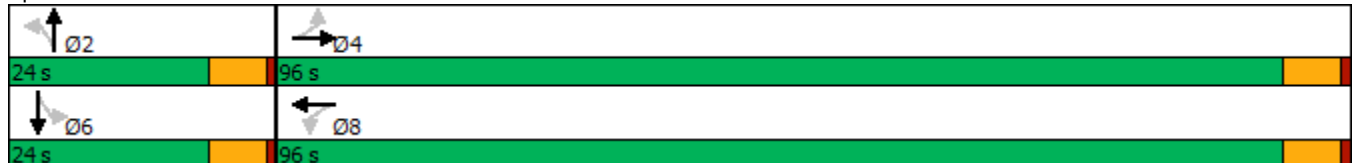


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	18	339	226	451	11	34	62	72
Future Volume (vph)	18	339	226	451	11	34	62	72
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2
Total Split (s)	96.0	96.0	96.0	96.0	24.0	24.0	24.0	24.0
Total Split (%)	80.0%	80.0%	80.0%	80.0%	20.0%	20.0%	20.0%	20.0%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.2		6.2		6.2		6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 89.3  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 36: Walker Av. & Edison Av.



HCM 6th Signalized Intersection Summary  
36: Walker Av. & Edison Av.

Ontario Ranch Business Park (JN 13941)

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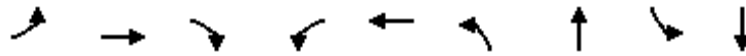


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	18	339	33	226	451	159	11	34	37	62	72	12
Future Volume (veh/h)	18	339	33	226	451	159	11	34	37	62	72	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	18	346	34	231	460	162	11	35	38	63	73	12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	81	996	95	309	537	181	83	129	119	171	154	21
Arrive On Green	0.63	0.63	0.63	0.63	0.63	0.63	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	30	1570	149	369	847	285	97	798	739	532	952	131
Grp Volume(v), veh/h	398	0	0	853	0	0	84	0	0	148	0	0
Grp Sat Flow(s),veh/h/ln	1750	0	0	1501	0	0	1633	0	0	1615	0	0
Q Serve(g_s), s	0.0	0.0	0.0	22.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear(g_c), s	6.4	0.0	0.0	28.4	0.0	0.0	2.7	0.0	0.0	4.9	0.0	0.0
Prop In Lane	0.05		0.09	0.27		0.19	0.13		0.45	0.43		0.08
Lane Grp Cap(c), veh/h	1172	0	0	1027	0	0	331	0	0	345	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.83	0.00	0.00	0.25	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	2593	0	0	2252	0	0	541	0	0	550	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.2	0.0	0.0	8.8	0.0	0.0	22.5	0.0	0.0	23.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.8	0.0	0.0	0.4	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	4.7	0.0	0.0	1.0	0.0	0.0	1.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.4	0.0	0.0	10.6	0.0	0.0	22.9	0.0	0.0	24.2	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h		398			853			84				148
Approach Delay, s/veh		5.4			10.6			22.9				24.2
Approach LOS		A			B			C				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		16.0		44.7		16.0		44.7				
Change Period (Y+Rc), s		6.2		6.2		6.2		6.2				
Max Green Setting (Gmax), s		17.8		89.8		17.8		89.8				
Max Q Clear Time (g_c+I1), s		4.7		8.4		6.9		30.4				
Green Ext Time (p_c), s		0.3		2.4		0.5		8.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				11.3								
HCM 6th LOS				B								

Timings  
38: Flight Av./Walker Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

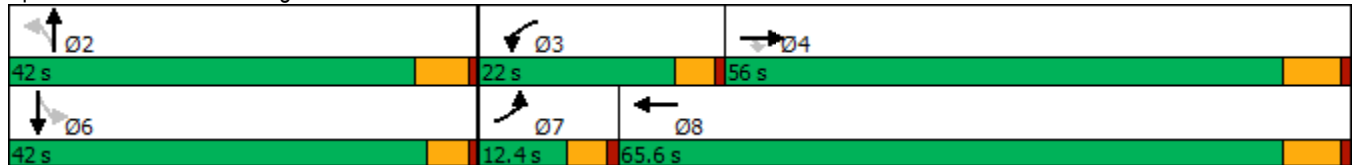


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↑	↗	↖	↕	↖	↗	↖	↗
Traffic Volume (vph)	31	397	104	111	769	190	6	7	2
Future Volume (vph)	31	397	104	111	769	190	6	7	2
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases			4			2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	23.2	9.6	23.2	22.8	22.8	21.6	21.6
Total Split (s)	12.4	56.0	56.0	22.0	65.6	42.0	42.0	42.0	42.0
Total Split (%)	10.3%	46.7%	46.7%	18.3%	54.7%	35.0%	35.0%	35.0%	35.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	4.8	4.8	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	5.8	5.8	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	Min	Min	None	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 64.9  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 38: Flight Av./Walker Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
 38: Flight Av./Walker Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	397	104	111	769	25	190	6	103	7	2	8
Future Volume (veh/h)	31	397	104	111	769	25	190	6	103	7	2	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	34	409	107	114	793	27	196	7	106	8	2	9
Peak Hour Factor	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	63	557	472	142	1209	41	459	21	324	364	64	288
Arrive On Green	0.04	0.31	0.31	0.09	0.36	0.36	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1619	1800	1525	1619	3374	115	1347	95	1445	1228	285	1284
Grp Volume(v), veh/h	34	409	107	114	402	418	196	0	113	8	0	11
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	1710	1779	1347	0	1540	1228	0	1569
Q Serve(g_s), s	0.9	8.9	2.3	3.0	8.6	8.6	5.8	0.0	2.7	0.2	0.0	0.2
Cycle Q Clear(g_c), s	0.9	8.9	2.3	3.0	8.6	8.6	6.1	0.0	2.7	2.9	0.0	0.2
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.94	1.00		0.82
Lane Grp Cap(c), veh/h	63	557	472	142	613	638	459	0	345	364	0	352
V/C Ratio(X)	0.54	0.73	0.23	0.80	0.66	0.66	0.43	0.00	0.33	0.02	0.00	0.03
Avail Cap(c_a), veh/h	288	2046	1734	643	2319	2413	1270	0	1273	1137	0	1339
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.7	13.5	11.2	19.6	11.8	11.8	15.7	0.0	14.2	15.5	0.0	13.3
Incr Delay (d2), s/veh	2.7	1.9	0.2	4.0	1.2	1.2	0.6	0.0	0.5	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.7	0.6	1.0	2.3	2.4	1.4	0.0	0.8	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.4	15.4	11.5	23.6	13.0	12.9	16.3	0.0	14.8	15.5	0.0	13.3
LnGrp LOS	C	B	B	C	B	B	B	A	B	B	A	B
Approach Vol, veh/h		550			934			309				19
Approach Delay, s/veh		15.1			14.3			15.7				14.2
Approach LOS		B			B			B				B
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		15.6	8.4	19.8		15.6	6.3	21.9				
Change Period (Y+Rc), s		5.8	4.6	6.2		* 5.8	4.6	6.2				
Max Green Setting (Gmax), s		36.2	17.4	49.8		* 37	7.8	59.4				
Max Q Clear Time (g_c+I1), s		8.1	5.0	10.9		4.9	2.9	10.6				
Green Ext Time (p_c), s		1.2	0.1	2.7		0.0	0.0	5.0				

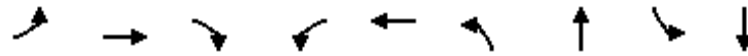
Intersection Summary

HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
42: Carpenter Av. & Merrill Av.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↑	↗	↖	↗		↕		↕
Traffic Volume (vph)	19	416	29	209	922	21	0	128	0
Future Volume (vph)	19	416	29	209	922	21	0	128	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4			8		2		6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	8	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.2	23.2	23.2	23.2	23.2	21.6	21.6	21.6	21.6
Total Split (s)	94.0	94.0	94.0	94.0	94.0	26.0	26.0	26.0	26.0
Total Split (%)	78.3%	78.3%	78.3%	78.3%	78.3%	21.7%	21.7%	21.7%	21.7%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2		4.6		4.6
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 88.1  
 Natural Cycle: 80  
 Control Type: Actuated-Uncoordinated





















Splits and Phases: 42: Carpenter Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
42: Carpenter Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

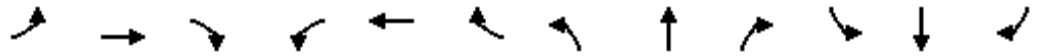
08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	416	29	209	922	61	21	0	120	128	0	13
Future Volume (veh/h)	19	416	29	209	922	61	21	0	120	128	0	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	20	443	31	222	981	65	22	0	128	136	0	14
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	234	1224	1037	649	1135	75	85	15	212	282	5	19
Arrive On Green	0.68	0.68	0.68	0.68	0.68	0.68	0.15	0.00	0.15	0.15	0.00	0.15
Sat Flow, veh/h	548	1800	1525	934	1669	111	141	96	1377	1147	32	121
Grp Volume(v), veh/h	20	443	31	222	0	1046	150	0	0	150	0	0
Grp Sat Flow(s),veh/h/ln	548	1800	1525	934	0	1780	1614	0	0	1301	0	0
Q Serve(g_s), s	1.9	6.8	0.4	8.6	0.0	29.6	0.0	0.0	0.0	1.6	0.0	0.0
Cycle Q Clear(g_c), s	31.5	6.8	0.4	15.4	0.0	29.6	5.6	0.0	0.0	7.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.06	0.15		0.85	0.91		0.09
Lane Grp Cap(c), veh/h	234	1224	1037	649	0	1210	312	0	0	306	0	0
V/C Ratio(X)	0.09	0.36	0.03	0.34	0.00	0.86	0.48	0.00	0.00	0.49	0.00	0.00
Avail Cap(c_a), veh/h	603	2438	2066	1279	0	2411	578	0	0	536	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.3	4.4	3.4	7.7	0.0	8.1	25.7	0.0	0.0	26.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.2	0.0	0.3	0.0	2.0	1.2	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.2	0.1	1.2	0.0	5.7	2.2	0.0	0.0	2.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	4.6	3.4	8.0	0.0	10.0	26.8	0.0	0.0	27.4	0.0	0.0
LnGrp LOS	C	A	A	A	A	B	C	A	A	C	A	A
Approach Vol, veh/h		494			1268			150			150	
Approach Delay, s/veh		5.2			9.7			26.8			27.4	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.6		50.3		14.6		50.3				
Change Period (Y+Rc), s		4.6		6.2		4.6		6.2				
Max Green Setting (Gmax), s		21.4		87.8		21.4		87.8				
Max Q Clear Time (g_c+I1), s		7.6		33.5		9.2		31.6				
Green Ext Time (p_c), s		0.7		2.9		0.6		12.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				11.1								
HCM 6th LOS				B								

Timings

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

08/25/2021

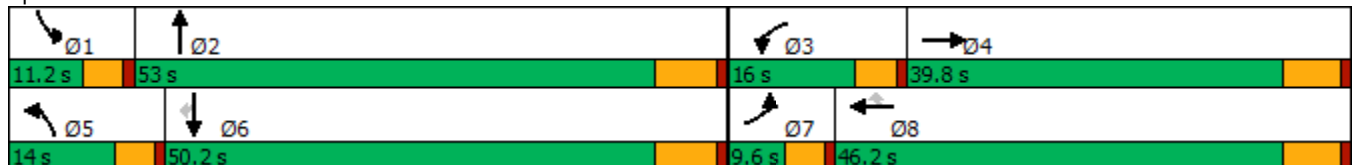


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖↗	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	41	259	54	454	641	144	174	1040	422	72	487	162
Future Volume (vph)	41	259	54	454	641	144	174	1040	422	72	487	162
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	39.8		16.0	46.2	46.2	14.0	53.0		11.2	50.2	50.2
Total Split (%)	8.0%	33.2%		13.3%	38.5%	38.5%	11.7%	44.2%		9.3%	41.8%	41.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min

Intersection Summary































Cycle Length: 120  
 Actuated Cycle Length: 96.2  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 44: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
44: Archibald Av. & Edison Av./Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			 			 	
Traffic Volume (veh/h)	41	259	54	454	641	144	174	1040	422	72	487	162
Future Volume (veh/h)	41	259	54	454	641	144	174	1040	422	72	487	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	42	267	0	468	661	94	179	1072	0	74	502	134
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	111	529		407	872	389	184	1322		92	1128	503
Arrive On Green	0.04	0.15	0.00	0.14	0.25	0.25	0.11	0.39	0.00	0.06	0.33	0.33
Sat Flow, veh/h	2956	3420	1525	2956	3420	1525	1619	3420	1525	1619	3420	1525
Grp Volume(v), veh/h	42	267	0	468	661	94	179	1072	0	74	502	134
Grp Sat Flow(s),veh/h/ln	1478	1710	1525	1478	1710	1525	1619	1710	1525	1619	1710	1525
Q Serve(g_s), s	1.1	5.9	0.0	11.4	14.8	4.1	9.1	23.2	0.0	3.7	9.6	5.3
Cycle Q Clear(g_c), s	1.1	5.9	0.0	11.4	14.8	4.1	9.1	23.2	0.0	3.7	9.6	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	529		407	872	389	184	1322		92	1128	503
V/C Ratio(X)	0.38	0.50		1.15	0.76	0.24	0.97	0.81		0.81	0.44	0.27
Avail Cap(c_a), veh/h	178	1387		407	1651	737	184	1920		129	1804	805
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	32.1	0.0	35.7	28.5	24.5	36.6	22.7	0.0	38.6	21.8	20.4
Incr Delay (d2), s/veh	0.8	0.7	0.0	92.5	1.4	0.3	58.5	1.8	0.0	15.0	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.3	0.0	9.0	5.6	1.4	6.3	8.2	0.0	1.8	3.4	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	32.9	0.0	128.2	29.9	24.8	95.1	24.5	0.0	53.6	22.1	20.7
LnGrp LOS	D	C		F	C	C	F	C		D	C	C
Approach Vol, veh/h		309	A		1223			1251	A		710	
Approach Delay, s/veh		33.8			67.1			34.6			25.1	
Approach LOS		C			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	38.5	16.0	19.0	14.0	33.8	7.7	27.3				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	6.6	46.5	11.4	33.6	9.4	43.7	5.0	40.0				
Max Q Clear Time (g_c+I1), s	5.7	25.2	13.4	7.9	11.1	11.6	3.1	16.8				
Green Ext Time (p_c), s	0.0	6.8	0.0	1.5	0.0	3.4	0.0	4.3				

Intersection Summary

HCM 6th Ctrl Delay	44.0
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.



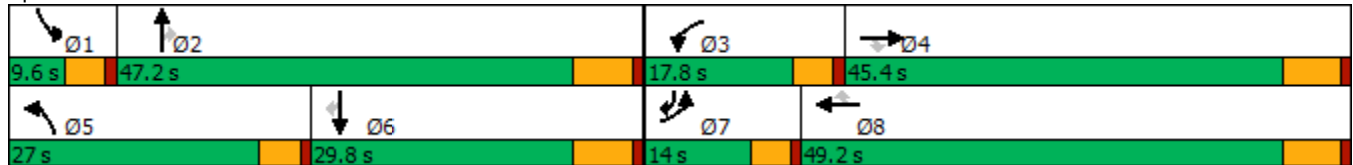
Timings  
46: Archibald Av. & Merrill Av.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	23	151	78	53	130	618	1204	41	42	546	396
Future Volume (vph)	240	23	151	78	53	130	618	1204	41	42	546	396
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	9.6
Total Split (s)	14.0	45.4	45.4	17.8	49.2	49.2	27.0	47.2	47.2	9.6	29.8	14.0
Total Split (%)	11.7%	37.8%	37.8%	14.8%	41.0%	41.0%	22.5%	39.3%	39.3%	8.0%	24.8%	11.7%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 89.9  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated































Splits and Phases: 46: Archibald Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 						 	  		 	 	
Traffic Volume (veh/h)	240	23	151	78	53	130	618	1204	41	42	546	396
Future Volume (veh/h)	240	23	151	78	53	130	618	1204	41	42	546	396
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	247	24	101	80	55	39	637	1241	23	43	563	342
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	324	310	263	100	236	200	726	2160	670	116	847	535
Arrive On Green	0.10	0.17	0.17	0.06	0.13	0.13	0.23	0.44	0.44	0.04	0.25	0.25
Sat Flow, veh/h	3141	1800	1525	1619	1800	1525	3141	4914	1525	2956	3420	1525
Grp Volume(v), veh/h	247	24	101	80	55	39	637	1241	23	43	563	342
Grp Sat Flow(s),veh/h/ln	1570	1800	1525	1619	1800	1525	1570	1638	1525	1478	1710	1525
Q Serve(g_s), s	5.8	0.9	4.5	3.7	2.1	1.7	14.9	14.4	0.7	1.1	11.3	14.3
Cycle Q Clear(g_c), s	5.8	0.9	4.5	3.7	2.1	1.7	14.9	14.4	0.7	1.1	11.3	14.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	324	310	263	100	236	200	726	2160	670	116	847	535
V/C Ratio(X)	0.76	0.08	0.38	0.80	0.23	0.20	0.88	0.57	0.03	0.37	0.66	0.64
Avail Cap(c_a), veh/h	387	925	784	280	1015	860	923	2623	814	194	1045	624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	26.5	28.0	35.3	29.7	29.6	28.3	16.0	12.2	35.7	25.8	20.7
Incr Delay (d2), s/veh	5.6	0.1	0.9	5.5	0.5	0.5	6.8	0.2	0.0	0.7	1.2	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.3	1.6	1.6	0.9	0.6	5.6	4.4	0.2	0.4	4.1	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	26.6	28.9	40.8	30.2	30.0	35.1	16.3	12.2	36.4	27.0	22.4
LnGrp LOS	D	C	C	D	C	C	D	B	B	D	C	C
Approach Vol, veh/h		372			174			1901			948	
Approach Delay, s/veh		35.4			35.0			22.5			25.8	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	40.0	9.3	19.3	22.2	25.4	12.5	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	40.7	13.2	39.2	22.4	23.3	9.4	43.0				
Max Q Clear Time (g_c+I1), s	3.1	16.4	5.7	6.5	16.9	16.3	7.8	4.1				
Green Ext Time (p_c), s	0.0	8.5	0.0	0.4	0.7	2.6	0.1	0.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			25.5									
HCM 6th LOS			C									



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	318	986	901	328	243	516
Future Volume (vph)	318	986	901	328	243	516
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	18.0	65.7	36.3	18.0	83.7
Total Split (%)	30.3%	15.0%	54.8%	30.3%	15.0%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 102.1  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 47: Archibald Av. & Limonite Av.



HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
08/25/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶↷	↶↷	↶	↶↷	↶↷	↶
Traffic Volume (veh/h)	318	986	901	328	243	516
Future Volume (veh/h)	318	986	901	328	243	516
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	331	971	939	295	253	538
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	932	1007	971	1251	315	1223
Arrive On Green	0.27	0.27	0.51	0.51	0.09	0.64
Sat Flow, veh/h	3510	2834	1900	1610	3510	1900
Grp Volume(v), veh/h	331	971	939	295	253	538
Grp Sat Flow(s),veh/h/ln	1755	1417	1900	1610	1755	1900
Q Serve(g_s), s	8.9	31.0	55.8	5.8	8.3	16.4
Cycle Q Clear(g_c), s	8.9	31.0	55.8	5.8	8.3	16.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	932	1007	971	1251	315	1223
V/C Ratio(X)	0.35	0.96	0.97	0.24	0.80	0.44
Avail Cap(c_a), veh/h	932	1007	983	1261	391	1281
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.8	36.9	27.6	3.6	52.1	10.3
Incr Delay (d2), s/veh	0.1	20.1	21.0	0.1	9.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	15.5	28.1	4.4	3.9	5.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.8	57.0	48.6	3.7	61.6	10.4
LnGrp LOS	C	E	D	A	E	B
Approach Vol, veh/h	1302		1234			791
Approach Delay, s/veh	51.4		37.8			26.8
Approach LOS	D		D			C
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	15.5	64.9			80.4	36.3
Change Period (Y+Rc), s	5.0	5.3			* 5.3	5.3
Max Green Setting (Gmax), s	13.0	60.4			* 79	31.0
Max Q Clear Time (g_c+I1), s	10.3	57.8			18.4	33.0
Green Ext Time (p_c), s	0.2	1.9			1.8	0.0

Intersection Summary

HCM 6th Ctrl Delay			40.5			
HCM 6th LOS			D			

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↑↑↑	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑
Traffic Volume (vph)	104	637	286	1043	211	178	731	524	160	218
Future Volume (vph)	104	637	286	1043	211	178	731	524	160	218
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	45.2	9.6	49.2	49.2	9.6	44.2	44.2	9.6	45.2
Total Split (s)	12.6	45.2	21.0	53.6	53.6	16.6	49.8	49.8	14.0	47.2
Total Split (%)	9.7%	34.8%	16.2%	41.2%	41.2%	12.8%	38.3%	38.3%	10.8%	36.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

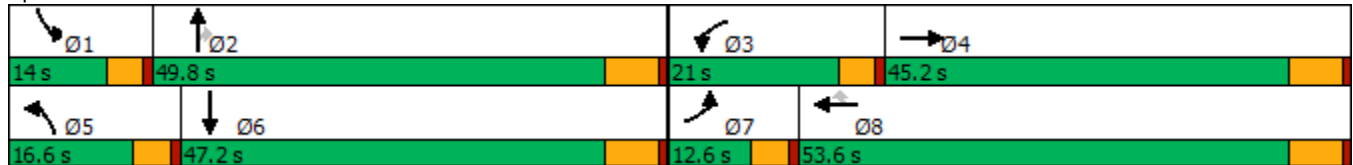
Cycle Length: 130

Actuated Cycle Length: 113.3

Natural Cycle: 115

Control Type: Actuated-Uncoordinated

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

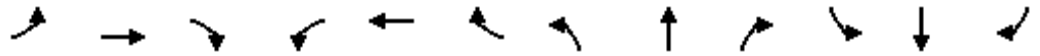


HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↔		↔↔	↑↑↑↑	↔	↔↔	↑↑↑↑	↔	↔↔	↑↑↑↔	
Traffic Volume (veh/h)	104	637	86	286	1043	211	178	731	524	160	218	94
Future Volume (veh/h)	104	637	86	286	1043	211	178	731	524	160	218	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	118	724	98	325	1185	240	202	831	588	182	248	107
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	164	1326	176	373	1517	471	251	1835	570	229	1263	504
Arrive On Green	0.06	0.24	0.24	0.13	0.31	0.31	0.08	0.37	0.37	0.08	0.37	0.37
Sat Flow, veh/h	2956	5572	739	2956	4914	1525	2956	4914	1525	2956	3450	1377
Grp Volume(v), veh/h	118	601	221	325	1185	240	202	831	588	182	234	121
Grp Sat Flow(s),veh/h/ln	1478	1548	1667	1478	1638	1525	1478	1638	1525	1478	1638	1551
Q Serve(g_s), s	4.6	13.2	13.6	12.6	25.6	15.1	7.8	14.9	43.6	7.1	5.7	6.2
Cycle Q Clear(g_c), s	4.6	13.2	13.6	12.6	25.6	15.1	7.8	14.9	43.6	7.1	5.7	6.2
Prop In Lane	1.00		0.44	1.00		1.00	1.00		1.00	1.00		0.89
Lane Grp Cap(c), veh/h	164	1105	397	373	1517	471	251	1835	570	229	1200	568
V/C Ratio(X)	0.72	0.54	0.56	0.87	0.78	0.51	0.81	0.45	1.03	0.79	0.20	0.21
Avail Cap(c_a), veh/h	203	1551	557	415	1995	619	304	1835	570	238	1200	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.3	38.9	39.1	50.1	36.8	33.1	52.5	27.6	36.6	52.9	25.3	25.4
Incr Delay (d2), s/veh	6.3	0.4	1.2	15.5	1.5	0.9	10.2	0.2	46.3	14.8	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	4.8	5.4	5.3	9.9	5.4	3.2	5.5	22.3	3.0	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.5	39.4	40.3	65.6	38.3	34.0	62.7	27.8	82.8	67.8	25.3	25.6
LnGrp LOS	E	D	D	E	D	C	E	C	F	E	C	C
Approach Vol, veh/h		940			1750			1621			537	
Approach Delay, s/veh		42.2			42.8			52.1			39.8	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.7	49.8	19.3	34.0	14.5	49.0	11.1	42.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	9.4	43.6	16.4	39.0	12.0	41.0	8.0	47.4				
Max Q Clear Time (g_c+I1), s	9.1	45.6	14.6	15.6	9.8	8.2	6.6	27.6				
Green Ext Time (p_c), s	0.0	0.0	0.1	4.8	0.1	2.1	0.0	8.4				

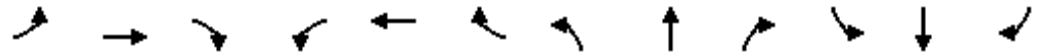
Intersection Summary

HCM 6th Ctrl Delay	45.5
HCM 6th LOS	D

Timings

4: Euclid Av. (SR-83) & Riverside Dr.

08/25/2021

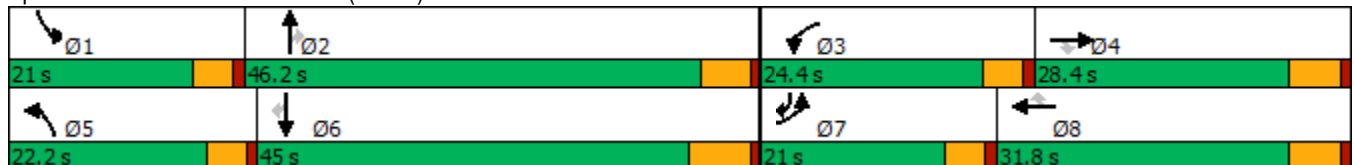


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↘	↘	↑↑	↘	↘	↑↑↑	↘	↘	↑↑↑	↘
Traffic Volume (vph)	157	480	87	194	427	67	100	1323	265	154	1067	212
Future Volume (vph)	157	480	87	194	427	67	100	1323	265	154	1067	212
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	21.0	28.4	28.4	24.4	31.8	31.8	22.2	46.2	46.2	21.0	45.0	21.0
Total Split (%)	17.5%	23.7%	23.7%	20.3%	26.5%	26.5%	18.5%	38.5%	38.5%	17.5%	37.5%	17.5%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 113.4  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.



HCM 6th Signalized Intersection Summary  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↑	↗	↘	↑↑↑	↗
Traffic Volume (veh/h)	157	480	87	194	427	67	100	1323	265	154	1067	212
Future Volume (veh/h)	157	480	87	194	427	67	100	1323	265	154	1067	212
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	164	500	66	202	445	54	104	1378	222	160	1111	130
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	190	593	264	229	674	300	127	1835	570	186	2014	797
Arrive On Green	0.12	0.17	0.17	0.14	0.20	0.20	0.08	0.37	0.37	0.12	0.41	0.41
Sat Flow, veh/h	1619	3420	1525	1619	3420	1523	1619	4914	1525	1619	4914	1506
Grp Volume(v), veh/h	164	500	66	202	445	54	104	1378	222	160	1111	130
Grp Sat Flow(s),veh/h/ln	1619	1710	1525	1619	1710	1523	1619	1638	1525	1619	1638	1506
Q Serve(g_s), s	10.9	15.5	4.1	13.4	13.1	3.2	6.9	26.7	11.7	10.6	18.8	4.9
Cycle Q Clear(g_c), s	10.9	15.5	4.1	13.4	13.1	3.2	6.9	26.7	11.7	10.6	18.8	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	190	593	264	229	674	300	127	1835	570	186	2014	797
V/C Ratio(X)	0.86	0.84	0.25	0.88	0.66	0.18	0.82	0.75	0.39	0.86	0.55	0.16
Avail Cap(c_a), veh/h	243	707	316	293	814	362	261	1835	570	243	2014	797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.3	43.7	39.0	46.0	40.5	36.5	49.6	29.8	25.1	47.5	24.6	13.4
Incr Delay (d2), s/veh	18.3	7.9	0.5	18.6	1.5	0.3	4.8	2.9	2.0	17.2	1.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	7.0	1.5	6.4	5.5	1.2	2.8	10.1	4.3	5.1	7.2	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.6	51.7	39.5	64.7	42.0	36.8	54.3	32.7	27.1	64.7	25.7	13.8
LnGrp LOS	E	D	D	E	D	D	D	C	C	E	C	B
Approach Vol, veh/h		730			701			1704			1401	
Approach Delay, s/veh		53.7			48.1			33.3			29.0	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.2	47.3	20.0	24.7	13.2	51.3	17.4	27.3				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	16.4	* 41	19.8	22.6	17.6	38.5	16.4	26.0				
Max Q Clear Time (g_c+I1), s	12.6	28.7	15.4	17.5	8.9	20.8	12.9	15.1				
Green Ext Time (p_c), s	0.1	7.1	0.1	1.5	0.1	7.5	0.1	2.1				

Intersection Summary

HCM 6th Ctrl Delay	37.5
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Timings  
7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

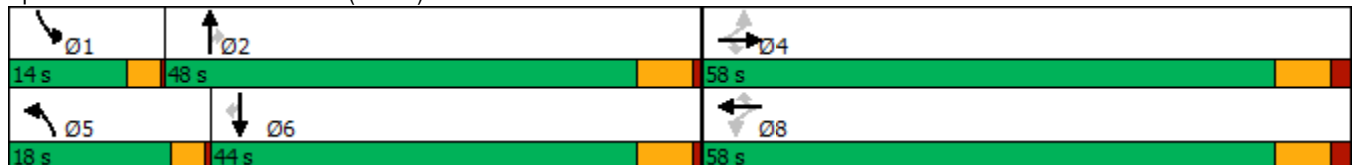
08/25/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	286	542	319	57	360	86	200	1393	100	110	1299	200
Future Volume (vph)	286	542	319	57	360	86	200	1393	100	110	1299	200
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.0	46.0	46.0	49.0	49.0	49.0	8.5	29.0	29.0	8.5	40.0	40.0
Total Split (s)	58.0	58.0	58.0	58.0	58.0	58.0	18.0	48.0	48.0	14.0	44.0	44.0
Total Split (%)	48.3%	48.3%	48.3%	48.3%	48.3%	48.3%	15.0%	40.0%	40.0%	11.7%	36.7%	36.7%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 119.3  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 7: Euclid Av. (SR-83) & Edison Av.



HCM 6th Signalized Intersection Summary  
 7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	286	542	319	57	360	86	200	1393	100	110	1299	200
Future Volume (veh/h)	286	542	319	57	360	86	200	1393	100	110	1299	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	301	571	254	60	379	85	211	1466	97	116	1367	179
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	308	773	655	165	773	647	198	1700	526	138	1520	472
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.12	0.35	0.35	0.09	0.31	0.31
Sat Flow, veh/h	891	1800	1525	637	1800	1506	1619	4914	1521	1619	4914	1525
Grp Volume(v), veh/h	301	571	254	60	379	85	211	1466	97	116	1367	179
Grp Sat Flow(s),veh/h/ln	891	1800	1525	637	1800	1506	1619	1638	1521	1619	1638	1525
Q Serve(g_s), s	32.9	31.5	13.5	10.3	18.1	4.0	14.5	33.0	5.3	8.4	31.6	10.9
Cycle Q Clear(g_c), s	51.0	31.5	13.5	41.8	18.1	4.0	14.5	33.0	5.3	8.4	31.6	10.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	308	773	655	165	773	647	198	1700	526	138	1520	472
V/C Ratio(X)	0.98	0.74	0.39	0.36	0.49	0.13	1.07	0.86	0.18	0.84	0.90	0.38
Avail Cap(c_a), veh/h	308	773	655	165	773	647	198	1739	538	143	1573	488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	28.3	23.2	45.7	24.5	20.5	52.1	36.2	27.1	53.5	39.2	32.1
Incr Delay (d2), s/veh	45.1	3.8	0.4	1.3	0.5	0.1	82.9	4.7	0.2	30.7	7.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.7	13.6	4.7	1.6	7.4	1.4	10.2	13.0	1.8	4.4	12.9	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.0	32.0	23.5	47.1	24.9	20.6	135.0	40.9	27.3	84.2	46.5	32.6
LnGrp LOS	F	C	C	D	C	C	F	D	C	F	D	C
Approach Vol, veh/h		1126			524			1774			1662	
Approach Delay, s/veh		45.9			26.8			51.3			47.6	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.7	47.1		58.0	18.0	42.7		58.0				
Change Period (Y+Rc), s	3.5	6.0		7.0	3.5	6.0		7.0				
Max Green Setting (Gmax), s	10.5	42.0		51.0	14.5	38.0		51.0				
Max Q Clear Time (g_c+I1), s	10.4	35.0		53.0	16.5	33.6		43.8				
Green Ext Time (p_c), s	0.0	4.7		0.0	0.0	3.1		1.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				46.4								
HCM 6th LOS				D								

Timings  
9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

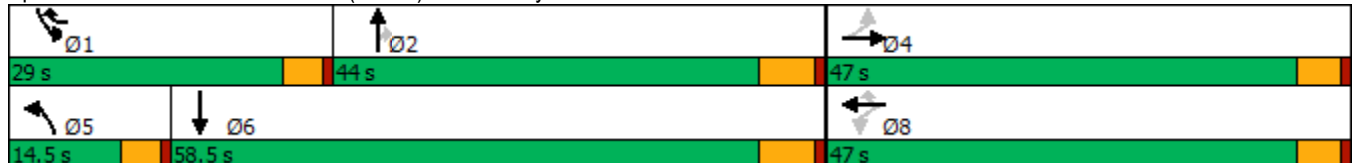


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕	↗	↕	↗	↗	↑↑↑	↗	↗	↑↑↑
Traffic Volume (vph)	12	31	351	2	278	5	1310	314	334	1343
Future Volume (vph)	12	31	351	2	278	5	1310	314	334	1343
Turn Type	Perm	NA	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	1	5	2		1	6
Permitted Phases	4		8		8			2		
Detector Phase	4	4	8	8	1	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	14.5	28.0	28.0	14.5	28.0
Total Split (s)	47.0	47.0	47.0	47.0	29.0	14.5	44.0	44.0	29.0	58.5
Total Split (%)	39.2%	39.2%	39.2%	39.2%	24.2%	12.1%	36.7%	36.7%	24.2%	48.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0	5.0	5.0	4.5	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 114.7  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated























Splits and Phases: 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 6th Signalized Intersection Summary  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	31	13	351	2	278	5	1310	314	334	1343	1
Future Volume (veh/h)	12	31	13	351	2	278	5	1310	314	334	1343	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	13	34	13	386	2	295	5	1440	280	367	1476	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	120	299	105	475	555	808	21	1623	504	358	2647	0
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.01	0.33	0.33	0.22	0.54	0.00
Sat Flow, veh/h	262	969	341	1303	1800	1525	1619	4914	1525	1619	5076	0
Grp Volume(v), veh/h	60	0	0	386	2	295	5	1440	280	367	1476	0
Grp Sat Flow(s),veh/h/ln	1572	0	0	1303	1800	1525	1619	1638	1525	1619	1638	0
Q Serve(g_s), s	0.0	0.0	0.0	28.5	0.1	12.5	0.3	30.7	16.7	24.5	21.9	0.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	31.3	0.1	12.5	0.3	30.7	16.7	24.5	21.9	0.0
Prop In Lane	0.22		0.22	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	524	0	0	475	555	808	21	1623	504	358	2647	0
V/C Ratio(X)	0.11	0.00	0.00	0.81	0.00	0.37	0.24	0.89	0.56	1.02	0.56	0.00
Avail Cap(c_a), veh/h	632	0	0	567	683	916	146	1686	523	358	2647	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.4	0.0	0.0	37.0	26.5	15.2	54.1	35.1	30.4	43.1	16.8	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	6.3	0.0	0.1	2.2	6.0	1.2	54.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	10.3	0.0	3.9	0.1	12.2	5.9	14.5	7.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	0.0	0.0	43.3	26.5	15.3	56.3	41.1	31.6	97.2	17.1	0.0
LnGrp LOS	C	A	A	D	C	B	E	D	C	F	B	A
Approach Vol, veh/h		60			683			1725			1843	
Approach Delay, s/veh		27.5			31.2			39.6			33.0	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	29.0	42.6		39.2	5.9	65.7		39.2				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	24.5	38.0		42.0	10.0	52.5		42.0				
Max Q Clear Time (g_c+1), s	26.5	32.7		4.7	2.3	23.9		33.3				
Green Ext Time (p_c), s	0.0	3.8		0.2	0.0	11.1		0.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				35.3								
HCM 6th LOS				D								

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	↘
Traffic Vol, veh/h	17	827	625	9	42	59
Future Vol, veh/h	17	827	625	9	42	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	18	899	679	10	46	64

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	689	0	-	0	1170 345
Stage 1	-	-	-	-	684 -
Stage 2	-	-	-	-	486 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	915	-	-	-	189 657
Stage 1	-	-	-	-	468 -
Stage 2	-	-	-	-	590 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	915	-	-	-	185 657
Mov Cap-2 Maneuver	-	-	-	-	185 -
Stage 1	-	-	-	-	459 -
Stage 2	-	-	-	-	590 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	19.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	915	-	-	-	185	657
HCM Lane V/C Ratio	0.02	-	-	-	0.247	0.098
HCM Control Delay (s)	9	-	-	-	30.7	11.1
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9	0.3

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	↗
Traffic Vol, veh/h	18	838	586	17	50	39
Future Vol, veh/h	18	838	586	17	50	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	20	911	637	18	54	42

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	655	0	-	0	1142 328
Stage 1	-	-	-	-	646 -
Stage 2	-	-	-	-	496 -
Critical Hdwy	4.1	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	942	-	-	-	197 674
Stage 1	-	-	-	-	489 -
Stage 2	-	-	-	-	583 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	942	-	-	-	193 674
Mov Cap-2 Maneuver	-	-	-	-	193 -
Stage 1	-	-	-	-	479 -
Stage 2	-	-	-	-	583 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	22
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	942	-	-	-	193	674
HCM Lane V/C Ratio	0.021	-	-	-	0.282	0.063
HCM Control Delay (s)	8.9	-	-	-	30.8	10.7
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1	0.2

Timings

33: Merrill Av. & Bon View Av.

08/25/2021



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations		↕	↕↔	↕
Traffic Volume (vph)	96	793	525	66
Future Volume (vph)	96	793	525	66
Turn Type	Perm	NA	NA	Prot
Protected Phases		4	8	6
Permitted Phases	4			
Detector Phase	4	4	8	6
Switch Phase				
Minimum Initial (s)	10.0	10.0	10.0	10.0
Minimum Split (s)	23.2	23.2	23.2	21.7
Total Split (s)	97.0	97.0	97.0	23.0
Total Split (%)	80.8%	80.8%	80.8%	19.2%
Yellow Time (s)	5.2	5.2	5.2	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		6.2	6.2	4.7
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Min	Min	Min	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 85.1  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Merrill Av. & Bon View Av.



HCM 6th Signalized Intersection Summary  
 33: Merrill Av. & Bon View Av.

Ontario Ranch Business Park (JN 13941)  
 08/25/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↕	
Traffic Volume (veh/h)	96	793	525	41	66	64
Future Volume (veh/h)	96	793	525	41	66	64
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	104	862	571	45	72	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	153	1004	2127	167	125	121
Arrive On Green	0.66	0.66	0.66	0.66	0.15	0.15
Sat Flow, veh/h	129	1517	3302	253	814	791
Grp Volume(v), veh/h	966	0	304	312	143	0
Grp Sat Flow(s),veh/h/ln	1646	0	1710	1755	1617	0
Q Serve(g_s), s	17.7	0.0	4.3	4.3	4.8	0.0
Cycle Q Clear(g_c), s	27.5	0.0	4.3	4.3	4.8	0.0
Prop In Lane	0.11			0.14	0.50	0.49
Lane Grp Cap(c), veh/h	1157	0	1132	1162	248	0
V/C Ratio(X)	0.83	0.00	0.27	0.27	0.58	0.00
Avail Cap(c_a), veh/h	2555	0	2631	2699	501	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.7	0.0	4.1	4.1	23.2	0.0
Incr Delay (d2), s/veh	1.7	0.0	0.1	0.1	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	0.7	0.7	1.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.4	0.0	4.2	4.2	25.3	0.0
LnGrp LOS	A	A	A	A	C	A
Approach Vol, veh/h		966	616		143	
Approach Delay, s/veh		9.4	4.2		25.3	
Approach LOS		A	A		C	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				45.3	13.7	45.3
Change Period (Y+Rc), s				6.2	4.7	6.2
Max Green Setting (Gmax), s				90.8	18.3	90.8
Max Q Clear Time (g_c+I1), s				29.5	6.8	6.3
Green Ext Time (p_c), s				9.6	0.3	3.5
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			8.8			
HCM 6th LOS			A			



Timings  
34: Grove Av. & Eucalyptus Av.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗	↖	↕	↖	↕
Traffic Volume (vph)	167	192	16	63	17	436	44	262
Future Volume (vph)	167	192	16	63	17	436	44	262
Turn Type	Perm	NA	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8					
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	22.8	22.8	22.8	22.8	9.6	23.2	9.6	23.2
Total Split (s)	34.4	34.4	34.4	34.4	10.6	76.0	9.6	75.0
Total Split (%)	28.7%	28.7%	28.7%	28.7%	8.8%	63.3%	8.0%	62.5%
Yellow Time (s)	4.8	4.8	4.8	4.8	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	4.6	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 108  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Grove Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
34: Grove Av. & Eucalyptus Av.

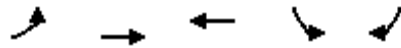
Ontario Ranch Business Park (JN 13941)

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	167	192	78	16	63	103	17	436	27	44	262	57
Future Volume (veh/h)	167	192	78	16	63	103	17	436	27	44	262	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	186	213	87	18	70	114	19	1744	30	49	291	63
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.25	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	244	307	125	161	156	254	32	1937	33	61	1628	347
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.02	0.56	0.56	0.04	0.58	0.58
Sat Flow, veh/h	1151	1215	496	1035	616	1003	1619	3440	59	1619	2804	598
Grp Volume(v), veh/h	186	0	300	18	0	184	19	865	909	49	176	178
Grp Sat Flow(s),veh/h/ln	1151	0	1711	1035	0	1619	1619	1710	1789	1619	1710	1692
Q Serve(g_s), s	17.8	0.0	18.0	1.8	0.0	10.8	1.3	50.6	51.0	3.4	5.4	5.6
Cycle Q Clear(g_c), s	28.6	0.0	18.0	19.8	0.0	10.8	1.3	50.6	51.0	3.4	5.4	5.6
Prop In Lane	1.00		0.29	1.00		0.62	1.00		0.03	1.00		0.35
Lane Grp Cap(c), veh/h	244	0	432	161	0	409	32	963	1007	61	993	983
V/C Ratio(X)	0.76	0.00	0.69	0.11	0.00	0.45	0.59	0.90	0.90	0.81	0.18	0.18
Avail Cap(c_a), veh/h	244	0	432	161	0	409	86	1055	1104	72	1040	1029
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	0.0	38.3	47.3	0.0	35.6	55.0	21.9	22.0	54.0	11.1	11.1
Incr Delay (d2), s/veh	13.1	0.0	4.7	0.3	0.0	0.8	6.3	9.8	9.8	36.7	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	7.8	0.5	0.0	4.2	0.6	20.0	21.1	2.0	1.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.0	0.0	43.0	47.6	0.0	36.4	61.2	31.7	31.7	90.7	11.2	11.2
LnGrp LOS	E	A	D	D	A	D	E	C	C	F	B	B
Approach Vol, veh/h		486			202			1793			403	
Approach Delay, s/veh		49.9			37.4			32.0			20.9	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	69.9		34.4	6.8	71.9		34.4				
Change Period (Y+Rc), s	4.6	6.2		5.8	4.6	6.2		5.8				
Max Green Setting (Gmax), s	5.0	69.8		28.6	6.0	68.8		28.6				
Max Q Clear Time (g_c+I1), s	5.4	53.0		30.6	3.3	7.6		21.8				
Green Ext Time (p_c), s	0.0	10.7		0.0	0.0	1.9		0.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				33.8								
HCM 6th LOS				C								

Timings  
35: Merrill Av. & Grove Av.

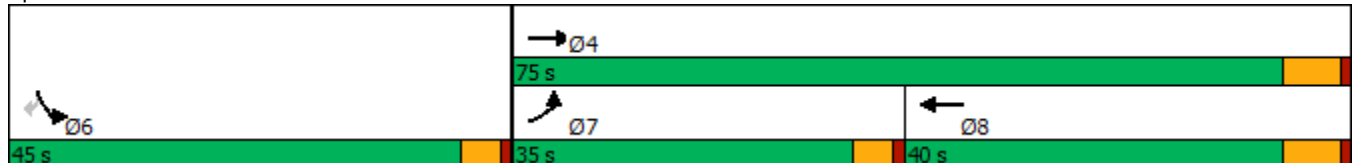


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↖	↑	↕	↖	↗
Traffic Volume (vph)	230	676	441	257	131
Future Volume (vph)	230	676	441	257	131
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	7	4	8	6	
Permitted Phases					6
Detector Phase	7	4	8	6	6
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	23.2	21.6	21.6
Total Split (s)	35.0	75.0	40.0	45.0	45.0
Total Split (%)	29.2%	62.5%	33.3%	37.5%	37.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	4.6
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Min	Min	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 73.9  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 35: Merrill Av. & Grove Av.



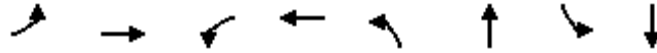
HCM 6th Signalized Intersection Summary  
35: Merrill Av. & Grove Av.

Ontario Ranch Business Park (JN 13941)  
08/25/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↖	↑	↗		↖	↘	
Traffic Volume (veh/h)	230	676	441	210	257	131	
Future Volume (veh/h)	230	676	441	210	257	131	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1700	1800	1800	1800	1700	1800	
Adj Flow Rate, veh/h	240	704	459	219	268	136	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	293	1023	667	316	352	332	
Arrive On Green	0.18	0.57	0.30	0.30	0.22	0.22	
Sat Flow, veh/h	1619	1800	2342	1066	1619	1525	
Grp Volume(v), veh/h	240	704	348	330	268	136	
Grp Sat Flow(s),veh/h/ln	1619	1800	1710	1608	1619	1525	
Q Serve(g_s), s	7.2	14.0	9.1	9.2	7.8	3.9	
Cycle Q Clear(g_c), s	7.2	14.0	9.1	9.2	7.8	3.9	
Prop In Lane	1.00			0.66	1.00	1.00	
Lane Grp Cap(c), veh/h	293	1023	506	476	352	332	
V/C Ratio(X)	0.82	0.69	0.69	0.69	0.76	0.41	
Avail Cap(c_a), veh/h	975	2454	1145	1077	1296	1221	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	19.9	7.7	15.7	15.7	18.5	17.0	
Incr Delay (d2), s/veh	2.2	0.8	1.7	1.8	3.4	0.8	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	2.3	2.8	2.9	2.8	2.6	3.5	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	22.0	8.5	17.4	17.6	21.9	17.8	
LnGrp LOS	C	A	B	B	C	B	
Approach Vol, veh/h		944	678		404		
Approach Delay, s/veh		12.0	17.5		20.5		
Approach LOS		B	B		C		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				34.9	15.6	13.7	21.1
Change Period (Y+Rc), s				6.2	4.6	4.6	6.2
Max Green Setting (Gmax), s				68.8	40.4	30.4	33.8
Max Q Clear Time (g_c+11), s				16.0	9.8	9.2	11.2
Green Ext Time (p_c), s				4.9	1.2	0.3	3.8
<b>Intersection Summary</b>							
HCM 6th Ctrl Delay			15.5				
HCM 6th LOS			B				

Timings  
36: Walker Av. & Edison Av.

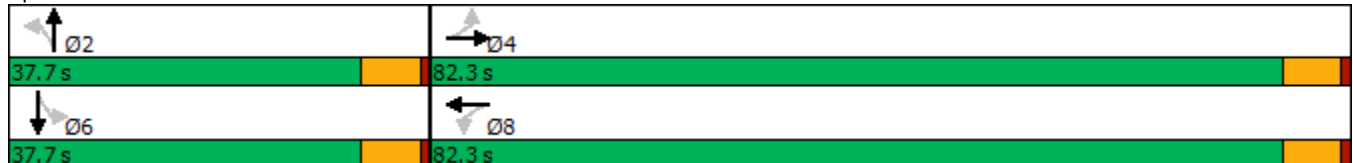


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	22	739	91	410	3	21	69	14
Future Volume (vph)	22	739	91	410	3	21	69	14
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2
Total Split (s)	82.3	82.3	82.3	82.3	37.7	37.7	37.7	37.7
Total Split (%)	68.6%	68.6%	68.6%	68.6%	31.4%	31.4%	31.4%	31.4%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.2		6.2		6.2		6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 68.8  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

















Splits and Phases: 36: Walker Av. & Edison Av.



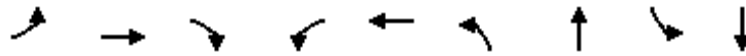
HCM 6th Signalized Intersection Summary  
36: Walker Av. & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	739	1	91	410	32	3	21	274	69	14	10
Future Volume (veh/h)	22	739	1	91	410	32	3	21	274	69	14	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	23	778	1	96	432	34	3	22	288	73	15	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	76	924	1	159	614	45	64	31	365	271	53	27
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	22	1756	2	163	1167	86	4	120	1420	628	205	104
Grp Volume(v), veh/h	802	0	0	562	0	0	313	0	0	99	0	0
Grp Sat Flow(s),veh/h/ln	1780	0	0	1416	0	0	1543	0	0	936	0	0
Q Serve(g_s), s	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	22.1	0.0	0.0	16.5	0.0	0.0	10.8	0.0	0.0	5.2	0.0	0.0
Prop In Lane	0.03		0.00	0.17		0.06	0.01		0.92	0.74		0.11
Lane Grp Cap(c), veh/h	1002	0	0	819	0	0	460	0	0	350	0	0
V/C Ratio(X)	0.80	0.00	0.00	0.69	0.00	0.00	0.68	0.00	0.00	0.28	0.00	0.00
Avail Cap(c_a), veh/h	2406	0	0	1948	0	0	911	0	0	700	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.6	0.0	0.0	9.7	0.0	0.0	19.8	0.0	0.0	17.5	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	1.0	0.0	0.0	1.8	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	0.0	0.0	3.3	0.0	0.0	3.7	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.1	0.0	0.0	10.8	0.0	0.0	21.6	0.0	0.0	17.9	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	C	A	A	B	A	A
Approach Vol, veh/h		802			562			313				99
Approach Delay, s/veh		13.1			10.8			21.6				17.9
Approach LOS		B			B			C				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		20.9		36.4		20.9		36.4				
Change Period (Y+Rc), s		6.2		6.2		6.2		6.2				
Max Green Setting (Gmax), s		31.5		76.1		31.5		76.1				
Max Q Clear Time (g_c+I1), s		12.8		24.1		7.2		18.5				
Green Ext Time (p_c), s		1.9		6.1		0.6		4.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				14.2								
HCM 6th LOS				B								

Timings  
38: Flight Av./Walker Av. & Merrill Av.

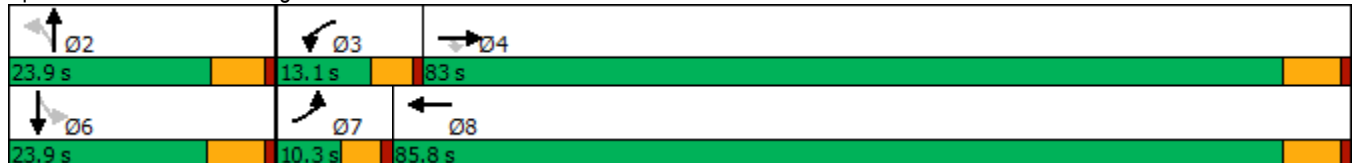


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↑	↗	↖	↕	↖	↗	↖	↗
Traffic Volume (vph)	11	791	125	90	490	114	2	26	7
Future Volume (vph)	11	791	125	90	490	114	2	26	7
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases			4			2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	23.2	9.6	23.2	23.2	23.2	23.2	23.2
Total Split (s)	10.3	83.0	83.0	13.1	85.8	23.9	23.9	23.9	23.9
Total Split (%)	8.6%	69.2%	69.2%	10.9%	71.5%	19.9%	19.9%	19.9%	19.9%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	4.8	4.8	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	5.8	5.8	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	Min	Min	None	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 87.6  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated























Splits and Phases: 38: Flight Av./Walker Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
38: Flight Av./Walker Av. & Merrill Av.

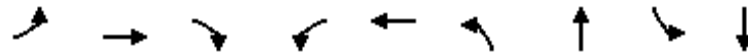
Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	791	125	90	490	9	114	2	127	26	7	32
Future Volume (veh/h)	11	791	125	90	490	9	114	2	127	26	7	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	12	869	137	99	538	10	125	2	140	28	8	35
Peak Hour Factor	0.92	0.91	0.91	0.91	0.91	0.92	0.91	0.92	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	24	949	804	123	2021	38	270	3	228	181	44	193
Arrive On Green	0.01	0.53	0.53	0.08	0.59	0.59	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1619	1800	1525	1619	3435	64	1308	22	1507	1196	292	1278
Grp Volume(v), veh/h	12	869	137	99	268	280	125	0	142	28	0	43
Grp Sat Flow(s),veh/h/ln	1619	1800	1525	1619	1710	1789	1308	0	1529	1196	0	1570
Q Serve(g_s), s	0.5	30.5	3.2	4.2	5.3	5.3	6.4	0.0	6.0	1.6	0.0	1.7
Cycle Q Clear(g_c), s	0.5	30.5	3.2	4.2	5.3	5.3	8.0	0.0	6.0	7.6	0.0	1.7
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.99	1.00		0.81
Lane Grp Cap(c), veh/h	24	949	804	123	1006	1052	270	0	231	181	0	237
V/C Ratio(X)	0.50	0.92	0.17	0.80	0.27	0.27	0.46	0.00	0.62	0.16	0.00	0.18
Avail Cap(c_a), veh/h	133	1998	1693	199	1967	2058	415	0	400	306	0	402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.8	14.9	8.5	31.5	6.9	6.9	29.1	0.0	27.5	31.0	0.0	25.6
Incr Delay (d2), s/veh	5.8	1.6	0.0	4.6	0.1	0.0	0.5	0.0	1.0	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	9.4	0.8	1.6	1.3	1.4	1.9	0.0	2.1	0.4	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	16.5	8.5	36.0	7.0	7.0	29.6	0.0	28.5	31.2	0.0	25.8
LnGrp LOS	D	B	A	D	A	A	C	A	C	C	A	C
Approach Vol, veh/h		1018			647			267				71
Approach Delay, s/veh		15.7			11.4			29.0				27.9
Approach LOS		B			B			C				C
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.6	9.9	42.7		16.6	5.6	46.9				
Change Period (Y+Rc), s		* 6.2	4.6	6.2		6.2	4.6	6.2				
Max Green Setting (Gmax), s		* 18	8.5	76.8		17.7	5.7	79.6				
Max Q Clear Time (g_c+I1), s		10.0	6.2	32.5		9.6	2.5	7.3				
Green Ext Time (p_c), s		0.4	0.0	4.0		0.1	0.0	1.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			16.5									
HCM 6th LOS			B									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



Timings  
42: Carpenter Av. & Merrill Av.

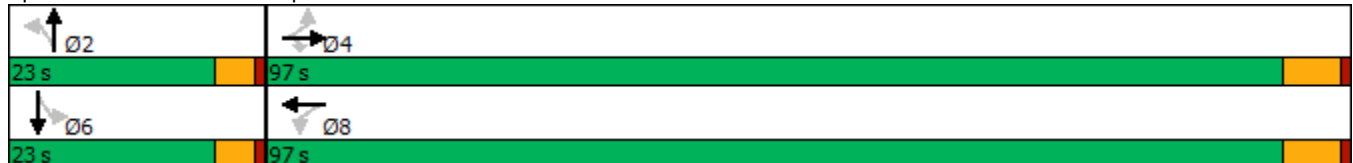


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↑	↗	↖	↗		↕		↕
Traffic Volume (vph)	8	999	23	34	488	36	4	76	5
Future Volume (vph)	8	999	23	34	488	36	4	76	5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4			8		2		6
Permitted Phases	4		4	8		2		6	
Detector Phase	4	4	4	8	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.2	23.2	23.2	23.2	23.2	21.6	21.6	21.6	21.6
Total Split (s)	97.0	97.0	97.0	97.0	97.0	23.0	23.0	23.0	23.0
Total Split (%)	80.8%	80.8%	80.8%	80.8%	80.8%	19.2%	19.2%	19.2%	19.2%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2		4.6		4.6
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Min	Min	Min	Min	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 88.8  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 42: Carpenter Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
42: Carpenter Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

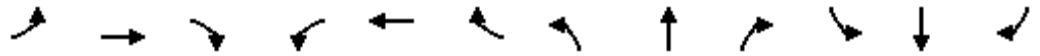


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Volume (veh/h)	8	999	23	34	488	14	36	4	123	76	5	11
Future Volume (veh/h)	8	999	23	34	488	14	36	4	123	76	5	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	9	1110	26	38	542	16	40	4	137	84	6	12
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	587	1251	1060	209	1209	36	102	20	177	234	20	21
Arrive On Green	0.70	0.70	0.70	0.70	0.70	0.70	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	865	1800	1525	503	1739	51	254	135	1211	938	134	143
Grp Volume(v), veh/h	9	1110	26	38	0	558	181	0	0	102	0	0
Grp Sat Flow(s),veh/h/ln	865	1800	1525	503	0	1791	1600	0	0	1215	0	0
Q Serve(g_s), s	0.3	33.4	0.4	4.4	0.0	9.4	1.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.7	33.4	0.4	37.8	0.0	9.4	7.2	0.0	0.0	5.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.03	0.22		0.76	0.82		0.12
Lane Grp Cap(c), veh/h	587	1251	1060	209	0	1245	299	0	0	274	0	0
V/C Ratio(X)	0.02	0.89	0.02	0.18	0.00	0.45	0.61	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	1140	2401	2035	530	0	2389	485	0	0	438	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.7	8.3	3.2	23.3	0.0	4.6	27.9	0.0	0.0	27.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.3	0.0	0.4	0.0	0.3	2.0	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.5	0.1	0.5	0.0	1.7	2.9	0.0	0.0	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.8	10.6	3.2	23.7	0.0	4.8	29.9	0.0	0.0	27.9	0.0	0.0
LnGrp LOS	A	B	A	C	A	A	C	A	A	C	A	A
Approach Vol, veh/h		1145			596			181			102	
Approach Delay, s/veh		10.4			6.1			29.9			27.9	
Approach LOS		B			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.6		53.5		14.6		53.5				
Change Period (Y+Rc), s		4.6		6.2		4.6		6.2				
Max Green Setting (Gmax), s		18.4		90.8		18.4		90.8				
Max Q Clear Time (g_c+I1), s		9.2		35.4		7.5		39.8				
Green Ext Time (p_c), s		0.7		11.9		0.4		4.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				11.7								
HCM 6th LOS				B								

Timings

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

08/25/2021

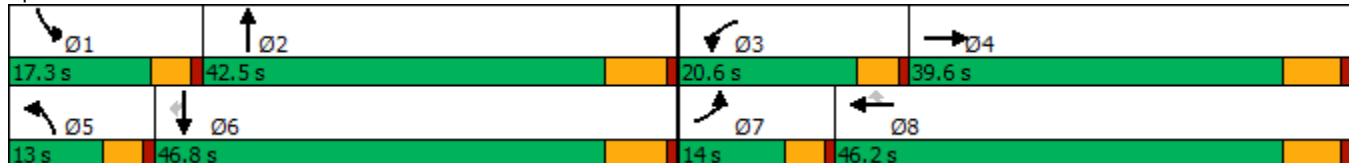


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖↗	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	158	755	137	332	287	76	87	661	408	150	864	102
Future Volume (vph)	158	755	137	332	287	76	87	661	408	150	864	102
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	14.0	39.6		20.6	46.2	46.2	13.0	42.5		17.3	46.8	46.8
Total Split (%)	11.7%	33.0%		17.2%	38.5%	38.5%	10.8%	35.4%		14.4%	39.0%	39.0%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 109.8  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated































Splits and Phases: 44: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
 44: Archibald Av. & Edison Av./Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			 			 	
Traffic Volume (veh/h)	158	755	137	332	287	76	87	661	408	150	864	102
Future Volume (veh/h)	158	755	137	332	287	76	87	661	408	150	864	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	163	778	0	342	296	44	90	681	0	155	891	83
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	217	915		398	1125	502	111	919		182	1069	470
Arrive On Green	0.07	0.27	0.00	0.13	0.33	0.33	0.07	0.27	0.00	0.11	0.31	0.31
Sat Flow, veh/h	2956	3420	1525	2956	3420	1525	1619	3420	1525	1619	3420	1505
Grp Volume(v), veh/h	163	778	0	342	296	44	90	681	0	155	891	83
Grp Sat Flow(s),veh/h/ln	1478	1710	1525	1478	1710	1525	1619	1710	1525	1619	1710	1505
Q Serve(g_s), s	5.5	21.8	0.0	11.5	6.4	2.0	5.5	18.4	0.0	9.5	24.5	4.1
Cycle Q Clear(g_c), s	5.5	21.8	0.0	11.5	6.4	2.0	5.5	18.4	0.0	9.5	24.5	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	217	915		398	1125	502	111	919		182	1069	470
V/C Ratio(X)	0.75	0.85		0.86	0.26	0.09	0.81	0.74		0.85	0.83	0.18
Avail Cap(c_a), veh/h	274	1128		467	1351	603	134	1216		203	1361	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	35.1	0.0	42.9	25.0	23.5	46.5	33.8	0.0	44.1	32.3	25.3
Incr Delay (d2), s/veh	6.0	5.3	0.0	11.7	0.1	0.1	21.6	1.7	0.0	23.6	3.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	9.1	0.0	4.6	2.5	0.7	2.8	7.3	0.0	4.8	9.8	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	40.4	0.0	54.6	25.1	23.6	68.0	35.5	0.0	67.7	36.0	25.5
LnGrp LOS	D	D		D	C	C	E	D		E	D	C
Approach Vol, veh/h		941	A		682			771	A		1129	
Approach Delay, s/veh		42.4			39.8			39.3			39.6	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	33.7	18.2	33.3	11.6	38.1	12.0	39.5				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	12.7	36.0	16.0	33.4	8.4	40.3	9.4	40.0				
Max Q Clear Time (g_c+I1), s	11.5	20.4	13.5	23.8	7.5	26.5	7.5	8.4				
Green Ext Time (p_c), s	0.0	3.5	0.2	3.3	0.0	4.8	0.0	1.8				

Intersection Summary

HCM 6th Ctrl Delay	40.3
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

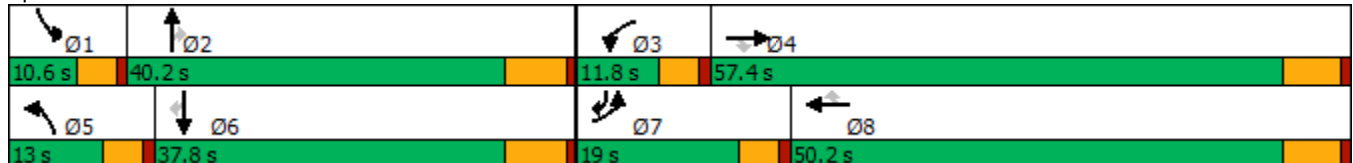
Timings  
46: Archibald Av. & Merrill Av.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	419	81	626	47	27	55	199	636	44	77	1039	238
Future Volume (vph)	419	81	626	47	27	55	199	636	44	77	1039	238
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	9.6
Total Split (s)	19.0	57.4	57.4	11.8	50.2	50.2	13.0	40.2	40.2	10.6	37.8	19.0
Total Split (%)	15.8%	47.8%	47.8%	9.8%	41.8%	41.8%	10.8%	33.5%	33.5%	8.8%	31.5%	15.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 106.4  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated































Splits and Phases: 46: Archibald Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 						 	  		 	 	
Traffic Volume (veh/h)	419	81	626	47	27	55	199	636	44	77	1039	238
Future Volume (veh/h)	419	81	626	47	27	55	199	636	44	77	1039	238
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	432	84	460	48	28	18	205	656	31	79	1071	187
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	466	594	503	61	394	334	265	1776	544	134	1103	719
Arrive On Green	0.15	0.33	0.33	0.04	0.22	0.22	0.08	0.36	0.36	0.05	0.32	0.32
Sat Flow, veh/h	3141	1800	1525	1619	1800	1525	3141	4914	1506	2956	3420	1525
Grp Volume(v), veh/h	432	84	460	48	28	18	205	656	31	79	1071	187
Grp Sat Flow(s),veh/h/ln	1570	1800	1525	1619	1800	1525	1570	1638	1506	1478	1710	1525
Q Serve(g_s), s	13.2	3.2	28.1	2.9	1.2	0.9	6.2	9.5	1.3	2.5	30.0	7.2
Cycle Q Clear(g_c), s	13.2	3.2	28.1	2.9	1.2	0.9	6.2	9.5	1.3	2.5	30.0	7.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	466	594	503	61	394	334	265	1776	544	134	1103	719
V/C Ratio(X)	0.93	0.14	0.91	0.79	0.07	0.05	0.77	0.37	0.06	0.59	0.97	0.26
Avail Cap(c_a), veh/h	466	950	805	120	816	692	272	1776	544	183	1103	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	22.8	31.2	46.3	30.1	29.9	43.5	22.8	20.2	45.4	32.4	15.5
Incr Delay (d2), s/veh	24.3	0.1	9.9	8.4	0.1	0.1	11.5	0.1	0.0	1.5	20.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	1.3	11.2	1.3	0.5	0.3	2.7	3.3	0.5	0.9	14.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.1	23.0	41.1	54.7	30.1	30.0	55.0	23.0	20.2	46.9	52.7	15.7
LnGrp LOS	E	C	D	D	C	C	D	C	C	D	D	B
Approach Vol, veh/h		976			94			892			1337	
Approach Delay, s/veh		50.2			42.7			30.2			47.2	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	41.6	8.2	38.2	12.8	37.8	19.0	27.4				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	6.0	33.7	7.2	51.2	8.4	31.3	14.4	44.0				
Max Q Clear Time (g_c+I1), s	4.5	11.5	4.9	30.1	8.2	32.0	15.2	3.2				
Green Ext Time (p_c), s	0.0	3.9	0.0	1.9	0.0	0.0	0.0	0.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			43.4									
HCM 6th LOS			D									



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	369	321	589	402	756	958
Future Volume (vph)	369	321	589	402	756	958
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	36.3	11.0	46.3	36.3	11.0	11.0
Total Split (s)	36.3	36.0	47.7	36.3	36.0	83.7
Total Split (%)	30.3%	30.0%	39.8%	30.3%	30.0%	69.8%
Yellow Time (s)	4.3	4.0	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.0	5.3	5.3	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 96.2  
 Natural Cycle: 105  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 47: Archibald Av. & Limonite Av.



HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
08/25/2021



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	369	321	589	402	756	958
Future Volume (veh/h)	369	321	589	402	756	958
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	377	278	601	389	771	978
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	492	1149	737	837	931	1367
Arrive On Green	0.14	0.14	0.39	0.39	0.27	0.72
Sat Flow, veh/h	3510	2834	1900	1576	3510	1900
Grp Volume(v), veh/h	377	278	601	389	771	978
Grp Sat Flow(s),veh/h/ln	1755	1417	1900	1576	1755	1900
Q Serve(g_s), s	7.8	4.9	21.4	11.7	15.6	22.5
Cycle Q Clear(g_c), s	7.8	4.9	21.4	11.7	15.6	22.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	492	1149	737	837	931	1367
V/C Ratio(X)	0.77	0.24	0.82	0.46	0.83	0.72
Avail Cap(c_a), veh/h	1442	1916	1068	1112	1442	1982
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	14.8	20.7	11.2	26.1	6.1
Incr Delay (d2), s/veh	0.9	0.0	3.7	0.5	2.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.3	8.7	4.8	5.9	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.2	14.8	24.3	11.6	28.5	6.4
LnGrp LOS	C	B	C	B	C	A
Approach Vol, veh/h	655		990			1749
Approach Delay, s/veh	24.8		19.3			16.2
Approach LOS	C		B			B
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	25.0	34.6			59.6	15.9
Change Period (Y+Rc), s	5.0	5.3			* 5.3	5.3
Max Green Setting (Gmax), s	31.0	42.4			* 79	31.0
Max Q Clear Time (g_c+I1), s	17.6	23.4			24.5	9.8
Green Ext Time (p_c), s	2.4	5.9			4.4	0.8

Intersection Summary

HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Timings

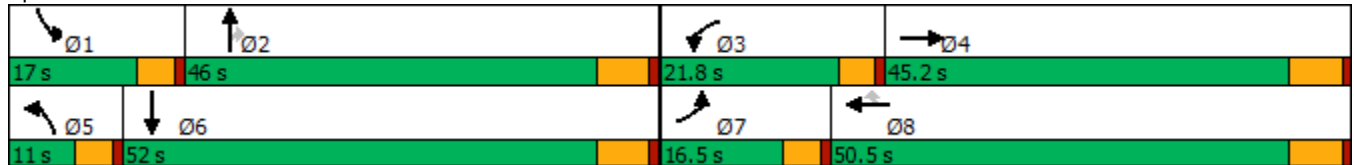


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↑↑↑↓	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑↓
Traffic Volume (vph)	104	1039	627	551	116	211	404	252	488	857
Future Volume (vph)	104	1039	627	551	116	211	404	252	488	857
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	7	4	3	8		5	2		1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	8	5	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	45.2	9.6	49.2	49.2	9.6	44.2	44.2	9.6	45.2
Total Split (s)	16.5	45.2	21.8	50.5	50.5	11.0	46.0	46.0	17.0	52.0
Total Split (%)	12.7%	34.8%	16.8%	38.8%	38.8%	8.5%	35.4%	35.4%	13.1%	40.0%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 109.4  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/25/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	1039	284	627	551	116	211	404	252	488	857	120
Future Volume (veh/h)	104	1039	284	627	551	116	211	404	252	488	857	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	108	1082	239	653	574	87	220	421	183	508	893	70
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	159	1477	323	508	1996	620	189	985	305	366	1210	95
Arrive On Green	0.05	0.29	0.29	0.17	0.41	0.41	0.06	0.20	0.20	0.12	0.26	0.26
Sat Flow, veh/h	2956	5123	1120	2956	4914	1525	2956	4914	1523	2956	4647	363
Grp Volume(v), veh/h	108	980	341	653	574	87	220	421	183	508	629	334
Grp Sat Flow(s),veh/h/ln	1478	1548	1598	1478	1638	1525	1478	1638	1523	1478	1638	1734
Q Serve(g_s), s	3.6	19.1	19.3	17.2	7.9	3.6	6.4	7.5	10.9	12.4	17.6	17.7
Cycle Q Clear(g_c), s	3.6	19.1	19.3	17.2	7.9	3.6	6.4	7.5	10.9	12.4	17.6	17.7
Prop In Lane	1.00		0.70	1.00		1.00	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	159	1339	461	508	1996	620	189	985	305	366	853	452
V/C Ratio(X)	0.68	0.73	0.74	1.29	0.29	0.14	1.16	0.43	0.60	1.39	0.74	0.74
Avail Cap(c_a), veh/h	351	1809	622	508	2174	675	189	1953	605	366	1498	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	32.2	32.3	41.5	20.0	18.7	46.9	35.0	36.4	43.9	33.9	33.9
Incr Delay (d2), s/veh	1.9	1.0	3.2	143.1	0.1	0.1	116.8	0.3	1.9	190.6	1.3	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	6.7	7.2	16.0	2.8	1.2	5.3	2.9	4.0	14.0	6.7	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.4	33.2	35.4	184.6	20.1	18.8	163.6	35.3	38.3	234.5	35.2	36.3
LnGrp LOS	D	C	D	F	C	B	F	D	D	F	D	D
Approach Vol, veh/h		1429			1314			824			1471	
Approach Delay, s/veh		34.9			101.7			70.2			104.3	
Approach LOS		C			F			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	26.3	21.8	35.1	11.0	32.3	10.0	46.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.4	39.8	17.2	39.0	6.4	45.8	11.9	44.3				
Max Q Clear Time (g_c+I1), s	14.4	12.9	19.2	21.3	8.4	19.7	5.6	9.9				
Green Ext Time (p_c), s	0.0	3.1	0.0	7.5	0.0	6.0	0.1	4.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				78.4								
HCM 6th LOS				E								

**APPENDIX 7.1:**

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS  
ANALYSIS WORKSHEETS**

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**Volume Development  
AM Peak Hour**

<b>1: SR-60 WB Ramps &amp; Euclid Av.</b>													
	PHF:	0.939		7:15		Count Date: 1/30/2019							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	580	1,197	0	0	1,231	593	0	0	0	814	7	516	4,937
<b>2: SR-60 EB Ramps &amp; Euclid Av.</b>													
	PHF:	0.953		7:30		Count Date: 1/30/2019							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	0	1,257	860	459	1,586	0	520	3	785	0	0	0	5,469
<b>3: Euclid Av. &amp; Walnut Av.</b>													
	PHF:	0.954		7:15		Count Date: 1/30/2019							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	164	1,634	58	189	1,946	123	252	365	155	91	388	258	5,622
<b>4: Euclid Av. &amp; Riverside Dr</b>													
	PHF:	0.946		7:30		Count Date: 1/22/2019							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	162	1,366	201	220	1,730	192	193	457	150	241	627	149	5,689
<b>5: Euclid Av. &amp; Chino Av.</b>													
	PHF:	0.941		7:15		Count Date: 1/24/2019							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	69	1,469	180	71	1,886	116	131	247	69	105	296	84	4,723
<b>6: Euclid Av. &amp; Schaefer Av.</b>													
	PHF:	0.933		7:15		Count Date: 1/22/2019							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	231	1,428	44	40	1,793	457	193	92	104	177	377	190	5,126
<b>7: Euclid Av. &amp; Edison Av.</b>													
	PHF:	0.956		7:15		Count Date: 1/23/2019							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	283	1,315	176	343	1,520	211	196	1,063	167	279	1,185	351	7,090
<b>8: Euclid Av. &amp; Eucalyptus Av.</b>													
	PHF:	0.976		7:15		Count Date: 1/22/2019							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	221	1,575	133	132	1,724	55	85	48	205	385	196	192	4,950
<b>9: Euclid Av. &amp; Merrill Av.</b>													
	PHF:	0.965		7:15		Count Date: 1/22/2019							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	13	1,451	567	436	1,829	49	10	10	21	434	60	477	5,357
<b>10: Sultana Av. &amp; Eucalyptus Av.</b>													
	PHF:					Count Date:							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	18		9						75	67	665		1,035
<b>11: Sultana Av. &amp; Driveway 1</b>													
	PHF:					Count Date:							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):		27			142								169
<b>12: Sultana Av. &amp; Driveway 2</b>													
	PHF:					Count Date:							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):		27			142								169
<b>13: Sultana Av. &amp; Driveway 3</b>													
	PHF:					Count Date:							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):													0
<b>14: Sultana Av. &amp; Driveway 4</b>													
	PHF:					Count Date:							

**Volume Development  
AM Peak Hour**

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):													0
	<b>15: Sultana Av. &amp; Driveway 5</b>												
	PHF: _____												
	Count Date: _____												
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
													0
	<b>16: Sultana Av. &amp; Driveway 6</b>												
	PHF: _____												
	Count Date: _____												
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
													0
	<b>17: Sultana Av. &amp; Driveway 7</b>												
	PHF: _____												
	Count Date: _____												
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
													0
	<b>18: Sultana Av. &amp; Merrill Av.</b>												
	PHF: _____												
	Count Date: _____												
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
				25		13		22	999		1,131	42	2,232
	<b>19: Driveway 8 &amp; Merrill Av.</b>												
	PHF: _____												
	Count Date: _____												
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
								999			1,084		2,083
	<b>20: Driveway 9 &amp; Eucalyptus Av.</b>												
	PHF: _____												
	Count Date: _____												
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
								192			665		856
	<b>21: Driveway 10 &amp; Eucalyptus Av.</b>												
	PHF: _____												
	Count Date: _____												
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
								192			665		856
	<b>22: Driveway 11 &amp; Merrill Av.</b>												
	PHF: _____												
	Count Date: _____												
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
								999			1,084		2,083
	<b>23: Campus Av. &amp; Eucalyptus Av.</b>												
	PHF: _____												
	Count Date: _____												
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	1	18	0	5	0	0	168	24	85	665	0	965
	<b>24: Campus Av. &amp; Driveway 12</b>												
	PHF: _____												
	Count Date: _____												
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
		19			114								133
	<b>25: Campus Av. &amp; Driveway 13</b>												
	PHF: _____												
	Count Date: _____												
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
		19			114								133
	<b>26: Campus Av. &amp; Driveway 14</b>												
	PHF: _____												
	Count Date: _____												
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
		19			114								133
	<b>27: Campus Av. &amp; Driveway 15</b>												
	PHF: _____												
	Count Date: _____												
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
		19			114								133

Volume Development  
AM Peak Hour

		Count Date: _____											TOTAL	
PHF: _____		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 NP (PCE):	28: Campus Av. & Driveway 16		19			114								133
2040 NP (PCE):	29: Campus Av. & Driveway 17		19			114								133
2040 NP (PCE):	30: Campus Av. & Driveway 18		19			114								133
2040 NP (PCE):	31: Campus Av. & Merrill Av.	0	0	0	9	0	14	69	930	0	0	1,070	12	2,104
2040 NP (PCE):	32: Bon View Av. & Eucalyptus Av.	24	72	63	46	85	166	38	144	10	118	593	84	1,442
2040 NP (PCE):	33: Bon View Av. & Merrill Av.	0	0	0	74	0	71	109	803	0	0	1,052	162	2,272
2040 NP (PCE):	34: Grove Av. & Eucalyptus Av.	93	436	46	355	669	289	78	160	21	171	203	150	2,671
2040 NP (PCE):	35: Grove Av. & Merrill Av.	0	0	0	494	0	272	282	693	0	0	1,094	516	3,351
2040 NP (PCE):	36: Walker Av. & Edison Av.	105	249	162	59	50	45	63	953	96	432	1,318	285	3,817
2040 NP (PCE):	37: Walker Av. & Eucalyptus Av.	28	67	13	153	268	297	38	190	76	19	311	111	1,570
2040 NP (PCE):	38: Walker Av./Flight Av. & Merrill Av.	172	33	121	36	50	84	163	845	178	148	1,355	91	3,276
2040 NP (PCE):	39: Baker Av./Van Vliet Av. & Merrill Av.	14	0	85	20	0	17	62	902	38	36	1,562	72	2,808
2040 NP (PCE):	40: Vineyard Av. & Edison Av.	54	22	164	61	38	30	19	1,465	73	313	2,646	43	4,928
2040 NP (PCE):	41: Vineyard Av./Hellman Av. & Merrill Av.													

**Volume Development  
AM Peak Hour**

2040 NP (PCE): 87 54 12 112 165 73 24 314 137 150 670 80 1,878

**42: Carpenter Av. & Merrill Av.**

PHF: 0.940 7:30

Count Date: 1/30/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	78	0	153	180	0	71	44	864	37	253	1,559	118	3,356

**43: Hellman Av. & Edison Av.**

PHF: 0.920

Count Date:

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	61	10	49	43	84	67	36	1,471	211	175	2,815	48	5,070

**44: Archibald Av. & Edison Av./Ontario Ranch Rd.**

PHF: 0.973 7:00

Count Date: 1/22/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	515	1,297	536	79	750	337	472	943	411	673	1,952	299	8,263

**45: Archibald Av. & Eucalyptus Av.**

PHF: 0.934 7:00

Count Date: 1/22/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	237	2,027	84	60	1,483	169	47	31	36	122	280	162	4,738

**46: Archibald Av. & Merrill Av.**

PHF: 0.970 7:00

Count Date: 1/22/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	834	1,492	88	48	925	745	387	30	261	139	103	158	5,209

**47: Archibald Av. & Limonite Av.**

PHF: 0.959 7:00

Count Date: 1/22/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	149	1,140	372	439	796	193	215	579	113	366	852	740	5,954

**48: Turner Av. & Edison Av./Ontario Ranch Rd.**

PHF: 0.902 7:00

Count Date: 1/30/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	70	30	45	96	19	217	100	1,122	41	52	2,435	93	4,321

**49: Haven Av. & Ontario Ranch Rd.**

PHF: 0.938 7:00

Count Date: 2/6/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	76	232	96	319	124	268	241	1,267	44	26	2,076	114	4,883

**50: Hamner Av. & Ontario Ranch Rd./Cantu-Galleano Ranch Rd.**

PHF: 0.882 7:00

Count Date: 1/30/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	334	856	692	275	467	225	131	1,168	195	388	1,657	246	6,635

**51: I-215 SB Ramps & Cantu-Galleano Ranch Rd.**

PHF: 0.896 7:00

Count Date: 1/30/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	0	0	0	392	0	1,525	0	1,506	528	0	734	221	4,906

**52: I-215 NB Ramps & Cantu-Galleano Ranch Rd.**

PHF: 0.914 7:00

Count Date: 1/30/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	319	0	365	0	0	0	0	667	1,231	445	635	0	3,661



**Volume Development  
PM Peak Hour**

<b>1: SR-60 WB Ramps &amp; Euclid Av.</b>													
	PHF:	<u>0.962</u>		4:30							Count Date:	<u>1/30/2019</u>	
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	728	1,351	0	0	1,259	598	0	0	0	770	8	495	5,208
<b>2: SR-60 EB Ramps &amp; Euclid Av.</b>													
	PHF:	<u>0.977</u>		4:30							Count Date:	<u>1/30/2019</u>	
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	1,572	769	458	1,573	0	505	4	575	0	0	0	5,455
<b>3: Euclid Av. &amp; Walnut Av.</b>													
	PHF:	<u>0.941</u>		4:45							Count Date:	<u>1/30/2019</u>	
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	247	2,012	90	320	1,595	265	179	449	180	85	449	170	6,041
<b>4: Euclid Av. &amp; Riverside Dr</b>													
	PHF:	<u>0.958</u>		5:00							Count Date:	<u>1/22/2019</u>	
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	226	1,801	295	173	1,372	345	234	732	207	229	506	80	6,200
<b>5: Euclid Av. &amp; Chino Av.</b>													
	PHF:	<u>0.930</u>		4:45							Count Date:	<u>1/24/2019</u>	
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	77	2,121	278	39	1,555	87	134	498	71	137	230	20	5,247
<b>6: Euclid Av. &amp; Schaefer Av.</b>													
	PHF:	<u>0.986</u>		4:45							Count Date:	<u>1/22/2019</u>	
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	248	2,056	100	203	1,584	455	487	463	266	95	158	75	6,191
<b>7: Euclid Av. &amp; Edison Av.</b>													
	PHF:	<u>0.950</u>		4:45							Count Date:	<u>1/23/2019</u>	
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	228	1,851	350	221	1,634	220	334	1,266	378	472	835	404	8,193
<b>8: Euclid Av. &amp; Eucalyptus Av.</b>													
	PHF:	<u>0.890</u>		4:45							Count Date:	<u>1/22/2019</u>	
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	148	1,901	383	267	1,854	80	51	204	266	413	166	257	5,989
<b>9: Euclid Av. &amp; Merrill Av.</b>													
	PHF:	<u>0.905</u>		4:30							Count Date:	<u>1/22/2019</u>	
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	5	1,903	854	410	2,122	1	14	37	15	763	3	485	6,612
<b>10: Sultana Av. &amp; Eucalyptus Av.</b>													
	PHF:	<u>0.905</u>		4:30							Count Date:	<u>1/22/2019</u>	
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	71		35					760	46	26	529		1,467
<b>11: Sultana Av. &amp; Driveway 1</b>													
	PHF:	<u>0.905</u>		4:30							Count Date:	<u>1/22/2019</u>	
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
		106			72								178
<b>12: Sultana Av. &amp; Driveway 2</b>													
	PHF:	<u>0.905</u>		4:30							Count Date:	<u>1/22/2019</u>	
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
		106			72								178
<b>13: Sultana Av. &amp; Driveway 3</b>													
	PHF:	<u>0.905</u>		4:30							Count Date:	<u>1/22/2019</u>	
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
		106			72								178
<b>14: Sultana Av. &amp; Driveway 4</b>													
	PHF:	<u>0.905</u>		4:30							Count Date:	<u>1/22/2019</u>	

**Volume Development  
PM Peak Hour**

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):		106			72								178
<b>15: Sultana Av. &amp; Driveway 5</b>													
PHF: _____ Count Date: _____													
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
		106			72								178
<b>16: Sultana Av. &amp; Driveway 6</b>													
PHF: _____ Count Date: _____													
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
		106			72								178
<b>17: Sultana Av. &amp; Driveway 7</b>													
PHF: _____ Count Date: _____													
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
		106			72								178
<b>18: Sultana Av. &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
				95		45	7	1,249			1,180	16	2,592
<b>19: Driveway 8 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
								1,249			1,163		2,412
<b>20: Driveway 9 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
								720			529		1,249
<b>21: Driveway 10 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
								720			529		1,249
<b>22: Driveway 11 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
								1,249			1,163		2,412
<b>23: Campus Av. &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	26	6	63	0	1	0	0	719	1	34	503	0	1,353
<b>24: Campus Av. &amp; Driveway 12</b>													
PHF: _____ Count Date: _____													
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
		95			36								131
<b>25: Campus Av. &amp; Driveway 13</b>													
PHF: _____ Count Date: _____													
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
		95			36								131
<b>26: Campus Av. &amp; Driveway 14</b>													
PHF: _____ Count Date: _____													
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
		95			36								131
<b>27: Campus Av. &amp; Driveway 15</b>													
PHF: _____ Count Date: _____													
2040 NP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
		95			36								131

Volume Development  
PM Peak Hour

<b>28: Campus Av. &amp; Driveway 16</b>													
PHF: _____ Count Date: _____													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):		95			36								131
<b>29: Campus Av. &amp; Driveway 17</b>													
PHF: _____ Count Date: _____													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):		95			36								131
<b>30: Campus Av. &amp; Driveway 18</b>													
PHF: _____ Count Date: _____													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):		95			36								131
<b>31: Campus Av. &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	0	0	0	31	0	69	19	1,230	0	0	1,094	2	2,445
<b>32: Bon View Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.866</u> 4:45 Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	7	111	171	110	84	65	111	697	8	74	460	122	2,020
<b>33: Bon View Av. &amp; Merrill Av.</b>													
PHF: <u>0.938</u> 4:30 Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	0	0	0	119	0	135	124	1,186	0	0	944	115	2,623
<b>34: Grove Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.897</u> 4:45 Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	45	930	107	123	424	230	304	326	101	75	303	295	3,264
<b>35: Grove Av. &amp; Merrill Av.</b>													
PHF: <u>0.959</u> 4:30 Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	0	0	0	565	0	345	560	1,032	0	0	765	475	3,742
<b>36: Walker Av. &amp; Edison Av.</b>													
PHF: <u>0.951</u> 4:30 Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	91	73	358	173	297	69	95	2,034	51	257	1,418	65	4,981
<b>37: Walker Av. &amp; Eucalyptus Av.</b>													
PHF: <u>0.915</u> 4:15pm Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	87	302	21	140	105	106	397	301	36	14	237	210	1,956
<b>38: Walker Av./Flight Av. &amp; Merrill Av.</b>													
PHF: <u>0.913</u> 4:30 Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	120	65	157	96	49	167	52	1,390	155	107	953	46	3,357
<b>39: Baker Av./Van Vliet Av. &amp; Merrill Av.</b>													
PHF: <u>0.882</u> 5:00 Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	38	0	25	75	0	64	22	1,567	54	14	1,004	26	2,890
<b>40: Vineyard Av. &amp; Edison Av.</b>													
PHF: <u>0.920</u> Count Date: _____													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 NP (PCE):	108	60	435	64	27	25	40	2,911	74	217	1,945	87	5,993
<b>41: Vineyard Av./Hellman Av. &amp; Merrill Av.</b>													
PHF: <u>0.903</u> 5:00 Count Date: <u>1/30/2019</u>													
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>

Volume Development  
PM Peak Hour

2040 NP (PCE): 121 119 82 423 142 249 242 1,286 139 68 675 332 3,878

42: Carpenter Av. & Merrill Av.

PHF: 0.902 4:30

Count Date: 1/30/2019

2040 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	79	6	143	140	7	84	65	1,646	80	36	910	32	3,230

43: Hellman Av. & Edison Av.

PHF: 0.920

Count Date:

2040 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	205	89	256	58	24	43	81	3,123	96	100	2,001	67	6,143

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

PHF: 0.970 5:00

Count Date: 1/22/2019

2040 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	433	963	595	278	1,085	454	476	2,169	614	439	1,430	157	9,093

45: Archibald Av. & Eucalyptus Av.

PHF: 0.938 5:00

Count Date: 1/22/2019

2040 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	89	1,666	160	184	1,688	102	207	375	305	107	75	73	5,031

46: Archibald Av. & Merrill Av.

PHF: 0.973 4:45

Count Date: 1/22/2019

2040 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	351	1,057	193	88	1,511	372	774	109	879	129	66	67	5,597

47: Archibald Av. & Limonite Av.

PHF: 0.983 4:45

Count Date: 1/22/2019

2040 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	131	1,188	484	746	1,523	282	212	818	127	470	753	724	7,458

48: Turner Av. & Edison Av./Ontario Ranch Rd.

PHF: 0.905 4:30

Count Date: 1/30/2019

2040 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	32	10	48	126	10	128	205	2,636	48	39	1,786	142	5,209

49: Haven Av. & Ontario Ranch Rd.

PHF: 0.955 5:00

Count Date: 2/6/2019

2040 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	79	242	47	283	320	268	367	2,200	81	75	1,585	349	5,896

50: Hamner Av. & Ontario Ranch Rd./Cantu-Galleano Ranch Rd.

PHF: 0.960 4:45

Count Date: 1/30/2019

2040 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	391	475	294	569	1,050	231	194	1,768	537	940	1,240	167	7,856

51: I-215 SB Ramps & Cantu-Galleano Ranch Rd.

PHF: 0.972 5:00

Count Date: 1/30/2019

2040 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	522	0	1,377	0	2,051	632	0	907	528	6,016

52: I-215 NB Ramps & Cantu-Galleano Ranch Rd.

PHF: 0.950 5:00

Count Date: 1/30/2019

2040 NP (PCE):  

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	404	0	289	0	0	0	0	912	1,664	368	1,031	0	4,668

Timings  
1: Euclid Av. (SR-83) & SR-60 WB Ramps

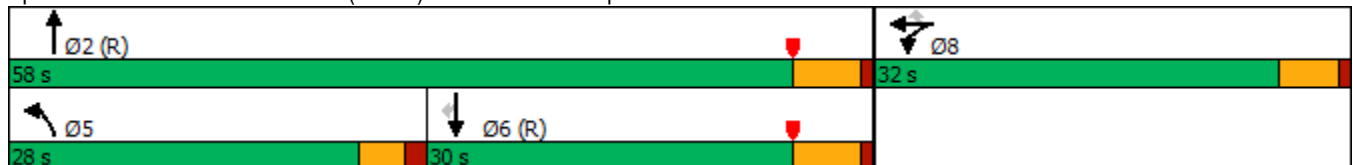


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↔	↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	814	7	516	580	1197	1231	593
Future Volume (vph)	814	7	516	580	1197	1231	593
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	10.0	10.0	10.0
Minimum Split (s)	11.0	11.0	11.0	9.5	22.5	22.5	22.5
Total Split (s)	32.0	32.0	32.0	28.0	58.0	30.0	30.0
Total Split (%)	35.6%	35.6%	35.6%	31.1%	64.4%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.5	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	27.0	27.0	27.0	23.5	52.5	24.5	24.5
Actuated g/C Ratio	0.30	0.30	0.30	0.26	0.58	0.27	0.27
v/c Ratio	0.96	0.98	0.86	1.31	0.60	1.33	0.75
Control Delay	64.0	67.5	41.9	165.4	23.5	186.9	11.0
Queue Delay	0.0	0.0	0.0	0.0	32.3	0.0	0.0
Total Delay	64.0	67.5	41.9	165.4	55.8	186.9	11.0
LOS	E	E	D	F	E	F	B
Approach Delay		58.3			91.6	129.7	
Approach LOS		E			F	F	

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 63 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.33  
 Intersection Signal Delay: 96.7  
 Intersection LOS: F  
 Intersection Capacity Utilization 161.0%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 1: Euclid Av. (SR-83) & SR-60 WB Ramps



HCM 6th Signalized Intersection Summary  
 1: Euclid Av. (SR-83) & SR-60 WB Ramps

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↔	↗	↖	↕			↕	↗
Traffic Volume (veh/h)	0	0	0	814	7	516	580	1197	0	0	1231	593
Future Volume (veh/h)	0	0	0	814	7	516	580	1197	0	0	1231	593
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No		No			
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				971	0	222	617	1273	0	0	1310	403
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				1047	0	466	472	2145	0	0	1021	456
Arrive On Green				0.29	0.00	0.29	0.52	1.00	0.00	0.00	0.28	0.28
Sat Flow, veh/h				3619	0	1610	1810	3705	0	0	3705	1610
Grp Volume(v), veh/h				971	0	222	617	1273	0	0	1310	403
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1810	1805	0	0	1805	1610
Q Serve(g_s), s				23.5	0.0	10.2	23.5	0.0	0.0	0.0	25.5	21.5
Cycle Q Clear(g_c), s				23.5	0.0	10.2	23.5	0.0	0.0	0.0	25.5	21.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1047	0	466	472	2145	0	0	1021	456
V/C Ratio(X)				0.93	0.00	0.48	1.31	0.59	0.00	0.00	1.28	0.88
Avail Cap(c_a), veh/h				1086	0	483	472	2145	0	0	1021	456
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.1	0.0	26.4	21.5	0.0	0.0	0.0	32.3	30.9
Incr Delay (d2), s/veh				12.7	0.0	0.3	139.1	0.1	0.0	0.0	134.7	21.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.3	0.0	3.7	23.8	0.0	0.0	0.0	29.5	10.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				43.8	0.0	26.6	160.6	0.1	0.0	0.0	167.0	52.3
LnGrp LOS				D	A	C	F	A	A	A	F	D
Approach Vol, veh/h					1193			1890			1713	
Approach Delay, s/veh					40.6			52.5			140.0	
Approach LOS					D			D			F	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		59.0			28.0	31.0		31.0				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.0				
Max Green Setting (Gmax), s		52.5			23.5	24.5		27.0				
Max Q Clear Time (g_c+I1), s		2.0			25.5	27.5		25.5				
Green Ext Time (p_c), s		18.5			0.0	0.0		0.6				

Intersection Summary

HCM 6th Ctrl Delay	80.8
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

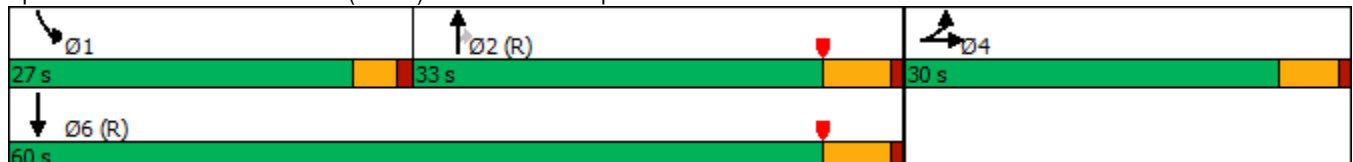


Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	520	3	1257	860	459	1586
Future Volume (vph)	520	3	1257	860	459	1586
Turn Type	Split	NA	NA	Perm	Prot	NA
Protected Phases	4	4	2		1	6
Permitted Phases				2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0	10.0	5.0	10.0
Minimum Split (s)	11.0	11.0	22.5	22.5	9.0	22.5
Total Split (s)	30.0	30.0	33.0	33.0	27.0	60.0
Total Split (%)	33.3%	33.3%	36.7%	36.7%	30.0%	66.7%
Yellow Time (s)	4.0	4.0	4.5	4.5	3.0	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effect Green (s)	25.0	25.0	27.5	27.5	23.0	54.5
Actuated g/C Ratio	0.28	0.28	0.31	0.31	0.26	0.61
v/c Ratio	1.03	1.97	1.20	1.01	1.05	0.76
Control Delay	84.2	468.8	128.9	44.9	67.5	6.5
Queue Delay	28.5	5.0	0.0	0.0	0.0	7.7
Total Delay	112.6	473.8	128.9	44.9	67.5	14.2
LOS	F	F	F	D	E	B
Approach Delay		344.6	94.8			26.2
Approach LOS		F	F			C

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.97  
 Intersection Signal Delay: 128.9  
 Intersection LOS: F  
 Intersection Capacity Utilization 161.0%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 2: Euclid Av. (SR-83) & SR-60 EB Ramps



HCM 6th Signalized Intersection Summary  
 2: Euclid Av. (SR-83) & SR-60 EB Ramps

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	520	3	785	0	0	0	0	1257	860	459	1586	0
Future Volume (veh/h)	520	3	785	0	0	0	0	1257	860	459	1586	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	547	3	771				0	1323	706	483	1669	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	503	2	446				0	1103	478	462	2186	0
Arrive On Green	0.28	0.28	0.28				0.00	0.31	0.31	0.51	1.00	0.00
Sat Flow, veh/h	1810	6	1605				0	3705	1566	1810	3705	0
Grp Volume(v), veh/h	547	0	774				0	1323	706	483	1669	0
Grp Sat Flow(s),veh/h/ln	1810	0	1611				0	1805	1566	1810	1805	0
Q Serve(g_s), s	25.0	0.0	25.0				0.0	27.5	27.5	23.0	0.0	0.0
Cycle Q Clear(g_c), s	25.0	0.0	25.0				0.0	27.5	27.5	23.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	503	0	448				0	1103	478	462	2186	0
V/C Ratio(X)	1.09	0.00	1.73				0.00	1.20	1.48	1.04	0.76	0.00
Avail Cap(c_a), veh/h	503	0	448				0	1103	478	462	2186	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.34	0.34	0.09	0.09	0.00
Uniform Delay (d), s/veh	32.5	0.0	32.5				0.0	31.3	31.2	22.0	0.0	0.0
Incr Delay (d2), s/veh	66.2	0.0	337.5				0.0	92.9	218.0	26.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.3	0.0	50.9				0.0	25.4	38.6	8.9	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.7	0.0	370.0				0.0	124.2	249.2	48.3	0.2	0.0
LnGrp LOS	F	A	F				A	F	F	F	A	A
Approach Vol, veh/h		1321						2029			2152	
Approach Delay, s/veh		257.7						167.7			11.0	
Approach LOS		F						F			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	27.0	33.0	30.0	60.0								
Change Period (Y+Rc), s	4.0	5.5	5.0	5.5								
Max Green Setting (Gmax), s	23.0	27.5	25.0	54.5								
Max Q Clear Time (g_c+I1), s	25.0	29.5	27.0	2.0								
Green Ext Time (p_c), s	0.0	0.0	0.0	29.0								

Intersection Summary

HCM 6th Ctrl Delay	128.0
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.



Timings  
3: Euclid Av. (SR-83) & Walnut Av.

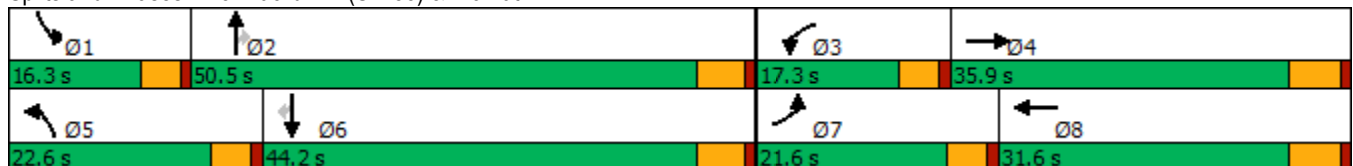


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	252	365	91	388	164	1634	58	189	1946	123
Future Volume (vph)	252	365	91	388	164	1634	58	189	1946	123
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.8	9.6	29.8	9.6	27.4	27.4	9.6	29.4	29.4
Total Split (s)	21.6	35.9	17.3	31.6	22.6	50.5	50.5	16.3	44.2	44.2
Total Split (%)	18.0%	29.9%	14.4%	26.3%	18.8%	42.1%	42.1%	13.6%	36.8%	36.8%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.4	4.4	3.6	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.4	5.4	4.6	5.4	5.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	17.0	30.5	10.2	23.7	15.1	45.2	45.2	10.6	40.7	40.7
Actuated g/C Ratio	0.15	0.26	0.09	0.20	0.13	0.39	0.39	0.09	0.35	0.35
v/c Ratio	1.07	0.58	0.64	0.87	0.79	0.86	0.09	0.70	1.14	0.20
Control Delay	124.1	37.3	71.5	50.0	73.7	38.8	0.8	65.9	104.6	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	124.1	37.3	71.5	50.0	73.7	38.8	0.8	65.9	104.6	3.7
LOS	F	D	E	D	E	D	A	E	F	A
Approach Delay		65.6		52.6		40.7			95.9	
Approach LOS		E		D		D			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 117	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.14	
Intersection Signal Delay: 67.8	Intersection LOS: E
Intersection Capacity Utilization 98.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Euclid Av. (SR-83) & Walnut Av.



HCM 6th Signalized Intersection Summary  
 3: Euclid Av. (SR-83) & Walnut Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	252	365	155	91	388	258	164	1634	58	189	1946	123
Future Volume (veh/h)	252	365	155	91	388	258	164	1634	58	189	1946	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	265	384	127	96	408	232	173	1720	43	199	2048	108
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	252	761	248	119	460	259	200	2022	627	252	1832	568
Arrive On Green	0.15	0.28	0.28	0.07	0.21	0.21	0.12	0.39	0.39	0.08	0.35	0.35
Sat Flow, veh/h	1714	2674	873	1714	2225	1251	1714	5187	1609	3141	5187	1609
Grp Volume(v), veh/h	265	258	253	96	330	310	173	1720	43	199	2048	108
Grp Sat Flow(s),veh/h/ln	1714	1805	1743	1714	1805	1671	1714	1729	1609	1570	1729	1609
Q Serve(g_s), s	17.0	13.8	14.1	6.4	20.5	20.9	11.5	35.0	1.9	7.2	40.9	5.4
Cycle Q Clear(g_c), s	17.0	13.8	14.1	6.4	20.5	20.9	11.5	35.0	1.9	7.2	40.9	5.4
Prop In Lane	1.00		0.50	1.00		0.75	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	252	513	496	119	374	346	200	2022	627	252	1832	568
V/C Ratio(X)	1.05	0.50	0.51	0.81	0.88	0.90	0.86	0.85	0.07	0.79	1.12	0.19
Avail Cap(c_a), veh/h	252	513	496	188	402	372	267	2022	627	318	1832	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	34.6	34.7	53.1	44.5	44.7	50.2	32.2	22.1	52.3	37.4	26.0
Incr Delay (d2), s/veh	71.1	0.8	0.9	5.8	19.2	22.4	16.1	4.7	0.2	7.8	61.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	5.9	5.9	2.9	10.8	10.5	5.7	14.9	0.7	3.1	26.9	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	120.5	35.3	35.6	58.9	63.8	67.1	66.3	37.0	22.4	60.1	98.7	26.7
LnGrp LOS	F	D	D	E	E	E	E	D	C	E	F	C
Approach Vol, veh/h		776			736			1936			2355	
Approach Delay, s/veh		64.5			64.5			39.3			92.1	
Approach LOS		E			E			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.9	50.5	12.6	38.7	18.1	46.3	21.6	29.7				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.8	4.6	5.4	4.6	5.8				
Max Green Setting (Gmax), s	11.7	45.1	12.7	30.1	18.0	38.8	17.0	25.8				
Max Q Clear Time (g_c+1), s	9.2	37.0	8.4	16.1	13.5	42.9	19.0	22.9				
Green Ext Time (p_c), s	0.1	6.1	0.0	2.4	0.1	0.0	0.0	1.0				

Intersection Summary

HCM 6th Ctrl Delay	67.3
HCM 6th LOS	E

Timings

4: Euclid Av. (SR-83) & Riverside Dr.

08/23/2021

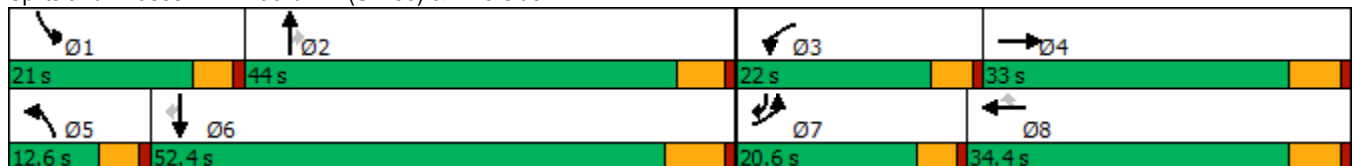


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	193	457	241	627	149	162	1366	201	220	1730	192
Future Volume (vph)	193	457	241	627	149	162	1366	201	220	1730	192
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8		5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	20.6	33.0	22.0	34.4	34.4	12.6	44.0	44.0	21.0	52.4	20.6
Total Split (%)	17.2%	27.5%	18.3%	28.7%	28.7%	10.5%	36.7%	36.7%	17.5%	43.7%	17.2%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	None
Act Effct Green (s)	15.6	27.2	17.4	29.0	29.0	8.0	38.6	38.6	16.4	45.9	63.4
Actuated g/C Ratio	0.13	0.23	0.14	0.24	0.24	0.07	0.32	0.32	0.14	0.38	0.53
v/c Ratio	0.91	1.51	1.03	0.76	0.31	1.50	1.24	0.34	1.00	1.32	0.23
Control Delay	93.6	273.4	115.3	48.8	7.4	303.4	150.7	11.3	110.0	181.3	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.6	273.4	115.3	48.8	7.4	303.4	150.7	11.3	110.0	181.3	9.1
LOS	F	F	F	D	A	F	F	B	F	F	A
Approach Delay		230.0		58.5			148.8			158.5	
Approach LOS		F		E			F			F	

Intersection Summary
























Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.51	
Intersection Signal Delay: 147.7	Intersection LOS: F
Intersection Capacity Utilization 122.5%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.



HCM 6th Signalized Intersection Summary  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)  
08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	457	150	241	627	149	162	1366	201	220	1730	192
Future Volume (veh/h)	193	457	150	241	627	149	162	1366	201	220	1730	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	203	481	142	254	660	128	171	1438	172	232	1821	143
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	226	316	93	246	853	380	113	1151	513	232	1401	837
Arrive On Green	0.13	0.22	0.22	0.14	0.24	0.24	0.07	0.32	0.32	0.14	0.39	0.39
Sat Flow, veh/h	1714	1409	416	1714	3610	1610	1714	3610	1610	1714	3610	1609
Grp Volume(v), veh/h	203	0	623	254	660	128	171	1438	172	232	1821	143
Grp Sat Flow(s),veh/h/ln	1714	0	1825	1714	1805	1610	1714	1805	1610	1714	1805	1609
Q Serve(g_s), s	14.1	0.0	27.2	17.4	20.7	8.0	8.0	38.6	9.9	16.4	47.0	5.7
Cycle Q Clear(g_c), s	14.1	0.0	27.2	17.4	20.7	8.0	8.0	38.6	9.9	16.4	47.0	5.7
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	226	0	410	246	853	380	113	1151	513	232	1401	837
V/C Ratio(X)	0.90	0.00	1.52	1.03	0.77	0.34	1.51	1.25	0.34	1.00	1.30	0.17
Avail Cap(c_a), veh/h	226	0	410	246	853	380	113	1151	513	232	1401	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	0.0	47.0	51.8	43.2	38.4	56.5	41.3	31.5	52.3	37.1	15.3
Incr Delay (d2), s/veh	32.7	0.0	246.1	65.7	4.5	0.5	269.6	119.7	1.8	58.9	140.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	39.9	11.8	9.5	3.1	11.8	35.1	4.0	10.7	47.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.4	0.0	293.0	117.5	47.7	38.9	326.1	161.0	33.2	111.2	177.3	15.7
LnGrp LOS	F	A	F	F	D	D	F	F	C	F	F	B
Approach Vol, veh/h		826			1042			1781			2196	
Approach Delay, s/veh		241.8			63.6			164.5			159.8	
Approach LOS		F			E			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	45.1	22.0	33.0	12.6	53.5	20.6	34.4				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	16.4	* 39	17.4	27.2	8.0	45.9	16.0	28.6				
Max Q Clear Time (g_c+I1), s	18.4	40.6	19.4	29.2	10.0	49.0	16.1	22.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			155.7									
HCM 6th LOS			F									
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗		↔	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	131	247	69	105	296	69	1469	180	71	1886	116
Future Volume (vph)	131	247	69	105	296	69	1469	180	71	1886	116
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	28.8	28.8	28.8	33.8	33.8	9.6	24.2	24.2	9.6	31.5	31.5
Total Split (s)	44.0	44.0	44.0	44.0	44.0	15.0	60.0	60.0	16.0	61.0	61.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	12.5%	50.0%	50.0%	13.3%	50.8%	50.8%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.6	4.2	4.2	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8		5.8	4.6	5.2	5.2	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	38.3	38.3	38.3		38.3	8.5	55.5	55.5	9.1	54.7	54.7
Actuated g/C Ratio	0.33	0.33	0.33		0.33	0.07	0.48	0.48	0.08	0.47	0.47
v/c Ratio	0.71	0.42	0.13		1.23	0.58	0.91	0.24	0.57	1.18	0.16
Control Delay	56.6	33.8	7.1		157.2	71.5	37.9	13.1	69.2	118.5	9.4
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	33.8	7.1		157.2	71.5	37.9	13.1	69.2	118.5	9.4
LOS	E	C	A		F	E	D	B	E	F	A
Approach Delay		36.4			157.2		36.7			110.7	
Approach LOS		D			F		D			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 116.3	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.23	
Intersection Signal Delay: 81.5	Intersection LOS: F
Intersection Capacity Utilization 114.9%	ICU Level of Service H
Analysis Period (min) 15	























Splits and Phases: 5: Euclid Av. (SR-83) & Chino Av.



HCM 6th Signalized Intersection Summary  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	247	69	105	296	84	69	1469	180	71	1886	116
Future Volume (veh/h)	131	247	69	105	296	84	69	1469	180	71	1886	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	139	263	57	112	315	77	73	1563	167	76	2006	92
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	203	623	528	117	269	63	92	1699	758	96	1707	746
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.05	0.47	0.47	0.06	0.47	0.47
Sat Flow, veh/h	1008	1900	1609	240	820	191	1714	3610	1610	1714	3610	1577
Grp Volume(v), veh/h	139	263	57	504	0	0	73	1563	167	76	2006	92
Grp Sat Flow(s),veh/h/ln	1008	1900	1609	1252	0	0	1714	1805	1610	1714	1805	1577
Q Serve(g_s), s	0.0	12.6	2.9	25.6	0.0	0.0	4.9	47.0	7.1	5.1	55.0	3.8
Cycle Q Clear(g_c), s	37.4	12.6	2.9	38.2	0.0	0.0	4.9	47.0	7.1	5.1	55.0	3.8
Prop In Lane	1.00		1.00	0.22		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	203	623	528	449	0	0	92	1699	758	96	1707	746
V/C Ratio(X)	0.69	0.42	0.11	1.12	0.00	0.00	0.79	0.92	0.22	0.79	1.18	0.12
Avail Cap(c_a), veh/h	203	623	528	449	0	0	153	1699	758	168	1707	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	30.5	27.2	43.5	0.0	0.0	54.4	28.8	18.2	54.3	30.7	17.2
Incr Delay (d2), s/veh	9.2	0.5	0.1	80.7	0.0	0.0	5.6	9.6	0.7	5.4	85.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	5.6	1.1	22.8	0.0	0.0	2.2	20.3	2.6	2.3	41.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	30.9	27.3	124.3	0.0	0.0	60.0	38.3	18.9	59.7	116.0	17.5
LnGrp LOS	D	C	C	F	A	A	E	D	B	E	F	B
Approach Vol, veh/h		459			504			1803			2174	
Approach Delay, s/veh		35.7			124.3			37.4			109.9	
Approach LOS		D			F			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	61.3		44.0	10.9	61.5		44.0				
Change Period (Y+Rc), s	4.6	* 6.5		5.8	4.6	6.5		5.8				
Max Green Setting (Gmax), s	11.4	* 55		38.2	10.4	54.5		38.2				
Max Q Clear Time (g_c+I1), s	7.1	49.0		39.4	6.9	57.0		40.2				
Green Ext Time (p_c), s	0.0	4.3		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	78.0
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

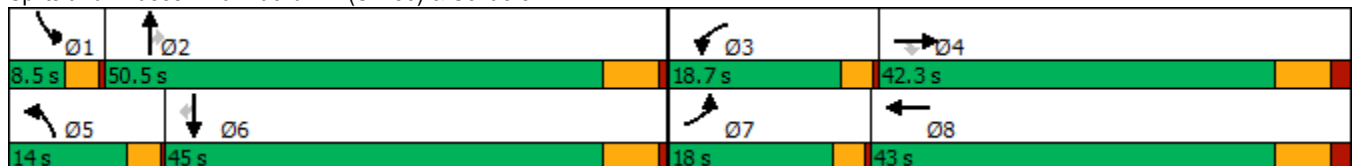


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	193	92	104	177	377	231	1428	44	40	1793	457
Future Volume (vph)	193	92	104	177	377	231	1428	44	40	1793	457
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.0	42.0	13.5	43.0	8.5	33.0	33.0	8.5	28.0	28.0
Total Split (s)	18.0	42.3	42.3	18.7	43.0	14.0	50.5	50.5	8.5	45.0	45.0
Total Split (%)	15.0%	35.3%	35.3%	15.6%	35.8%	11.7%	42.1%	42.1%	7.1%	37.5%	37.5%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	7.0	7.0	3.5	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	14.5	35.8	35.8	14.7	36.0	10.5	46.2	46.2	5.0	39.0	39.0
Actuated g/C Ratio	0.12	0.30	0.30	0.12	0.30	0.09	0.38	0.38	0.04	0.32	0.32
v/c Ratio	1.01	0.18	0.20	0.91	1.10	1.66	1.11	0.07	0.61	1.64	0.79
Control Delay	117.9	32.5	5.3	94.3	106.7	360.8	93.9	0.2	90.1	322.8	34.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	117.9	32.5	5.3	94.3	106.7	360.8	93.9	0.2	90.1	322.8	34.7
LOS	F	C	A	F	F	F	F	A	F	F	C
Approach Delay		67.6			103.7		127.6			261.3	
Approach LOS		E			F		F			F	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.66  
 Intersection Signal Delay: 179.3  
 Intersection LOS: F  
 Intersection Capacity Utilization 123.4%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 6: Euclid Av. (SR-83) & Schaefer Av.




























HCM 6th Signalized Intersection Summary  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	92	104	177	377	190	231	1428	44	40	1793	457
Future Volume (veh/h)	193	92	104	177	377	190	231	1428	44	40	1793	457
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	208	99	93	190	405	202	248	1535	37	43	1928	457
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	207	561	476	215	358	179	150	1375	613	54	1173	522
Arrive On Green	0.12	0.30	0.30	0.13	0.30	0.30	0.09	0.38	0.38	0.03	0.32	0.32
Sat Flow, veh/h	1714	1900	1610	1714	1195	596	1714	3610	1610	1714	3610	1605
Grp Volume(v), veh/h	208	99	93	190	0	607	248	1535	37	43	1928	457
Grp Sat Flow(s),veh/h/ln	1714	1900	1610	1714	0	1791	1714	1805	1610	1714	1805	1605
Q Serve(g_s), s	14.5	4.6	5.2	13.1	0.0	36.0	10.5	45.7	1.7	3.0	39.0	32.2
Cycle Q Clear(g_c), s	14.5	4.6	5.2	13.1	0.0	36.0	10.5	45.7	1.7	3.0	39.0	32.2
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	207	561	476	215	0	537	150	1375	613	54	1173	522
V/C Ratio(X)	1.00	0.18	0.20	0.88	0.00	1.13	1.65	1.12	0.06	0.79	1.64	0.88
Avail Cap(c_a), veh/h	207	561	476	217	0	537	150	1375	613	71	1173	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	31.4	31.6	51.6	0.0	42.0	54.8	37.2	23.5	57.7	40.5	38.2
Incr Delay (d2), s/veh	63.6	0.1	0.1	30.8	0.0	79.8	321.7	63.0	0.0	26.2	293.4	15.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	2.1	2.0	7.3	0.0	27.1	17.7	30.5	0.7	1.6	63.9	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	116.3	31.5	31.8	82.4	0.0	121.8	376.5	100.1	23.6	83.9	333.9	53.6
LnGrp LOS	F	C	C	F	A	F	F	F	C	F	F	D
Approach Vol, veh/h		400			797			1820			2428	
Approach Delay, s/veh		75.7			112.4			136.2			276.7	
Approach LOS		E			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	51.7	18.6	42.4	14.0	45.0	18.0	43.0				
Change Period (Y+Rc), s	3.5	6.0	3.5	7.0	3.5	6.0	3.5	7.0				
Max Green Setting (Gmax), s	5.0	44.5	15.2	35.3	10.5	39.0	14.5	36.0				
Max Q Clear Time (g_c+1), s	5.0	47.7	15.1	7.2	12.5	41.0	16.5	38.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			190.9									
HCM 6th LOS			F									



Timings  
7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

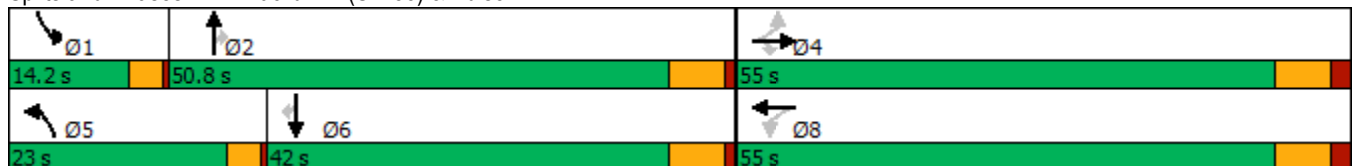


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	196	1063	167	279	1185	283	1315	176	343	1520	211
Future Volume (vph)	196	1063	167	279	1185	283	1315	176	343	1520	211
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.0	46.0	46.0	49.0	49.0	8.5	29.0	29.0	8.5	40.0	40.0
Total Split (s)	55.0	55.0	55.0	55.0	55.0	23.0	50.8	50.8	14.2	42.0	42.0
Total Split (%)	45.8%	45.8%	45.8%	45.8%	45.8%	19.2%	42.3%	42.3%	11.8%	35.0%	35.0%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	48.0	48.0	48.0	48.0	48.0	19.5	44.8	44.8	10.7	36.0	36.0
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.16	0.37	0.37	0.09	0.30	0.30
v/c Ratio	3.46	1.46	0.25	4.93	2.16	1.06	1.02	0.28	2.35	1.46	0.41
Control Delay	1162.6	242.6	12.4	1818.1	548.6	120.3	66.4	17.5	651.4	245.5	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1162.6	242.6	12.4	1818.1	548.6	120.3	66.4	17.5	651.4	245.5	20.3
LOS	F	F	B	F	F	F	E	B	F	F	C
Approach Delay		342.0			744.0		70.2			289.7	
Approach LOS		F			F		E			F	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 4.93  
 Intersection Signal Delay: 361.6  
 Intersection LOS: F  
 Intersection Capacity Utilization 173.8%  
 ICU Level of Service H  
 Analysis Period (min) 15
























Splits and Phases: 7: Euclid Av. (SR-83) & Edison Av.



HCM 6th Signalized Intersection Summary  
 7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	1063	167	279	1185	351	283	1315	176	343	1520	211
Future Volume (veh/h)	196	1063	167	279	1185	351	283	1315	176	343	1520	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	204	1107	119	291	1234	361	295	1370	175	357	1583	169
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	60	760	644	60	565	165	279	1348	601	153	1083	471
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.16	0.37	0.37	0.09	0.30	0.30
Sat Flow, veh/h	324	1900	1609	462	1412	413	1714	3610	1610	1714	3610	1571
Grp Volume(v), veh/h	204	1107	119	291	0	1595	295	1370	175	357	1583	169
Grp Sat Flow(s),veh/h/ln	324	1900	1609	462	0	1825	1714	1805	1610	1714	1805	1571
Q Serve(g_s), s	0.0	48.0	5.8	0.0	0.0	48.0	19.5	44.8	9.2	10.7	36.0	10.1
Cycle Q Clear(g_c), s	48.0	48.0	5.8	48.0	0.0	48.0	19.5	44.8	9.2	10.7	36.0	10.1
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	60	760	644	60	0	730	279	1348	601	153	1083	471
V/C Ratio(X)	3.40	1.46	0.18	4.85	0.00	2.18	1.06	1.02	0.29	2.34	1.46	0.36
Avail Cap(c_a), veh/h	60	760	644	60	0	730	279	1348	601	153	1083	471
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.0	36.0	23.3	60.0	0.0	36.0	50.2	37.6	26.4	54.7	42.0	32.9
Incr Delay (d2), s/veh	1120.9	212.8	0.1	1769.5	0.0	537.6	70.3	28.7	0.3	620.9	212.9	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.5	65.7	2.1	31.3	0.0	129.0	13.4	23.5	3.4	30.8	47.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1180.9	248.8	23.5	1829.5	0.0	573.6	120.6	66.3	26.7	675.6	254.9	33.4
LnGrp LOS	F	F	C	F	A	F	F	F	C	F	F	C
Approach Vol, veh/h		1430			1886			1840			2109	
Approach Delay, s/veh		363.0			767.4			71.2			308.4	
Approach LOS		F			F			E			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.2	50.8		55.0	23.0	42.0		55.0				
Change Period (Y+Rc), s	3.5	6.0		7.0	3.5	6.0		7.0				
Max Green Setting (Gmax), s	10.7	44.8		48.0	19.5	36.0		48.0				
Max Q Clear Time (g_c+1), s	12.7	46.8		50.0	21.5	38.0		50.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			378.2									
HCM 6th LOS			F									

Timings  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	85	48	205	385	196	221	1575	133	132	1724	55
Future Volume (vph)	85	48	205	385	196	221	1575	133	132	1724	55
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.8	46.8	46.8	46.8	46.8	8.5	30.7	30.7	8.5	37.7	37.7
Total Split (s)	46.8	46.8	46.8	46.8	46.8	24.0	63.5	63.5	9.7	49.2	49.2
Total Split (%)	39.0%	39.0%	39.0%	39.0%	39.0%	20.0%	52.9%	52.9%	8.1%	41.0%	41.0%
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	3.0	4.7	4.7	3.0	4.7	4.7
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.8	4.8	3.5	5.7	5.7	3.5	5.7	5.7
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	37.3	37.3	37.3	37.3	37.3	18.1	56.1	56.1	6.2	44.2	44.2
Actuated g/C Ratio	0.33	0.33	0.33	0.33	0.33	0.16	0.49	0.49	0.05	0.39	0.39
v/c Ratio	0.51	0.08	0.31	0.92	0.65	0.83	0.90	0.17	1.44	1.25	0.08
Control Delay	42.9	26.7	5.0	65.0	34.4	72.3	35.6	11.6	288.5	152.1	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.9	26.7	5.0	65.0	34.4	72.3	35.6	11.6	288.5	152.1	2.9
LOS	D	C	A	E	C	E	D	B	F	F	A
Approach Delay		17.6			49.6		38.1			157.3	
Approach LOS		B			D		D			F	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 113.8  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.44  
 Intersection Signal Delay: 84.5  
 Intersection LOS: F  
 Intersection Capacity Utilization 103.7%  
 ICU Level of Service G  
 Analysis Period (min) 15
























Splits and Phases: 8: Euclid Av. (SR-83) & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
 8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	48	205	385	196	192	221	1575	133	132	1724	55
Future Volume (veh/h)	85	48	205	385	196	192	221	1575	133	132	1724	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	87	49	123	393	200	188	226	1607	135	135	1759	45
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	228	666	564	472	316	297	253	1725	769	90	1382	616
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.15	0.48	0.48	0.05	0.38	0.38
Sat Flow, veh/h	1011	1900	1610	1232	901	847	1714	3610	1610	1714	3610	1608
Grp Volume(v), veh/h	87	49	123	393	0	388	226	1607	135	135	1759	45
Grp Sat Flow(s),veh/h/ln	1011	1900	1610	1232	0	1748	1714	1805	1610	1714	1805	1608
Q Serve(g_s), s	9.2	2.0	6.3	36.7	0.0	21.8	15.2	49.3	5.6	6.2	45.0	2.1
Cycle Q Clear(g_c), s	31.0	2.0	6.3	38.7	0.0	21.8	15.2	49.3	5.6	6.2	45.0	2.1
Prop In Lane	1.00		1.00	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	228	666	564	472	0	612	253	1725	769	90	1382	616
V/C Ratio(X)	0.38	0.07	0.22	0.83	0.00	0.63	0.89	0.93	0.18	1.49	1.27	0.07
Avail Cap(c_a), veh/h	235	679	575	480	0	624	299	1775	792	90	1382	616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.8	25.5	26.9	38.4	0.0	31.9	49.2	28.9	17.5	55.7	36.3	23.0
Incr Delay (d2), s/veh	0.8	0.0	0.1	11.5	0.0	1.8	23.6	9.3	0.1	271.3	128.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.9	2.4	12.0	0.0	9.1	7.9	21.1	1.9	9.4	42.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.6	25.5	27.0	49.8	0.0	33.7	72.8	38.2	17.6	327.0	164.7	23.1
LnGrp LOS	D	C	C	D	A	C	E	D	B	F	F	C
Approach Vol, veh/h		259			781			1968			1939	
Approach Delay, s/veh		33.0			41.8			40.8			172.7	
Approach LOS		C			D			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	61.9		46.0	20.8	50.7		46.0				
Change Period (Y+Rc), s	3.5	5.7		4.8	3.5	5.7		4.8				
Max Green Setting (Gmax), s	6.2	57.8		42.0	20.5	43.5		42.0				
Max Q Clear Time (g_c+1), s	8.2	51.3		33.0	17.2	47.0		40.7				
Green Ext Time (p_c), s	0.0	4.9		0.5	0.1	0.0		0.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				92.2								
HCM 6th LOS				F								

Timings  
9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

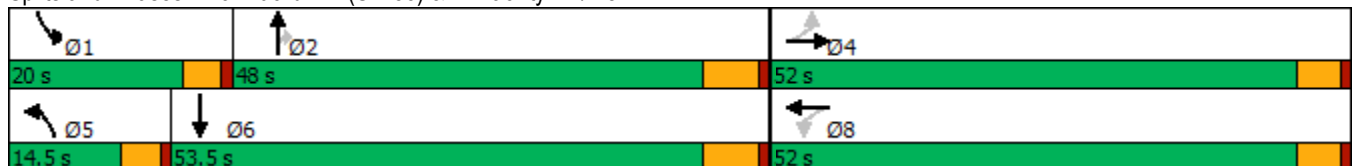


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	10	10	434	60	13	1451	567	436	1829
Future Volume (vph)	10	10	434	60	13	1451	567	436	1829
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	52.0	52.0	52.0	52.0	14.5	48.0	48.0	20.0	53.5
Total Split (%)	43.3%	43.3%	43.3%	43.3%	12.1%	40.0%	40.0%	16.7%	44.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)		47.0		47.0	10.0	42.0	42.0	15.5	56.2
Actuated g/C Ratio		0.39		0.39	0.08	0.35	0.35	0.13	0.47
v/c Ratio		0.07		1.64	0.09	1.18	0.88	2.04	1.15
Control Delay		13.7		322.6	52.5	127.0	43.4	511.5	105.7
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		13.7		322.6	52.5	127.0	43.4	511.5	105.7
LOS		B		F	D	F	D	F	F
Approach Delay		13.7		322.6		103.2			182.1
Approach LOS		B		F		F			F

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.04	
Intersection Signal Delay: 176.3	Intersection LOS: F
Intersection Capacity Utilization 141.6%	ICU Level of Service H
Analysis Period (min) 15	





















Splits and Phases: 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 6th Signalized Intersection Summary  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	21	434	60	477	13	1451	567	436	1829	49
Future Volume (veh/h)	10	10	21	434	60	477	13	1451	567	436	1829	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	10	10	21	447	62	465	13	1496	542	449	1886	37
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	160	166	303	326	39	294	50	1264	564	221	1628	32
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.03	0.35	0.35	0.13	0.45	0.45
Sat Flow, veh/h	313	424	774	722	100	751	1714	3610	1610	1714	3620	71
Grp Volume(v), veh/h	41	0	0	974	0	0	13	1496	542	449	937	986
Grp Sat Flow(s),veh/h/ln	1511	0	0	1572	0	0	1714	1805	1610	1714	1805	1885
Q Serve(g_s), s	0.0	0.0	0.0	45.2	0.0	0.0	0.9	42.0	39.6	15.5	54.0	54.0
Cycle Q Clear(g_c), s	1.8	0.0	0.0	47.0	0.0	0.0	0.9	42.0	39.6	15.5	54.0	54.0
Prop In Lane	0.24		0.51	0.46		0.48	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	629	0	0	660	0	0	50	1264	564	221	812	848
V/C Ratio(X)	0.07	0.00	0.00	1.48	0.00	0.00	0.26	1.18	0.96	2.03	1.15	1.16
Avail Cap(c_a), veh/h	629	0	0	660	0	0	143	1264	564	221	812	848
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	0.0	0.0	37.9	0.0	0.0	57.0	39.0	38.2	52.3	33.0	33.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	222.6	0.0	0.0	1.0	91.1	28.5	478.0	83.1	86.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	59.5	0.0	0.0	0.4	33.2	18.9	35.8	39.9	42.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.8	0.0	0.0	260.5	0.0	0.0	58.0	130.1	66.7	530.3	116.1	119.0
LnGrp LOS	C	A	A	F	A	A	E	F	E	F	F	F
Approach Vol, veh/h		41			974			2051			2372	
Approach Delay, s/veh		22.8			260.5			112.9			195.7	
Approach LOS		C			F			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.0	48.0		52.0	8.0	60.0		52.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	15.5	42.0		47.0	10.0	47.5		47.0				
Max Q Clear Time (g_c+I1), s	17.5	44.0		3.8	2.9	56.0		49.0				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay	174.8											
HCM 6th LOS	F											

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗		↕		↘	↗			↕	
Traffic Vol, veh/h	0	202	75	67	665	0	18	0	9	0	0	0
Future Vol, veh/h	0	202	75	67	665	0	18	0	9	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	0	-	-	-	200	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	220	82	73	723	0	20	0	10	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	723	0	0	302	0	0	1089	1089	220	1135	1171	723
Stage 1	-	-	-	-	-	-	220	220	-	869	869	-
Stage 2	-	-	-	-	-	-	869	869	-	266	302	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	889	-	-	1270	-	-	195	217	825	181	194	430
Stage 1	-	-	-	-	-	-	787	725	-	349	372	-
Stage 2	-	-	-	-	-	-	349	372	-	744	668	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	889	-	-	1270	-	-	181	196	825	166	175	430
Mov Cap-2 Maneuver	-	-	-	-	-	-	181	196	-	166	175	-
Stage 1	-	-	-	-	-	-	787	725	-	349	336	-
Stage 2	-	-	-	-	-	-	315	336	-	735	668	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.7			21.3			0		
HCM LOS							C			A		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	181	825	889	-	-	1270	-	-	-
HCM Lane V/C Ratio	0.108	0.012	-	-	-	0.057	-	-	-
HCM Control Delay (s)	27.3	9.4	0	-	-	8	0	-	0
HCM Lane LOS	D	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.4	0	0	-	-	0.2	-	-	-

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↗		↘	↗
Traffic Vol, veh/h	22	999	1131	42	25	13
Future Vol, veh/h	22	999	1131	42	25	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	24	1086	1229	46	27	14

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1275	0	0 2386 1252
Stage 1	-	-	- 1252 -
Stage 2	-	-	- 1134 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	551	-	- 38 212
Stage 1	-	-	- 272 -
Stage 2	-	-	- 310 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	551	-	- 36 212
Mov Cap-2 Maneuver	-	-	- 36 -
Stage 1	-	-	- 260 -
Stage 2	-	-	- 310 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	167.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	551	-	-	-	36	212
HCM Lane V/C Ratio	0.043	-	-	-	0.755	0.067
HCM Control Delay (s)	11.8	-	-	-	242.2	23.2
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.1	-	-	-	2.7	0.2



Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	↔
Traffic Vol, veh/h	168	24	85	665	0	18
Future Vol, veh/h	168	24	85	665	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	200	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	183	26	92	723	0	20

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	209	0	1103
Stage 1	-	-	-	-	196
Stage 2	-	-	-	-	907
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1374	-	236
Stage 1	-	-	-	-	842
Stage 2	-	-	-	-	397
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1374	-	220
Mov Cap-2 Maneuver	-	-	-	-	220
Stage 1	-	-	-	-	842
Stage 2	-	-	-	-	370

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	850	-	-	1374	-
HCM Lane V/C Ratio	-	0.023	-	-	0.067	-
HCM Control Delay (s)	0	9.3	-	-	7.8	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-	-	0.2	-

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕	↕	↕	↕
Traffic Vol, veh/h	69	930	1070	12	9	14
Future Vol, veh/h	69	930	1070	12	9	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	75	1011	1163	13	10	15

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1176	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	601	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	601	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	81.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	601	-	-	-	30	239
HCM Lane V/C Ratio	0.125	-	-	-	0.326	0.064
HCM Control Delay (s)	11.8	0	-	-	174.9	21.1
HCM Lane LOS	B	A	-	-	F	C
HCM 95th %tile Q(veh)	0.4	-	-	-	1	0.2

Intersection	
Intersection Delay, s/veh	138.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Vol, veh/h	38	144	10	118	593	84	24	72	63	46	85	166
Future Vol, veh/h	38	144	10	118	593	84	24	72	63	46	85	166
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	41	157	11	128	645	91	26	78	68	50	92	180
Number of Lanes	0	2	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	13	237.7	15.3	20.5
HCM LOS	B	F	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	15%	35%	0%	15%	15%
Vol Thru, %	45%	65%	88%	75%	29%
Vol Right, %	40%	0%	12%	11%	56%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	159	110	82	795	297
LT Vol	24	38	0	118	46
Through Vol	72	72	72	593	85
RT Vol	63	0	10	84	166
Lane Flow Rate	173	120	89	864	323
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.336	0.246	0.177	1.468	0.582
Departure Headway (Hd)	8.179	8.184	7.916	6.116	7.54
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	442	441	456	596	481
Service Time	6.179	5.884	5.616	4.182	5.54
HCM Lane V/C Ratio	0.391	0.272	0.195	1.45	0.672
HCM Control Delay	15.3	13.5	12.3	237.7	20.5
HCM Lane LOS	C	B	B	F	C
HCM 95th-tile Q	1.5	1	0.6	41.7	3.6

Intersection						
Int Delay, s/veh	108.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↕		↕	
Traffic Vol, veh/h	109	803	1052	162	74	71
Future Vol, veh/h	109	803	1052	162	74	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	118	873	1143	176	80	77

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1319	0	-	0	2340 660
Stage 1	-	-	-	-	1231 -
Stage 2	-	-	-	-	1109 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	531	-	-	-	~ 36 410
Stage 1	-	-	-	-	243 -
Stage 2	-	-	-	-	318 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	531	-	-	-	~ 20 410
Mov Cap-2 Maneuver	-	-	-	-	~ 20 -
Stage 1	-	-	-	-	138 -
Stage 2	-	-	-	-	318 -

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	\$ 1686.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	531	-	-	-	37
HCM Lane V/C Ratio	0.223	-	-	-	4.26
HCM Control Delay (s)	13.7	0	-	-	\$ 1686.9
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	18.3

Notes  
~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	684.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕			↕			↕	
Traffic Vol, veh/h	78	160	21	171	203	150	93	436	46	355	669	289
Future Vol, veh/h	78	160	21	171	203	150	93	436	46	355	669	289
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	85	174	23	186	221	163	101	474	50	386	727	314
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	52.5	245.5	303.9	1150.5
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	16%	33%	0%	33%	27%
Vol Thru, %	76%	67%	0%	39%	51%
Vol Right, %	8%	0%	100%	29%	22%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	575	238	21	524	1313
LT Vol	93	78	0	171	355
Through Vol	436	160	0	203	669
RT Vol	46	0	21	150	289
Lane Flow Rate	625	259	23	570	1427
Geometry Grp	2	7	7	5	2
Degree of Util (X)	1.539	0.709	0.057	1.404	3.489
Departure Headway (Hd)	16.958	17.981	17.054	16.026	11.521
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	219	204	211	234	328
Service Time	14.958	15.681	14.754	14.026	9.521
HCM Lane V/C Ratio	2.854	1.27	0.109	2.436	4.351
HCM Control Delay	303.9	55.3	20.8	245.5	1150.5
HCM Lane LOS	F	F	C	F	F
HCM 95th-tile Q	20.3	4.5	0.2	17.9	101.3

Intersection						
Intersection Delay, s/veh	630.2					
Intersection LOS	F					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	282	693	1094	516	494	272
Future Vol, veh/h	282	693	1094	516	494	272
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	291	714	1128	532	509	280
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left			WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	469	984.7	90.5
HCM LOS	F	F	F

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	29%	0%	100%	0%
Vol Thru, %	71%	68%	0%	0%
Vol Right, %	0%	32%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	975	1610	494	272
LT Vol	282	0	494	0
Through Vol	693	1094	0	0
RT Vol	0	516	0	272
Lane Flow Rate	1005	1660	509	280
Geometry Grp	2	2	7	7
Degree of Util (X)	1.969	3.136	1.145	0.537
Departure Headway (Hd)	10.172	8.369	10.834	9.54
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	372	448	341	381
Service Time	8.172	6.369	8.534	7.24
HCM Lane V/C Ratio	2.702	3.705	1.493	0.735
HCM Control Delay	469	984.7	127.7	22.8
HCM Lane LOS	F	F	F	C
HCM 95th-tile Q	48.3	119.1	15.3	3.1

Intersection

Intersection Delay, s/v $\sqrt{L}$  24.2

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	63	953	96	432	1318	285	105	249	162	59	50	45
Future Vol, veh/h	63	953	96	432	1318	285	105	249	162	59	50	45
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	64	972	98	441	1345	291	107	254	165	60	51	46
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB	WB
Opposing Lanes	1	1	1	1	1
Conflicting Approach Left SB	SB	NB	EB	WB	WB
Conflicting Lanes Left	1	1	1	1	1
Conflicting Approach Right NB	NB	SB	WB	EB	EB
Conflicting Lanes Right	1	1	1	1	1
HCM Control Delay	733.8	1665.1	153.2	48.5	48.5
HCM LOS	F	F	F	E	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	6%	21%	38%
Vol Thru, %	48%	86%	65%	32%
Vol Right, %	31%	9%	14%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	516	1112	2035	154
LT Vol	105	63	432	59
Through Vol	249	953	1318	50
RT Vol	162	96	285	45
Lane Flow Rate	527	1135	2077	157
Geometry Grp	1	1	1	1
Degree of Util (X)	1.16	2.533	4.635	0.415
Departure Headway (Hd)	15.983	15.792	11.628	27.333
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	232	250	332	134
Service Time	13.983	13.792	9.628	25.333
HCM Lane V/C Ratio	2.272	4.54	6.256	1.172
HCM Control Delay	153.2	733.8	1665.1	48.5
HCM Lane LOS	F	F	F	E
HCM 95th-tile Q	12.4	48.2	144.4	1.8

Intersection														
Int Delay, s/veh 403.1														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Vol, veh/h	38	190	76	19	311	111	28	67	13	153	268	297		
Future Vol, veh/h	38	190	76	19	311	111	28	67	13	153	268	297		
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	-	None	-
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	41	207	83	21	338	121	30	73	14	166	291	323		
Major/Minor	Major1			Major2			Minor1			Minor2				
Conflicting Flow All	459	0	0	290	0	0	1079	832	249	815	813	399		
Stage 1	-	-	-	-	-	-	331	331	-	441	441	-		
Stage 2	-	-	-	-	-	-	748	501	-	374	372	-		
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3		
Pot Cap-1 Maneuver	1113	-	-	1283	-	-	198	307	795	298	315	655		
Stage 1	-	-	-	-	-	-	687	649	-	599	580	-		
Stage 2	-	-	-	-	-	-	408	546	-	651	622	-		
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-		
Mov Cap-1 Maneuver	1113	-	-	1283	-	-	~7	287	795	224	295	655		
Mov Cap-2 Maneuver	-	-	-	-	-	-	~7	287	-	224	295	-		
Stage 1	-	-	-	-	-	-	657	620	-	573	567	-		
Stage 2	-	-	-	-	-	-	98	534	-	539	595	-		
Approach	EB	WB	WB	WB	NB	NB	SB							
HCM Control Delay, s	1	0.3		\$ 1978.4		\$ 583.9								
HCM LOS				F		F								
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	25	1113	-	-	1283	-	-	351						
HCM Lane V/C Ratio	4.696	0.037	-	-	0.016	-	-	2.223						
HCM Control Delay (s)	\$ 1978.4	8.4	0	0	7.9	0	0	\$ 583.9						
HCM Lane LOS	F	A	A	A	A	A	A	F						
HCM 95th %tile Q(veh)	14.6	0.1	-	-	0	-	-	58.7						
Notes														
~: Volume exceeds capacity	\$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon													



Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↖	↗			↕			↕	
Traffic Vol, veh/h	163	845	178	148	1355	91	172	33	121	36	50	84
Future Vol, veh/h	163	845	178	148	1355	91	172	33	121	36	50	84
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	75	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	168	871	184	153	1397	94	177	34	125	37	52	87

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1491	0	0	1055	0	0	3027	3004	871	3129	3141	1444
Stage 1	-	-	-	-	-	-	1207	1207	-	1750	1750	-
Stage 2	-	-	-	-	-	-	1820	1797	-	1379	1391	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	456	-	-	668	-	-	~ 8	~ 14	353	~ 7	~ 11	164
Stage 1	-	-	-	-	-	-	226	259	-	110	141	-
Stage 2	-	-	-	-	-	-	~ 100	134	-	181	211	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	456	-	-	668	-	-	~ 5	~ 7	353	~ 3	~ 5	164
Mov Cap-2 Maneuver	-	-	-	-	-	-	1217	~ -115	-	200	~ -25	-
Stage 1	-	-	-	-	-	-	~ 143	164	-	70	109	-
Stage 2	-	-	-	-	-	-	~ 19	103	-	59	133	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.4			1.1			7.7					
HCM LOS							A			-		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1654	456	-	-	668	-	-	+
HCM Lane V/C Ratio	0.203	0.369	-	-	0.228	-	-	-
HCM Control Delay (s)	7.7	17.4	-	-	12	-	-	-
HCM Lane LOS	A	C	-	-	B	-	-	-
HCM 95th %tile Q(veh)	0.8	1.7	-	-	0.9	-	-	-

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection												
Int Delay, s/veh	18.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↗			↕			↕	
Traffic Vol, veh/h	62	902	38	36	1562	72	14	0	85	20	0	17
Future Vol, veh/h	62	902	38	36	1562	72	14	0	85	20	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	67	980	41	39	1698	78	15	0	92	22	0	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1776	0	0	1021	0	0	2959	2989	511	2439	2970	1737
Stage 1	-	-	-	-	-	-	1135	1135	-	1815	1815	-
Stage 2	-	-	-	-	-	-	1824	1854	-	624	1155	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	355	-	-	688	-	-	~8	14	513	~19	14	109
Stage 1	-	-	-	-	-	-	219	280	-	101	131	-
Stage 2	-	-	-	-	-	-	100	125	-	445	274	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	355	-	-	688	-	-	~5	11	513	~13	11	109
Mov Cap-2 Maneuver	-	-	-	-	-	-	~10	41	-	61	72	-
Stage 1	-	-	-	-	-	-	178	227	-	82	124	-
Stage 2	-	-	-	-	-	-	78	118	-	296	222	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.2	\$ 484.7	96.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	63	355	-	-	688	-	-	76
HCM Lane V/C Ratio	1.708	0.19	-	-	0.057	-	-	0.529
HCM Control Delay (s)	\$ 484.7	17.5	-	-	10.5	-	-	96.4
HCM Lane LOS	F	C	-	-	B	-	-	F
HCM 95th %tile Q(veh)	9.7	0.7	-	-	0.2	-	-	2.2

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection														
Int Delay, s/veh 3.5														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Vol, veh/h	19	1465	73	313	2646	43	54	22	164	61	38	30		
Future Vol, veh/h	19	1465	73	313	2646	43	54	22	164	61	38	30		
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop		
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None		
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-		
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0		
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0		
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92		
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0		
Mvmt Flow	21	1592	79	340	2876	47	59	24	178	66	41	33		
Major/Minor	Major1	Major2	Major2	Minor1	Minor1	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2		
Conflicting Flow All	2923	0	0	1671	0	0	5291	5277	1632	5355	5293	2900		
Stage 1	-	-	-	-	-	-	1674	1674	-	3580	3580	-		
Stage 2	-	-	-	-	-	-	3617	3603	-	1775	1713	-		
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3		
Pot Cap-1 Maneuver	126	-	-	389	-	-	0	0	~127	0	0	~21		
Stage 1	-	-	-	-	-	-	122	154	-	~9	~15	-		
Stage 2	-	-	-	-	-	-	~8	~15	-	107	147	-		
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-		
Mov Cap-1 Maneuver	126	-	-	389	-	-	-	0	~127	-	0	~21		
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	0	-		
Stage 1	-	-	-	-	-	-	122	0	-	~9	~15	-		
Stage 2	-	-	-	-	-	-	~8	~15	-	-	0	-		
Approach	EB	WB	WB	NB	NB	SB								
HCM Control Delay, s	0.5	5.5	5.5	-	-	-								
HCM LOS														
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	-	126	-	-	389	-	-	-						
HCM Lane V/C Ratio	-	0.164	-	-	0.875	-	-	-						
HCM Control Delay (s)	-	39.1	0	-	52.7	0	-	-						
HCM Lane LOS	-	E	A	-	F	A	-	-						
HCM 95th %tile Q(veh)	-	0.6	-	-	8.7	-	-	-						
Notes														
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon														

Intersection												
Int Delay, s/veh	86.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖		↗	
Traffic Vol, veh/h	24	314	137	150	670	80	87	54	12	112	165	73
Future Vol, veh/h	24	314	137	150	670	80	87	54	12	112	165	73
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	200	-	-	200	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	26	338	147	161	720	86	94	58	13	120	177	78

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	806	0	0	485	0	0	1677	1592	243	1335	1622	763
Stage 1	-	-	-	-	-	-	464	464	-	1085	1085	-
Stage 2	-	-	-	-	-	-	1213	1128	-	250	537	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	828	-	-	1088	-	-	~ 70	108	764	123	~ 104	408
Stage 1	-	-	-	-	-	-	553	567	-	265	295	-
Stage 2	-	-	-	-	-	-	224	282	-	738	526	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	828	-	-	1088	-	-	89	764	~ 78	~ 86	408	
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 17	171	-	183	~ 171	-
Stage 1	-	-	-	-	-	-	536	549	-	257	251	-
Stage 2	-	-	-	-	-	-	~ 45	240	-	628	510	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.5		\$ 459.4
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	171	764	828	-	-	1088	-	-	199
HCM Lane V/C Ratio	-	0.34	0.017	0.031	-	-	0.148	-	-	1.891
HCM Control Delay (s)	-	36.5	9.8	9.5	-	-	8.9	-	-	\$ 459.4
HCM Lane LOS	-	E	A	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	-	1.4	0.1	0.1	-	-	0.5	-	-	27.3

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	905.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	44	864	37	253	1559	118	78	0	153	180	0	71
Future Vol, veh/h	44	864	37	253	1559	118	78	0	153	180	0	71
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	47	919	39	269	1659	126	83	0	163	191	0	76
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	3
HCM Control Delay	487.5	1327	31.5	37.4
HCM LOS	F	F	D	E

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	34%	100%	0%	0%	100%	0%	72%
Vol Thru, %	0%	0%	100%	0%	0%	93%	0%
Vol Right, %	66%	0%	0%	100%	0%	7%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	231	44	864	37	253	1677	251
LT Vol	78	44	0	0	253	0	180
Through Vol	0	0	864	0	0	1559	0
RT Vol	153	0	0	37	0	118	71
Lane Flow Rate	246	47	919	39	269	1784	267
Geometry Grp	7	7	7	7	8	8	7
Degree of Util (X)	0.601	0.114	2.109	0.083	0.693	4.321	0.677
Departure Headway (Hd)	12.11	11.163	10.635	9.895	11.319	10.732	12.316
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	300	323	349	364	323	357	296
Service Time	9.81	8.863	8.335	7.595	9.019	8.432	10.016
HCM Lane V/C Ratio	0.82	0.146	2.633	0.107	0.833	4.997	0.902
HCM Control Delay	31.5	15.3	531.9	13.5	36.1	1521.7	37.4
HCM Lane LOS	D	C	F	B	E	F	E
HCM 95th-tile Q	3.6	0.4	52.1	0.3	4.8	143.1	4.5

Intersection														
Int Delay, s/veh 228.8														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Vol, veh/h	36	1471	211	175	2815	48	61	10	49	43	84	67		
Future Vol, veh/h	36	1471	211	175	2815	48	61	10	49	43	84	67		
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop		
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None		
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-		
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0		
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0		
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92		
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0		
Mvmt Flow	39	1599	229	190	3060	52	66	11	53	47	91	73		
Major/Minor	Major1	Major2	Major2	Minor1	Minor1	Minor2								
Conflicting Flow All	3112	0	0	1828	0	0	5340	5284	1714	5290	5372	3086		
Stage 1	-	-	-	-	-	-	1792	1792	-	3466	3466	-		
Stage 2	-	-	-	-	-	-	3548	3492	-	1824	1906	-		
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3		
Pot Cap-1 Maneuver	106	-	-	339	-	-	0	0	113	0	0	~16		
Stage 1	-	-	-	-	-	-	104	134	-	~10	~18	-		
Stage 2	-	-	-	-	-	-	~9	17	-	100	118	-		
Platoon blocked, %	-	-	-	-	-	-								
Mov Cap-1 Maneuver	106	-	-	339	-	-	-	0	113	0	0	~16		
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	0	0	-		
Stage 1	-	-	-	-	-	-	104	134	-	~10	~18	-		
Stage 2	-	-	-	-	-	-	130	17	-	49	118	-		
Approach	EB	WB	WB	NB	SB									
HCM Control Delay, s	1.2	1.6	1.6	-	\$ 5944.2									
HCM LOS					F									
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	-	106	-	-	339	-	-	16						
HCM Lane V/C Ratio	-	0.369	-	-	0.561	-	-	13.179						
HCM Control Delay (s)	-	57.6	0	-	28.4	0	\$5944.2	-						
HCM Lane LOS	-	F	A	-	D	A	-	F						
HCM 95th %tile Q(veh)	-	1.5	-	-	3.3	-	-	27.3						
Notes														
~: Volume exceeds capacity	\$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon													

Timings

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

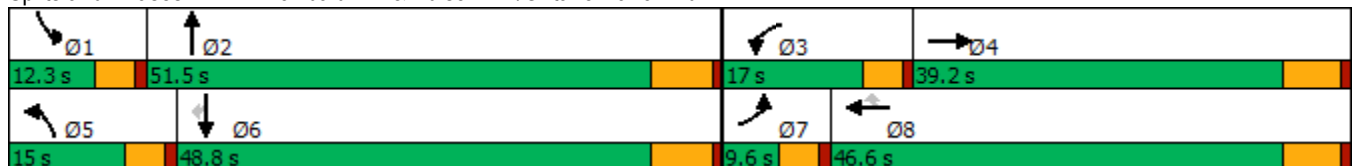
08/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	472	943	411	673	1952	299	515	1297	536	79	750	337
Future Volume (vph)	472	943	411	673	1952	299	515	1297	536	79	750	337
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	39.2		17.0	46.6	46.6	15.0	51.5		12.3	48.8	48.8
Total Split (%)	8.0%	32.7%		14.2%	38.8%	38.8%	12.5%	42.9%		10.3%	40.7%	40.7%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.0	33.0	119.8	12.4	40.4	40.4	10.4	45.0	119.8	7.5	42.1	42.1
Actuated g/C Ratio	0.04	0.28	1.00	0.10	0.34	0.34	0.09	0.38	1.00	0.06	0.35	0.35
v/c Ratio	3.75	0.98	0.26	2.14	3.14	0.50	3.59	0.99	0.35	0.76	0.61	0.52
Control Delay	1267.6	67.0	0.4	551.3	984.9	22.4	1195.3	58.8	0.6	96.1	34.6	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1267.6	67.0	0.4	551.3	984.9	22.4	1195.3	58.8	0.6	96.1	34.6	19.5
LOS	F	E	A	F	F	C	F	E	A	F	C	B
Approach Delay		362.5			786.7			294.7			34.4	
Approach LOS		F			F			F			C	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 119.8	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.75	
Intersection Signal Delay: 447.1	Intersection LOS: F
Intersection Capacity Utilization 186.9%	ICU Level of Service H
Analysis Period (min) 15	






























Splits and Phases: 44: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
 44: Archibald Av. & Edison Av./Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 				 			 	
Traffic Volume (veh/h)	472	943	411	673	1952	299	515	1297	536	79	750	337
Future Volume (veh/h)	472	943	411	673	1952	299	515	1297	536	79	750	337
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	487	972	0	694	2012	254	531	1337	0	81	773	314
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	132	998		326	643	545	149	1361		101	1260	562
Arrive On Green	0.04	0.28	0.00	0.10	0.34	0.34	0.09	0.38	0.00	0.06	0.35	0.35
Sat Flow, veh/h	3141	3610	1610	3141	1900	1610	1714	3610	1610	1714	3610	1610
Grp Volume(v), veh/h	487	972	0	694	2012	254	531	1337	0	81	773	314
Grp Sat Flow(s),veh/h/ln	1570	1805	1610	1570	1900	1610	1714	1805	1610	1714	1805	1610
Q Serve(g_s), s	5.0	31.8	0.0	12.4	40.4	14.8	10.4	43.7	0.0	5.6	21.2	18.8
Cycle Q Clear(g_c), s	5.0	31.8	0.0	12.4	40.4	14.8	10.4	43.7	0.0	5.6	21.2	18.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	132	998		326	643	545	149	1361		101	1260	562
V/C Ratio(X)	3.70	0.97		2.13	3.13	0.47	3.55	0.98		0.80	0.61	0.56
Avail Cap(c_a), veh/h	132	998		326	643	545	149	1361		111	1279	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.2	42.7	0.0	53.5	39.5	31.0	54.5	36.8	0.0	55.5	32.2	31.4
Incr Delay (d2), s/veh	1234.0	22.3	0.0	517.2	961.9	0.6	1166.2	20.2	0.0	27.6	0.9	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.5	16.5	0.0	28.2	189.5	5.6	52.7	21.5	0.0	3.1	8.8	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1291.1	65.0	0.0	570.7	1001.4	31.6	1220.7	57.0	0.0	83.0	33.0	32.6
LnGrp LOS	F	E		F	F	C	F	E		F	C	C
Approach Vol, veh/h		1459	A		2960			1868	A		1168	
Approach Delay, s/veh		474.3			817.2			387.8			36.4	
Approach LOS		F			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	51.5	17.0	39.2	15.0	48.2	9.6	46.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.7	45.0	12.4	33.0	10.4	42.3	5.0	40.4				
Max Q Clear Time (g_c+I1), s	7.6	45.7	14.4	33.8	12.4	23.2	7.0	42.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			520.1									
HCM 6th LOS			F									
<b>Notes</b>												
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.												



Timings  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

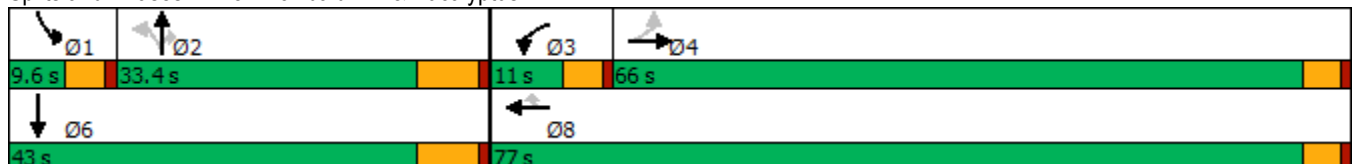


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖↗	↕	↖↗	↖	↕↕	↖	↖	↕↕
Traffic Volume (vph)	47	31	122	280	162	237	2027	84	60	1483
Future Volume (vph)	47	31	122	280	162	237	2027	84	60	1483
Turn Type	Perm	NA	Prot	NA	Perm	Perm	NA	Perm	Prot	NA
Protected Phases		4	3	8			2		1	6
Permitted Phases	4				8	2		2		
Detector Phase	4	4	3	8	8	2	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	9.5	9.5	9.5	32.5	32.5	32.5	9.6	16.5
Total Split (s)	66.0	66.0	11.0	77.0	77.0	33.4	33.4	33.4	9.6	43.0
Total Split (%)	55.0%	55.0%	9.2%	64.2%	64.2%	27.8%	27.8%	27.8%	8.0%	35.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	5.5	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	6.5	6.5	6.5	4.6	6.5
Lead/Lag	Lag	Lag	Lead			Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Max	Max	Max	None	Max
Act Effct Green (s)	9.6	9.6	7.5	19.3	19.3	27.1	27.1	27.1	5.0	36.8
Actuated g/C Ratio	0.14	0.14	0.11	0.29	0.29	0.40	0.40	0.40	0.07	0.55
v/c Ratio	0.34	0.28	0.37	0.55	0.30	2.38	1.50	0.14	0.51	0.91
Control Delay	32.3	26.0	33.7	23.8	4.7	672.5	249.9	15.4	48.2	24.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	26.0	33.7	23.8	4.7	672.5	249.9	15.4	48.2	24.4
LOS	C	C	C	C	A	F	F	B	D	C
Approach Delay		28.6		20.5			284.2			25.2
Approach LOS		C		C			F			C

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 67.2  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 2.38  
 Intersection Signal Delay: 153.1  
 Intersection Capacity Utilization 97.5%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service F
























Splits and Phases: 45: Archibald Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	31	36	122	280	162	237	2027	84	60	1483	169
Future Volume (veh/h)	47	31	36	122	280	162	237	2027	84	60	1483	169
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	51	33	28	131	301	104	255	2180	74	65	1595	134
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	204	89	76	226	452	383	172	1652	737	93	1975	165
Arrive On Green	0.09	0.09	0.09	0.07	0.24	0.24	0.46	0.46	0.46	0.05	0.59	0.59
Sat Flow, veh/h	943	949	806	3141	1900	1610	270	3610	1610	1714	3373	281
Grp Volume(v), veh/h	51	0	61	131	301	104	255	2180	74	65	847	882
Grp Sat Flow(s),veh/h/ln	943	0	1755	1570	1900	1610	270	1805	1610	1714	1805	1849
Q Serve(g_s), s	3.2	0.0	2.0	2.5	8.9	3.3	12.9	28.5	1.6	2.3	22.8	23.6
Cycle Q Clear(g_c), s	3.2	0.0	2.0	2.5	8.9	3.3	28.5	28.5	1.6	2.3	22.8	23.6
Prop In Lane	1.00		0.46	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	204	0	165	226	452	383	172	1652	737	93	1057	1083
V/C Ratio(X)	0.25	0.00	0.37	0.58	0.67	0.27	1.49	1.32	0.10	0.70	0.80	0.81
Avail Cap(c_a), veh/h	1046	0	1731	327	2210	1873	172	1652	737	137	1057	1083
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	0.0	26.5	28.0	21.5	19.3	29.1	16.9	9.6	29.0	10.1	10.2
Incr Delay (d2), s/veh	0.6	0.0	1.4	2.3	1.7	0.4	247.4	148.3	0.3	3.5	6.4	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.9	1.0	3.8	1.2	14.1	42.2	0.5	0.9	6.9	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.7	0.0	27.9	30.4	23.2	19.7	276.5	165.2	9.9	32.5	16.5	17.0
LnGrp LOS	C	A	C	C	C	B	F	F	A	C	B	B
Approach Vol, veh/h		112			536			2509			1794	
Approach Delay, s/veh		27.8			24.3			172.0			17.3	
Approach LOS		C			C			F			B	
Timer - Assigned Phs	1	2	3	4	6	8						
Phs Duration (G+Y+Rc), s	8.0	35.0	9.0	10.4	43.0	19.3						
Change Period (Y+Rc), s	4.6	6.5	4.5	4.5	6.5	4.5						
Max Green Setting (Gmax), s	5.0	26.9	6.5	61.5	36.5	72.5						
Max Q Clear Time (g_c+1), s	4.3	30.5	4.5	5.2	25.6	10.9						
Green Ext Time (p_c), s	0.0	0.0	0.1	0.6	7.5	2.2						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			96.7									
HCM 6th LOS			F									

Timings  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

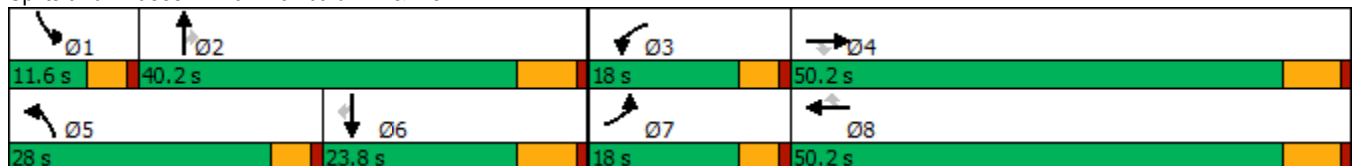
08/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	387	30	261	139	103	158	834	1492	88	48	925	745
Future Volume (vph)	387	30	261	139	103	158	834	1492	88	48	925	745
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	18.0	50.2	50.2	18.0	50.2	50.2	28.0	40.2	40.2	11.6	23.8	23.8
Total Split (%)	15.0%	41.8%	41.8%	15.0%	41.8%	41.8%	23.3%	33.5%	33.5%	9.7%	19.8%	19.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.6	17.8	17.8	11.5	15.7	15.7	23.8	39.7	39.7	5.9	17.6	17.6
Actuated g/C Ratio	0.15	0.19	0.19	0.12	0.17	0.17	0.26	0.43	0.43	0.06	0.19	0.19
v/c Ratio	1.60	0.09	0.51	0.68	0.33	0.41	1.97	0.69	0.12	0.25	1.40	1.47
Control Delay	315.1	30.2	7.3	57.4	35.1	8.5	466.7	26.7	3.9	47.7	218.7	243.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	315.1	30.2	7.3	57.4	35.1	8.5	466.7	26.7	3.9	47.7	218.7	243.3
LOS	F	C	A	E	D	A	F	C	A	D	F	F
Approach Delay		184.0			32.3			177.9			224.6	
Approach LOS		F			C			F			F	

Intersection Summary

























Cycle Length: 120	
Actuated Cycle Length: 92.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.97	
Intersection Signal Delay: 182.9	Intersection LOS: F
Intersection Capacity Utilization 118.1%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 46: Archibald Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)  
08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	387	30	261	139	103	158	834	1492	88	48	925	745
Future Volume (veh/h)	387	30	261	139	103	158	834	1492	88	48	925	745
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	399	31	214	143	106	68	860	1538	72	49	954	702
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	267	323	273	175	221	187	466	2247	697	126	726	324
Arrive On Green	0.16	0.17	0.17	0.10	0.12	0.12	0.27	0.43	0.43	0.04	0.20	0.20
Sat Flow, veh/h	1714	1900	1610	1714	1900	1610	1714	5187	1610	3141	3610	1610
Grp Volume(v), veh/h	399	31	214	143	106	68	860	1538	72	49	954	702
Grp Sat Flow(s),veh/h/ln	1714	1900	1610	1714	1900	1610	1714	1729	1610	1570	1805	1610
Q Serve(g_s), s	13.4	1.2	10.9	7.0	4.5	3.4	23.4	20.5	2.3	1.3	17.3	17.3
Cycle Q Clear(g_c), s	13.4	1.2	10.9	7.0	4.5	3.4	23.4	20.5	2.3	1.3	17.3	17.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	267	323	273	175	221	187	466	2247	697	126	726	324
V/C Ratio(X)	1.49	0.10	0.78	0.82	0.48	0.36	1.84	0.68	0.10	0.39	1.31	2.17
Avail Cap(c_a), veh/h	267	972	824	267	972	824	466	2247	697	256	726	324
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.3	30.1	34.2	37.8	35.6	35.1	31.3	19.6	14.5	40.2	34.3	34.3
Incr Delay (d2), s/veh	241.0	0.1	4.9	6.1	1.6	1.2	387.9	0.9	0.1	0.7	150.9	535.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	23.1	0.5	4.5	3.2	2.1	1.3	58.8	7.1	0.8	0.5	22.1	54.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	277.3	30.3	39.1	44.0	37.2	36.2	419.2	20.5	14.5	41.0	185.2	569.8
LnGrp LOS	F	C	D	D	D	D	F	C	B	D	F	F
Approach Vol, veh/h		644			317			2470			1705	
Approach Delay, s/veh		186.2			40.0			159.2			339.4	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	43.8	13.4	20.8	28.0	23.8	18.0	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.0	33.7	13.4	44.0	23.4	17.3	13.4	44.0				
Max Q Clear Time (g_c+I1), s	3.3	22.5	9.0	12.9	25.4	19.3	15.4	6.5				
Green Ext Time (p_c), s	0.0	7.0	0.1	0.8	0.0	0.0	0.0	0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			215.0									
HCM 6th LOS			F									

Timings  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	215	579	113	366	852	740	149	1140	372	439	796
Future Volume (vph)	215	579	113	366	852	740	149	1140	372	439	796
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	1	5	2	3	1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	1	5	2	3	1	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	5.0	6.0	6.0
Minimum Split (s)	9.5	23.0	23.0	9.5	36.3	11.0	9.5	46.3	9.5	11.0	23.0
Total Split (s)	9.5	25.0	25.0	20.8	36.3	18.0	9.5	56.2	20.8	18.0	64.7
Total Split (%)	7.9%	20.8%	20.8%	17.3%	30.3%	15.0%	7.9%	46.8%	17.3%	15.0%	53.9%
Yellow Time (s)	3.5	4.0	4.0	3.5	4.3	4.0	3.5	4.3	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.0	5.0	4.5	5.3	5.0	4.5	5.3	4.5	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min
Act Effct Green (s)	5.0	20.5	20.5	15.8	31.0	44.3	5.0	50.9	72.0	13.0	59.7
Actuated g/C Ratio	0.04	0.17	0.17	0.13	0.26	0.37	0.04	0.42	0.60	0.11	0.50
v/c Ratio	3.12	1.02	0.29	0.82	1.89	1.23	2.16	1.48	0.38	2.34	1.12
Control Delay	1007.1	91.4	2.5	66.3	435.5	147.4	590.6	249.8	9.8	644.7	99.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1007.1	91.4	2.5	66.3	435.5	147.4	590.6	249.8	9.8	644.7	99.5
LOS	F	F	A	E	F	F	F	F	A	F	F
Approach Delay		297.6			260.9			228.0			266.1
Approach LOS		F			F			F			F

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 3.12  
 Intersection Signal Delay: 258.8  
 Intersection LOS: F  
 Intersection Capacity Utilization 157.8%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 47: Archibald Av. & Limonite Av.



HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘↗	↑	↗	↘	↑	↗	↘	↗	↘
Traffic Volume (veh/h)	215	579	113	366	852	740	149	1140	372	439	796	193
Future Volume (veh/h)	215	579	113	366	852	740	149	1140	372	439	796	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	234	629	123	381	926	715	162	1188	341	457	829	210
Peak Hour Factor	0.92	0.92	0.92	0.96	0.92	0.96	0.92	0.96	0.96	0.96	0.96	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	629	281	439	490	580	75	809	887	196	726	184
Arrive On Green	0.04	0.17	0.17	0.12	0.26	0.26	0.04	0.43	0.43	0.11	0.50	0.50
Sat Flow, veh/h	1810	3610	1610	3510	1900	1576	1810	1900	1610	1810	1463	371
Grp Volume(v), veh/h	234	629	123	381	926	715	162	1188	341	457	0	1039
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1755	1900	1576	1810	1900	1610	1810	0	1833
Q Serve(g_s), s	5.0	21.0	8.2	12.8	31.0	31.0	5.0	51.2	14.5	13.0	0.0	59.7
Cycle Q Clear(g_c), s	5.0	21.0	8.2	12.8	31.0	31.0	5.0	51.2	14.5	13.0	0.0	59.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	75	629	281	439	490	580	75	809	887	196	0	910
V/C Ratio(X)	3.11	1.00	0.44	0.87	1.89	1.23	2.15	1.47	0.38	2.34	0.00	1.14
Avail Cap(c_a), veh/h	75	629	281	476	490	580	75	809	887	196	0	910
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.7	49.7	44.4	51.7	44.6	38.2	57.7	34.5	15.4	53.7	0.0	30.3
Incr Delay (d2), s/veh	984.1	35.8	1.1	14.9	408.7	119.2	560.7	217.9	0.3	617.4	0.0	77.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.8	12.3	3.3	6.3	69.4	35.1	13.9	70.7	4.9	39.2	0.0	42.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1041.8	85.5	45.5	66.5	453.4	157.4	618.3	252.4	15.7	671.0	0.0	107.4
LnGrp LOS	F	F	D	E	F	F	F	F	B	F	A	F
Approach Vol, veh/h		986			2022			1691			1496	
Approach Delay, s/veh		307.5			275.8			239.7			279.6	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	56.5	19.5	26.3	9.5	65.0	9.5	36.3				
Change Period (Y+Rc), s	5.0	5.3	4.5	* 5.3	4.5	* 5.3	4.5	5.3				
Max Green Setting (Gmax), s	13.0	50.9	16.3	* 20	5.0	* 60	5.0	31.0				
Max Q Clear Time (g_c+I1), s	15.0	53.2	14.8	23.0	7.0	61.7	7.0	33.0				
Green Ext Time (p_c), s	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	271.9
HCM 6th LOS	F

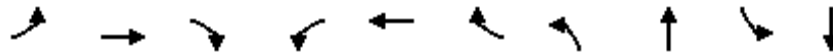
Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

48: Turner Av. & Ontario Ranch Rd.

08/24/2021

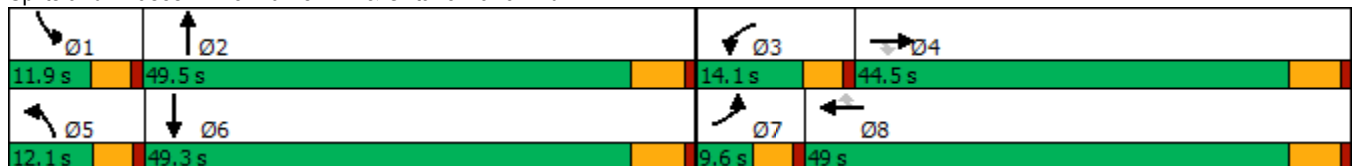


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗	↘	↗
Traffic Volume (vph)	100	1122	41	52	2435	93	70	30	96	19
Future Volume (vph)	100	1122	41	52	2435	93	70	30	96	19
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	25.8	25.8	9.6	45.8	9.6	47.8
Total Split (s)	9.6	44.5	44.5	14.1	49.0	49.0	12.1	49.5	11.9	49.3
Total Split (%)	8.0%	37.1%	37.1%	11.8%	40.8%	40.8%	10.1%	41.3%	9.9%	41.1%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	5.1	44.4	44.4	7.3	44.2	44.2	7.3	16.9	8.4	16.7
Actuated g/C Ratio	0.06	0.48	0.48	0.08	0.48	0.48	0.08	0.18	0.09	0.18
v/c Ratio	1.15	0.70	0.05	0.42	1.53	0.12	0.57	0.23	0.67	0.63
Control Delay	182.4	25.8	0.1	54.2	263.4	4.2	62.1	16.2	66.2	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	182.4	25.8	0.1	54.2	263.4	4.2	62.1	16.2	66.2	22.6
LOS	F	C	A	D	F	A	E	B	E	C
Approach Delay		37.4			249.8			38.3		35.2
Approach LOS		D			F			D		D

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 92  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.53  
 Intersection Signal Delay: 164.1  
 Intersection LOS: F  
 Intersection Capacity Utilization 109.1%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 48: Turner Av. & Ontario Ranch Rd.





HCM 6th Signalized Intersection Summary  
48: Turner Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	100	1122	41	52	2435	93	70	30	45	96	19	217
Future Volume (veh/h)	100	1122	41	52	2435	93	70	30	45	96	19	217
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	109	1220	34	57	2647	92	76	33	36	104	21	213
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	1785	796	72	1736	775	96	129	141	130	26	261
Arrive On Green	0.06	0.49	0.49	0.04	0.48	0.48	0.06	0.16	0.16	0.08	0.18	0.18
Sat Flow, veh/h	1714	3610	1610	1714	3610	1610	1714	831	906	1714	147	1486
Grp Volume(v), veh/h	109	1220	34	57	2647	92	76	0	69	104	0	234
Grp Sat Flow(s),veh/h/ln	1714	1805	1610	1714	1805	1610	1714	0	1737	1714	0	1633
Q Serve(g_s), s	5.0	23.2	1.0	3.0	43.2	2.8	3.9	0.0	3.1	5.4	0.0	12.4
Cycle Q Clear(g_c), s	5.0	23.2	1.0	3.0	43.2	2.8	3.9	0.0	3.1	5.4	0.0	12.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		0.91
Lane Grp Cap(c), veh/h	95	1785	796	72	1736	775	96	0	271	130	0	286
V/C Ratio(X)	1.14	0.68	0.04	0.79	1.52	0.12	0.79	0.00	0.25	0.80	0.00	0.82
Avail Cap(c_a), veh/h	95	1785	796	181	1736	775	143	0	845	139	0	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.4	17.3	11.7	42.6	23.3	12.8	41.9	0.0	33.3	40.8	0.0	35.6
Incr Delay (d2), s/veh	135.5	2.1	0.1	6.9	238.9	0.3	8.7	0.0	0.5	23.4	0.0	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	8.9	0.3	1.3	73.3	1.0	1.8	0.0	1.3	3.0	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	177.9	19.5	11.8	49.5	262.2	13.1	50.6	0.0	33.8	64.3	0.0	41.3
LnGrp LOS	F	B	B	D	F	B	D	A	C	E	A	D
Approach Vol, veh/h		1363			2796			145				338
Approach Delay, s/veh		32.0			249.7			42.6				48.4
Approach LOS		C			F			D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	19.8	8.4	50.2	9.6	21.6	9.6	49.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	7.3	43.7	9.5	38.7	7.5	43.5	5.0	43.2				
Max Q Clear Time (g_c+I1), s	7.4	5.1	5.0	25.2	5.9	14.4	7.0	45.2				
Green Ext Time (p_c), s	0.0	0.3	0.0	6.8	0.0	1.4	0.0	0.0				

Intersection Summary

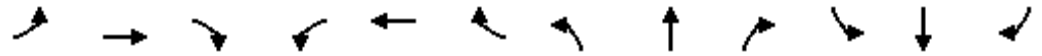
HCM 6th Ctrl Delay	164.6
HCM 6th LOS	F



Timings

49: Haven Av. & Ontario Ranch Rd.

08/24/2021

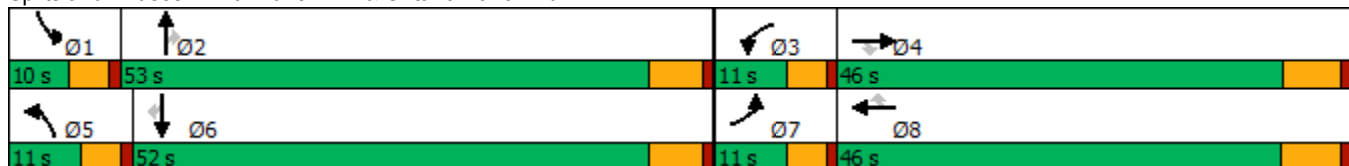


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (vph)	241	1267	44	26	2076	114	76	232	96	319	124	268
Future Volume (vph)	241	1267	44	26	2076	114	76	232	96	319	124	268
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	11.0	46.0	46.0	11.0	46.0	46.0	11.0	53.0	53.0	10.0	52.0	52.0
Total Split (%)	9.2%	38.3%	38.3%	9.2%	38.3%	38.3%	9.2%	44.2%	44.2%	8.3%	43.3%	43.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	6.5	47.4	47.4	5.8	40.0	40.0	6.5	19.8	19.8	5.5	18.8	18.8
Actuated g/C Ratio	0.07	0.51	0.51	0.06	0.43	0.43	0.07	0.21	0.21	0.06	0.20	0.20
v/c Ratio	2.17	0.51	0.05	0.27	0.79	0.16	0.69	0.61	0.24	3.42	0.35	0.64
Control Delay	575.6	19.2	0.1	52.0	27.2	4.9	74.3	39.2	5.4	1125.9	33.2	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	575.6	19.2	0.1	52.0	27.2	4.9	74.3	39.2	5.4	1125.9	33.2	21.6
LOS	F	B	A	D	C	A	E	D	A	F	C	C
Approach Delay		104.9			26.4			37.8			518.8	
Approach LOS		F			C			D			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 93.5	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.42	
Intersection Signal Delay: 123.9	Intersection LOS: F
Intersection Capacity Utilization 93.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 49: Haven Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
49: Haven Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/24/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	241	1267	44	26	2076	114	76	232	96	319	124	268
Future Volume (veh/h)	241	1267	44	26	2076	114	76	232	96	319	124	268
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	256	1348	34	28	2209	76	81	247	52	339	132	252
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	122	2507	778	48	2876	709	102	359	304	103	360	305
Arrive On Green	0.07	0.48	0.48	0.03	0.44	0.44	0.06	0.19	0.19	0.06	0.19	0.19
Sat Flow, veh/h	1714	5187	1610	1714	6536	1610	1714	1900	1610	1714	1900	1610
Grp Volume(v), veh/h	256	1348	34	28	2209	76	81	247	52	339	132	252
Grp Sat Flow(s),veh/h/ln	1714	1729	1610	1714	1634	1610	1714	1900	1610	1714	1900	1610
Q Serve(g_s), s	6.4	16.3	1.0	1.4	25.7	2.5	4.2	10.9	2.4	5.4	5.4	13.5
Cycle Q Clear(g_c), s	6.4	16.3	1.0	1.4	25.7	2.5	4.2	10.9	2.4	5.4	5.4	13.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	2507	778	48	2876	709	102	359	304	103	360	305
V/C Ratio(X)	2.09	0.54	0.04	0.58	0.77	0.11	0.79	0.69	0.17	3.29	0.37	0.83
Avail Cap(c_a), veh/h	122	2507	778	122	2876	709	122	999	847	103	978	829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	16.2	12.2	43.1	21.3	14.8	41.6	33.9	30.5	42.2	31.7	35.0
Incr Delay (d2), s/veh	519.3	0.8	0.1	4.1	2.0	0.3	20.6	2.3	0.3	1053.8	0.6	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.2	5.7	0.3	0.6	8.7	0.9	2.3	5.0	0.9	32.4	2.4	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	561.0	17.0	12.3	47.2	23.3	15.1	62.3	36.3	30.8	1096.0	32.3	40.6
LnGrp LOS	F	B	B	D	C	B	E	D	C	F	C	D
Approach Vol, veh/h		1638			2313			380			723	
Approach Delay, s/veh		101.9			23.3			41.1			533.9	
Approach LOS		F			C			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	22.8	7.1	49.9	10.0	22.8	11.0	46.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	5.4	47.2	6.4	* 40	6.4	46.2	6.4	39.5				
Max Q Clear Time (g_c+I1), s	7.4	12.9	3.4	18.3	6.2	15.5	8.4	27.7				
Green Ext Time (p_c), s	0.0	1.5	0.0	9.2	0.0	1.5	0.0	9.6				

Intersection Summary

HCM 6th Ctrl Delay	123.2
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

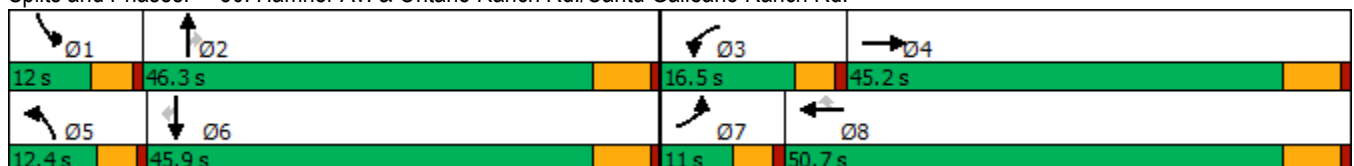


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	131	1168	388	1657	246	334	856	692	275	467	225
Future Volume (vph)	131	1168	388	1657	246	334	856	692	275	467	225
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.2	9.6	49.2	49.2	9.6	44.2	44.2	9.6	45.2	45.2
Total Split (s)	11.0	45.2	16.5	50.7	50.7	12.4	46.3	46.3	12.0	45.9	45.9
Total Split (%)	9.2%	37.7%	13.8%	42.3%	42.3%	10.3%	38.6%	38.6%	10.0%	38.3%	38.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.4	39.0	11.9	44.5	44.5	7.8	40.1	40.1	7.4	39.7	39.7
Actuated g/C Ratio	0.05	0.32	0.10	0.37	0.37	0.06	0.33	0.33	0.06	0.33	0.33
v/c Ratio	0.85	0.70	1.36	1.35	0.39	1.79	0.54	1.17	1.55	0.43	0.39
Control Delay	95.5	36.7	223.0	193.1	13.6	406.1	33.8	122.6	308.3	32.6	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.5	36.7	223.0	193.1	13.6	406.1	33.8	122.6	308.3	32.6	13.3
LOS	F	D	F	F	B	F	C	F	F	C	B
Approach Delay		41.8		178.9			132.6			106.5	
Approach LOS		D		F			F			F	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.79  
 Intersection Signal Delay: 124.3  
 Intersection LOS: F  
 Intersection Capacity Utilization 93.3%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



























HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	1168	195	388	1657	246	334	856	692	275	467	225
Future Volume (veh/h)	131	1168	195	388	1657	246	334	856	692	275	467	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	142	1270	212	422	1801	267	363	930	745	299	508	245
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	168	1848	307	311	1339	597	204	1733	538	194	1194	532
Arrive On Green	0.05	0.33	0.33	0.10	0.37	0.37	0.06	0.33	0.33	0.06	0.33	0.33
Sat Flow, veh/h	3141	5687	945	3141	3610	1610	3141	5187	1610	3141	3610	1609
Grp Volume(v), veh/h	142	1094	388	422	1801	267	363	930	745	299	508	245
Grp Sat Flow(s),veh/h/ln	1570	1634	1730	1570	1805	1610	1570	1729	1610	1570	1805	1609
Q Serve(g_s), s	5.4	23.3	23.4	11.9	44.5	15.0	7.8	17.5	40.1	7.4	13.2	14.4
Cycle Q Clear(g_c), s	5.4	23.3	23.4	11.9	44.5	15.0	7.8	17.5	40.1	7.4	13.2	14.4
Prop In Lane	1.00		0.55	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	168	1593	562	311	1339	597	204	1733	538	194	1194	532
V/C Ratio(X)	0.85	0.69	0.69	1.35	1.35	0.45	1.78	0.54	1.38	1.54	0.43	0.46
Avail Cap(c_a), veh/h	168	1593	562	311	1339	597	204	1733	538	194	1194	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	35.2	35.2	54.1	37.8	28.5	56.1	32.4	40.0	56.3	31.3	31.7
Incr Delay (d2), s/veh	30.0	1.2	3.6	179.3	160.5	0.5	369.2	0.3	184.4	268.7	0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	8.9	9.8	12.3	48.1	5.6	13.5	7.0	42.4	10.1	5.5	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.3	36.4	38.8	233.4	198.2	29.0	425.3	32.7	224.3	325.0	31.5	32.3
LnGrp LOS	F	D	D	F	F	C	F	C	F	F	C	C
Approach Vol, veh/h		1624			2490			2038			1052	
Approach Delay, s/veh		41.4			186.0			172.7			115.1	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	46.3	16.5	45.2	12.4	45.9	11.0	50.7				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	7.4	40.1	11.9	39.0	7.8	39.7	6.4	44.5				
Max Q Clear Time (g_c+I1), s	9.4	42.1	13.9	25.4	9.8	16.4	7.4	46.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	7.3	0.0	3.8	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				139.3								
HCM 6th LOS				F								

Timings  
51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/24/2021

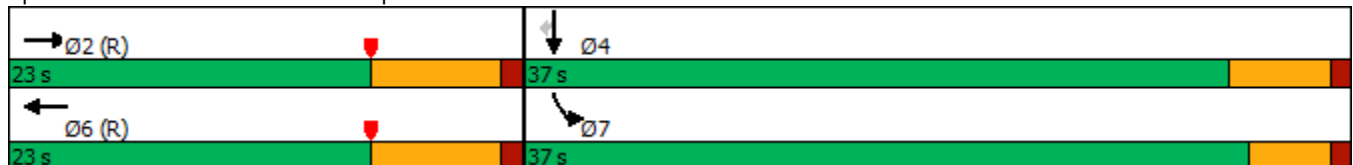


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑	↔	↑
Traffic Volume (vph)	1506	528	734	221	392	0	1525
Future Volume (vph)	1506	528	734	221	392	0	1525
Turn Type	NA	Free	NA	Free	Prot	NA	Perm
Protected Phases	2		6		7	4	
Permitted Phases		Free		Free			4
Detector Phase	2		6		7	4	4
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5	10.5
Total Split (s)	23.0		23.0		37.0	37.0	37.0
Total Split (%)	38.3%		38.3%		61.7%	61.7%	61.7%
Yellow Time (s)	5.8		5.8		3.6	4.5	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max		C-Min		None	Min	Min
Act Effct Green (s)	16.2	60.0	16.2	60.0	32.4	31.5	31.5
Actuated g/C Ratio	0.27	1.00	0.27	1.00	0.54	0.52	0.52
v/c Ratio	1.17	0.36	0.82	0.15	0.41	1.06	1.01
Control Delay	108.2	0.6	25.4	0.2	9.9	65.0	50.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	108.2	0.6	25.4	0.2	9.9	65.0	50.3
LOS	F	A	C	A	A	E	D
Approach Delay	80.2		19.6			48.9	
Approach LOS	F		B			D	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.17  
 Intersection Signal Delay: 56.2  
 Intersection LOS: E  
 Intersection Capacity Utilization 93.5%  
 ICU Level of Service F  
 Analysis Period (min) 15

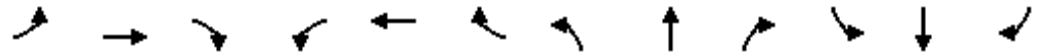
Splits and Phases: 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑	↗				↘	↔	↗
Traffic Volume (veh/h)	0	1506	528	0	734	221	0	0	0	392	0	1525
Future Volume (veh/h)	0	1506	528	0	734	221	0	0	0	392	0	1525
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1637	0	0	798	0				284	0	1354
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1700		0	1183					873	0	1553
Arrive On Green	0.00	0.33	0.00	0.00	0.33	0.00				0.48	0.00	0.48
Sat Flow, veh/h	0	5358	1610	0	3705	1610				1810	0	3220
Grp Volume(v), veh/h	0	1637	0	0	798	0				284	0	1354
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610				1810	0	1610
Q Serve(g_s), s	0.0	18.6	0.0	0.0	11.4	0.0				5.8	0.0	22.5
Cycle Q Clear(g_c), s	0.0	18.6	0.0	0.0	11.4	0.0				5.8	0.0	22.5
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1700		0	1183					873	0	1553
V/C Ratio(X)	0.00	0.96		0.00	0.67					0.33	0.00	0.87
Avail Cap(c_a), veh/h	0	1700		0	1183					977	0	1739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.22	0.00	0.00	0.89	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.8	0.0	0.0	17.4	0.0				9.5	0.0	13.9
Incr Delay (d2), s/veh	0.0	4.7	0.0	0.0	2.8	0.0				0.2	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.7	0.0	0.0	4.3	0.0				1.8	0.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	24.6	0.0	0.0	20.2	0.0				9.8	0.0	18.6
LnGrp LOS	A	C		A	C					A	A	B
Approach Vol, veh/h		1637	A		798	A					1638	
Approach Delay, s/veh		24.6			20.2						17.1	
Approach LOS		C			C						B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		26.5		33.5		26.5						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		16.2		32.4		16.2						
Max Q Clear Time (g_c+I1), s		20.6		24.5		13.4						
Green Ext Time (p_c), s		0.0		4.4		1.3						

Intersection Summary

HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

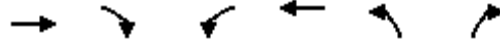
Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑↑	↑	↑↑	↑↑↑↑	↑↑↑	↑
Traffic Volume (vph)	667	1231	445	635	319	365
Future Volume (vph)	667	1231	445	635	319	365
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	31.0	16.0	13.0	44.0	16.0	16.0
Total Split (%)	51.7%	26.7%	21.7%	73.3%	26.7%	26.7%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max
Act Effct Green (s)	23.7	41.0	7.0	36.7	10.0	10.0
Actuated g/C Ratio	0.40	0.68	0.12	0.61	0.17	0.17
v/c Ratio	0.35	1.21	1.19	0.22	0.77	0.53
Control Delay	11.6	114.0	134.5	5.4	27.9	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	114.0	134.5	5.4	27.9	8.8
LOS	B	F	F	A	C	A
Approach Delay	78.0			58.6	21.9	
Approach LOS	E			E	C	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.21  
 Intersection Signal Delay: 61.8  
 Intersection LOS: E  
 Intersection Capacity Utilization 98.9%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 52: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/24/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↓	↑↑↑	↑↓	↑
Traffic Volume (veh/h)	667	1231	445	635	319	365
Future Volume (veh/h)	667	1231	445	635	319	365
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	725	686	484	690	483	246
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2049	904	410	3173	603	268
Arrive On Green	0.66	0.66	0.12	0.61	0.17	0.17
Sat Flow, veh/h	5358	1610	3510	5358	3619	1610
Grp Volume(v), veh/h	725	686	484	690	483	246
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1810	1610
Q Serve(g_s), s	3.7	21.8	7.0	3.6	7.7	9.0
Cycle Q Clear(g_c), s	3.7	21.8	7.0	3.6	7.7	9.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2049	904	410	3173	603	268
V/C Ratio(X)	0.35	0.76	1.18	0.22	0.80	0.92
Avail Cap(c_a), veh/h	2049	904	410	3173	603	268
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	5.9	26.5	5.2	24.0	24.6
Incr Delay (d2), s/veh	0.0	0.6	104.2	0.0	10.7	37.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.3	8.5	0.7	3.8	5.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.9	6.5	130.7	5.3	34.8	61.7
LnGrp LOS	A	A	F	A	C	E
Approach Vol, veh/h	1411			1174	729	
Approach Delay, s/veh	6.7			57.0	43.8	
Approach LOS	A			E	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.0	31.0			44.0	16.0
Change Period (Y+Rc), s	6.0	7.3			7.3	6.0
Max Green Setting (Gmax), s	7.0	23.7			36.7	10.0
Max Q Clear Time (g_c+11), s	9.0	23.8			5.6	11.0
Green Ext Time (p_c), s	0.0	0.0			4.5	0.0

Intersection Summary

HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Timings  
1: Euclid Av. (SR-83) & SR-60 WB Ramps

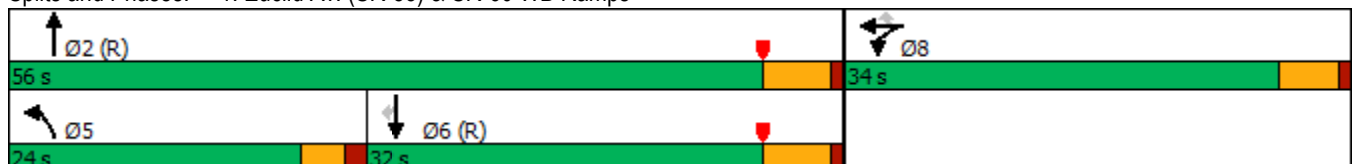


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	770	8	495	728	1351	1259	598
Future Volume (vph)	770	8	495	728	1351	1259	598
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	10.0	10.0	10.0
Minimum Split (s)	11.0	11.0	11.0	9.5	22.5	22.5	22.5
Total Split (s)	34.0	34.0	34.0	24.0	56.0	32.0	32.0
Total Split (%)	37.8%	37.8%	37.8%	26.7%	62.2%	35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.5	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
Act Effct Green (s)	27.5	27.5	27.5	21.0	52.0	26.5	26.5
Actuated g/C Ratio	0.31	0.31	0.31	0.23	0.58	0.29	0.29
v/c Ratio	0.87	0.91	0.79	1.80	0.67	1.23	0.68
Control Delay	48.3	52.8	34.7	383.3	27.8	143.9	6.6
Queue Delay	0.0	0.0	0.0	0.0	48.7	0.0	0.0
Total Delay	48.3	52.8	34.7	383.3	76.5	143.9	6.6
LOS	D	D	C	F	E	F	A
Approach Delay		45.6			183.9	99.7	
Approach LOS		D			F	F	

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 63 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.80  
 Intersection Signal Delay: 120.1  
 Intersection LOS: F  
 Intersection Capacity Utilization 147.2%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 1: Euclid Av. (SR-83) & SR-60 WB Ramps



HCM 6th Signalized Intersection Summary  
 1: Euclid Av. (SR-83) & SR-60 WB Ramps

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↔	↗	↖	↕			↕	↗
Traffic Volume (veh/h)	0	0	0	770	8	495	728	1351	0	0	1259	598
Future Volume (veh/h)	0	0	0	770	8	495	728	1351	0	0	1259	598
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				909	0	226	758	1407	0	0	1311	418
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				1011	0	449	392	2181	0	0	1218	543
Arrive On Green				0.28	0.00	0.28	0.43	1.00	0.00	0.00	0.34	0.34
Sat Flow, veh/h				3619	0	1608	1810	3705	0	0	3705	1610
Grp Volume(v), veh/h				909	0	226	758	1407	0	0	1311	418
Grp Sat Flow(s),veh/h/ln				1810	0	1608	1810	1805	0	0	1805	1610
Q Serve(g_s), s				21.8	0.0	10.6	19.5	0.0	0.0	0.0	30.4	20.9
Cycle Q Clear(g_c), s				21.8	0.0	10.6	19.5	0.0	0.0	0.0	30.4	20.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1011	0	449	392	2181	0	0	1218	543
V/C Ratio(X)				0.90	0.00	0.50	1.93	0.65	0.00	0.00	1.08	0.77
Avail Cap(c_a), veh/h				1166	0	518	392	2181	0	0	1218	543
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.2	0.0	27.2	25.5	0.0	0.0	0.0	29.8	26.7
Incr Delay (d2), s/veh				8.0	0.0	0.3	420.9	0.1	0.0	0.0	48.9	10.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.9	0.0	3.8	51.3	0.0	0.0	0.0	20.4	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				39.3	0.0	27.5	446.4	0.1	0.0	0.0	78.7	36.8
LnGrp LOS				D	A	C	F	A	A	A	F	D
Approach Vol, veh/h					1135			2165			1729	
Approach Delay, s/veh					36.9			156.4			68.6	
Approach LOS					D			F			E	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		59.9			24.0	35.9		30.1				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.0				
Max Green Setting (Gmax), s		50.5			19.5	26.5		29.0				
Max Q Clear Time (g_c+I1), s		2.0			21.5	32.4		23.8				
Green Ext Time (p_c), s		21.4			0.0	0.0		1.4				

Intersection Summary

HCM 6th Ctrl Delay	99.2
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

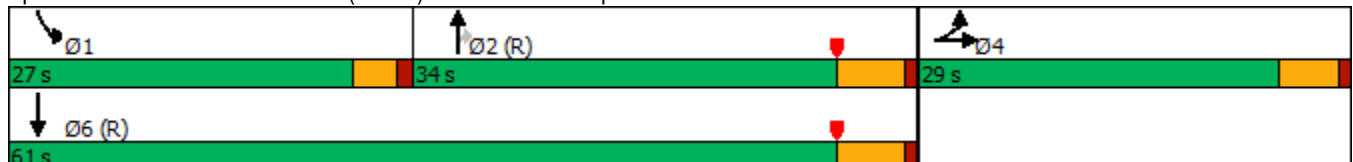


Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	505	4	1572	769	458	1573
Future Volume (vph)	505	4	1572	769	458	1573
Turn Type	Split	NA	NA	Perm	Prot	NA
Protected Phases	4	4	2		1	6
Permitted Phases				2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0	10.0	5.0	10.0
Minimum Split (s)	11.0	11.0	22.5	22.5	9.0	22.5
Total Split (s)	29.0	29.0	34.0	34.0	27.0	61.0
Total Split (%)	32.2%	32.2%	37.8%	37.8%	30.0%	67.8%
Yellow Time (s)	4.0	4.0	4.5	4.5	3.0	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min
Act Effct Green (s)	24.0	24.0	28.5	28.5	23.0	55.5
Actuated g/C Ratio	0.27	0.27	0.32	0.32	0.26	0.62
v/c Ratio	1.01	1.47	1.40	0.87	1.01	0.72
Control Delay	80.3	251.5	214.7	19.2	56.2	5.4
Queue Delay	47.1	16.1	0.1	0.0	0.0	3.2
Total Delay	127.3	267.6	214.8	19.2	56.2	8.6
LOS	F	F	F	B	E	A
Approach Delay		208.9	150.5			19.4
Approach LOS		F	F			B

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.47  
 Intersection Signal Delay: 113.3  
 Intersection LOS: F  
 Intersection Capacity Utilization 147.2%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 2: Euclid Av. (SR-83) & SR-60 EB Ramps



HCM 6th Signalized Intersection Summary  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	505	4	575	0	0	0	0	1572	769	458	1573	0
Future Volume (veh/h)	505	4	575	0	0	0	0	1572	769	458	1573	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	515	4	520				0	1604	591	467	1605	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	483	3	427				0	1143	498	462	2226	0
Arrive On Green	0.27	0.27	0.27				0.00	0.32	0.32	0.51	1.00	0.00
Sat Flow, veh/h	1810	12	1600				0	3705	1571	1810	3705	0
Grp Volume(v), veh/h	515	0	524				0	1604	591	467	1605	0
Grp Sat Flow(s),veh/h/ln	1810	0	1612				0	1805	1571	1810	1805	0
Q Serve(g_s), s	24.0	0.0	24.0				0.0	28.5	28.5	23.0	0.0	0.0
Cycle Q Clear(g_c), s	24.0	0.0	24.0				0.0	28.5	28.5	23.0	0.0	0.0
Prop In Lane	1.00		0.99				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	483	0	430				0	1143	498	462	2226	0
V/C Ratio(X)	1.07	0.00	1.22				0.00	1.40	1.19	1.01	0.72	0.00
Avail Cap(c_a), veh/h	483	0	430				0	1143	498	462	2226	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.09	0.09	0.09	0.09	0.00
Uniform Delay (d), s/veh	33.0	0.0	33.0				0.0	30.7	30.7	22.0	0.0	0.0
Incr Delay (d2), s/veh	60.1	0.0	118.0				0.0	181.9	86.6	15.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.8	0.0	22.7				0.0	40.4	22.0	7.5	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.1	0.0	151.0				0.0	212.6	117.3	37.0	0.2	0.0
LnGrp LOS	F	A	F				A	F	F	F	A	A
Approach Vol, veh/h		1039						2195			2072	
Approach Delay, s/veh		122.3						187.0			8.5	
Approach LOS		F						F			A	
Timer - Assigned Phs	1	2		4				6				
Phs Duration (G+Y+Rc), s	27.0	34.0		29.0				61.0				
Change Period (Y+Rc), s	4.0	5.5		5.0				5.5				
Max Green Setting (Gmax), s	23.0	28.5		24.0				55.5				
Max Q Clear Time (g_c+I1), s	25.0	30.5		26.0				2.0				
Green Ext Time (p_c), s	0.0	0.0		0.0				27.5				

Intersection Summary

HCM 6th Ctrl Delay	104.6
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
3: Euclid Av. (SR-83) & Walnut Av.

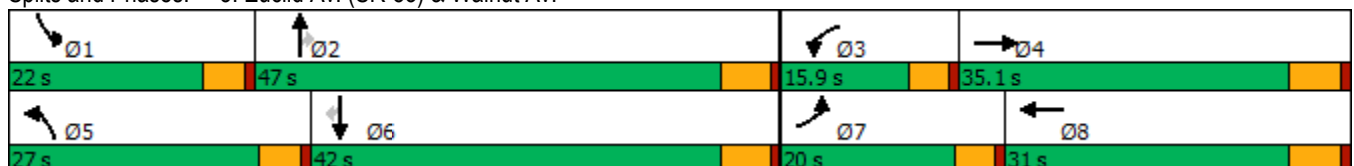


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕	↖	↕	↖	↕	↗	↖↗	↕	↗
Traffic Volume (vph)	179	449	85	449	247	2012	90	320	1595	265
Future Volume (vph)	179	449	85	449	247	2012	90	320	1595	265
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.8	9.6	29.8	9.6	27.4	27.4	9.6	29.4	29.4
Total Split (s)	20.0	35.1	15.9	31.0	27.0	47.0	47.0	22.0	42.0	42.0
Total Split (%)	16.7%	29.3%	13.3%	25.8%	22.5%	39.2%	39.2%	18.3%	35.0%	35.0%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.4	4.4	3.6	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.4	5.4	4.6	5.4	5.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	14.7	31.5	9.5	24.0	20.3	41.7	41.7	15.7	37.1	37.1
Actuated g/C Ratio	0.13	0.27	0.08	0.21	0.17	0.36	0.36	0.13	0.32	0.32
v/c Ratio	0.88	0.69	0.65	0.89	0.88	1.15	0.15	0.80	1.03	0.43
Control Delay	88.5	41.1	74.0	57.7	77.1	110.9	4.4	64.4	69.2	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.5	41.1	74.0	57.7	77.1	110.9	4.4	64.4	69.2	10.9
LOS	F	D	E	E	E	F	A	E	E	B
Approach Delay		51.6		59.7		103.3			61.4	
Approach LOS		D		E		F			E	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 116.6	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.15	
Intersection Signal Delay: 76.2	Intersection LOS: E
Intersection Capacity Utilization 94.9%	ICU Level of Service F
Analysis Period (min) 15	































Splits and Phases: 3: Euclid Av. (SR-83) & Walnut Av.



HCM 6th Signalized Intersection Summary  
 3: Euclid Av. (SR-83) & Walnut Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  		  	  	
Traffic Volume (veh/h)	179	449	180	85	449	170	247	2012	90	320	1595	265
Future Volume (veh/h)	179	449	180	85	449	170	247	2012	90	320	1595	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	190	478	168	90	478	155	263	2140	69	340	1697	228
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	217	691	241	112	543	175	290	1894	587	395	1669	518
Arrive On Green	0.13	0.26	0.26	0.07	0.20	0.20	0.17	0.37	0.37	0.13	0.32	0.32
Sat Flow, veh/h	1714	2614	912	1714	2669	859	1714	5187	1608	3141	5187	1609
Grp Volume(v), veh/h	190	329	317	90	322	311	263	2140	69	340	1697	228
Grp Sat Flow(s),veh/h/ln	1714	1805	1721	1714	1805	1723	1714	1729	1608	1570	1729	1609
Q Serve(g_s), s	12.4	18.7	18.9	5.9	19.7	20.0	17.2	41.6	3.2	12.1	36.6	12.8
Cycle Q Clear(g_c), s	12.4	18.7	18.9	5.9	19.7	20.0	17.2	41.6	3.2	12.1	36.6	12.8
Prop In Lane	1.00		0.53	1.00		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	217	477	455	112	368	351	290	1894	587	395	1669	518
V/C Ratio(X)	0.88	0.69	0.70	0.80	0.88	0.89	0.91	1.13	0.12	0.86	1.02	0.44
Avail Cap(c_a), veh/h	232	477	455	170	399	381	337	1894	587	480	1669	518
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	37.7	37.8	52.5	44.0	44.1	46.4	36.2	24.0	48.8	38.6	30.5
Incr Delay (d2), s/veh	26.7	4.2	4.6	8.0	18.2	20.4	23.2	65.7	0.4	11.1	26.4	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	8.5	8.2	2.7	10.3	10.2	9.0	28.2	1.3	5.2	18.9	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.6	41.8	42.4	60.4	62.2	64.4	69.6	101.9	24.4	59.9	65.0	33.2
LnGrp LOS	E	D	D	E	E	E	E	F	C	E	F	C
Approach Vol, veh/h		836			723			2472			2265	
Approach Delay, s/veh		49.7			62.9			96.3			61.0	
Approach LOS		D			E			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.9	47.0	12.1	35.9	23.9	42.0	19.0	29.0				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.8	4.6	5.4	4.6	5.8				
Max Green Setting (Gmax), s	17.4	41.6	11.3	29.3	22.4	36.6	15.4	25.2				
Max Q Clear Time (g_c+I1), s	14.1	43.6	7.9	20.9	19.2	38.6	14.4	22.0				
Green Ext Time (p_c), s	0.2	0.0	0.0	2.3	0.1	0.0	0.0	1.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				73.6								
HCM 6th LOS				E								

Timings  
4: Euclid Av. (SR-83) & Riverside Dr.

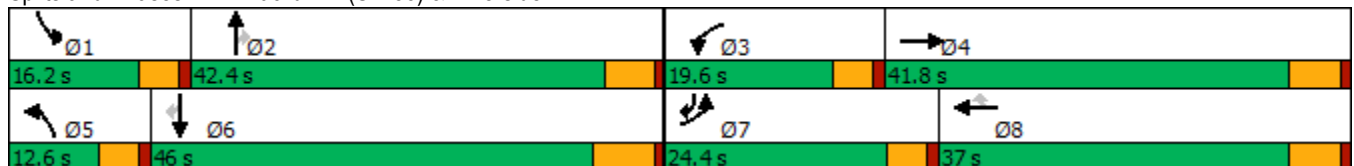


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	234	732	229	506	80	226	1801	295	173	1372	345
Future Volume (vph)	234	732	229	506	80	226	1801	295	173	1372	345
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8		5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	24.4	41.8	19.6	37.0	37.0	12.6	42.4	42.4	16.2	46.0	24.4
Total Split (%)	20.3%	34.8%	16.3%	30.8%	30.8%	10.5%	35.3%	35.3%	13.5%	38.3%	20.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	None
Act Effct Green (s)	19.0	36.0	15.0	32.0	32.0	8.0	37.0	37.0	11.6	39.5	60.4
Actuated g/C Ratio	0.16	0.30	0.12	0.27	0.27	0.07	0.31	0.31	0.10	0.33	0.50
v/c Ratio	0.90	1.75	1.12	0.55	0.15	2.06	1.69	0.51	1.09	1.20	0.43
Control Delay	84.6	373.5	146.0	40.6	0.6	534.7	341.5	20.0	146.8	135.7	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.6	373.5	146.0	40.6	0.6	534.7	341.5	20.0	146.8	135.7	14.5
LOS	F	F	F	D	A	F	F	C	F	F	B
Approach Delay		315.9		66.3			319.5			114.6	
Approach LOS		F		E			F			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.06	
Intersection Signal Delay: 223.1	Intersection LOS: F
Intersection Capacity Utilization 141.4%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.



HCM 6th Signalized Intersection Summary  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (veh/h)	234	732	207	229	506	80	226	1801	295	173	1372	345
Future Volume (veh/h)	234	732	207	229	506	80	226	1801	295	173	1372	345
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	244	762	191	239	527	67	235	1876	253	180	1429	268
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	269	436	109	212	955	425	113	1103	492	164	1210	785
Arrive On Green	0.16	0.30	0.30	0.12	0.26	0.26	0.07	0.31	0.31	0.10	0.34	0.34
Sat Flow, veh/h	1714	1466	368	1714	3610	1608	1714	3610	1610	1714	3610	1590
Grp Volume(v), veh/h	244	0	953	239	527	67	235	1876	253	180	1429	268
Grp Sat Flow(s),veh/h/ln	1714	0	1834	1714	1805	1608	1714	1805	1610	1714	1805	1590
Q Serve(g_s), s	16.9	0.0	36.0	15.0	15.2	3.9	8.0	37.0	15.7	11.6	40.6	12.5
Cycle Q Clear(g_c), s	16.9	0.0	36.0	15.0	15.2	3.9	8.0	37.0	15.7	11.6	40.6	12.5
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	269	0	545	212	955	425	113	1103	492	164	1210	785
V/C Ratio(X)	0.91	0.00	1.75	1.13	0.55	0.16	2.08	1.70	0.51	1.10	1.18	0.34
Avail Cap(c_a), veh/h	280	0	545	212	955	425	113	1103	492	164	1210	785
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.2	0.0	42.6	53.1	38.4	34.2	56.5	42.1	34.6	54.8	40.3	18.8
Incr Delay (d2), s/veh	29.5	0.0	344.2	99.6	0.7	0.2	512.7	319.3	3.8	98.3	90.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	0.0	67.7	12.2	6.6	1.5	19.5	64.3	6.5	9.4	32.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.7	0.0	386.8	152.7	39.1	34.4	569.3	361.3	38.5	153.0	130.3	20.0
LnGrp LOS	E	A	F	F	D	C	F	F	D	F	F	B
Approach Vol, veh/h		1197			833			2364			1877	
Approach Delay, s/veh		324.2			71.3			347.5			116.8	
Approach LOS		F			E			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	43.5	19.6	41.8	12.6	47.1	23.6	37.8				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	11.6	* 37	15.0	36.0	8.0	39.5	19.8	31.2				
Max Q Clear Time (g_c+I1), s	13.6	39.0	17.0	38.0	10.0	42.6	18.9	17.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9				

Intersection Summary

HCM 6th Ctrl Delay	237.3
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Timings  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗		↔	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	134	498	71	137	230	77	2121	278	39	1555	87
Future Volume (vph)	134	498	71	137	230	77	2121	278	39	1555	87
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	28.8	28.8	28.8	33.8	33.8	9.6	24.2	24.2	9.6	31.5	31.5
Total Split (s)	44.0	44.0	44.0	44.0	44.0	12.4	65.0	65.0	11.0	63.6	63.6
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	10.3%	54.2%	54.2%	9.2%	53.0%	53.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.6	4.2	4.2	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8		5.8	4.6	5.2	5.2	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	38.2	38.2	38.2		38.2	7.5	61.8	61.8	6.0	57.1	57.1
Actuated g/C Ratio	0.32	0.32	0.32		0.32	0.06	0.52	0.52	0.05	0.48	0.48
v/c Ratio	0.57	0.88	0.13		4.24	0.78	1.22	0.35	0.49	0.97	0.12
Control Delay	44.6	56.5	7.5		1493.0	96.6	134.1	14.9	74.4	46.9	6.8
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	56.5	7.5		1493.0	96.6	134.1	14.9	74.4	46.9	6.8
LOS	D	E	A		F	F	F	B	E	D	A
Approach Delay		49.3			1493.0		119.5			45.5	
Approach LOS		D			F		F			D	

Intersection Summary






















Cycle Length: 120  
 Actuated Cycle Length: 119.7  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 4.24  
 Intersection Signal Delay: 187.7  
 Intersection Capacity Utilization 127.7%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service H

Splits and Phases: 5: Euclid Av. (SR-83) & Chino Av.



HCM 6th Signalized Intersection Summary  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	498	71	137	230	20	77	2121	278	39	1555	87
Future Volume (veh/h)	134	498	71	137	230	20	77	2121	278	39	1555	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	144	535	53	147	247	18	83	2281	228	42	1672	61
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	268	608	515	66	69	4	104	1831	800	54	1726	754
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.06	0.51	0.51	0.03	0.48	0.48
Sat Flow, veh/h	1132	1900	1610	80	215	13	1714	3610	1577	1714	3610	1577
Grp Volume(v), veh/h	144	535	53	412	0	0	83	2281	228	42	1672	61
Grp Sat Flow(s),veh/h/ln	1132	1900	1610	309	0	0	1714	1805	1577	1714	1805	1577
Q Serve(g_s), s	0.0	31.8	2.8	6.4	0.0	0.0	5.7	60.6	9.9	2.9	53.8	2.5
Cycle Q Clear(g_c), s	23.2	31.8	2.8	38.2	0.0	0.0	5.7	60.6	9.9	2.9	53.8	2.5
Prop In Lane	1.00		1.00	0.36		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	608	515	140	0	0	104	1831	800	54	1726	754
V/C Ratio(X)	0.54	0.88	0.10	2.95	0.00	0.00	0.80	1.25	0.29	0.78	0.97	0.08
Avail Cap(c_a), veh/h	268	608	515	140	0	0	112	1831	800	92	1726	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.5	38.4	28.6	50.8	0.0	0.0	55.4	29.4	17.0	57.4	30.3	16.9
Incr Delay (d2), s/veh	2.1	14.0	0.1	896.9	0.0	0.0	27.9	115.5	0.9	8.7	15.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	16.5	1.1	38.9	0.0	0.0	3.2	52.3	3.5	1.3	24.4	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.6	52.5	28.6	947.7	0.0	0.0	83.3	144.9	17.9	66.1	45.7	17.1
LnGrp LOS	D	D	C	F	A	A	F	F	B	E	D	B
Approach Vol, veh/h		732			412			2592			1775	
Approach Delay, s/veh		47.8			947.7			131.7			45.2	
Approach LOS		D			F			F			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	67.1		44.0	11.8	63.6		44.0				
Change Period (Y+Rc), s	4.6	* 6.5		5.8	4.6	6.5		5.8				
Max Green Setting (Gmax), s	6.4	* 60		38.2	7.8	57.1		38.2				
Max Q Clear Time (g_c+I1), s	4.9	62.6		33.8	7.7	55.8		40.2				
Green Ext Time (p_c), s	0.0	0.0		1.6	0.0	1.1		0.0				

Intersection Summary

HCM 6th Ctrl Delay	153.7
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

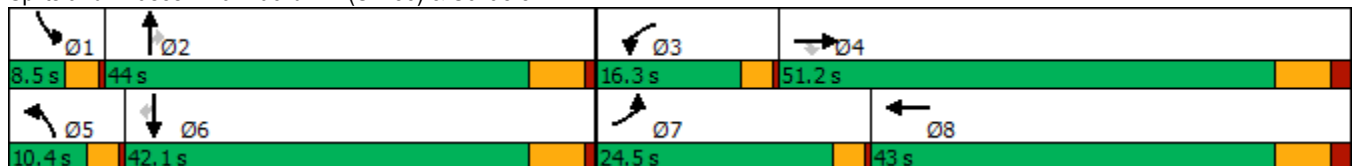


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	487	463	266	95	158	248	2056	100	203	1584	455
Future Volume (vph)	487	463	266	95	158	248	2056	100	203	1584	455
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.0	42.0	13.5	43.0	8.5	33.0	33.0	8.5	28.0	28.0
Total Split (s)	24.5	51.2	51.2	16.3	43.0	10.4	44.0	44.0	8.5	42.1	42.1
Total Split (%)	20.4%	42.7%	42.7%	13.6%	35.8%	8.7%	36.7%	36.7%	7.1%	35.1%	35.1%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	7.0	7.0	3.5	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	21.2	34.5	34.5	11.1	21.4	7.0	38.3	38.3	5.0	36.4	36.4
Actuated g/C Ratio	0.20	0.33	0.33	0.10	0.20	0.07	0.36	0.36	0.05	0.34	0.34
v/c Ratio	1.44	0.76	0.42	0.54	0.62	2.24	1.59	0.15	2.53	1.29	0.69
Control Delay	248.7	41.7	11.6	59.0	41.7	614.3	297.9	2.8	748.8	168.9	25.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	248.7	41.7	11.6	59.0	41.7	614.3	297.9	2.8	748.8	168.9	25.3
LOS	F	D	B	E	D	F	F	A	F	F	C
Approach Delay		118.0			46.7		318.4			192.2	
Approach LOS		F			D		F			F	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 106  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 2.53  
 Intersection Signal Delay: 218.9  
 Intersection LOS: F  
 Intersection Capacity Utilization 127.6%  
 ICU Level of Service H  
 Analysis Period (min) 15
























Splits and Phases: 6: Euclid Av. (SR-83) & Schaefer Av.



HCM 6th Signalized Intersection Summary  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	487	463	266	95	158	75	248	2056	100	203	1584	455
Future Volume (veh/h)	487	463	266	95	158	75	248	2056	100	203	1584	455
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	492	468	228	96	160	71	251	2077	83	205	1600	430
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	358	533	451	159	205	91	118	1365	609	85	1297	578
Arrive On Green	0.21	0.28	0.28	0.09	0.16	0.16	0.07	0.38	0.38	0.05	0.36	0.36
Sat Flow, veh/h	1714	1900	1610	1714	1247	553	1714	3610	1610	1714	3610	1610
Grp Volume(v), veh/h	492	468	228	96	0	231	251	2077	83	205	1600	430
Grp Sat Flow(s),veh/h/ln	1714	1900	1610	1714	0	1800	1714	1805	1610	1714	1805	1610
Q Serve(g_s), s	21.0	23.6	11.9	5.4	0.0	12.4	6.9	38.0	3.4	5.0	36.1	23.5
Cycle Q Clear(g_c), s	21.0	23.6	11.9	5.4	0.0	12.4	6.9	38.0	3.4	5.0	36.1	23.5
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	358	533	451	159	0	295	118	1365	609	85	1297	578
V/C Ratio(X)	1.37	0.88	0.51	0.60	0.00	0.78	2.13	1.52	0.14	2.40	1.23	0.74
Avail Cap(c_a), veh/h	358	836	708	218	0	645	118	1365	609	85	1297	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	34.5	30.3	43.8	0.0	40.3	46.8	31.2	20.5	47.7	32.2	28.1
Incr Delay (d2), s/veh	184.8	5.8	0.7	1.4	0.0	3.4	536.9	238.4	0.1	665.8	112.1	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.8	11.1	4.5	2.3	0.0	5.5	20.3	59.9	1.2	17.8	34.2	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	224.6	40.3	31.0	45.2	0.0	43.7	583.7	269.7	20.6	713.5	144.3	33.3
LnGrp LOS	F	D	C	D	A	D	F	F	C	F	F	C
Approach Vol, veh/h		1188			327			2411			2235	
Approach Delay, s/veh		114.8			44.1			293.8			175.1	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	44.0	12.8	35.2	10.4	42.1	24.5	23.5				
Change Period (Y+Rc), s	3.5	6.0	3.5	7.0	3.5	6.0	3.5	7.0				
Max Green Setting (Gmax), s	5.0	38.0	12.8	44.2	6.9	36.1	21.0	36.0				
Max Q Clear Time (g_c+I1), s	7.0	40.0	7.4	25.6	8.9	38.1	23.0	14.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			203.0									
HCM 6th LOS			F									

Timings  
7: Euclid Av. (SR-83) & Edison Av.

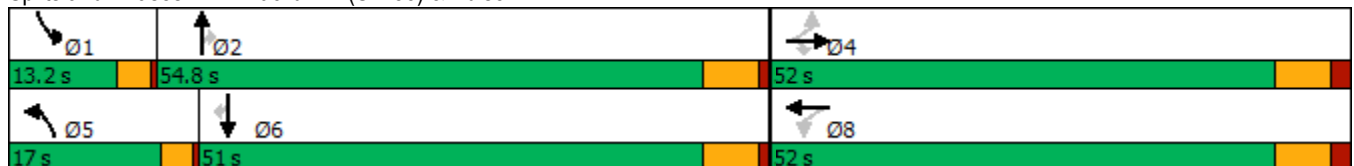


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	334	1266	378	472	835	228	1851	350	221	1634	220
Future Volume (vph)	334	1266	378	472	835	228	1851	350	221	1634	220
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.0	46.0	46.0	49.0	49.0	8.5	29.0	29.0	8.5	40.0	40.0
Total Split (s)	52.0	52.0	52.0	52.0	52.0	17.0	54.8	54.8	13.2	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	14.2%	45.7%	45.7%	11.0%	42.5%	42.5%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	45.0	45.0	45.0	45.0	45.0	13.5	48.8	48.8	9.7	45.0	45.0
Actuated g/C Ratio	0.38	0.38	0.38	0.38	0.38	0.11	0.41	0.41	0.08	0.38	0.38
v/c Ratio	5.87	1.87	0.57	8.28	1.89	1.25	1.33	0.54	1.69	1.27	0.35
Control Delay	2235.2	423.5	20.8	3318.2	432.2	191.9	183.3	25.2	372.8	161.3	16.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2235.2	423.5	20.8	3318.2	432.2	191.9	183.3	25.2	372.8	161.3	16.5
LOS	F	F	C	F	F	F	F	C	F	F	B
Approach Delay		652.7			1228.6		161.3			168.5	
Approach LOS		F			F		F			F	

Intersection Summary
























Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 100  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 8.28  
 Intersection Signal Delay: 504.7  
 Intersection LOS: F  
 Intersection Capacity Utilization 178.3%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 7: Euclid Av. (SR-83) & Edison Av.



HCM 6th Signalized Intersection Summary  
7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	334	1266	378	472	835	404	228	1851	350	221	1634	220
Future Volume (veh/h)	334	1266	378	472	835	404	228	1851	350	221	1634	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	352	1333	316	497	879	419	240	1948	360	233	1720	200
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	60	712	604	60	454	216	193	1468	653	139	1354	604
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.11	0.41	0.41	0.08	0.38	0.38
Sat Flow, veh/h	431	1900	1610	308	1210	577	1714	3610	1606	1714	3610	1610
Grp Volume(v), veh/h	352	1333	316	497	0	1298	240	1948	360	233	1720	200
Grp Sat Flow(s),veh/h/ln	431	1900	1610	308	0	1787	1714	1805	1606	1714	1805	1610
Q Serve(g_s), s	0.0	45.0	18.3	0.0	0.0	45.0	13.5	48.8	20.6	9.7	45.0	10.6
Cycle Q Clear(g_c), s	45.0	45.0	18.3	45.0	0.0	45.0	13.5	48.8	20.6	9.7	45.0	10.6
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	60	713	604	60	0	670	193	1468	653	139	1354	604
V/C Ratio(X)	5.87	1.87	0.52	8.28	0.00	1.94	1.24	1.33	0.55	1.68	1.27	0.33
Avail Cap(c_a), veh/h	60	713	604	60	0	670	193	1468	653	139	1354	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.0	37.5	29.2	60.0	0.0	37.5	53.2	35.6	27.2	55.2	37.5	26.8
Incr Delay (d2), s/veh	2225.6	397.2	0.8	3311.3	0.0	426.9	145.8	151.9	1.0	335.9	127.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	38.9	98.3	6.9	57.0	0.0	98.0	13.4	50.5	7.5	16.9	42.2	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2285.6	434.7	30.0	3371.3	0.0	464.4	199.1	187.5	28.2	391.1	165.2	27.1
LnGrp LOS	F	F	C	F	A	F	F	F	C	F	F	C
Approach Vol, veh/h		2001			1795			2548			2153	
Approach Delay, s/veh		696.4			1269.2			166.1			176.8	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.2	54.8		52.0	17.0	51.0		52.0				
Change Period (Y+Rc), s	3.5	6.0		7.0	3.5	6.0		7.0				
Max Green Setting (Gmax), s	9.7	48.8		45.0	13.5	45.0		45.0				
Max Q Clear Time (g_c+I1), s	11.7	50.8		47.0	15.5	47.0		47.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay	526.7											
HCM 6th LOS	F											

Timings  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	51	204	266	413	166	148	1901	383	267	1854	80
Future Volume (vph)	51	204	266	413	166	148	1901	383	267	1854	80
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.8	46.8	46.8	46.8	46.8	8.5	30.7	30.7	8.5	37.7	37.7
Total Split (s)	46.8	46.8	46.8	46.8	46.8	14.0	63.2	63.2	10.0	59.2	59.2
Total Split (%)	39.0%	39.0%	39.0%	39.0%	39.0%	11.7%	52.7%	52.7%	8.3%	49.3%	49.3%
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	3.0	4.7	4.7	3.0	4.7	4.7
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.8	4.8	3.5	5.7	5.7	3.5	5.7	5.7
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	42.0	42.0	42.0	42.0	42.0	10.5	57.5	57.5	6.5	53.5	53.5
Actuated g/C Ratio	0.35	0.35	0.35	0.35	0.35	0.09	0.48	0.48	0.05	0.45	0.45
v/c Ratio	0.37	0.33	0.45	1.35	0.71	1.08	1.19	0.51	3.15	1.25	0.12
Control Delay	37.9	30.5	18.6	208.4	35.0	148.2	123.7	18.8	1015.0	149.7	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	30.5	18.6	208.4	35.0	148.2	123.7	18.8	1015.0	149.7	5.3
LOS	D	C	B	F	C	F	F	B	F	F	A
Approach Delay		25.1			120.7		108.7			249.4	
Approach LOS		C			F		F			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.15	
Intersection Signal Delay: 154.8	Intersection LOS: F
Intersection Capacity Utilization 119.1%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 8: Euclid Av. (SR-83) & Eucalyptus Av.




























HCM 6th Signalized Intersection Summary  
 8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	204	266	413	166	257	148	1901	383	267	1854	80
Future Volume (veh/h)	51	204	266	413	166	257	148	1901	383	267	1854	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	55	222	177	449	180	276	161	2066	415	290	2015	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	169	665	564	324	237	363	150	1730	772	93	1609	703
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.09	0.48	0.48	0.05	0.45	0.45
Sat Flow, veh/h	950	1900	1610	1001	676	1037	1714	3610	1610	1714	3610	1577
Grp Volume(v), veh/h	55	222	177	449	0	456	161	2066	415	290	2015	75
Grp Sat Flow(s),veh/h/ln	950	1900	1610	1001	0	1713	1714	1805	1610	1714	1805	1577
Q Serve(g_s), s	6.5	10.3	9.6	31.7	0.0	28.3	10.5	57.5	21.7	6.5	53.5	3.3
Cycle Q Clear(g_c), s	34.8	10.3	9.6	42.0	0.0	28.3	10.5	57.5	21.7	6.5	53.5	3.3
Prop In Lane	1.00		1.00	1.00		0.61	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	665	564	324	0	600	150	1730	772	93	1609	703
V/C Ratio(X)	0.33	0.33	0.31	1.38	0.00	0.76	1.07	1.19	0.54	3.12	1.25	0.11
Avail Cap(c_a), veh/h	169	665	564	324	0	600	150	1730	772	93	1609	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	28.7	28.5	47.1	0.0	34.5	54.8	31.3	21.9	56.8	33.3	19.3
Incr Delay (d2), s/veh	0.8	0.2	0.2	191.1	0.0	5.4	94.4	93.4	0.7	983.1	118.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	4.6	3.6	26.9	0.0	12.2	8.3	44.7	7.6	28.1	47.5	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	28.9	28.7	238.2	0.0	40.0	149.1	124.7	22.7	1039.8	151.9	19.4
LnGrp LOS	D	C	C	F	A	D	F	F	C	F	F	B
Approach Vol, veh/h		454			905			2642			2380	
Approach Delay, s/veh		31.5			138.3			110.2			256.0	
Approach LOS		C			F			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	63.2		46.8	14.0	59.2		46.8				
Change Period (Y+Rc), s	3.5	5.7		4.8	3.5	5.7		4.8				
Max Green Setting (Gmax), s	6.5	57.5		42.0	10.5	53.5		42.0				
Max Q Clear Time (g_c+1), s	8.5	59.5		36.8	12.5	55.5		44.0				
Green Ext Time (p_c), s	0.0	0.0		0.8	0.0	0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay	162.9											
HCM 6th LOS	F											



Timings  
9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕↕		↕↕	↙	↕↕	↙	↙	↕↕
Traffic Volume (vph)	14	37	763	3	5	1903	854	410	2122
Future Volume (vph)	14	37	763	3	5	1903	854	410	2122
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	49.0	49.0	25.0	59.5
Total Split (%)	38.3%	38.3%	38.3%	38.3%	12.1%	40.8%	40.8%	20.8%	49.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)		41.0		41.0	10.0	43.0	43.0	20.5	65.1
Actuated g/C Ratio		0.34		0.34	0.08	0.36	0.36	0.17	0.54
v/c Ratio		0.12		2.70	0.04	1.60	1.34	1.53	1.18
Control Delay		22.8		790.5	51.4	302.5	191.3	288.9	113.4
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		22.8		790.5	51.4	302.5	191.3	288.9	113.4
LOS		C		F	D	F	F	F	F
Approach Delay		22.8		790.5		267.7			141.9
Approach LOS		C		F		F			F

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 2.70  
 Intersection Signal Delay: 315.9  
 Intersection LOS: F  
 Intersection Capacity Utilization 168.3%  
 ICU Level of Service H  
 Analysis Period (min) 15





















Splits and Phases: 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 6th Signalized Intersection Summary  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	37	15	763	3	485	5	1903	854	410	2122	1
Future Volume (veh/h)	14	37	15	763	3	485	5	1903	854	410	2122	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	15	40	15	829	3	517	5	2068	864	446	2307	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	137	356	125	370	1	201	22	1294	577	293	1864	0
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.01	0.36	0.36	0.17	0.52	0.00
Sat Flow, veh/h	295	1042	365	941	3	587	1714	3610	1610	1714	3705	0
Grp Volume(v), veh/h	70	0	0	1349	0	0	5	2068	864	446	2307	0
Grp Sat Flow(s),veh/h/ln	1702	0	0	1532	0	0	1714	1805	1610	1714	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	37.9	0.0	0.0	0.3	43.0	43.0	20.5	62.0	0.0
Cycle Q Clear(g_c), s	3.1	0.0	0.0	41.0	0.0	0.0	0.3	43.0	43.0	20.5	62.0	0.0
Prop In Lane	0.21		0.21	0.61		0.38	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	618	0	0	572	0	0	22	1294	577	293	1864	0
V/C Ratio(X)	0.11	0.00	0.00	2.36	0.00	0.00	0.23	1.60	1.50	1.52	1.24	0.00
Avail Cap(c_a), veh/h	618	0	0	572	0	0	143	1294	577	293	1864	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.0	0.0	0.0	40.9	0.0	0.0	58.6	38.5	38.5	49.8	29.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	617.1	0.0	0.0	1.9	273.1	232.9	252.0	111.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	114.6	0.0	0.0	0.2	66.6	53.0	28.8	52.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	0.0	0.0	658.1	0.0	0.0	60.6	311.6	271.4	301.8	140.7	0.0
LnGrp LOS	C	A	A	F	A	A	E	F	F	F	F	A
Approach Vol, veh/h		70			1349			2937			2753	
Approach Delay, s/veh		27.1			658.1			299.3			166.8	
Approach LOS		C			F			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.0	49.0		46.0	6.0	68.0		46.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	20.5	43.0		41.0	10.0	53.5		41.0				
Max Q Clear Time (g_c+I1), s	22.5	45.0		5.1	2.3	64.0		43.0				
Green Ext Time (p_c), s	0.0	0.0		0.3	0.0	0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay	313.4											
HCM 6th LOS	F											

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗		↕		↙	↗			↕	
Traffic Vol, veh/h	0	760	46	26	529	0	71	0	35	0	0	0
Future Vol, veh/h	0	760	46	26	529	0	71	0	35	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	0	-	-	-	200	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	826	50	28	575	0	77	0	38	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	575	0	0	876	0	0	1457	1457	826	1501	1507	575
Stage 1	-	-	-	-	-	-	826	826	-	631	631	-
Stage 2	-	-	-	-	-	-	631	631	-	870	876	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1008	-	-	779	-	-	109	131	375	101	122	521
Stage 1	-	-	-	-	-	-	369	389	-	472	477	-
Stage 2	-	-	-	-	-	-	472	477	-	349	369	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1008	-	-	779	-	-	105	124	375	87	116	521
Mov Cap-2 Maneuver	-	-	-	-	-	-	105	124	-	87	116	-
Stage 1	-	-	-	-	-	-	369	389	-	472	452	-
Stage 2	-	-	-	-	-	-	447	452	-	314	369	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.5			73.3			0		
HCM LOS							F			A		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	105	375	1008	-	-	779	-	-	-
HCM Lane V/C Ratio	0.735	0.101	-	-	-	0.036	-	-	-
HCM Control Delay (s)	101.7	15.7	0	-	-	9.8	0	-	0
HCM Lane LOS	F	C	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	3.9	0.3	0	-	-	0.1	-	-	-

Intersection						
Int Delay, s/veh	63.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↗		↘	↗
Traffic Vol, veh/h	7	1249	1180	16	95	45
Future Vol, veh/h	7	1249	1180	16	95	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	1358	1283	17	103	49

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1300	0	0 2666 1292
Stage 1	-	-	- 1292 -
Stage 2	-	-	- 1374 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	540	-	- ~ 25 201
Stage 1	-	-	- 260 -
Stage 2	-	-	- 237 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	540	-	- ~ 25 201
Mov Cap-2 Maneuver	-	-	- ~ 25 -
Stage 1	-	-	- 256 -
Stage 2	-	-	- 237 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	\$ 1181.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	540	-	-	-	25	201
HCM Lane V/C Ratio	0.014	-	-	-	4.13	0.243
HCM Control Delay (s)	11.8	-	-	-	\$ 1727.3	28.6
HCM Lane LOS	B	-	-	-	F	D
HCM 95th %tile Q(veh)	0	-	-	-	12.8	0.9

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection						
Int Delay, s/veh	1.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	↔
Traffic Vol, veh/h	719	1	34	503	26	63
Future Vol, veh/h	719	1	34	503	26	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	200	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	782	1	37	547	28	68

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	783	0	1404
Stage 1	-	-	-	-	783
Stage 2	-	-	-	-	621
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	844	-	155
Stage 1	-	-	-	-	454
Stage 2	-	-	-	-	540
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	844	-	148
Mov Cap-2 Maneuver	-	-	-	-	148
Stage 1	-	-	-	-	454
Stage 2	-	-	-	-	516

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	21.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	148	397	-	-	844	-
HCM Lane V/C Ratio	0.191	0.172	-	-	0.044	-
HCM Control Delay (s)	35	15.9	-	-	9.5	-
HCM Lane LOS	E	C	-	-	A	-
HCM 95th %tile Q(veh)	0.7	0.6	-	-	0.1	-

Intersection						
Int Delay, s/veh	7.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↑	↗	↖	↗
Traffic Vol, veh/h	19	1230	1094	2	31	69
Future Vol, veh/h	19	1230	1094	2	31	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	21	1337	1189	2	34	75

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1191	0	-	0	2568 1189
Stage 1	-	-	-	-	1189 -
Stage 2	-	-	-	-	1379 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	593	-	-	-	~ 29 231
Stage 1	-	-	-	-	292 -
Stage 2	-	-	-	-	236 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	593	-	-	-	~ 25 231
Mov Cap-2 Maneuver	-	-	-	-	~ 25 -
Stage 1	-	-	-	-	252 -
Stage 2	-	-	-	-	236 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	184.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	593	-	-	-	25	231
HCM Lane V/C Ratio	0.035	-	-	-	1.348	0.325
HCM Control Delay (s)	11.3	0	-	-	\$ 533	27.9
HCM Lane LOS	B	A	-	-	F	D
HCM 95th %tile Q(veh)	0.1	-	-	-	4.1	1.3

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	149.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Vol, veh/h	111	697	8	74	460	122	7	111	171	110	84	65
Future Vol, veh/h	111	697	8	74	460	122	7	111	171	110	84	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	121	758	9	80	500	133	8	121	186	120	91	71
Number of Lanes	0	2	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	102.3	305.8	35.4	33.1
HCM LOS	F	F	E	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	2%	24%	0%	11%	42%
Vol Thru, %	38%	76%	98%	70%	32%
Vol Right, %	59%	0%	2%	19%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	289	460	357	656	259
LT Vol	7	111	0	74	110
Through Vol	111	349	349	460	84
RT Vol	171	0	8	122	65
Lane Flow Rate	314	499	388	713	282
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.726	1.186	0.905	1.609	0.682
Departure Headway (Hd)	9.985	9.722	9.579	8.308	10.442
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	364	380	380	442	349
Service Time	7.985	7.422	7.279	6.308	8.442
HCM Lane V/C Ratio	0.863	1.313	1.021	1.613	0.808
HCM Control Delay	35.4	137.6	56.9	305.8	33.1
HCM Lane LOS	E	F	F	F	D
HCM 95th-tile Q	5.5	17.8	9.3	39.6	4.8

Intersection						
Int Delay, s/veh	1114.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↕		↕	
Traffic Vol, veh/h	124	1186	944	115	119	135
Future Vol, veh/h	124	1186	944	115	119	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	135	1289	1026	125	129	147

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1151	0	-	0	2648 576
Stage 1	-	-	-	-	1089 -
Stage 2	-	-	-	-	1559 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	614	-	-	-	~ 22 466
Stage 1	-	-	-	-	288 -
Stage 2	-	-	-	-	193 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	614	-	-	-	~ 5 466
Mov Cap-2 Maneuver	-	-	-	-	~ 5 -
Stage 1	-	-	-	-	~ 65 -
Stage 2	-	-	-	-	193 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	\$ 11507.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	614	-	-	-	11
HCM Lane V/C Ratio	0.22	-	-	-	-25.099
HCM Control Delay (s)	12.5	0	-	-	\$ 11507.5
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0.8	-	-	-	36

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



Intersection	
Intersection Delay, s/veh	2842.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕			↕			↕	
Traffic Vol, veh/h	304	326	101	75	303	295	45	930	107	123	424	230
Future Vol, veh/h	304	326	101	75	303	295	45	930	107	123	424	230
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.25	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	338	362	112	83	337	328	50	3720	119	137	471	256
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	466.1	597.3	4236.9	738.6
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %		4%	48%	0%	11%
Vol Thru, %		86%	52%	0%	45%
Vol Right, %		10%	0%	100%	44%
Sign Control		Stop	Stop	Stop	Stop
Traffic Vol by Lane	1082	630	101	673	777
LT Vol	45	304	0	75	123
Through Vol	930	326	0	303	424
RT Vol	107	0	101	295	230
Lane Flow Rate	3889	700	112	748	863
Geometry Grp	2	7	7	5	2
Degree of Util (X)	10.309	1.932	0.28	1.964	2.266
Departure Headway (Hd)	21.324	39.552	38.649	60.434	65.785
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	233	105	95	67	69
Service Time	19.324	37.252	36.349	58.434	63.785
HCM Lane V/C Ratio	16.691	6.667	1.179	11.164	12.507
HCM Control Delay	4236.9	531.9	55.7	597.3	738.6
HCM Lane LOS	F	F	F	F	F
HCM 95th-tile Q	199.7	15	1	11.1	12.4

Intersection	
Intersection Delay, s/veh	697.4
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	560	1032	765	475	565	345
Future Vol, veh/h	560	1032	765	475	565	345
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	583	1075	797	495	589	359
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left			WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	1040	672.1	132.6
HCM LOS	F	F	F

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	35%	0%	100%	0%
Vol Thru, %	65%	62%	0%	0%
Vol Right, %	0%	38%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1592	1240	565	345
LT Vol	560	0	565	0
Through Vol	1032	765	0	0
RT Vol	0	475	0	345
Lane Flow Rate	1658	1292	589	359
Geometry Grp	2	2	7	7
Degree of Util (X)	3.254	2.427	1.324	0.689
Departure Headway (Hd)	9.353	10.132	10.79	9.486
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	415	375	341	385
Service Time	7.353	8.132	8.49	7.186
HCM Lane V/C Ratio	3.995	3.445	1.727	0.932
HCM Control Delay	1040	672.1	194.8	30.7
HCM Lane LOS	F	F	F	D
HCM 95th-tile Q	112.6	68.1	21.3	5

Intersection

Intersection Delay, s/v $\sqrt{753.7}$

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	95	2034	51	257	1418	65	91	73	358	173	297	69
Future Vol, veh/h	95	2034	51	257	1418	65	91	73	358	173	297	69
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	100	2141	54	271	1493	68	96	77	377	182	313	73
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	WB	NB	SB	SB
Opposing Approach	WB	EB	SB	SB	NB	NB
Opposing Lanes	1	1	1	1	1	1
Conflicting Approach Left SB	SB	NB	EB	EB	WB	WB
Conflicting Lanes Left	1	1	1	1	1	1
Conflicting Approach Right NB	NB	SB	WB	WB	EB	EB
Conflicting Lanes Right	1	1	1	1	1	1
HCM Control Delay	2366.1	1826.2	360.2	360.2	392.5	392.5
HCM LOS	F	F	F	F	F	F

Lane NBLn1EBLn1WBLn1SBLn1

Vol Left, %	17%	4%	15%	32%
Vol Thru, %	14%	93%	81%	55%
Vol Right, %	69%	2%	4%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	522	2180	1740	539
LT Vol	91	95	257	173
Through Vol	73	2034	1418	297
RT Vol	358	51	65	69
Lane Flow Rate	549	2295	1832	567
Geometry Grp	1	1	1	1
Degree of Util (X)	1.407	6.114	4.886	1.511
Departure Headway (Hd)	56.082	28.357	33.45	52.85
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	71	161	128	79
Service Time	54.082	26.357	31.45	50.85
HCM Lane V/C Ratio	7.732	14.255	14.313	7.177
HCM Control Delay	360.2	2366.1	1826.2	392.5
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	7.7	84.6	55.8	8.8

Intersection														
Int Delay, s/veh 2.2														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Vol, veh/h	397	301	36	14	237	210	87	302	21	140	105	106		
Future Vol, veh/h	397	301	36	14	237	210	87	302	21	140	105	106		
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop		
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None		
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-		
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0		
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0		
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92		
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0		
Mvmt Flow	432	327	39	15	258	228	95	328	23	152	114	115		
Major/Minor	Major1	Major2	Major2	Major2	Minor1	Minor1	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2		
Conflicting Flow All	486	0	0	366	0	0	1728	1727	347	1788	1632	372		
Stage 1	-	-	-	-	-	-	1211	1211	-	402	402	-		
Stage 2	-	-	-	-	-	-	517	516	-	1386	1230	-		
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3		
Pot Cap-1 Maneuver	1087	-	-	1204	-	-	~70	~90	701	~64	~102	678		
Stage 1	-	-	-	-	-	-	225	~257	-	629	604	-		
Stage 2	-	-	-	-	-	-	545	538	-	179	252	-		
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-		
Mov Cap-1 Maneuver	1087	-	-	1204	-	-	-	~44	701	-	~50	678		
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~44	-	-	~50	-		
Stage 1	-	-	-	-	-	-	112	~128	-	313	593	-		
Stage 2	-	-	-	-	-	-	359	528	-	-	125	-		
Approach	EB	WB	WB	NB	NB	SB								
HCM Control Delay, s	5.7	0.2												
HCM LOS														
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	-	1087	-	-	1204	-	-	-						
HCM Lane V/C Ratio	-	0.397	-	-	0.013	-	-	-						
HCM Control Delay (s)	-	10.5	0	-	8	0	-	-						
HCM Lane LOS	-	B	A	-	A	A	-	-						
HCM 95th %tile Q(veh)	-	1.9	-	-	0	-	-	-						
Notes														
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon														

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	52	1390	155	107	953	46	120	65	157	96	49	167
Future Vol, veh/h	52	1390	155	107	953	46	120	65	157	96	49	167
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	75	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	25	91	91	91	91	91	97
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	57	1527	170	118	1047	184	132	71	173	105	54	172

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1231	0	0	1697	0	0	3129	3108	1527	3223	3186	1139
Stage 1	-	-	-	-	-	-	1641	1641	-	1375	1375	-
Stage 2	-	-	-	-	-	-	1488	1467	-	1848	1811	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	573	-	-	381	-	-	~7	~12	~146	~6	~10	247
Stage 1	-	-	-	-	-	-	~128	160	-	181	215	-
Stage 2	-	-	-	-	-	-	156	194	-	~97	131	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	573	-	-	381	-	-	~7	~146	-	~6	247	
Mov Cap-2 Maneuver	-	-	-	-	-	-	~47	~49	~-385	0	-	
Stage 1	-	-	-	-	-	-	~115	144	-	163	148	-
Stage 2	-	-	-	-	-	-	~21	134	-	-	118	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.6		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	573	-	-	381	-	-	-
HCM Lane V/C Ratio	-	0.1	-	-	0.309	-	-	-
HCM Control Delay (s)	-	12	-	-	18.6	-	-	-
HCM Lane LOS	-	B	-	-	C	-	-	-
HCM 95th %tile Q(veh)	-	0.3	-	-	1.3	-	-	-

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection												
Int Delay, s/veh	12.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Traffic Vol, veh/h	22	1567	54	14	1004	26	38	0	25	75	0	64
Future Vol, veh/h	22	1567	54	14	1004	26	38	0	25	75	0	64
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	25	1781	61	16	1141	30	43	0	28	85	0	73

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1171	0	0	1843	0	0	3088	3066	922	2129	3081	1156
Stage 1	-	-	-	-	-	-	1863	1863	-	1188	1188	-
Stage 2	-	-	-	-	-	-	1225	1203	-	941	1893	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	604	-	-	334	-	-	~6	13	276	~32	12	242
Stage 1	-	-	-	-	-	-	77	124	-	232	264	-
Stage 2	-	-	-	-	-	-	221	260	-	287	120	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	604	-	-	334	-	-	~4	12	276	~27	11	242
Mov Cap-2 Maneuver	-	-	-	-	-	-	44	76	-	116	69	-
Stage 1	-	-	-	-	-	-	74	119	-	222	251	-
Stage 2	-	-	-	-	-	-	147	248	-	247	115	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			242.9			140.6		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	66	604	-	-	334	-	-	153
HCM Lane V/C Ratio	1.085	0.041	-	-	0.048	-	-	1.032
HCM Control Delay (s)	242.9	11.2	-	-	16.3	-	-	140.6
HCM Lane LOS	F	B	-	-	C	-	-	F
HCM 95th %tile Q(veh)	5.5	0.1	-	-	0.1	-	-	8

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection														
Int Delay, s/veh	28.4													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↔		↔				↔				↔		
Traffic Vol, veh/h	40	2911	74	217	1945	87	108	60	435	64	27	25		
Future Vol, veh/h	40	2911	74	217	1945	87	108	60	435	64	27	25		
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop		
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None		
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-		
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0		
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0		
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92		
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0		
Mvmt Flow	43	3164	80	236	2114	95	117	65	473	70	29	27		
Major/Minor	Major1	Major2	Major2	Minor1	Minor1	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2
Conflicting Flow All	2209	0	0	3244	0	0	5952	5971	3204	6193	5964	2162		
Stage 1	-	-	-	-	-	-	3290	3290	-	2634	2634	-		
Stage 2	-	-	-	-	-	-	2662	2681	-	3559	3330	-		
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3		
Pot Cap-1 Maneuver	241	-	-	~94	-	-	0	0	~14	0	0	61		
Stage 1	-	-	-	-	-	-	~13	~22	-	~33	50	-		
Stage 2	-	-	-	-	-	-	~32	~47	-	~9	~21	-		
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-		
Mov Cap-1 Maneuver	241	-	-	~94	-	-	-	0	~14	-	0	61		
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	0	-		
Stage 1	-	-	-	-	-	-	~13	~22	-	~33	0	-		
Stage 2	-	-	-	-	-	-	-	0	-	579	~21	-		
Approach	EB	WB	WB	NB	NB	SB								
HCM Control Delay, s	0.3	75.4												
HCM LOS														
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	-	241	-	-	~94	-	-	-						
HCM Lane V/C Ratio	-	0.18	-	-	2.509	-	-	-						
HCM Control Delay (s)	-	23.2	0	-	\$ 781.1	0	-	-						
HCM Lane LOS	-	C	A	-	F	A	-	-						
HCM 95th %tile Q(veh)	-	0.6	-	-	21.8	-	-	-						
Notes														
~: Volume exceeds capacity	\$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon													

Intersection												
Int Delay, s/veh	51.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖		↖	↖	↖		↖↗	
Traffic Vol, veh/h	242	1286	139	68	675	332	121	119	82	423	142	249
Future Vol, veh/h	242	1286	139	68	675	332	121	119	82	423	142	249
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	200	-	-	200	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	269	1429	154	76	750	369	134	132	91	470	158	277

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1119	0	0	1584	0	0	3349	3316	793	2406	3209	935
Stage 1	-	-	-	-	-	-	2045	2045	-	1087	1087	-
Stage 2	-	-	-	-	-	-	1304	1271	-	1319	2122	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.4	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	632	-	-	421	-	-	~9	~9	336	~20	~10	325
Stage 1	-	-	-	-	-	-	~59	~100	-	~264	295	-
Stage 2	-	-	-	-	-	-	199	241	-	~169	~92	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	632	-	-	421	-	-	~4	~4	336	~3	~5	325
Mov Cap-2 Maneuver	-	-	-	-	-	-	~35	164	-	~155	~24	-
Stage 1	-	-	-	-	-	-	~34	~57	-	~152	242	-
Stage 2	-	-	-	-	-	-	~8	197	-	-	~53	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	1	\$ 604.1	1.2
HCM LOS			F	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	35	164	336	632	-	-	421	-	-	+
HCM Lane V/C Ratio	3.841	0.806	0.271	0.425	-	-	0.179	-	-	-
HCM Control Delay (s)	\$ 1513	82.7	19.7	14.8	-	-	15.4	-	-	1.2
HCM Lane LOS	F	F	C	B	-	-	C	-	-	A
HCM 95th %tile Q(veh)	15.7	5.3	1.1	2.1	-	-	0.6	-	-	-

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



Intersection	
Intersection Delay, s/veh	947
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	65	1646	80	36	910	32	79	6	143	140	7	84
Future Vol, veh/h	65	1646	80	36	910	32	79	6	143	140	7	84
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	72	1829	89	40	1011	36	88	7	159	156	8	93
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	3
HCM Control Delay	1306.7	715	36.2	38.7
HCM LOS	F	F	E	E

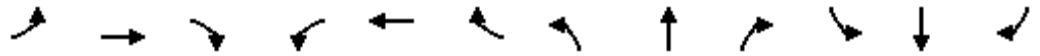
Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	35%	100%	0%	0%	100%	0%	61%
Vol Thru, %	3%	0%	100%	0%	0%	97%	3%
Vol Right, %	63%	0%	0%	100%	0%	3%	36%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	228	65	1646	80	36	942	231
LT Vol	79	65	0	0	36	0	140
Through Vol	6	0	1646	0	0	910	7
RT Vol	143	0	0	80	0	32	84
Lane Flow Rate	253	72	1829	89	40	1047	257
Geometry Grp	7	7	7	7	8	8	7
Degree of Util (X)	0.612	0.172	4.097	0.182	0.104	2.564	0.639
Departure Headway (Hd)	13.855	10.991	10.46	9.716	14.127	13.556	14.072
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	263	329	366	372	256	283	259
Service Time	11.555	8.691	8.16	7.416	11.827	11.256	11.772
HCM Lane V/C Ratio	0.962	0.219	4.997	0.239	0.156	3.7	0.992
HCM Control Delay	36.2	16	1420.5	14.6	18.5	741.6	38.7
HCM Lane LOS	E	C	F	B	C	F	E
HCM 95th-tile Q	3.7	0.6	137.1	0.7	0.3	56.4	4

Intersection														
Int Delay, s/veh 6.3														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Vol, veh/h	81	3123	96	100	2001	67	205	89	256	58	24	43		
Future Vol, veh/h	81	3123	96	100	2001	67	205	89	256	58	24	43		
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop		
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None		
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-		
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0		
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0		
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92		
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0		
Mvmt Flow	88	3395	104	109	2175	73	223	97	278	63	26	47		
Major/Minor	Major1	Major2	Major2	Minor1	Minor1	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2
Conflicting Flow All	2248	0	0	3499	0	0	6089	6089	3447	6241	6105	2212		
Stage 1	-	-	-	-	-	-	3623	3623	-	2430	2430	-		
Stage 2	-	-	-	-	-	-	2466	2466	-	3811	3675	-		
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3		
Pot Cap-1 Maneuver	233	-	-	~74	-	-	0	0	~10	0	0	56		
Stage 1	-	-	-	-	-	-	~8	~15	-	~44	64	-		
Stage 2	-	-	-	-	-	-	~42	~61	-	~6	~14	-		
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-		
Mov Cap-1 Maneuver	233	-	-	~74	-	-	0	0	~10	0	0	56		
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	0	-	0	0	-		
Stage 1	-	-	-	-	-	-	~8	~15	-	~44	0	-		
Stage 2	-	-	-	-	-	-	-	0	-	877	~14	-		
Approach	EB	WB	WB	NB	NB	SB	SB	SB	SB	SB	SB	SB	SB	SB
HCM Control Delay, s	0.7		16.9											
HCM LOS														
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn1	SBLn1	SBLn1	SBLn1	SBLn1	SBLn1
Capacity (veh/h)	-	233	-	-	~74	-	-	-	-	-	-	-	-	-
HCM Lane V/C Ratio	-	0.378	-	-	1.469	-	-	-	-	-	-	-	-	-
HCM Control Delay (s)	-	29.5	0	-	\$367.2	0	-	-	-	-	-	-	-	-
HCM Lane LOS	-	D	A	-	F	A	-	-	-	-	-	-	-	-
HCM 95th %tile Q(veh)	-	1.7	-	-	8.9	-	-	-	-	-	-	-	-	-
Notes														
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon														

Timings

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

08/24/2021

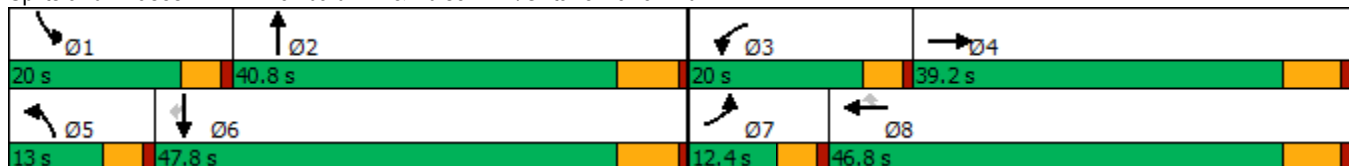


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖↗	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	476	2169	614	439	1430	157	433	963	595	278	1085	454
Future Volume (vph)	476	2169	614	439	1430	157	433	963	595	278	1085	454
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	12.4	39.2		20.0	46.8	46.8	13.0	40.8		20.0	47.8	47.8
Total Split (%)	10.3%	32.7%		16.7%	39.0%	39.0%	10.8%	34.0%		16.7%	39.8%	39.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	7.8	33.0	120.0	15.4	40.6	40.6	8.4	34.3	120.0	15.4	41.3	41.3
Actuated g/C Ratio	0.06	0.28	1.00	0.13	0.34	0.34	0.07	0.29	1.00	0.13	0.34	0.34
v/c Ratio	2.42	2.25	0.39	1.13	2.30	0.25	3.75	0.96	0.38	1.31	0.90	0.73
Control Delay	677.3	590.9	0.7	131.3	610.4	5.7	1272.6	63.0	0.7	209.8	48.5	30.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	677.3	590.9	0.7	131.3	610.4	5.7	1272.6	63.0	0.7	209.8	48.5	30.0
LOS	F	F	A	F	F	A	F	E	A	F	D	C
Approach Delay		492.4			459.6			307.3			68.6	
Approach LOS		F			F			F			E	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.75	
Intersection Signal Delay: 359.8	Intersection LOS: F
Intersection Capacity Utilization 164.1%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 44: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
 44: Archibald Av. & Edison Av./Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/24/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	476	2169	614	439	1430	157	433	963	595	278	1085	454
Future Volume (veh/h)	476	2169	614	439	1430	157	433	963	595	278	1085	454
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	491	2236	0	453	1474	128	446	993	0	287	1119	446
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	204	993		403	643	545	120	1032		220	1242	542
Arrive On Green	0.06	0.28	0.00	0.13	0.34	0.34	0.07	0.29	0.00	0.13	0.34	0.34
Sat Flow, veh/h	3141	3610	1610	3141	1900	1610	1714	3610	1610	1714	3610	1574
Grp Volume(v), veh/h	491	2236	0	453	1474	128	446	993	0	287	1119	446
Grp Sat Flow(s),veh/h/ln	1570	1805	1610	1570	1900	1610	1714	1805	1610	1714	1805	1574
Q Serve(g_s), s	7.8	33.0	0.0	15.4	40.6	6.9	8.4	32.5	0.0	15.4	35.4	31.1
Cycle Q Clear(g_c), s	7.8	33.0	0.0	15.4	40.6	6.9	8.4	32.5	0.0	15.4	35.4	31.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	204	993		403	643	545	120	1032		220	1242	542
V/C Ratio(X)	2.40	2.25		1.12	2.29	0.23	3.72	0.96		1.30	0.90	0.82
Avail Cap(c_a), veh/h	204	993		403	643	545	120	1032		220	1242	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	43.5	0.0	52.3	39.7	28.5	55.8	42.2	0.0	52.3	37.4	36.0
Incr Delay (d2), s/veh	647.0	566.8	0.0	82.9	586.8	0.2	1242.7	19.5	0.0	166.0	9.2	10.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.3	92.1	0.0	10.5	122.5	2.6	44.9	16.4	0.0	16.5	16.1	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	703.1	610.3	0.0	135.2	626.5	28.8	1298.5	61.7	0.0	218.3	46.6	46.0
LnGrp LOS	F	F		F	F	C	F	E		F	D	D
Approach Vol, veh/h		2727	A		2055			1439	A		1852	
Approach Delay, s/veh		627.0			481.0			445.0			73.0	
Approach LOS		F			F			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	40.8	20.0	39.2	13.0	47.8	12.4	46.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	15.4	34.3	15.4	33.0	8.4	41.3	7.8	40.6				
Max Q Clear Time (g_c+I1), s	17.4	34.5	17.4	35.0	10.4	37.4	9.8	42.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	430.3
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

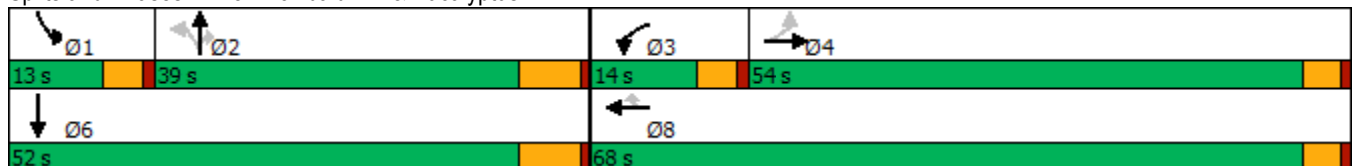


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖↗	↕	↖↗	↖	↕↕	↖	↖	↕↕
Traffic Volume (vph)	207	375	107	75	73	89	1666	160	184	1688
Future Volume (vph)	207	375	107	75	73	89	1666	160	184	1688
Turn Type	Perm	NA	Prot	NA	Perm	Perm	NA	Perm	Prot	NA
Protected Phases		4	3	8			2		1	6
Permitted Phases	4				8	2		2		
Detector Phase	4	4	3	8	8	2	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	9.5	9.5	9.5	32.5	32.5	32.5	9.6	16.5
Total Split (s)	54.0	54.0	14.0	68.0	68.0	39.0	39.0	39.0	13.0	52.0
Total Split (%)	45.0%	45.0%	11.7%	56.7%	56.7%	32.5%	32.5%	32.5%	10.8%	43.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	5.5	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	6.5	6.5	6.5	4.6	6.5
Lead/Lag	Lag	Lag	Lead			Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Max	Max	Max	None	Max
Act Effct Green (s)	48.4	48.4	8.7	61.6	61.6	32.5	32.5	32.5	8.4	45.5
Actuated g/C Ratio	0.41	0.41	0.07	0.52	0.52	0.28	0.28	0.28	0.07	0.39
v/c Ratio	0.42	0.97	0.47	0.08	0.09	1.58	1.78	0.39	1.62	1.38
Control Delay	28.1	60.0	59.3	14.3	3.3	357.2	384.8	38.6	348.7	205.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.1	60.0	59.3	14.3	3.3	357.2	384.8	38.6	348.7	205.5
LOS	C	E	E	B	A	F	F	D	F	F
Approach Delay		52.6		30.0			354.6			218.8
Approach LOS		D		C			F			F

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 118.1  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.78  
 Intersection Signal Delay: 231.6  
 Intersection LOS: F  
 Intersection Capacity Utilization 119.1%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 45: Archibald Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖	↑↑	↖	↖	↗	↗
Traffic Volume (veh/h)	207	375	305	107	75	73	89	1666	160	184	1688	102
Future Volume (veh/h)	207	375	305	107	75	73	89	1666	160	184	1688	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	220	399	191	114	80	69	95	1772	127	196	1796	82
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	507	447	214	172	880	731	68	1115	497	137	1521	69
Arrive On Green	0.37	0.37	0.37	0.05	0.46	0.46	0.31	0.31	0.31	0.08	0.43	0.43
Sat Flow, veh/h	1191	1214	581	3326	1900	1578	233	3610	1608	1714	3517	159
Grp Volume(v), veh/h	220	0	590	114	80	69	95	1772	127	196	916	962
Grp Sat Flow(s),veh/h/ln	1191	0	1795	1663	1900	1578	233	1805	1608	1714	1805	1871
Q Serve(g_s), s	15.0	0.0	32.5	3.5	2.5	2.6	0.0	32.5	6.2	8.4	45.5	45.5
Cycle Q Clear(g_c), s	15.0	0.0	32.5	3.5	2.5	2.6	32.5	32.5	6.2	8.4	45.5	45.5
Prop In Lane	1.00		0.32	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	507	0	662	172	880	731	68	1115	497	137	781	809
V/C Ratio(X)	0.43	0.00	0.89	0.66	0.09	0.09	1.39	1.59	0.26	1.43	1.17	1.19
Avail Cap(c_a), veh/h	629	0	845	300	1147	953	68	1115	497	137	781	809
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	0.0	31.2	49.0	15.8	15.9	52.6	36.3	27.3	48.4	29.8	29.8
Incr Delay (d2), s/veh	0.6	0.0	9.8	4.3	0.0	0.1	242.4	269.3	1.2	231.0	91.3	97.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	15.3	1.6	1.1	0.9	6.3	54.8	2.5	12.2	37.1	39.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.3	0.0	41.1	53.3	15.9	15.9	295.0	305.6	28.5	279.4	121.1	127.0
LnGrp LOS	C	A	D	D	B	B	F	F	C	F	F	F
Approach Vol, veh/h		810			263			1994			2074	
Approach Delay, s/veh		37.1			32.1			287.5			138.8	
Approach LOS		D			C			F			F	
Timer - Assigned Phs	1	2	3	4	6	8						
Phs Duration (G+Y+Rc), s	13.0	39.0	9.9	43.3	52.0	53.2						
Change Period (Y+Rc), s	4.6	6.5	4.5	4.5	6.5	4.5						
Max Green Setting (Gmax), s	8.4	32.5	9.5	49.5	45.5	63.5						
Max Q Clear Time (g_c+1), s	10.4	34.5	5.5	34.5	47.5	4.6						
Green Ext Time (p_c), s	0.0	0.0	0.1	4.2	0.0	0.7						

Intersection Summary

HCM 6th Ctrl Delay	175.0
HCM 6th LOS	F

Timings  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

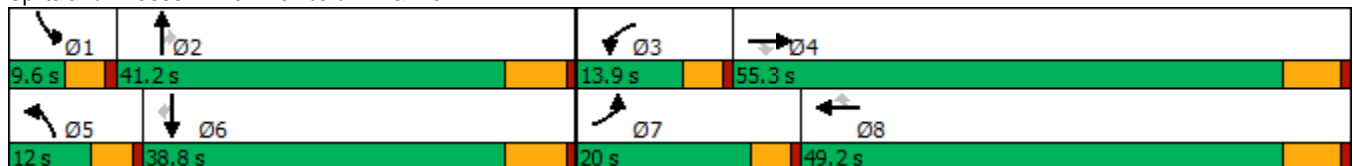
08/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	774	109	879	129	66	67	351	1057	193	88	1511	372
Future Volume (vph)	774	109	879	129	66	67	351	1057	193	88	1511	372
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	20.0	55.3	55.3	13.9	49.2	49.2	12.0	41.2	41.2	9.6	38.8	38.8
Total Split (%)	16.7%	46.1%	46.1%	11.6%	41.0%	41.0%	10.0%	34.3%	34.3%	8.0%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	25.2	49.1	49.1	9.3	36.4	36.4	7.4	34.7	34.7	5.0	32.3	32.3
Actuated g/C Ratio	0.21	0.41	0.41	0.08	0.30	0.30	0.06	0.29	0.29	0.04	0.27	0.27
v/c Ratio	2.22	0.14	1.22	1.01	0.12	0.12	3.45	0.73	0.33	0.70	1.60	0.70
Control Delay	582.2	22.9	138.9	135.7	27.1	0.4	1142.2	41.8	6.0	84.1	308.0	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	582.2	22.9	138.9	135.7	27.1	0.4	1142.2	41.8	6.0	84.1	308.0	30.9
LOS	F	C	F	F	C	A	F	D	A	F	F	C
Approach Delay		326.6			73.8			278.7			245.6	
Approach LOS		F			E			F			F	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 3.45  
 Intersection Signal Delay: 272.5  
 Intersection LOS: F  
 Intersection Capacity Utilization 128.6%  
 ICU Level of Service H  
 Analysis Period (min) 15

























Splits and Phases: 46: Archibald Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	774	109	879	129	66	67	351	1057	193	88	1511	372
Future Volume (veh/h)	774	109	879	129	66	67	351	1057	193	88	1511	372
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	798	112	721	133	68	30	362	1090	185	91	1558	326
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	220	777	659	133	681	577	106	1500	460	131	972	433
Arrive On Green	0.13	0.41	0.41	0.08	0.36	0.36	0.06	0.29	0.29	0.04	0.27	0.27
Sat Flow, veh/h	1714	1900	1610	1714	1900	1610	1714	5187	1590	3141	3610	1610
Grp Volume(v), veh/h	798	112	721	133	68	30	362	1090	185	91	1558	326
Grp Sat Flow(s),veh/h/ln	1714	1900	1610	1714	1900	1610	1714	1729	1590	1570	1805	1610
Q Serve(g_s), s	15.4	4.4	49.1	9.3	2.9	1.5	7.4	22.7	11.2	3.4	32.3	22.3
Cycle Q Clear(g_c), s	15.4	4.4	49.1	9.3	2.9	1.5	7.4	22.7	11.2	3.4	32.3	22.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	220	777	659	133	681	577	106	1500	460	131	972	433
V/C Ratio(X)	3.63	0.14	1.09	1.00	0.10	0.05	3.42	0.73	0.40	0.70	1.60	0.75
Avail Cap(c_a), veh/h	220	777	659	133	681	577	106	1500	460	131	972	433
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.3	22.3	35.5	55.3	25.6	25.2	56.3	38.4	34.3	56.7	43.8	40.2
Incr Delay (d2), s/veh	1193.5	0.1	63.6	78.4	0.1	0.0	1114.5	1.8	0.6	12.6	276.4	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	79.3	1.9	30.1	6.9	1.3	0.6	35.8	9.3	4.4	1.5	50.8	9.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1245.8	22.3	99.1	133.7	25.7	25.2	1170.8	40.2	34.9	69.4	320.2	47.4
LnGrp LOS	F	C	F	F	C	C	F	D	C	E	F	D
Approach Vol, veh/h		1631			231			1637			1975	
Approach Delay, s/veh		654.8			87.8			289.6			263.6	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	41.2	13.9	55.3	12.0	38.8	20.0	49.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	34.7	9.3	49.1	7.4	32.3	15.4	43.0				
Max Q Clear Time (g_c+I1), s	5.4	24.7	11.3	51.1	9.4	34.3	17.4	4.9				
Green Ext Time (p_c), s	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			380.5									
HCM 6th LOS			F									



Timings  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	212	818	127	470	753	724	131	1188	484	746	1523
Future Volume (vph)	212	818	127	470	753	724	131	1188	484	746	1523
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	1	5	2	3	1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	1	5	2	3	1	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0
Minimum Split (s)	9.5	23.0	23.0	11.3	36.3	11.0	9.5	46.3	11.3	11.0	23.0
Total Split (s)	9.5	23.6	23.6	22.2	36.3	27.0	9.5	47.2	22.2	27.0	64.7
Total Split (%)	7.9%	19.7%	19.7%	18.5%	30.3%	22.5%	7.9%	39.3%	18.5%	22.5%	53.9%
Yellow Time (s)	3.5	4.0	4.0	4.3	4.3	4.0	3.5	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.0	5.0	5.3	5.3	5.0	4.5	5.3	5.3	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min
Act Effct Green (s)	5.0	18.6	18.6	16.9	31.0	58.3	5.0	41.9	58.8	22.0	59.7
Actuated g/C Ratio	0.04	0.16	0.16	0.14	0.26	0.49	0.04	0.35	0.49	0.18	0.50
v/c Ratio	3.07	1.59	0.33	0.97	1.67	0.91	1.89	1.83	0.59	2.31	2.01
Control Delay	983.6	308.1	3.7	86.1	340.5	42.3	478.7	405.1	17.4	621.1	479.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	983.6	308.1	3.7	86.1	340.5	42.3	478.7	405.1	17.4	621.1	479.6
LOS	F	F	A	F	F	D	F	F	B	F	F
Approach Delay		398.3			172.4			307.1			520.7
Approach LOS		F			F			F			F

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 3.07  
 Intersection Signal Delay: 358.6  
 Intersection LOS: F  
 Intersection Capacity Utilization 172.0%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 47: Archibald Av. & Limonite Av.



HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘↗	↑	↗	↘	↑	↗	↘	↗	↘
Traffic Volume (veh/h)	212	818	127	470	753	724	131	1188	484	746	1523	282
Future Volume (veh/h)	212	818	127	470	753	724	131	1188	484	746	1523	282
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	230	889	138	480	818	689	142	1212	473	761	1554	307
Peak Hour Factor	0.92	0.92	0.92	0.98	0.92	0.98	0.92	0.98	0.98	0.98	0.98	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	557	248	492	493	712	75	665	782	330	763	151
Arrive On Green	0.04	0.15	0.15	0.14	0.26	0.26	0.04	0.35	0.35	0.18	0.50	0.50
Sat Flow, veh/h	1810	3610	1610	3510	1900	1610	1810	1900	1590	1810	1541	304
Grp Volume(v), veh/h	230	889	138	480	818	689	142	1212	473	761	0	1861
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1755	1900	1610	1810	1900	1590	1810	0	1845
Q Serve(g_s), s	5.0	18.6	9.6	16.4	31.3	31.3	5.0	42.2	26.0	22.0	0.0	59.7
Cycle Q Clear(g_c), s	5.0	18.6	9.6	16.4	31.3	31.3	5.0	42.2	26.0	22.0	0.0	59.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	75	557	248	492	493	712	75	665	782	330	0	913
V/C Ratio(X)	3.07	1.60	0.56	0.98	1.66	0.97	1.89	1.82	0.60	2.31	0.00	2.04
Avail Cap(c_a), veh/h	75	557	248	492	493	712	75	665	782	330	0	913
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.8	51.0	47.2	51.6	44.7	32.8	57.8	39.2	22.3	49.3	0.0	30.5
Incr Delay (d2), s/veh	963.9	276.9	2.7	34.1	305.4	25.8	447.4	376.2	1.5	596.9	0.0	470.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.3	29.6	3.9	9.3	55.8	23.1	11.5	87.9	9.3	64.2	0.0	142.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1021.7	327.9	49.9	85.7	350.0	58.7	505.2	415.4	23.8	646.2	0.0	501.1
LnGrp LOS	F	F	D	F	F	E	F	F	C	F	A	F
Approach Vol, veh/h		1257			1987			1827			2622	
Approach Delay, s/veh		424.3			185.2			321.0			543.2	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	27.0	47.5	22.2	23.9	9.5	65.0	9.5	36.6				
Change Period (Y+Rc), s	5.0	5.3	5.3	* 5.3	4.5	* 5.3	4.5	5.3				
Max Green Setting (Gmax), s	22.0	41.9	16.9	* 19	5.0	* 60	5.0	31.0				
Max Q Clear Time (g_c+I1), s	24.0	44.2	18.4	20.6	7.0	61.7	7.0	33.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	378.5
HCM 6th LOS	F

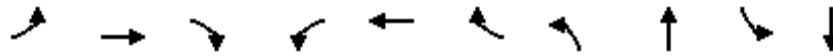
Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

48: Turner Av. & Ontario Ranch Rd.

08/24/2021

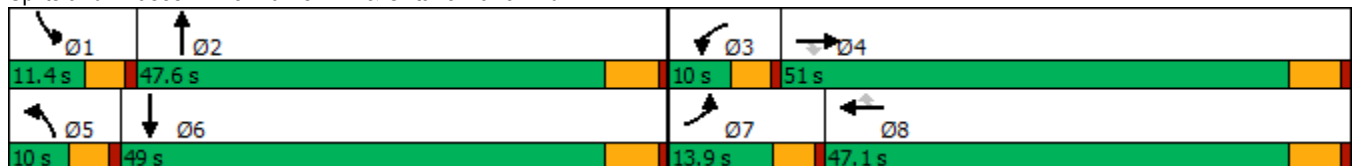


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗	↘	↗
Traffic Volume (vph)	205	2636	48	39	1786	142	32	10	126	10
Future Volume (vph)	205	2636	48	39	1786	142	32	10	126	10
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	25.8	25.8	9.6	45.8	9.6	47.8
Total Split (s)	13.9	51.0	51.0	10.0	47.1	47.1	10.0	47.6	11.4	49.0
Total Split (%)	11.6%	42.5%	42.5%	8.3%	39.3%	39.3%	8.3%	39.7%	9.5%	40.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	9.5	50.6	50.6	5.4	42.1	42.1	5.4	14.9	8.0	18.1
Actuated g/C Ratio	0.10	0.55	0.55	0.06	0.46	0.46	0.06	0.16	0.09	0.20
v/c Ratio	1.27	1.44	0.06	0.42	1.17	0.19	0.35	0.20	0.93	0.35
Control Delay	194.2	224.7	0.1	59.5	111.2	7.7	56.3	12.9	103.9	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	194.2	224.7	0.1	59.5	111.2	7.7	56.3	12.9	103.9	8.7
LOS	F	F	A	E	F	A	E	B	F	A
Approach Delay		218.8			102.8			28.4		54.1
Approach LOS		F			F			C		D

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 92  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.44  
 Intersection Signal Delay: 163.4  
 Intersection LOS: F  
 Intersection Capacity Utilization 113.2%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 48: Turner Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
48: Turner Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↑↑	↶	↵	↑↑	↶	↵	↑	↶	↵	↶	↵
Traffic Volume (veh/h)	205	2636	48	39	1786	142	32	10	48	126	10	128
Future Volume (veh/h)	205	2636	48	39	1786	142	32	10	48	126	10	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	223	2865	40	42	1941	151	35	11	34	137	11	125
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	178	1907	851	62	1663	742	56	52	160	130	23	256
Arrive On Green	0.10	0.53	0.53	0.04	0.46	0.46	0.03	0.13	0.13	0.08	0.17	0.17
Sat Flow, veh/h	1714	3610	1610	1714	3610	1610	1714	406	1254	1714	132	1498
Grp Volume(v), veh/h	223	2865	40	42	1941	151	35	0	45	137	0	136
Grp Sat Flow(s),veh/h/ln	1714	1805	1610	1714	1805	1610	1714	0	1660	1714	0	1630
Q Serve(g_s), s	9.3	47.4	1.1	2.2	41.3	5.0	1.8	0.0	2.2	6.8	0.0	6.8
Cycle Q Clear(g_c), s	9.3	47.4	1.1	2.2	41.3	5.0	1.8	0.0	2.2	6.8	0.0	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	1.00		0.92
Lane Grp Cap(c), veh/h	178	1907	851	62	1663	742	56	0	212	130	0	279
V/C Ratio(X)	1.25	1.50	0.05	0.68	1.17	0.20	0.63	0.00	0.21	1.05	0.00	0.49
Avail Cap(c_a), veh/h	178	1907	851	103	1663	742	103	0	774	130	0	786
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.2	21.1	10.2	42.7	24.2	14.4	42.8	0.0	35.1	41.4	0.0	33.6
Incr Delay (d2), s/veh	151.8	228.8	0.1	4.7	82.1	0.6	4.3	0.0	0.5	93.9	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	77.1	0.4	1.0	34.2	1.8	0.8	0.0	0.9	6.1	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	192.0	249.9	10.3	47.4	106.3	15.0	47.1	0.0	35.6	135.4	0.0	34.9
LnGrp LOS	F	F	B	D	F	B	D	A	D	F	A	C
Approach Vol, veh/h		3128			2134			80				273
Approach Delay, s/veh		242.8			98.6			40.6				85.3
Approach LOS		F			F			D				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	17.2	7.8	53.2	7.5	21.1	13.9	47.1				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.8	41.8	5.4	45.2	5.4	43.2	9.3	41.3				
Max Q Clear Time (g_c+1), s	8.8	4.2	4.2	49.4	3.8	8.8	11.3	43.3				
Green Ext Time (p_c), s	0.0	0.2	0.0	0.0	0.0	0.8	0.0	0.0				

Intersection Summary

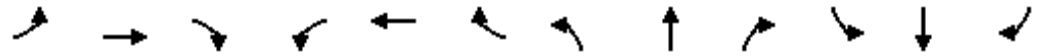
HCM 6th Ctrl Delay	177.4
HCM 6th LOS	F

Timings

Ontario Ranch Business Park (JN 13941)

49: Haven Av. & Ontario Ranch Rd.

08/24/2021

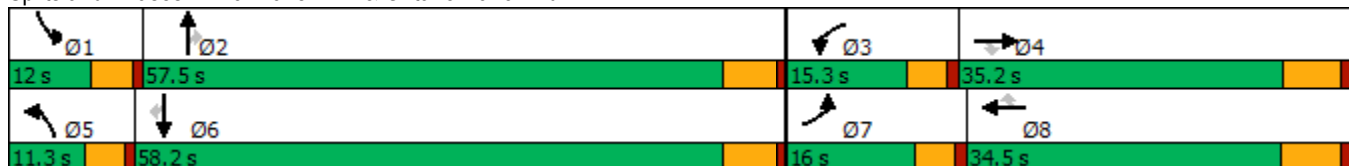


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (vph)	367	2200	81	75	1585	349	79	242	47	283	320	268
Future Volume (vph)	367	2200	81	75	1585	349	79	242	47	283	320	268
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	16.0	35.2	35.2	15.3	34.5	34.5	11.3	57.5	57.5	12.0	58.2	58.2
Total Split (%)	13.3%	29.3%	29.3%	12.8%	28.8%	28.8%	9.4%	47.9%	47.9%	10.0%	48.5%	48.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	11.5	34.2	34.2	8.1	28.3	28.3	6.8	22.5	22.5	7.5	23.2	23.2
Actuated g/C Ratio	0.13	0.37	0.37	0.09	0.31	0.31	0.07	0.25	0.25	0.08	0.25	0.25
v/c Ratio	1.78	1.18	0.13	0.52	0.82	0.49	0.65	0.54	0.10	2.12	0.69	0.45
Control Delay	395.8	117.5	3.8	54.3	34.6	5.8	68.8	33.5	0.4	551.2	38.1	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	395.8	117.5	3.8	54.3	34.6	5.8	68.8	33.5	0.4	551.2	38.1	5.4
LOS	F	F	A	D	C	A	E	C	A	F	D	A
Approach Delay		152.6			30.3			36.9			194.9	
Approach LOS		F			C			D			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 91.6	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.12	
Intersection Signal Delay: 109.9	Intersection LOS: F
Intersection Capacity Utilization 93.8%	ICU Level of Service F
Analysis Period (min) 15	

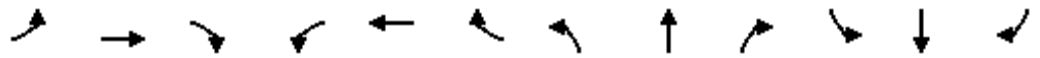
Splits and Phases: 49: Haven Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
49: Haven Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (veh/h)	367	2200	81	75	1585	349	79	242	47	283	320	268
Future Volume (veh/h)	367	2200	81	75	1585	349	79	242	47	283	320	268
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	382	2292	53	78	1651	290	82	252	35	295	333	206
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	231	2115	656	99	2162	533	104	367	311	150	418	354
Arrive On Green	0.13	0.41	0.41	0.06	0.33	0.33	0.06	0.19	0.19	0.09	0.22	0.22
Sat Flow, veh/h	1714	5187	1610	1714	6536	1610	1714	1900	1610	1714	1900	1610
Grp Volume(v), veh/h	382	2292	53	78	1651	290	82	252	35	295	333	206
Grp Sat Flow(s),veh/h/ln	1714	1729	1610	1714	1634	1610	1714	1900	1610	1714	1900	1610
Q Serve(g_s), s	11.4	34.5	1.7	3.8	19.1	12.4	4.0	10.4	1.5	7.4	14.0	9.7
Cycle Q Clear(g_c), s	11.4	34.5	1.7	3.8	19.1	12.4	4.0	10.4	1.5	7.4	14.0	9.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	231	2115	656	99	2162	533	104	367	311	150	418	354
V/C Ratio(X)	1.65	1.08	0.08	0.79	0.76	0.54	0.79	0.69	0.11	1.97	0.80	0.58
Avail Cap(c_a), veh/h	231	2115	656	217	2162	533	136	1161	984	150	1176	997
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	25.1	15.3	39.4	25.4	23.1	39.2	31.8	28.2	38.6	31.2	29.5
Incr Delay (d2), s/veh	313.0	46.6	0.2	5.1	2.6	4.0	15.2	2.3	0.2	458.8	3.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.5	21.2	0.6	1.6	6.9	4.7	2.0	4.7	0.5	22.0	6.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	349.6	71.7	15.6	44.4	28.0	27.1	54.5	34.1	28.3	497.4	34.8	31.1
LnGrp LOS	F	F	B	D	C	C	D	C	C	F	C	C
Approach Vol, veh/h		2727			2019			369			834	
Approach Delay, s/veh		109.5			28.5			38.1			197.5	
Approach LOS		F			C			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	22.1	9.5	41.0	9.7	24.4	16.0	34.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	7.4	51.7	10.7	* 29	6.7	52.4	11.4	28.0				
Max Q Clear Time (g_c+I1), s	9.4	12.4	5.8	36.5	6.0	16.0	13.4	21.1				
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.0	2.6	0.0	5.2				

Intersection Summary

HCM 6th Ctrl Delay	89.9
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

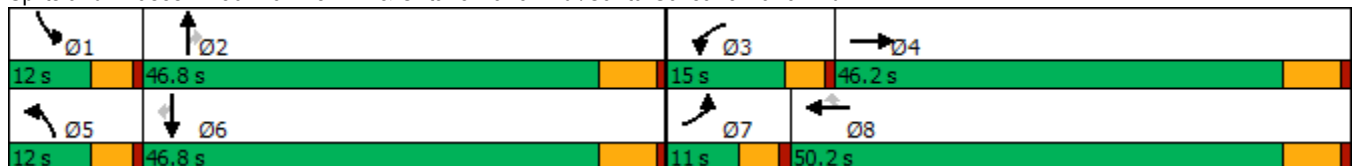


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	194	1768	940	1240	167	391	475	294	569	1050	231
Future Volume (vph)	194	1768	940	1240	167	391	475	294	569	1050	231
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.2	9.6	49.2	49.2	9.6	44.2	44.2	9.6	45.2	45.2
Total Split (s)	11.0	46.2	15.0	50.2	50.2	12.0	46.8	46.8	12.0	46.8	46.8
Total Split (%)	9.2%	38.5%	12.5%	41.8%	41.8%	10.0%	39.0%	39.0%	10.0%	39.0%	39.0%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.4	40.0	10.4	44.0	44.0	7.4	39.5	39.5	7.4	39.5	39.5
Actuated g/C Ratio	0.05	0.34	0.09	0.37	0.37	0.06	0.33	0.33	0.06	0.33	0.33
v/c Ratio	1.20	1.11	3.87	0.97	0.26	2.25	0.29	0.50	3.04	0.91	0.39
Control Delay	180.8	92.6	1313.2	55.3	8.6	607.3	29.8	20.6	952.7	50.3	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	180.8	92.6	1313.2	55.3	8.6	607.3	29.8	20.6	952.7	50.3	15.6
LOS	F	F	F	E	A	F	C	C	F	D	B
Approach Delay		99.4		555.7			222.0			323.5	
Approach LOS		F		F			F			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 118.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.87	
Intersection Signal Delay: 306.6	Intersection LOS: F
Intersection Capacity Utilization 124.2%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.





HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔
Traffic Volume (veh/h)	194	1768	537	940	1240	167	391	475	294	569	1050	231
Future Volume (veh/h)	194	1768	537	940	1240	167	391	475	294	569	1050	231
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	202	1842	533	979	1292	158	407	495	270	593	1094	111
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	170	1715	493	256	1341	598	182	1710	530	196	1190	530
Arrive On Green	0.05	0.34	0.34	0.09	0.37	0.37	0.06	0.33	0.33	0.06	0.33	0.33
Sat Flow, veh/h	3141	5079	1460	2914	3610	1610	2914	5187	1609	3141	3610	1609
Grp Volume(v), veh/h	202	1777	598	979	1292	158	407	495	270	593	1094	111
Grp Sat Flow(s),veh/h/ln	1570	1634	1637	1457	1805	1610	1457	1729	1609	1570	1805	1609
Q Serve(g_s), s	6.4	40.0	40.0	10.4	41.5	8.1	7.4	8.4	16.0	7.4	34.5	5.9
Cycle Q Clear(g_c), s	6.4	40.0	40.0	10.4	41.5	8.1	7.4	8.4	16.0	7.4	34.5	5.9
Prop In Lane	1.00		0.89	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	170	1656	553	256	1341	598	182	1710	530	196	1190	530
V/C Ratio(X)	1.19	1.07	1.08	3.83	0.96	0.26	2.24	0.29	0.51	3.02	0.92	0.21
Avail Cap(c_a), veh/h	170	1656	553	256	1341	598	182	1778	551	196	1238	551
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	39.2	39.2	54.0	36.4	25.9	55.5	29.4	32.0	55.5	38.2	28.6
Incr Delay (d2), s/veh	129.4	44.8	61.9	1280.9	16.6	0.2	573.2	0.1	0.8	923.2	10.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	21.7	24.3	49.2	20.1	3.0	17.1	3.3	6.0	28.0	16.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	185.4	84.0	101.1	1335.0	53.0	26.2	628.7	29.5	32.7	978.7	49.1	28.8
LnGrp LOS	F	F	F	F	D	C	F	C	C	F	D	C
Approach Vol, veh/h		2577			2429			1172			1798	
Approach Delay, s/veh		95.9			567.9			238.3			354.4	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	45.2	15.0	46.2	12.0	45.2	11.0	50.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	7.4	40.6	10.4	40.0	7.4	40.6	6.4	44.0				
Max Q Clear Time (g_c+I1), s	9.4	18.0	12.4	42.0	9.4	36.5	8.4	43.5				
Green Ext Time (p_c), s	0.0	3.9	0.0	0.0	0.0	2.5	0.0	0.4				

Intersection Summary

HCM 6th Ctrl Delay	318.9
HCM 6th LOS	F



Timings  
51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/24/2021

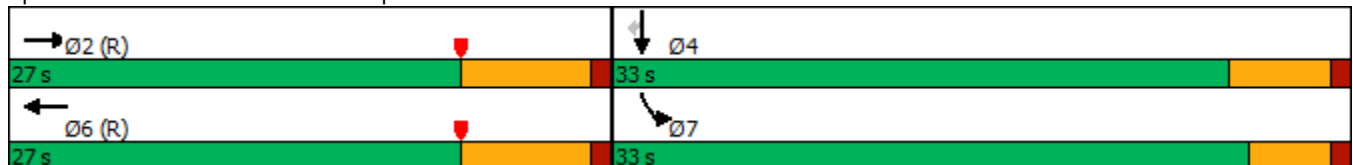


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑	↔	↑
Traffic Volume (vph)	2051	632	907	528	522	0	1377
Future Volume (vph)	2051	632	907	528	522	0	1377
Turn Type	NA	Free	NA	Free	Prot	NA	Perm
Protected Phases	2		6		7	4	
Permitted Phases		Free		Free			4
Detector Phase	2		6		7	4	4
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5	10.5
Total Split (s)	27.0		27.0		33.0	33.0	33.0
Total Split (%)	45.0%		45.0%		55.0%	55.0%	55.0%
Yellow Time (s)	5.8		5.8		3.6	4.5	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max		C-Min		None	Min	Min
Act Effct Green (s)	20.2	60.0	20.2	60.0	28.4	27.5	27.5
Actuated g/C Ratio	0.34	1.00	0.34	1.00	0.47	0.46	0.46
v/c Ratio	1.21	0.40	0.77	0.34	0.60	1.03	1.00
Control Delay	122.8	0.8	18.3	0.8	15.4	59.2	50.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	122.8	0.8	18.3	0.8	15.4	59.2	50.8
LOS	F	A	B	A	B	E	D
Approach Delay	94.1		11.8			45.2	
Approach LOS	F		B			D	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.21  
 Intersection Signal Delay: 59.0  
 Intersection LOS: E  
 Intersection Capacity Utilization 92.2%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
 08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑	↗				↘	↕	↗
Traffic Volume (veh/h)	0	2051	632	0	907	528	0	0	0	522	0	1377
Future Volume (veh/h)	0	2051	632	0	907	528	0	0	0	522	0	1377
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	2114	0	0	935	0				359	0	1280
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1889		0	1315					807	0	1436
Arrive On Green	0.00	0.36	0.00	0.00	0.36	0.00				0.45	0.00	0.45
Sat Flow, veh/h	0	5358	1610	0	3705	1610				1810	0	3220
Grp Volume(v), veh/h	0	2114	0	0	935	0				359	0	1280
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610				1810	0	1610
Q Serve(g_s), s	0.0	21.9	0.0	0.0	13.3	0.0				8.2	0.0	21.9
Cycle Q Clear(g_c), s	0.0	21.9	0.0	0.0	13.3	0.0				8.2	0.0	21.9
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1889		0	1315					807	0	1436
V/C Ratio(X)	0.00	1.12		0.00	0.71					0.45	0.00	0.89
Avail Cap(c_a), veh/h	0	1889		0	1315					857	0	1524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.86	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.1	0.0	0.0	16.4	0.0				11.5	0.0	15.3
Incr Delay (d2), s/veh	0.0	54.3	0.0	0.0	2.8	0.0				0.4	0.0	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	16.2	0.0	0.0	4.8	0.0				2.6	0.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	73.4	0.0	0.0	19.2	0.0				11.9	0.0	22.1
LnGrp LOS	A	F		A	B					B	A	C
Approach Vol, veh/h		2114	A		935	A					1639	
Approach Delay, s/veh		73.4			19.2						19.8	
Approach LOS		E			B						B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		28.7		31.3		28.7						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		20.2		28.4		20.2						
Max Q Clear Time (g_c+I1), s		23.9		23.9		15.3						
Green Ext Time (p_c), s		0.0		2.8		2.4						

Intersection Summary

HCM 6th Ctrl Delay	43.9
HCM 6th LOS	D

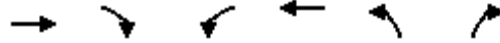
Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	912	1664	368	1031	404	289
Future Volume (vph)	912	1664	368	1031	404	289
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	31.0	16.0	13.0	44.0	16.0	16.0
Total Split (%)	51.7%	26.7%	21.7%	73.3%	26.7%	26.7%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max
Act Effct Green (s)	23.7	41.0	7.0	36.7	10.0	10.0
Actuated g/C Ratio	0.40	0.68	0.12	0.61	0.17	0.17
v/c Ratio	0.47	1.58	0.95	0.34	0.83	0.52
Control Delay	10.3	280.0	63.5	6.1	37.5	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.3	280.0	63.5	6.1	37.5	8.7
LOS	B	F	E	A	D	A
Approach Delay	184.5			21.2	28.5	
Approach LOS	F			C	C	

Intersection Summary

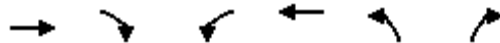
Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.58  
 Intersection Signal Delay: 112.4  
 Intersection LOS: F  
 Intersection Capacity Utilization 123.5%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 52: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/24/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↵↵	↑↑↑	↵↵	↑
Traffic Volume (veh/h)	912	1664	368	1031	404	289
Future Volume (veh/h)	912	1664	368	1031	404	289
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	960	1120	387	1085	425	201
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2049	904	410	3173	603	268
Arrive On Green	0.66	0.66	0.12	0.61	0.17	0.17
Sat Flow, veh/h	5358	1610	3510	5358	3619	1610
Grp Volume(v), veh/h	960	1120	387	1085	425	201
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1810	1610
Q Serve(g_s), s	5.5	23.7	6.6	6.2	6.7	7.1
Cycle Q Clear(g_c), s	5.5	23.7	6.6	6.2	6.7	7.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2049	904	410	3173	603	268
V/C Ratio(X)	0.47	1.24	0.94	0.34	0.70	0.75
Avail Cap(c_a), veh/h	2049	904	410	3173	603	268
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.1	6.2	26.3	5.7	23.6	23.8
Incr Delay (d2), s/veh	0.1	108.2	32.6	0.1	6.8	17.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	31.9	4.2	1.2	3.0	3.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.2	114.4	58.9	5.8	30.4	41.2
LnGrp LOS	A	F	E	A	C	D
Approach Vol, veh/h	2080			1472	626	
Approach Delay, s/veh	64.9			19.7	33.8	
Approach LOS	E			B	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.0	31.0			44.0	16.0
Change Period (Y+Rc), s	6.0	7.3			7.3	6.0
Max Green Setting (Gmax), s	7.0	23.7			36.7	10.0
Max Q Clear Time (g_c+I1), s	8.6	25.7			8.2	9.1
Green Ext Time (p_c), s	0.0	0.0			7.7	0.2

Intersection Summary

HCM 6th Ctrl Delay	44.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

**APPENDIX 7.2:**

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS  
ANALYSIS WORKSHEETS**

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**Volume Development  
AM Peak Hour**

<b>1: SR-60 WB Ramps &amp; Euclid Av.</b>													
	PHF: <u>0.939</u>			7:15		Count Date: <u>1/30/2019</u>							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	589	1,198	0	0	1,233	593	0	0	0	837	7	516	4,972
<b>2: SR-60 EB Ramps &amp; Euclid Av.</b>													
	PHF: <u>0.953</u>			7:30		Count Date: <u>1/30/2019</u>							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	0	1,266	867	459	1,611	0	520	3	816	0	0	0	5,541
<b>3: Euclid Av. &amp; Walnut Av.</b>													
	PHF: <u>0.954</u>			7:15		Count Date: <u>1/30/2019</u>							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	165	1,650	58	189	2,003	123	252	365	159	91	388	258	5,700
<b>4: Euclid Av. &amp; Riverside Dr</b>													
	PHF: <u>0.946</u>			7:30		Count Date: <u>1/22/2019</u>							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	163	1,383	201	220	1,790	192	193	457	154	241	627	149	5,771
<b>5: Euclid Av. &amp; Chino Av.</b>													
	PHF: <u>0.941</u>			7:15		Count Date: <u>1/24/2019</u>							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	70	1,487	180	71	1,950	116	131	247	71	105	296	84	4,808
<b>6: Euclid Av. &amp; Schaefer Av.</b>													
	PHF: <u>0.933</u>			7:15		Count Date: <u>1/22/2019</u>							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	232	1,447	44	40	1,859	457	193	92	106	177	377	190	5,214
<b>7: Euclid Av. &amp; Edison Av.</b>													
	PHF: <u>0.956</u>			7:15		Count Date: <u>1/23/2019</u>							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	289	1,334	176	343	1,588	211	196	1,063	189	279	1,185	351	7,205
<b>8: Euclid Av. &amp; Eucalyptus Av.</b>													
	PHF: <u>0.976</u>			7:15		Count Date: <u>1/22/2019</u>							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	221	1,587	133	182	1,764	55	85	50	205	385	197	206	5,069
<b>9: Euclid Av. &amp; Merrill Av.</b>													
	PHF: <u>0.965</u>			7:15		Count Date: <u>1/22/2019</u>							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	13	1,451	600	476	1,829	49	10	10	21	443	60	489	5,451
<b>10: Sultana Av. &amp; Eucalyptus Av.</b>													
	PHF: _____			7:15		Count Date: _____							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	23	0	20	0	0	0	0	237	92	94	675	0	1,140
<b>11: Sultana Av. &amp; Driveway 1</b>													
	PHF: _____			7:15		Count Date: _____							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	0	41	10	7	179	0	0	0	0	3	0	2	242
<b>12: Sultana Av. &amp; Driveway 2</b>													
	PHF: _____			7:15		Count Date: _____							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	0	49	11	6	176	0	0	0	0	3	0	2	247
<b>13: Sultana Av. &amp; Driveway 3</b>													
	PHF: _____			7:15		Count Date: _____							
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	0	30	8	8	30	0	0	0	0	2	0	2	80
<b>14: Sultana Av. &amp; Driveway 4</b>													
	PHF: _____			7:15		Count Date: _____							

**Volume Development  
AM Peak Hour**

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	0	37	4	6	26	0	0	0	0	1	0	2	76
<b>15: Sultana Av. &amp; Driveway 5</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	39	8	6	21	0	0	0	0	2	0	2	78
<b>16: Sultana Av. &amp; Driveway 6</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	45	12	6	18	0	0	0	0	4	0	2	87
<b>17: Sultana Av. &amp; Driveway 7</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	56	2	6	16	0	0	0	0	1	0	2	83
<b>18: Sultana Av. &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	30	0	25	63	1,031	0	0	1,140	59	2,348
<b>19: Driveway 8 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	1	0	1	2	1,033	0	0	1,109	5	2,151
<b>20: Driveway 9 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	2	0	5	0	0	0	0	229	9	18	700	0	962
<b>21: Driveway 10 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	2	0	5	0	0	0	0	225	9	18	715	0	973
<b>22: Driveway 11 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	2	0	1	2	1,033	0	0	1,114	6	2,158
<b>23: Campus Av. &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	13	2	23	0	7	0	0	183	47	102	720	0	1,096
<b>24: Campus Av. &amp; Driveway 12</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	12	36	0	0	150	6	2	0	3	0	0	0	209
<b>25: Campus Av. &amp; Driveway 13</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	11	46	0	0	148	6	2	0	3	0	0	0	216
<b>26: Campus Av. &amp; Driveway 14</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	10	56	0	0	145	6	2	0	3	0	0	0	222
<b>27: Campus Av. &amp; Driveway 15</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	6	65	0	0	144	4	1	0	2	0	0	0	222



Volume Development  
AM Peak Hour

		Count Date: _____											TOTAL	
PHF: _____		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	28: Campus Av. & Driveway 16	8	69	0	0	140	6	2	0	2	0	0	0	227
29: Campus Av. & Driveway 17		Count Date: _____											TOTAL	
PHF: _____		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):		12	75	0	0	137	6	2	0	4	0	0	0	236
30: Campus Av. & Driveway 18		Count Date: _____											TOTAL	
PHF: _____		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):		4	87	0	0	136	4	1	0	1	0	0	0	233
31: Campus Av. & Merrill Av.		Count Date: _____											TOTAL	
PHF: _____		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):		0	0	0	21	0	26	98	937	0	0	1,094	54	2,230
32: Bon View Av. & Eucalyptus Av.		Count Date: 1/30/2019											TOTAL	
PHF: 0.925		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	7:15	24	72	63	46	85	168	39	163	10	118	663	84	1,534
33: Bon View Av. & Merrill Av.		Count Date: 1/30/2019											TOTAL	
PHF: 0.938		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	7:15	0	0	0	74	0	71	109	822	0	0	1,119	162	2,358
34: Grove Av. & Eucalyptus Av.		Count Date: 1/30/2019											TOTAL	
PHF: 0.912		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	7:15	93	436	46	355	669	309	84	174	21	171	253	150	2,761
35: Grove Av. & Merrill Av.		Count Date: 1/30/2019											TOTAL	
PHF: 0.972		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	7:45	0	0	0	494	0	272	282	712	0	0	1,161	516	3,437
36: Walker Av. & Edison Av.		Count Date: 1/30/2019											TOTAL	
PHF: 0.977		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	7:30	105	250	165	59	52	45	63	953	96	441	1,318	285	3,832
37: Walker Av. & Eucalyptus Av.		Count Date: 1/30/2019											TOTAL	
PHF: 0.824		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	7:30AM	28	67	13	153	268	308	41	201	76	19	350	111	1,634
38: Walker Av./Flight Av. & Merrill Av.		Count Date: 1/30/2019											TOTAL	
PHF: 0.970		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	7:30	176	33	121	36	50	84	163	863	179	148	1,418	91	3,362
39: Baker Av./Van Vliet Av. & Merrill Av.		Count Date: 1/30/2019											TOTAL	
PHF: 0.906		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):	7:30	14	0	85	20	0	17	62	920	38	36	1,625	72	2,889
40: Vineyard Av. & Edison Av.		Count Date: _____											TOTAL	
PHF: 0.920		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
2040 WP (PCE):		54	23	173	61	40	30	19	1,468	73	344	2,655	43	4,983
41: Vineyard Av./Hellman Av. & Merrill Av.		Count Date: 1/30/2019											TOTAL	
PHF: 0.934		NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	TOTAL
	7:45													

**Volume Development  
AM Peak Hour**

2040 WP (PCE): 104 54 12 112 165 73 24 327 142 150 716 80 1,959

**42: Carpenter Av. & Merrill Av.**

PHF: 0.940 7:30

Count Date: 1/30/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	78	0	153	180	0	73	45	877	37	253	1,603	118	3,416

**43: Hellman Av. & Edison Av.**

PHF: 0.920

Count Date:

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	61	10	49	43	84	69	37	1,482	211	175	2,854	48	5,123

**44: Archibald Av. & Edison Av./Ontario Ranch Rd.**

PHF: 0.973 7:00

Count Date: 1/22/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	515	1,298	541	79	752	343	474	952	411	689	1,985	299	8,337

**45: Archibald Av. & Eucalyptus Av.**

PHF: 0.934 7:00

Count Date: 1/22/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	237	2,032	84	60	1,501	169	47	32	36	122	282	162	4,764

**46: Archibald Av. & Merrill Av.**

PHF: 0.970 7:00

Count Date: 1/22/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	857	1,492	88	48	925	763	392	31	267	139	105	158	5,264

**47: Archibald Av. & Limonite Av.**

PHF: 0.959 7:00

Count Date: 1/22/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	149	1,146	372	444	798	193	215	583	113	366	865	757	6,001

**48: Turner Av. & Edison Av./Ontario Ranch Rd.**

PHF: 0.902 7:00

Count Date: 1/30/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	70	30	45	96	19	219	101	1,135	41	52	2,482	93	4,384

**49: Haven Av. & Ontario Ranch Rd.**

PHF: 0.938 7:00

Count Date: 2/6/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	76	232	96	319	124	270	242	1,280	44	26	2,122	114	4,945

**50: Hamner Av. & Ontario Ranch Rd./Cantu-Galleano Ranch Rd.**

PHF: 0.882 7:00

Count Date: 1/30/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	334	856	692	275	467	227	132	1,180	195	388	1,701	246	6,694

**51: I-215 SB Ramps & Cantu-Galleano Ranch Rd.**

PHF: 0.896 7:00

Count Date: 1/30/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	0	0	0	392	0	1,567	0	1,518	528	0	736	221	4,962

**52: I-215 NB Ramps & Cantu-Galleano Ranch Rd.**

PHF: 0.914 7:00

Count Date: 1/30/2019

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	319	0	365	0	0	0	0	668	1,243	445	637	0	3,676

**Volume Development  
PM Peak Hour**

<b>1: SR-60 WB Ramps &amp; Euclid Av.</b>													
	PHF:	<u>0.962</u>		4:30						Count Date:	<u>1/30/2019</u>		
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	760	1,353	0	0	1,260	598	0	0	0	779	8	495	5,252
<b>2: SR-60 EB Ramps &amp; Euclid Av.</b>													
	PHF:	<u>0.977</u>		4:30						Count Date:	<u>1/30/2019</u>		
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	1,607	793	458	1,582	0	505	4	587	0	0	0	5,535
<b>3: Euclid Av. &amp; Walnut Av.</b>													
	PHF:	<u>0.941</u>		4:45						Count Date:	<u>1/30/2019</u>		
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	251	2,071	90	320	1,616	265	179	449	181	85	449	170	6,126
<b>4: Euclid Av. &amp; Riverside Dr</b>													
	PHF:	<u>0.958</u>		5:00						Count Date:	<u>1/22/2019</u>		
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	230	1,864	295	173	1,394	345	234	732	208	229	506	80	6,290
<b>5: Euclid Av. &amp; Chino Av.</b>													
	PHF:	<u>0.930</u>		4:45						Count Date:	<u>1/24/2019</u>		
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	79	2,188	278	39	1,579	87	134	498	72	137	230	20	5,341
<b>6: Euclid Av. &amp; Schaefer Av.</b>													
	PHF:	<u>0.986</u>		4:45						Count Date:	<u>1/22/2019</u>		
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	250	2,125	100	203	1,609	455	487	463	267	95	158	75	6,288
<b>7: Euclid Av. &amp; Edison Av.</b>													
	PHF:	<u>0.950</u>		4:45						Count Date:	<u>1/23/2019</u>		
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	253	1,922	350	221	1,659	220	334	1,266	387	472	835	404	8,323
<b>8: Euclid Av. &amp; Eucalyptus Av.</b>													
	PHF:	<u>0.890</u>		4:45						Count Date:	<u>1/22/2019</u>		
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	148	1,941	383	286	1,869	80	51	205	266	413	168	314	6,123
<b>9: Euclid Av. &amp; Merrill Av.</b>													
	PHF:	<u>0.905</u>		4:30						Count Date:	<u>1/22/2019</u>		
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	5	1,903	866	425	2,122	1	14	37	15	798	3	525	6,714
<b>10: Sultana Av. &amp; Eucalyptus Av.</b>													
	PHF:	<u>0.905</u>		4:30						Count Date:	<u>1/22/2019</u>		
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	90	0	66	0	0	0	0	774	53	40	568	0	1,591
<b>11: Sultana Av. &amp; Driveway 1</b>													
	PHF:	<u>0.905</u>		4:30						Count Date:	<u>1/22/2019</u>		
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	149	4	3	90	0	0	0	0	10	0	8	264
<b>12: Sultana Av. &amp; Driveway 2</b>													
	PHF:	<u>0.905</u>		4:30						Count Date:	<u>1/22/2019</u>		
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	146	4	2	98	0	0	0	0	11	0	7	268
<b>13: Sultana Av. &amp; Driveway 3</b>													
	PHF:	<u>0.905</u>		4:30						Count Date:	<u>1/22/2019</u>		
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	141	3	3	106	0	0	0	0	8	0	9	270
<b>14: Sultana Av. &amp; Driveway 4</b>													
	PHF:	<u>0.905</u>		4:30						Count Date:	<u>1/22/2019</u>		

**Volume Development  
PM Peak Hour**

	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
2040 WP (PCE):	0	137	1	2	112	0	0	0	0	4	0	7	263
<b>15: Sultana Av. &amp; Driveway 5</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	132	3	2	114	0	0	0	0	8	0	6	265
<b>16: Sultana Av. &amp; Driveway 6</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	129	5	2	120	0	0	0	0	13	0	6	275
<b>17: Sultana Av. &amp; Driveway 7</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	127	1	2	130	0	0	0	0	2	0	6	268
<b>18: Sultana Av. &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	113	0	87	22	1,261	0	0	1,213	22	2,718
<b>19: Driveway 8 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	6	0	2	1	1,278	0	0	1,200	2	2,489
<b>20: Driveway 9 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	10	0	20	0	0	0	0	761	3	7	573	0	1,374
<b>21: Driveway 10 &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	10	0	20	0	0	0	0	779	3	7	570	0	1,389
<b>22: Driveway 11 &amp; Merrill Av.</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	0	0	0	6	0	2	1	1,283	0	0	1,200	2	2,494
<b>23: Campus Av. &amp; Eucalyptus Av.</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	53	8	83	0	2	0	0	781	18	41	524	0	1,510
<b>24: Campus Av. &amp; Driveway 12</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	4	137	0	0	58	2	7	0	13	0	0	0	221
<b>25: Campus Av. &amp; Driveway 13</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	4	135	0	0	68	2	7	0	11	0	0	0	227
<b>26: Campus Av. &amp; Driveway 14</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	4	132	0	0	77	2	7	0	11	0	0	0	233
<b>27: Campus Av. &amp; Driveway 15</b>													
PHF: _____ Count Date: _____													
2040 WP (PCE):	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>
	2	132	0	0	86	1	4	0	7	0	0	0	232

Volume Development  
PM Peak Hour

													Count Date:		
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>		
<b>28: Campus Av. &amp; Driveway 16</b>															
PHF: _____															
2040 WP (PCE):	3	127	0	0	91	2	6	0	8	0	0	0	237		
<b>29: Campus Av. &amp; Driveway 17</b>															
PHF: _____															
2040 WP (PCE):	5	124	0	0	96	2	6	0	13	0	0	0	246		
<b>30: Campus Av. &amp; Driveway 18</b>															
PHF: _____															
2040 WP (PCE):	1	124	0	0	108	2	4	0	4	0	0	0	243		
<b>31: Campus Av. &amp; Merrill Av.</b>															
PHF: _____															
2040 WP (PCE):	0	0	0	77	0	99	33	1,256	0	0	1,103	18	2,586		
<b>32: Bon View Av. &amp; Eucalyptus Av.</b>															
PHF: <u>0.866</u> 4:45													Count Date:	<u>1/30/2019</u>	
2040 WP (PCE):	7	111	171	110	84	66	113	777	8	74	487	122	2,130		
<b>33: Bon View Av. &amp; Merrill Av.</b>															
PHF: <u>0.938</u> 4:30													Count Date:	<u>1/30/2019</u>	
2040 WP (PCE):	0	0	0	119	0	135	124	1,258	0	0	969	115	2,720		
<b>34: Grove Av. &amp; Eucalyptus Av.</b>															
PHF: <u>0.897</u> 4:45													Count Date:	<u>1/30/2019</u>	
2040 WP (PCE):	45	930	107	123	424	238	327	383	101	75	322	295	3,371		
<b>35: Grove Av. &amp; Merrill Av.</b>															
PHF: <u>0.959</u> 4:30													Count Date:	<u>1/30/2019</u>	
2040 WP (PCE):	0	0	0	565	0	345	560	1,104	0	0	790	475	3,839		
<b>36: Walker Av. &amp; Edison Av.</b>															
PHF: <u>0.951</u> 4:30													Count Date:	<u>1/30/2019</u>	
2040 WP (PCE):	91	75	369	173	298	69	95	2,034	51	261	1,418	65	4,999		
<b>37: Walker Av. &amp; Eucalyptus Av.</b>															
PHF: <u>0.915</u> 4:15pm													Count Date:	<u>1/30/2019</u>	
2040 WP (PCE):	87	302	21	140	105	110	410	345	36	14	252	210	2,032		
<b>38: Walker Av./Flight Av. &amp; Merrill Av.</b>															
PHF: <u>0.913</u> 4:30													Count Date:	<u>1/30/2019</u>	
2040 WP (PCE):	121	65	157	96	49	167	52	1,458	159	107	977	46	3,454		
<b>39: Baker Av./Van Vliet Av. &amp; Merrill Av.</b>															
PHF: <u>0.882</u> 5:00													Count Date:	<u>1/30/2019</u>	
2040 WP (PCE):	38	0	25	75	0	64	22	1,635	54	14	1,028	26	2,982		
<b>40: Vineyard Av. &amp; Edison Av.</b>															
PHF: <u>0.920</u>													Count Date:		
2040 WP (PCE):	108	62	471	64	28	25	40	2,922	74	229	1,949	87	6,059		
<b>41: Vineyard Av./Hellman Av. &amp; Merrill Av.</b>															
PHF: <u>0.903</u> 5:00													Count Date:	<u>1/30/2019</u>	
	<u>NBL</u>	<u>NBT</u>	<u>NBR</u>	<u>SBL</u>	<u>SBT</u>	<u>SBR</u>	<u>EBL</u>	<u>EBT</u>	<u>EBR</u>	<u>WBL</u>	<u>WBT</u>	<u>WBR</u>	<u>TOTAL</u>		

**Volume Development  
PM Peak Hour**

2040 WP (PCE): 127 119 82 423 142 249 242 1,335 158 68 692 332 3,969

**42: Carpenter Av. & Merrill Av.**

PHF: 0.902 4:30

Count Date: 1/30/2019

2040 WP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
79 6 143 140 7 85 67 1,693 80 36 927 32 3,297

**43: Hellman Av. & Edison Av.**

PHF: 0.920

Count Date: \_\_\_\_\_

2040 WP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
205 89 256 58 24 44 83 3,167 96 100 2,016 67 6,205

**44: Archibald Av. & Edison Av./Ontario Ranch Rd.**

PHF: 0.970 5:00

Count Date: 1/22/2019

2040 WP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
433 965 611 278 1,086 456 482 2,207 614 445 1,443 157 9,177

**45: Archibald Av. & Eucalyptus Av.**

PHF: 0.938 5:00

Count Date: 1/22/2019

2040 WP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
89 1,684 160 184 1,695 102 207 377 305 107 76 73 5,059

**46: Archibald Av. & Merrill Av.**

PHF: 0.973 4:45

Count Date: 1/22/2019

2040 WP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
360 1,057 193 88 1,511 379 792 111 904 129 67 67 5,659

**47: Archibald Av. & Limonite Av.**

PHF: 0.983 4:45

Count Date: 1/22/2019

2040 WP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
131 1,190 484 765 1,529 282 212 833 127 470 758 731 7,512

**48: Turner Av. & Edison Av./Ontario Ranch Rd.**

PHF: 0.905 4:30

Count Date: 1/30/2019

2040 WP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
32 10 48 126 10 129 207 2,688 48 39 1,804 142 5,282

**49: Haven Av. & Ontario Ranch Rd.**

PHF: 0.955 5:00

Count Date: 2/6/2019

2040 WP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
79 242 47 283 320 269 369 2,250 81 75 1,602 349 5,966

**50: Hamner Av. & Ontario Ranch Rd./Cantu-Galleano Ranch Rd.**

PHF: 0.960 4:45

Count Date: 1/30/2019

2040 WP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
391 475 294 569 1,050 232 196 1,816 537 940 1,257 167 7,924

**51: I-215 SB Ramps & Cantu-Galleano Ranch Rd.**

PHF: 0.972 5:00

Count Date: 1/30/2019

2040 WP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
0 0 0 522 0 1,393 0 2,099 632 0 908 528 6,081

**52: I-215 NB Ramps & Cantu-Galleano Ranch Rd.**

PHF: 0.950 5:00

Count Date: 1/30/2019

2040 WP (PCE): NBL NBT NBR SBL SBT SBR EBL EBT EBR WBL WBT WBR TOTAL  
404 0 289 0 0 0 0 914 1,709 368 1,032 0 4,716

Timings  
1: Euclid Av. (SR-83) & SR-60 WB Ramps

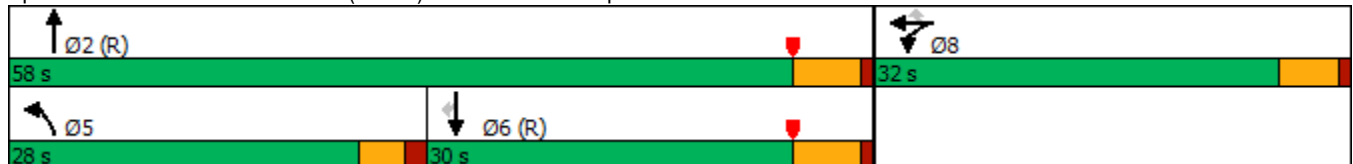


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	837	7	516	589	1198	1233	593
Future Volume (vph)	837	7	516	589	1198	1233	593
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	10.0	10.0	10.0
Minimum Split (s)	11.0	11.0	11.0	9.5	22.5	22.5	22.5
Total Split (s)	32.0	32.0	32.0	28.0	58.0	30.0	30.0
Total Split (%)	35.6%	35.6%	35.6%	31.1%	64.4%	33.3%	33.3%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.5	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 63 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated

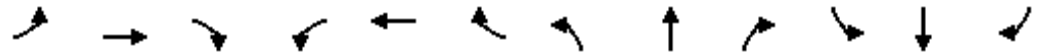
Splits and Phases: 1: Euclid Av. (SR-83) & SR-60 WB Ramps



HCM 6th Signalized Intersection Summary  
 1: Euclid Av. (SR-83) & SR-60 WB Ramps

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↔	↗	↖	↕			↕	↗
Traffic Volume (veh/h)	0	0	0	837	7	516	589	1198	0	0	1233	593
Future Volume (veh/h)	0	0	0	837	7	516	589	1198	0	0	1233	593
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				995	0	222	627	1274	0	0	1312	403
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				1064	0	473	472	2127	0	0	1004	448
Arrive On Green				0.29	0.00	0.29	0.52	1.00	0.00	0.00	0.28	0.28
Sat Flow, veh/h				3619	0	1610	1810	3705	0	0	3705	1610
Grp Volume(v), veh/h				995	0	222	627	1274	0	0	1312	403
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1810	1805	0	0	1805	1610
Q Serve(g_s), s				24.1	0.0	10.2	23.5	0.0	0.0	0.0	25.0	21.7
Cycle Q Clear(g_c), s				24.1	0.0	10.2	23.5	0.0	0.0	0.0	25.0	21.7
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1064	0	473	472	2127	0	0	1004	448
V/C Ratio(X)				0.94	0.00	0.47	1.33	0.60	0.00	0.00	1.31	0.90
Avail Cap(c_a), veh/h				1086	0	483	472	2127	0	0	1004	448
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				30.9	0.0	26.0	21.5	0.0	0.0	0.0	32.5	31.3
Incr Delay (d2), s/veh				14.0	0.0	0.3	148.5	0.1	0.0	0.0	145.1	23.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.7	0.0	3.7	25.0	0.0	0.0	0.0	30.5	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				44.9	0.0	26.3	170.0	0.1	0.0	0.0	177.6	54.9
LnGrp LOS				D	A	C	F	A	A	A	F	D
Approach Vol, veh/h					1217			1901			1715	
Approach Delay, s/veh					41.5			56.2			148.8	
Approach LOS					D			E			F	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		58.5			28.0	30.5		31.5				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.0				
Max Green Setting (Gmax), s		52.5			23.5	24.5		27.0				
Max Q Clear Time (g_c+I1), s		2.0			25.5	27.0		26.1				
Green Ext Time (p_c), s		18.6			0.0	0.0		0.4				

Intersection Summary

HCM 6th Ctrl Delay	85.3
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.



Timings  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

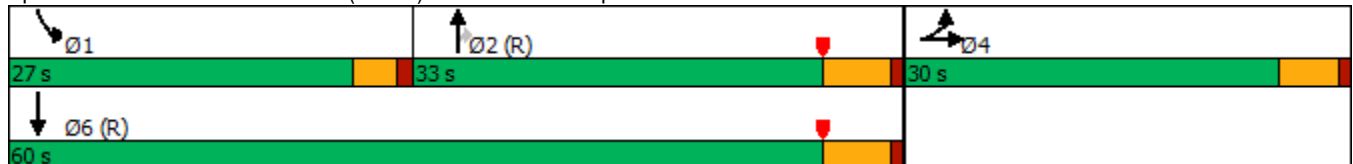


Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	520	3	1266	867	459	1611
Future Volume (vph)	520	3	1266	867	459	1611
Turn Type	Split	NA	NA	Perm	Prot	NA
Protected Phases	4	4	2		1	6
Permitted Phases				2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0	10.0	5.0	10.0
Minimum Split (s)	11.0	11.0	22.5	22.5	9.0	22.5
Total Split (s)	30.0	30.0	33.0	33.0	27.0	60.0
Total Split (%)	33.3%	33.3%	36.7%	36.7%	30.0%	66.7%
Yellow Time (s)	4.0	4.0	4.5	4.5	3.0	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated

Splits and Phases: 2: Euclid Av. (SR-83) & SR-60 EB Ramps



HCM 6th Signalized Intersection Summary  
 2: Euclid Av. (SR-83) & SR-60 EB Ramps

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	520	3	816	0	0	0	0	1266	867	459	1611	0
Future Volume (veh/h)	520	3	816	0	0	0	0	1266	867	459	1611	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	547	3	804				0	1333	714	483	1696	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	503	2	446				0	1103	478	462	2186	0
Arrive On Green	0.28	0.28	0.28				0.00	0.31	0.31	0.51	1.00	0.00
Sat Flow, veh/h	1810	6	1605				0	3705	1566	1810	3705	0
Grp Volume(v), veh/h	547	0	807				0	1333	714	483	1696	0
Grp Sat Flow(s),veh/h/ln	1810	0	1611				0	1805	1566	1810	1805	0
Q Serve(g_s), s	25.0	0.0	25.0				0.0	27.5	27.5	23.0	0.0	0.0
Cycle Q Clear(g_c), s	25.0	0.0	25.0				0.0	27.5	27.5	23.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	503	0	448				0	1103	478	462	2186	0
V/C Ratio(X)	1.09	0.00	1.80				0.00	1.21	1.49	1.04	0.78	0.00
Avail Cap(c_a), veh/h	503	0	448				0	1103	478	462	2186	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.33	0.33	0.09	0.09	0.00
Uniform Delay (d), s/veh	32.5	0.0	32.5				0.0	31.3	31.2	22.0	0.0	0.0
Incr Delay (d2), s/veh	66.2	0.0	370.3				0.0	96.8	225.3	26.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.3	0.0	55.0				0.0	26.0	39.6	8.9	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.7	0.0	402.8				0.0	128.1	256.6	48.3	0.3	0.0
LnGrp LOS	F	A	F				A	F	F	F	A	A
Approach Vol, veh/h		1354						2047			2179	
Approach Delay, s/veh		279.9						172.9			10.9	
Approach LOS		F						F			B	
Timer - Assigned Phs	1	2		4				6				
Phs Duration (G+Y+Rc), s	27.0	33.0		30.0				60.0				
Change Period (Y+Rc), s	4.0	5.5		5.0				5.5				
Max Green Setting (Gmax), s	23.0	27.5		25.0				54.5				
Max Q Clear Time (g_c+I1), s	25.0	29.5		27.0				2.0				
Green Ext Time (p_c), s	0.0	0.0		0.0				29.7				

Intersection Summary

HCM 6th Ctrl Delay	135.6
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
3: Euclid Av. (SR-83) & Walnut Av.

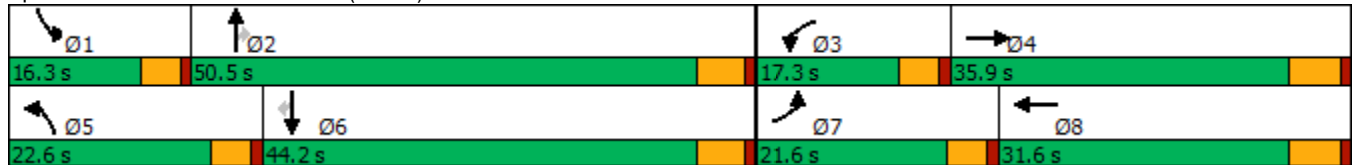


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	252	365	91	388	165	1650	58	189	2003	123
Future Volume (vph)	252	365	91	388	165	1650	58	189	2003	123
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.8	9.6	29.8	9.6	27.4	27.4	9.6	29.4	29.4
Total Split (s)	21.6	35.9	17.3	31.6	22.6	50.5	50.5	16.3	44.2	44.2
Total Split (%)	18.0%	29.9%	14.4%	26.3%	18.8%	42.1%	42.1%	13.6%	36.8%	36.8%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.4	4.4	3.6	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.4	5.4	4.6	5.4	5.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 117  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated























Splits and Phases: 3: Euclid Av. (SR-83) & Walnut Av.



HCM 6th Signalized Intersection Summary  
 3: Euclid Av. (SR-83) & Walnut Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	365	159	91	388	258	165	1650	58	189	2003	123
Future Volume (veh/h)	252	365	159	91	388	258	165	1650	58	189	2003	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	265	384	131	96	408	232	174	1737	43	199	2108	108
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	252	754	254	119	460	259	201	2022	627	252	1829	567
Arrive On Green	0.15	0.28	0.28	0.07	0.21	0.21	0.12	0.39	0.39	0.08	0.35	0.35
Sat Flow, veh/h	1714	2651	893	1714	2225	1251	1714	5187	1609	3141	5187	1609
Grp Volume(v), veh/h	265	260	255	96	330	310	174	1737	43	199	2108	108
Grp Sat Flow(s),veh/h/ln	1714	1805	1739	1714	1805	1671	1714	1729	1609	1570	1729	1609
Q Serve(g_s), s	17.0	13.9	14.2	6.4	20.5	20.9	11.5	35.6	1.9	7.2	40.8	5.4
Cycle Q Clear(g_c), s	17.0	13.9	14.2	6.4	20.5	20.9	11.5	35.6	1.9	7.2	40.8	5.4
Prop In Lane	1.00		0.51	1.00		0.75	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	252	513	495	119	374	346	201	2022	627	252	1829	567
V/C Ratio(X)	1.05	0.51	0.52	0.81	0.88	0.90	0.87	0.86	0.07	0.79	1.15	0.19
Avail Cap(c_a), veh/h	252	513	495	188	402	372	267	2022	627	318	1829	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	34.6	34.7	53.1	44.5	44.7	50.2	32.4	22.1	52.3	37.5	26.0
Incr Delay (d2), s/veh	71.1	0.8	0.9	5.8	19.2	22.4	16.3	5.0	0.2	7.8	75.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	6.0	5.9	2.9	10.8	10.5	5.8	15.1	0.7	3.1	29.2	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	120.5	35.4	35.7	58.9	63.8	67.1	66.5	37.4	22.4	60.1	113.0	26.7
LnGrp LOS	F	D	D	E	E	E	E	D	C	E	F	C
Approach Vol, veh/h		780			736			1954			2415	
Approach Delay, s/veh		64.4			64.5			39.7			104.8	
Approach LOS		E			E			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.9	50.5	12.6	38.7	18.2	46.2	21.6	29.7				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.8	4.6	5.4	4.6	5.8				
Max Green Setting (Gmax), s	11.7	45.1	12.7	30.1	18.0	38.8	17.0	25.8				
Max Q Clear Time (g_c+1), s	9.2	37.6	8.4	16.2	13.5	42.8	19.0	22.9				
Green Ext Time (p_c), s	0.1	5.8	0.0	2.4	0.1	0.0	0.0	1.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				72.8								
HCM 6th LOS				E								

Timings  
4: Euclid Av. (SR-83) & Riverside Dr.

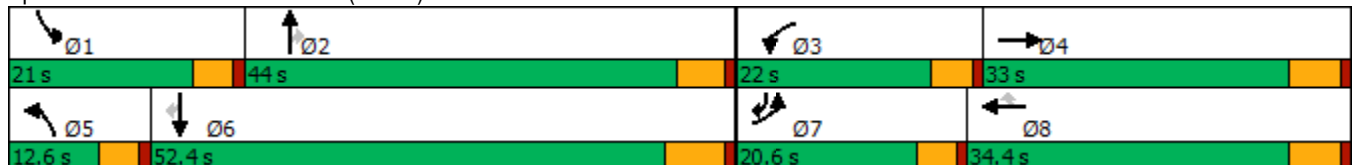


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↖	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	193	457	241	627	149	163	1383	201	220	1790	192
Future Volume (vph)	193	457	241	627	149	163	1383	201	220	1790	192
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8		5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	20.6	33.0	22.0	34.4	34.4	12.6	44.0	44.0	21.0	52.4	20.6
Total Split (%)	17.2%	27.5%	18.3%	28.7%	28.7%	10.5%	36.7%	36.7%	17.5%	43.7%	17.2%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.



HCM 6th Signalized Intersection Summary  
 4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	457	154	241	627	149	163	1383	201	220	1790	192
Future Volume (veh/h)	193	457	154	241	627	149	163	1383	201	220	1790	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	203	481	146	254	660	128	172	1456	172	232	1884	143
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	226	314	95	246	853	380	113	1151	513	232	1401	837
Arrive On Green	0.13	0.22	0.22	0.14	0.24	0.24	0.07	0.32	0.32	0.14	0.39	0.39
Sat Flow, veh/h	1714	1399	425	1714	3610	1610	1714	3610	1610	1714	3610	1609
Grp Volume(v), veh/h	203	0	627	254	660	128	172	1456	172	232	1884	143
Grp Sat Flow(s),veh/h/ln	1714	0	1824	1714	1805	1610	1714	1805	1610	1714	1805	1609
Q Serve(g_s), s	14.1	0.0	27.2	17.4	20.7	8.0	8.0	38.6	9.9	16.4	47.0	5.7
Cycle Q Clear(g_c), s	14.1	0.0	27.2	17.4	20.7	8.0	8.0	38.6	9.9	16.4	47.0	5.7
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	226	0	410	246	853	380	113	1151	513	232	1401	837
V/C Ratio(X)	0.90	0.00	1.53	1.03	0.77	0.34	1.52	1.27	0.34	1.00	1.34	0.17
Avail Cap(c_a), veh/h	226	0	410	246	853	380	113	1151	513	232	1401	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	0.0	47.0	51.8	43.2	38.4	56.5	41.3	31.5	52.3	37.1	15.3
Incr Delay (d2), s/veh	32.7	0.0	250.9	65.7	4.5	0.5	273.2	126.5	1.8	58.9	160.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	40.4	11.8	9.5	3.1	11.9	36.2	4.0	10.7	50.8	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.4	0.0	297.9	117.5	47.7	38.9	329.8	167.7	33.2	111.2	197.0	15.7
LnGrp LOS	F	A	F	F	D	D	F	F	C	F	F	B
Approach Vol, veh/h		830			1042			1800			2259	
Approach Delay, s/veh		245.7			63.6			170.3			176.7	
Approach LOS		F			E			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	45.1	22.0	33.0	12.6	53.5	20.6	34.4				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	16.4	* 39	17.4	27.2	8.0	45.9	16.0	28.6				
Max Q Clear Time (g_c+I1), s	18.4	40.6	19.4	29.2	10.0	49.0	16.1	22.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3				

Intersection Summary

HCM 6th Ctrl Delay	164.6
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
5: Euclid Av. (SR-83) & Chino Av.

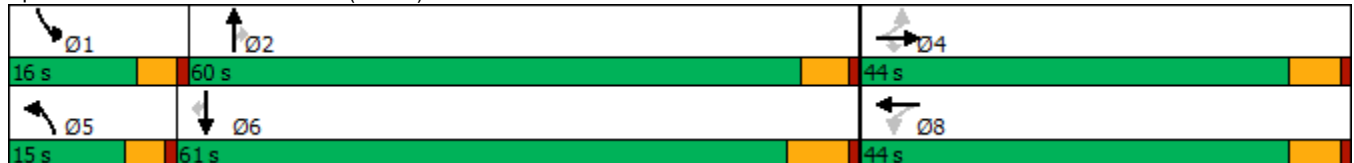


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	131	247	71	105	296	70	1487	180	71	1950	116
Future Volume (vph)	131	247	71	105	296	70	1487	180	71	1950	116
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	28.8	28.8	28.8	33.8	33.8	9.6	24.2	24.2	9.6	31.5	31.5
Total Split (s)	44.0	44.0	44.0	44.0	44.0	15.0	60.0	60.0	16.0	61.0	61.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	12.5%	50.0%	50.0%	13.3%	50.8%	50.8%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.6	4.2	4.2	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8		5.8	4.6	5.2	5.2	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 116.3  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated























Splits and Phases: 5: Euclid Av. (SR-83) & Chino Av.



HCM 6th Signalized Intersection Summary  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	247	71	105	296	84	70	1487	180	71	1950	116
Future Volume (veh/h)	131	247	71	105	296	84	70	1487	180	71	1950	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	139	263	60	112	315	77	74	1582	167	76	2074	92
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	203	623	528	117	269	63	93	1699	758	96	1705	744
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.05	0.47	0.47	0.06	0.47	0.47
Sat Flow, veh/h	1008	1900	1609	240	820	191	1714	3610	1610	1714	3610	1577
Grp Volume(v), veh/h	139	263	60	504	0	0	74	1582	167	76	2074	92
Grp Sat Flow(s),veh/h/ln	1008	1900	1609	1251	0	0	1714	1805	1610	1714	1805	1577
Q Serve(g_s), s	0.0	12.6	3.0	25.6	0.0	0.0	5.0	48.1	7.1	5.1	55.0	3.8
Cycle Q Clear(g_c), s	37.4	12.6	3.0	38.2	0.0	0.0	5.0	48.1	7.1	5.1	55.0	3.8
Prop In Lane	1.00		1.00	0.22		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	203	623	528	448	0	0	93	1699	758	96	1705	744
V/C Ratio(X)	0.69	0.42	0.11	1.12	0.00	0.00	0.79	0.93	0.22	0.79	1.22	0.12
Avail Cap(c_a), veh/h	203	623	528	448	0	0	153	1699	758	168	1705	744
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	30.5	27.3	43.5	0.0	0.0	54.4	29.0	18.2	54.3	30.7	17.2
Incr Delay (d2), s/veh	9.2	0.5	0.1	81.0	0.0	0.0	5.6	10.6	0.7	5.4	103.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	5.6	1.1	22.8	0.0	0.0	2.2	21.0	2.6	2.3	45.5	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	30.9	27.4	124.5	0.0	0.0	59.9	39.7	18.9	59.7	133.9	17.6
LnGrp LOS	D	C	C	F	A	A	E	D	B	E	F	B
Approach Vol, veh/h		462			504			1823			2242	
Approach Delay, s/veh		35.6			124.5			38.6			126.6	
Approach LOS		D			F			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	61.3		44.0	10.9	61.5		44.0				
Change Period (Y+Rc), s	4.6	* 6.5		5.8	4.6	6.5		5.8				
Max Green Setting (Gmax), s	11.4	* 55		38.2	10.4	54.5		38.2				
Max Q Clear Time (g_c+I1), s	7.1	50.1		39.4	7.0	57.0		40.2				
Green Ext Time (p_c), s	0.0	3.7		0.0	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	86.1
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Timings  
6: Euclid Av. (SR-83) & Schaefer Av.

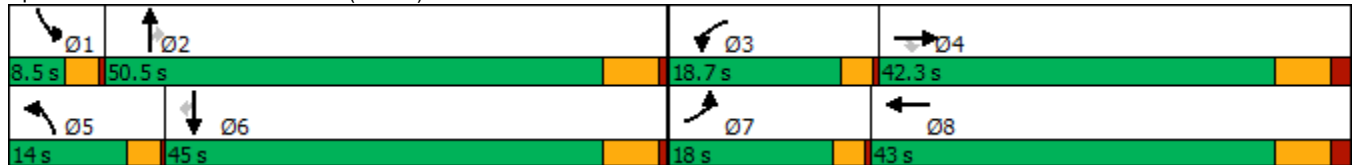


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	193	92	106	177	377	232	1447	44	40	1859	457
Future Volume (vph)	193	92	106	177	377	232	1447	44	40	1859	457
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.0	42.0	13.5	43.0	8.5	33.0	33.0	8.5	28.0	28.0
Total Split (s)	18.0	42.3	42.3	18.7	43.0	14.0	50.5	50.5	8.5	45.0	45.0
Total Split (%)	15.0%	35.3%	35.3%	15.6%	35.8%	11.7%	42.1%	42.1%	7.1%	37.5%	37.5%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	7.0	7.0	3.5	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 6: Euclid Av. (SR-83) & Schaefer Av.



HCM 6th Signalized Intersection Summary  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	92	106	177	377	190	232	1447	44	40	1859	457
Future Volume (veh/h)	193	92	106	177	377	190	232	1447	44	40	1859	457
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	208	99	95	190	405	202	249	1556	37	43	1999	457
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	207	561	476	215	358	179	150	1375	613	54	1173	522
Arrive On Green	0.12	0.30	0.30	0.13	0.30	0.30	0.09	0.38	0.38	0.03	0.32	0.32
Sat Flow, veh/h	1714	1900	1610	1714	1195	596	1714	3610	1610	1714	3610	1605
Grp Volume(v), veh/h	208	99	95	190	0	607	249	1556	37	43	1999	457
Grp Sat Flow(s),veh/h/ln	1714	1900	1610	1714	0	1791	1714	1805	1610	1714	1805	1605
Q Serve(g_s), s	14.5	4.6	5.3	13.1	0.0	36.0	10.5	45.7	1.7	3.0	39.0	32.2
Cycle Q Clear(g_c), s	14.5	4.6	5.3	13.1	0.0	36.0	10.5	45.7	1.7	3.0	39.0	32.2
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	207	561	476	215	0	537	150	1375	613	54	1173	522
V/C Ratio(X)	1.00	0.18	0.20	0.88	0.00	1.13	1.66	1.13	0.06	0.79	1.70	0.88
Avail Cap(c_a), veh/h	207	561	476	217	0	537	150	1375	613	71	1173	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.8	31.4	31.7	51.6	0.0	42.0	54.8	37.2	23.5	57.7	40.5	38.2
Incr Delay (d2), s/veh	63.6	0.1	0.2	30.8	0.0	79.8	324.6	69.1	0.0	26.2	320.4	15.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	2.1	2.0	7.3	0.0	27.1	17.9	31.6	0.7	1.6	68.3	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	116.3	31.5	31.8	82.4	0.0	121.8	379.4	106.2	23.6	83.9	360.9	53.6
LnGrp LOS	F	C	C	F	A	F	F	F	C	F	F	D
Approach Vol, veh/h		402			797			1842			2499	
Approach Delay, s/veh		75.5			112.4			141.5			299.9	
Approach LOS		E			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	51.7	18.6	42.4	14.0	45.0	18.0	43.0				
Change Period (Y+Rc), s	3.5	6.0	3.5	7.0	3.5	6.0	3.5	7.0				
Max Green Setting (Gmax), s	5.0	44.5	15.2	35.3	10.5	39.0	14.5	36.0				
Max Q Clear Time (g_c+I1), s	5.0	47.7	15.1	7.3	12.5	41.0	16.5	38.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			204.0									
HCM 6th LOS			F									

Timings  
7: Euclid Av. (SR-83) & Edison Av.

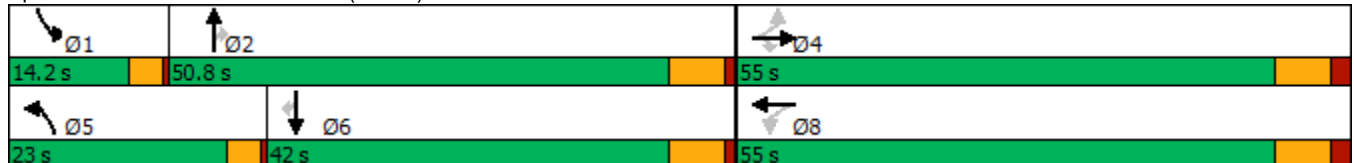


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	196	1063	189	279	1185	289	1334	176	343	1588	211
Future Volume (vph)	196	1063	189	279	1185	289	1334	176	343	1588	211
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.0	46.0	46.0	49.0	49.0	8.5	29.0	29.0	8.5	40.0	40.0
Total Split (s)	55.0	55.0	55.0	55.0	55.0	23.0	50.8	50.8	14.2	42.0	42.0
Total Split (%)	45.8%	45.8%	45.8%	45.8%	45.8%	19.2%	42.3%	42.3%	11.8%	35.0%	35.0%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 7: Euclid Av. (SR-83) & Edison Av.



HCM 6th Signalized Intersection Summary  
 7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	196	1063	189	279	1185	351	289	1334	176	343	1588	211
Future Volume (veh/h)	196	1063	189	279	1185	351	289	1334	176	343	1588	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	204	1107	142	291	1234	361	301	1390	175	357	1654	169
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	60	760	644	60	565	165	279	1348	601	153	1083	471
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.16	0.37	0.37	0.09	0.30	0.30
Sat Flow, veh/h	324	1900	1609	452	1412	413	1714	3610	1610	1714	3610	1571
Grp Volume(v), veh/h	204	1107	142	291	0	1595	301	1390	175	357	1654	169
Grp Sat Flow(s),veh/h/ln	324	1900	1609	452	0	1825	1714	1805	1610	1714	1805	1571
Q Serve(g_s), s	0.0	48.0	7.0	0.0	0.0	48.0	19.5	44.8	9.2	10.7	36.0	10.1
Cycle Q Clear(g_c), s	48.0	48.0	7.0	48.0	0.0	48.0	19.5	44.8	9.2	10.7	36.0	10.1
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	60	760	644	60	0	730	279	1348	601	153	1083	471
V/C Ratio(X)	3.40	1.46	0.22	4.85	0.00	2.18	1.08	1.03	0.29	2.34	1.53	0.36
Avail Cap(c_a), veh/h	60	760	644	60	0	730	279	1348	601	153	1083	471
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.0	36.0	23.7	60.0	0.0	36.0	50.2	37.6	26.4	54.7	42.0	32.9
Incr Delay (d2), s/veh	1120.9	212.8	0.2	1769.5	0.0	537.6	77.0	32.9	0.3	620.9	242.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.5	65.7	2.6	31.3	0.0	129.0	13.9	24.3	3.4	30.8	51.3	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1180.9	248.8	23.9	1829.5	0.0	573.6	127.3	70.5	26.7	675.6	284.0	33.4
LnGrp LOS	F	F	C	F	A	F	F	F	C	F	F	C
Approach Vol, veh/h		1453			1886			1866			2180	
Approach Delay, s/veh		357.7			767.4			75.6			328.7	
Approach LOS		F			F			E			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.2	50.8		55.0	23.0	42.0		55.0				
Change Period (Y+Rc), s	3.5	6.0		7.0	3.5	6.0		7.0				
Max Green Setting (Gmax), s	10.7	44.8		48.0	19.5	36.0		48.0				
Max Q Clear Time (g_c+11), s	12.7	46.8		50.0	21.5	38.0		50.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			382.5									
HCM 6th LOS			F									

Timings  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	85	50	205	385	197	221	1587	133	182	1764	55
Future Volume (vph)	85	50	205	385	197	221	1587	133	182	1764	55
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.8	46.8	46.8	46.8	46.8	8.5	30.7	30.7	8.5	37.7	37.7
Total Split (s)	46.8	46.8	46.8	46.8	46.8	24.0	63.5	63.5	9.7	49.2	49.2
Total Split (%)	39.0%	39.0%	39.0%	39.0%	39.0%	20.0%	52.9%	52.9%	8.1%	41.0%	41.0%
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	3.0	4.7	4.7	3.0	4.7	4.7
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.8	4.8	3.5	5.7	5.7	3.5	5.7	5.7
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 114  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Euclid Av. (SR-83) & Eucalyptus Av.

Ø1	Ø2	Ø4
9.7 s	63.5 s	46.8 s
Ø5	Ø6	Ø8
24 s	49.2 s	46.8 s

HCM 6th Signalized Intersection Summary  
 8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	50	205	385	197	206	221	1587	133	182	1764	55
Future Volume (veh/h)	85	50	205	385	197	206	221	1587	133	182	1764	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	87	51	123	393	201	202	226	1619	135	186	1800	45
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	216	667	565	471	305	307	253	1726	770	90	1383	616
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.15	0.48	0.48	0.05	0.38	0.38
Sat Flow, veh/h	998	1900	1610	1230	869	874	1714	3610	1610	1714	3610	1608
Grp Volume(v), veh/h	87	51	123	393	0	403	226	1619	135	186	1800	45
Grp Sat Flow(s),veh/h/ln	998	1900	1610	1230	0	1743	1714	1805	1610	1714	1805	1608
Q Serve(g_s), s	9.5	2.1	6.3	37.0	0.0	23.1	15.3	50.1	5.6	6.2	45.3	2.1
Cycle Q Clear(g_c), s	32.6	2.1	6.3	39.1	0.0	23.1	15.3	50.1	5.6	6.2	45.3	2.1
Prop In Lane	1.00		1.00	1.00		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	216	667	565	471	0	612	253	1726	770	90	1383	616
V/C Ratio(X)	0.40	0.08	0.22	0.84	0.00	0.66	0.89	0.94	0.18	2.07	1.30	0.07
Avail Cap(c_a), veh/h	221	675	572	476	0	620	297	1766	788	90	1383	616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.1	25.6	26.9	38.6	0.0	32.4	49.5	29.2	17.6	56.0	36.4	23.1
Incr Delay (d2), s/veh	0.9	0.0	0.1	11.8	0.0	2.3	23.9	10.1	0.1	516.5	141.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.9	2.4	12.1	0.0	9.7	7.9	21.7	2.0	15.5	45.3	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.0	25.6	27.1	50.4	0.0	34.7	73.3	39.3	17.7	572.4	177.5	23.2
LnGrp LOS	D	C	C	D	A	C	E	D	B	F	F	C
Approach Vol, veh/h		261			796			1980			2031	
Approach Delay, s/veh		33.4			42.5			41.7			210.2	
Approach LOS		C			D			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	62.2		46.3	20.9	51.0		46.3				
Change Period (Y+Rc), s	3.5	5.7		4.8	3.5	5.7		4.8				
Max Green Setting (Gmax), s	6.2	57.8		42.0	20.5	43.5		42.0				
Max Q Clear Time (g_c+I1), s	8.2	52.1		34.6	17.3	47.3		41.1				
Green Ext Time (p_c), s	0.0	4.3		0.5	0.1	0.0		0.3				

Intersection Summary

HCM 6th Ctrl Delay	108.9
HCM 6th LOS	F

Timings  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	10	10	443	60	13	1451	600	476	1829
Future Volume (vph)	10	10	443	60	13	1451	600	476	1829
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	52.0	52.0	52.0	52.0	14.5	48.0	48.0	20.0	53.5
Total Split (%)	43.3%	43.3%	43.3%	43.3%	12.1%	40.0%	40.0%	16.7%	44.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 6th Signalized Intersection Summary  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕	↗	↗	↕	↕
Traffic Volume (veh/h)	10	10	21	443	60	489	13	1451	600	476	1829	49
Future Volume (veh/h)	10	10	21	443	60	489	13	1451	600	476	1829	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	10	10	21	457	62	477	13	1496	576	491	1886	37
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	160	166	303	326	38	295	50	1264	564	221	1628	32
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.03	0.35	0.35	0.13	0.45	0.45
Sat Flow, veh/h	313	424	774	721	98	753	1714	3610	1610	1714	3620	71
Grp Volume(v), veh/h	41	0	0	996	0	0	13	1496	576	491	937	986
Grp Sat Flow(s),veh/h/ln	1511	0	0	1572	0	0	1714	1805	1610	1714	1805	1885
Q Serve(g_s), s	0.0	0.0	0.0	45.2	0.0	0.0	0.9	42.0	42.0	15.5	54.0	54.0
Cycle Q Clear(g_c), s	1.8	0.0	0.0	47.0	0.0	0.0	0.9	42.0	42.0	15.5	54.0	54.0
Prop In Lane	0.24		0.51	0.46		0.48	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	629	0	0	659	0	0	50	1264	564	221	812	848
V/C Ratio(X)	0.07	0.00	0.00	1.51	0.00	0.00	0.26	1.18	1.02	2.22	1.15	1.16
Avail Cap(c_a), veh/h	629	0	0	659	0	0	143	1264	564	221	812	848
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	0.0	0.0	37.9	0.0	0.0	57.0	39.0	39.0	52.3	33.0	33.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	237.4	0.0	0.0	1.0	91.1	43.6	562.3	83.1	86.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	62.2	0.0	0.0	0.4	33.2	22.1	40.9	39.9	42.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.8	0.0	0.0	275.3	0.0	0.0	58.0	130.1	82.6	614.5	116.1	119.0
LnGrp LOS	C	A	A	F	A	A	E	F	F	F	F	F
Approach Vol, veh/h		41			996			2085				2414
Approach Delay, s/veh		22.8			275.3			116.6				218.7
Approach LOS		C			F			F				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.0	48.0		52.0	8.0	60.0		52.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	15.5	42.0		47.0	10.0	47.5		47.0				
Max Q Clear Time (g_c+I1), s	17.5	44.0		3.8	2.9	56.0		49.0				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			189.0									
HCM 6th LOS			F									



Intersection													
Int Delay, s/veh		1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	<b>T</b>	<b>4T</b>		<b>T</b>	<b>T</b>		<b>T</b>	<b>T</b>			<b>4T</b>		
Traffic Vol, veh/h	0	237	92	94	675	0	23	0	20	0	0	0	
Future Vol, veh/h	0	237	92	94	675	0	23	0	20	0	0	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	200	-	-	200	-	-	200	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	
Mvmt Flow	0	258	100	102	734	0	25	0	22	0	0	0	

Major/Minor	Major1	Major2	Minor1	Minor2	Minor1	Minor2
Conflicting Flow All	734	0	358	0	1246	1246
Stage 1	-	-	-	-	308	308
Stage 2	-	-	-	-	938	938
Critical Hdwy	4.1	-	4.1	-	7.3	6.5
Critical Hdwy Stg 1	-	-	-	-	6.5	5.5
Critical Hdwy Stg 2	-	-	-	-	6.1	5.5
Follow-up Hdwy	2.2	-	2.2	-	3.5	4
Pot Cap-1 Maneuver	880	-	1212	-	142	175
Stage 1	-	-	-	-	683	664
Stage 2	-	-	-	-	320	346
Platoon blocked, %	-	-	-	-	320	346
Mov Cap-1 Maneuver	880	-	1212	-	133	160
Mov Cap-2 Maneuver	-	-	-	-	133	160
Stage 1	-	-	-	-	683	664
Stage 2	-	-	-	-	293	317

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1	24.8	0
HCMLOS			C	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	133	839	880	-	-	1212	-	-	-
HCM Lane V/C Ratio	0.188	0.026	-	-	-	0.084	-	-	-
HCM Control Delay (s)	38.2	9.4	0	-	-	8.2	-	-	0
HCM Lane LOS	E	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.7	0.1	0	-	-	0.3	-	-	-

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	3	0	2	0	41	10	7	179	0
Future Vol, veh/h	0	0	0	3	0	2	0	41	10	7	179	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	3	0	2	0	45	11	8	195	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	263	267	195	262	262	51	195	0	0	56	0	0
Stage 1	211	211	-	51	51	-	-	-	-	-	-	-
Stage 2	52	56	-	211	211	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	694	642	851	695	646	1023	1390	-	-	1562	-	-
Stage 1	796	731	-	967	856	-	-	-	-	-	-	-
Stage 2	966	852	-	796	731	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	690	639	851	692	643	1023	1390	-	-	1562	-	-
Mov Cap-2 Maneuver	745	680	-	743	682	-	-	-	-	-	-	-
Stage 1	796	727	-	967	856	-	-	-	-	-	-	-
Stage 2	964	852	-	792	727	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.3	0	0.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1390	-	-	-	834	1562	-
HCM Lane V/C Ratio	-	-	-	-	0.007	0.005	-
HCM Control Delay (s)	0	-	-	0	9.3	7.3	-
HCM Lane LOS	A	-	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	3	0	2	0	49	11	6	176	0
Future Vol, veh/h	0	0	0	3	0	2	0	49	11	6	176	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	3	0	2	0	53	12	7	191	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	265	270	191	264	264	59	191	0	0	65	0	0
Stage 1	205	205	-	59	59	-	-	-	-	-	-	-
Stage 2	60	65	-	205	205	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	692	640	856	693	645	1012	1395	-	-	1550	-	-
Stage 1	802	736	-	958	850	-	-	-	-	-	-	-
Stage 2	957	845	-	802	736	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	688	637	856	691	642	1012	1395	-	-	1550	-	-
Mov Cap-2 Maneuver	748	683	-	747	685	-	-	-	-	-	-	-
Stage 1	802	732	-	958	850	-	-	-	-	-	-	-
Stage 2	955	845	-	798	732	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.3	0	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1395	-	-	-	834	1550	-
HCM Lane V/C Ratio	-	-	-	-	0.007	0.004	-
HCM Control Delay (s)	0	-	-	0	9.3	7.3	-
HCM Lane LOS	A	-	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	2	2	30	8	8	30
Future Vol, veh/h	2	2	30	8	8	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	2	33	9	9	33

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	89	38	0	0	42	0
Stage 1	38	-	-	-	-	-
Stage 2	51	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	917	1040	-	-	1580	-
Stage 1	990	-	-	-	-	-
Stage 2	977	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	911	1040	-	-	1580	-
Mov Cap-2 Maneuver	908	-	-	-	-	-
Stage 1	990	-	-	-	-	-
Stage 2	971	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	970	1580
HCM Lane V/C Ratio	-	-	0.004	0.006
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	2	37	4	6	26
Future Vol, veh/h	1	2	37	4	6	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	2	40	4	7	28

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	84	42	0	0	44	0
Stage 1	42	-	-	-	-	-
Stage 2	42	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	923	1034	-	-	1577	-
Stage 1	986	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	919	1034	-	-	1577	-
Mov Cap-2 Maneuver	913	-	-	-	-	-
Stage 1	986	-	-	-	-	-
Stage 2	982	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	1.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	990	1577
HCM Lane V/C Ratio	-	-	0.003	0.004
HCM Control Delay (s)	-	-	8.6	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘↗		↖↗		↘↗	↖↗
Traffic Vol, veh/h	2	2	39	8	6	21
Future Vol, veh/h	2	2	39	8	6	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	2	42	9	7	23

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	84	47	0	0	51	0
Stage 1	47	-	-	-	-	-
Stage 2	37	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	923	1028	-	-	1568	-
Stage 1	981	-	-	-	-	-
Stage 2	991	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	919	1028	-	-	1568	-
Mov Cap-2 Maneuver	913	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	987	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	1.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	967	1568
HCM Lane V/C Ratio	-	-	0.004	0.004
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	4	0	2	0	45	12	6	18	0
Future Vol, veh/h	0	0	0	4	0	2	0	45	12	6	18	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	4	0	2	0	49	13	7	20	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	91	96	20	90	90	56	20	0	0	62	0	0
Stage 1	34	34	-	56	56	-	-	-	-	-	-	-
Stage 2	57	62	-	34	34	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	898	798	1064	900	804	1016	1609	-	-	1554	-	-
Stage 1	987	871	-	961	852	-	-	-	-	-	-	-
Stage 2	960	847	-	987	871	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	893	794	1064	897	800	1016	1609	-	-	1554	-	-
Mov Cap-2 Maneuver	892	789	-	897	796	-	-	-	-	-	-	-
Stage 1	987	867	-	961	852	-	-	-	-	-	-	-
Stage 2	958	847	-	983	867	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.9	0	1.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1609	-	-	-	933	1554	-
HCM Lane V/C Ratio	-	-	-	-	0.007	0.004	-
HCM Control Delay (s)	0	-	-	0	8.9	7.3	-
HCM Lane LOS	A	-	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↔		↔	↔	
Traffic Vol, veh/h	0	0	0	1	0	2	0	56	2	6	16	0
Future Vol, veh/h	0	0	0	1	0	2	0	56	2	6	16	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	1	0	2	0	61	2	7	17	0

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	94	94	17	93	93	62	-	0	0	63	0	0
Stage 1	31	31	-	62	62	-	-	-	-	-	-	-
Stage 2	63	63	-	31	31	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	894	800	1068	895	801	1009	0	-	-	1553	-	-
Stage 1	991	873	-	954	847	-	0	-	-	-	-	-
Stage 2	953	846	-	991	873	-	0	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	889	796	1068	892	797	1009	-	-	-	1553	-	-
Mov Cap-2 Maneuver	888	789	-	893	793	-	-	-	-	-	-	-
Stage 1	991	869	-	954	847	-	-	-	-	-	-	-
Stage 2	951	846	-	987	869	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.7	0	2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	-	967	1553	-
HCM Lane V/C Ratio	-	-	-	0.003	0.004	-
HCM Control Delay (s)	-	-	0	8.7	7.3	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	0	-



Intersection						
Int Delay, s/veh	7.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗↖		↖	↗
Traffic Vol, veh/h	63	1031	1140	59	30	25
Future Vol, veh/h	63	1031	1140	59	30	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	68	1121	1239	64	33	27

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1303	0	-	0	2528 652
Stage 1	-	-	-	-	1271 -
Stage 2	-	-	-	-	1257 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	538	-	-	-	~ 27 415
Stage 1	-	-	-	-	231 -
Stage 2	-	-	-	-	270 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	538	-	-	-	~ 24 415
Mov Cap-2 Maneuver	-	-	-	-	~ 24 -
Stage 1	-	-	-	-	202 -
Stage 2	-	-	-	-	270 -

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	\$ 306
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	538	-	-	-	24	415
HCM Lane V/C Ratio	0.127	-	-	-	1.359	0.065
HCM Control Delay (s)	12.7	-	-	-	\$ 549.1	14.3
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	0.4	-	-	-	4.1	0.2

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	1033	1109	5	1	1
Future Vol, veh/h	2	1033	1109	5	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	1123	1205	5	1	1

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1210	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	584	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	584	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	584	-	-	-	262
HCM Lane V/C Ratio	0.004	-	-	-	0.008
HCM Control Delay (s)	11.2	-	-	-	18.9
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑	↘	
Traffic Vol, veh/h	229	9	18	700	2	5
Future Vol, veh/h	229	9	18	700	2	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	249	10	20	761	2	5

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	259	0	1055 130
Stage 1	-	-	-	-	254 -
Stage 2	-	-	-	-	801 -
Critical Hdwy	-	-	4.1	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1317	-	238 902
Stage 1	-	-	-	-	771 -
Stage 2	-	-	-	-	445 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1317	-	234 902
Mov Cap-2 Maneuver	-	-	-	-	397 -
Stage 1	-	-	-	-	771 -
Stage 2	-	-	-	-	438 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	662	-	-	1317	-
HCM Lane V/C Ratio	0.011	-	-	0.015	-
HCM Control Delay (s)	10.5	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑	↘	
Traffic Vol, veh/h	225	9	18	715	2	5
Future Vol, veh/h	225	9	18	715	2	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	245	10	20	777	2	5

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	255	0	1067
Stage 1	-	-	-	-	250
Stage 2	-	-	-	-	817
Critical Hdwy	-	-	4.1	-	6.6
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1322	-	234
Stage 1	-	-	-	-	774
Stage 2	-	-	-	-	438
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1322	-	230
Mov Cap-2 Maneuver	-	-	-	-	392
Stage 1	-	-	-	-	774
Stage 2	-	-	-	-	431

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	659	-	-	1322	-
HCM Lane V/C Ratio	0.012	-	-	0.015	-
HCM Control Delay (s)	10.5	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	1033	1114	6	2	1
Future Vol, veh/h	2	1033	1114	6	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	1123	1211	7	2	1

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1218	0	0 2342 609
Stage 1	-	-	- 1215 -
Stage 2	-	-	- 1127 -
Critical Hdwy	4.1	-	- 6.6 6.9
Critical Hdwy Stg 1	-	-	- 5.8 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	580	-	- 36 443
Stage 1	-	-	- 248 -
Stage 2	-	-	- 312 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	580	-	- 36 443
Mov Cap-2 Maneuver	-	-	- 185 -
Stage 1	-	-	- 247 -
Stage 2	-	-	- 312 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	20.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	580	-	-	-	230
HCM Lane V/C Ratio	0.004	-	-	-	0.014
HCM Control Delay (s)	11.2	-	-	-	20.9
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑	↖	↖
Traffic Vol, veh/h	183	47	102	720	13	23
Future Vol, veh/h	183	47	102	720	13	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	200	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	199	51	111	783	14	25

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	250	0	1230
Stage 1	-	-	-	-	225
Stage 2	-	-	-	-	1005
Critical Hdwy	-	-	4.1	-	6.6
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1327	-	185
Stage 1	-	-	-	-	797
Stage 2	-	-	-	-	357
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1327	-	169
Mov Cap-2 Maneuver	-	-	-	-	169
Stage 1	-	-	-	-	797
Stage 2	-	-	-	-	327

Approach	EB	WB	NB
HCM Control Delay, s	0	1	16
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	169	909	-	-	1327	-
HCM Lane V/C Ratio	0.084	0.028	-	-	0.084	-
HCM Control Delay (s)	28.2	9.1	-	-	8	-
HCM Lane LOS	D	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.3	-

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	2	3	12	36	150	6
Future Vol, veh/h	2	3	12	36	150	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	3	13	39	163	7

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	232	167	170	0	-	0
Stage 1	167	-	-	-	-	-
Stage 2	65	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	761	882	1420	-	-	-
Stage 1	867	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	754	882	1420	-	-	-
Mov Cap-2 Maneuver	801	-	-	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	963	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	1.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1420	-	848	-	-
HCM Lane V/C Ratio	0.009	-	0.006	-	-
HCM Control Delay (s)	7.6	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	2	3	11	46	148	6
Future Vol, veh/h	2	3	11	46	148	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	3	12	50	161	7

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	239	165	168	0	-	0
Stage 1	165	-	-	-	-	-
Stage 2	74	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	754	885	1422	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	748	885	1422	-	-	-
Mov Cap-2 Maneuver	800	-	-	-	-	-
Stage 1	862	-	-	-	-	-
Stage 2	954	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	1.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1422	-	849	-	-
HCM Lane V/C Ratio	0.008	-	0.006	-	-
HCM Control Delay (s)	7.6	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	2	3	10	56	145	6
Future Vol, veh/h	2	3	10	56	145	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	3	11	61	158	7

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	245	162	165	0	-	0
Stage 1	162	-	-	-	-	-
Stage 2	83	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	748	888	1426	-	-	-
Stage 1	872	-	-	-	-	-
Stage 2	945	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	742	888	1426	-	-	-
Mov Cap-2 Maneuver	799	-	-	-	-	-
Stage 1	865	-	-	-	-	-
Stage 2	945	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	1.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1426	-	850	-	-
HCM Lane V/C Ratio	0.008	-	0.006	-	-
HCM Control Delay (s)	7.5	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	1	2	6	65	144	4
Future Vol, veh/h	1	2	6	65	144	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	2	7	71	157	4

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	244	159	161	0	-	0
Stage 1	159	-	-	-	-	-
Stage 2	85	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	749	892	1430	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	943	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	745	892	1430	-	-	-
Mov Cap-2 Maneuver	803	-	-	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	943	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1430	-	860	-	-
HCM Lane V/C Ratio	0.005	-	0.004	-	-
HCM Control Delay (s)	7.5	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	2	2	8	69	140	6
Future Vol, veh/h	2	2	8	69	140	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	2	9	75	152	7

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	249	156	159	0	-	0
Stage 1	156	-	-	-	-	-
Stage 2	93	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	744	895	1433	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	936	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	740	895	1433	-	-	-
Mov Cap-2 Maneuver	801	-	-	-	-	-
Stage 1	872	-	-	-	-	-
Stage 2	936	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1433	-	845	-	-
HCM Lane V/C Ratio	0.006	-	0.005	-	-
HCM Control Delay (s)	7.5	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	2	4	12	75	137	6
Future Vol, veh/h	2	4	12	75	137	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	2	4	13	82	149	7

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	261	153	156	0	-	0
Stage 1	153	-	-	-	-	-
Stage 2	108	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	732	898	1436	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	921	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	725	898	1436	-	-	-
Mov Cap-2 Maneuver	794	-	-	-	-	-
Stage 1	872	-	-	-	-	-
Stage 2	921	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1436	-	860	-	-
HCM Lane V/C Ratio	0.009	-	0.008	-	-
HCM Control Delay (s)	7.5	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	1	1	4	87	136	4
Future Vol, veh/h	1	1	4	87	136	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	1	4	95	148	4

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	253	150	152	0	0
Stage 1	150	-	-	-	-
Stage 2	103	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	740	902	1441	-	-
Stage 1	883	-	-	-	-
Stage 2	926	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	738	902	1441	-	-
Mov Cap-2 Maneuver	802	-	-	-	-
Stage 1	880	-	-	-	-
Stage 2	926	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1441	-	849	-	-
HCM Lane V/C Ratio	0.003	-	0.003	-	-
HCM Control Delay (s)	7.5	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	4.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑↑		↘	↘
Traffic Vol, veh/h	98	937	1094	54	21	26
Future Vol, veh/h	98	937	1094	54	21	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	107	1018	1189	59	23	28

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1248	0	-	0	2451 624
Stage 1	-	-	-	-	1219 -
Stage 2	-	-	-	-	1232 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	565	-	-	-	30 433
Stage 1	-	-	-	-	246 -
Stage 2	-	-	-	-	278 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	565	-	-	-	24 433
Mov Cap-2 Maneuver	-	-	-	-	24 -
Stage 1	-	-	-	-	200 -
Stage 2	-	-	-	-	278 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	185.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	565	-	-	-	24	433
HCM Lane V/C Ratio	0.189	-	-	-	0.951	0.065
HCM Control Delay (s)	12.8	-	-	-	397.6	13.9
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	0.7	-	-	-	2.9	0.2

Intersection	
Intersection Delay, s/veh	178.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Vol, veh/h	39	163	10	118	663	84	24	72	63	46	85	168
Future Vol, veh/h	39	163	10	118	663	84	24	72	63	46	85	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	42	177	11	128	721	91	26	78	68	50	92	183
Number of Lanes	0	2	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	13.6	303.3	16	21.7
HCM LOS	B	F	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	15%	32%	0%	14%	15%
Vol Thru, %	45%	68%	89%	77%	28%
Vol Right, %	40%	0%	11%	10%	56%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	159	121	92	865	299
LT Vol	24	39	0	118	46
Through Vol	72	82	82	663	85
RT Vol	63	0	10	84	168
Lane Flow Rate	173	131	99	940	325
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.34	0.271	0.199	1.619	0.592
Departure Headway (Hd)	8.604	8.403	8.156	6.2	7.9
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	422	431	443	592	462
Service Time	6.604	6.103	5.856	4.265	5.9
HCM Lane V/C Ratio	0.41	0.304	0.223	1.588	0.703
HCM Control Delay	16	14.2	12.9	303.3	21.7
HCM Lane LOS	C	B	B	F	C
HCM 95th-tile Q	1.5	1.1	0.7	51.3	3.7

Intersection						
Int Delay, s/veh	134.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↔	
Traffic Vol, veh/h	109	822	1119	162	74	71
Future Vol, veh/h	109	822	1119	162	74	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	118	893	1216	176	80	77

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1392	0	-	0	2433 696
Stage 1	-	-	-	-	1304 -
Stage 2	-	-	-	-	1129 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	498	-	-	-	~ 31 389
Stage 1	-	-	-	-	222 -
Stage 2	-	-	-	-	312 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	498	-	-	-	~ 16 389
Mov Cap-2 Maneuver	-	-	-	-	~ 16 -
Stage 1	-	-	-	-	118 -
Stage 2	-	-	-	-	312 -

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	\$ 2177.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	498	-	-	-	30
HCM Lane V/C Ratio	0.238	-	-	-	5.254
HCM Control Delay (s)	14.5	0	-	-	\$ 2177.4
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0.9	-	-	-	19.1

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



Intersection	
Intersection Delay, s/veh	718
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔			↔			↔	
Traffic Vol, veh/h	84	174	21	171	253	150	93	436	46	355	669	309
Future Vol, veh/h	84	174	21	171	253	150	93	436	46	355	669	309
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	91	189	23	186	275	163	101	474	50	386	727	336
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	62.8	313.9	319.3	1201.2
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	16%	33%	0%	30%	27%
Vol Thru, %	76%	67%	0%	44%	50%
Vol Right, %	8%	0%	100%	26%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	575	258	21	574	1333
LT Vol	93	84	0	171	355
Through Vol	436	174	0	253	669
RT Vol	46	0	21	150	309
Lane Flow Rate	625	280	23	624	1449
Geometry Grp	2	7	7	5	2
Degree of Util (X)	1.564	0.768	0.057	1.564	3.598
Departure Headway (Hd)	18.577	19.091	18.166	16.818	12.317
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	206	194	199	225	319
Service Time	16.577	16.791	15.866	14.818	10.317
HCM Lane V/C Ratio	3.034	1.443	0.116	2.773	4.542
HCM Control Delay	319.3	66.1	22	313.9	1201.2
HCM Lane LOS	F	F	C	F	F
HCM 95th-tile Q	19.5	5.1	0.2	21.1	98.9

Intersection	
Intersection Delay, s/veh	670.7
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Vol, veh/h	282	712	1161	516	494	272
Future Vol, veh/h	282	712	1161	516	494	272
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	291	734	1197	532	509	280
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left			WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	486.3	1044.9	90.7
HCM LOS	F	F	F

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	28%	0%	100%	0%
Vol Thru, %	72%	69%	0%	0%
Vol Right, %	0%	31%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	994	1677	494	272
LT Vol	282	0	494	0
Through Vol	712	1161	0	0
RT Vol	0	516	0	272
Lane Flow Rate	1025	1729	509	280
Geometry Grp	2	2	7	7
Degree of Util (X)	2.007	3.27	1.145	0.537
Departure Headway (Hd)	10.347	8.427	10.907	9.611
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	359	450	336	379
Service Time	8.347	6.427	8.607	7.311
HCM Lane V/C Ratio	2.855	3.842	1.515	0.739
HCM Control Delay	486.3	1044.9	128	22.9
HCM Lane LOS	F	F	F	C
HCM 95th-tile Q	49.1	125.4	15.3	3.1

Intersection

Intersection Delay, s/vt 31.8

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕				↕			↕	
Traffic Vol, veh/h	63	953	96	441	1318	285	105	250	165	59	52	45
Future Vol, veh/h	63	953	96	441	1318	285	105	250	165	59	52	45
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	64	972	98	450	1345	291	107	255	168	60	53	46
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	WB	NB	SB	SB
Opposing Approach	WB	EB	EB	SB	SB	NB
Opposing Lanes	1	1	1	1	1	1
Conflicting Approach Left SB	SB	NB	NB	EB	WB	WB
Conflicting Lanes Left	1	1	1	1	1	1
Conflicting Approach Right NB	NB	SB	SB	WB	EB	EB
Conflicting Lanes Right	1	1	1	1	1	1
HCM Control Delay	736	1677.8	1677.8	157	49.3	49.3
HCM LOS	F	F	F	F	E	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	6%	22%	38%
Vol Thru, %	48%	86%	64%	33%
Vol Right, %	32%	9%	14%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	520	1112	2044	156
LT Vol	105	63	441	59
Through Vol	250	953	1318	52
RT Vol	165	96	285	45
Lane Flow Rate	531	1135	2086	159
Geometry Grp	1	1	1	1
Degree of Util (X)	1.17	2.537	4.663	0.42
Departure Headway (Hd)	16.099	15.945	11.727	6.04
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	233	238	334	132
Service Time	14.099	13.945	9.725	6.04
HCM Lane V/C Ratio	2.279	4.769	6.246	1.205
HCM Control Delay	157	736	1677.8	49.3
HCM Lane LOS	F	F	F	E
HCM 95th-tile Q	12.6	47.9	144.6	1.8

Intersection																
Int Delay, s/veh 308.8																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Vol, veh/h	41	201	76	19	350	111	28	67	13	153	268	308				
Future Vol, veh/h	41	201	76	19	350	111	28	67	13	153	268	308				
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0				
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop				
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None				
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-				
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0				
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0				
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92				
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0				
Mvmt Flow	45	218	83	21	380	121	30	73	14	166	291	335				
Major/Minor	Major1	Major2	Major2	Major2	Minor1	Minor1	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2				
Conflicting Flow All	501	0	0	301	0	0	1146	893	260	876	874	441				
Stage 1	-	-	-	-	-	-	350	350	-	483	483	-				
Stage 2	-	-	-	-	-	-	796	543	-	393	391	-				
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2				
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-				
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-				
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3				
Pot Cap-1 Maneuver	1074	-	-	1272	-	-	178	283	784	272	~290	621				
Stage 1	-	-	-	-	-	-	671	636	-	569	556	-				
Stage 2	-	-	-	-	-	-	383	523	-	636	611	-				
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-				
Mov Cap-1 Maneuver	1074	-	-	1272	-	-	-	262	784	199	~269	621				
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	262	-	199	~269	-				
Stage 1	-	-	-	-	-	-	637	604	-	540	543	-				
Stage 2	-	-	-	-	-	-	80	511	-	521	580	-				
Approach	EB	WB	WB	NB	NB	SB										
HCM Control Delay, s	1.1	0.3				\$ 691.9										
HCM LOS						F										
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1								
Capacity (veh/h)	-	1074	-	-	1272	-	-	322								
HCM Lane V/C Ratio	-	0.041	-	-	0.016	-	-	2.461								
HCM Control Delay (s)	-	8.5	0	-	7.9	0	-	\$ 691.9								
HCM Lane LOS	-	A	A	-	A	A	-	F								
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	63.5								
Notes																
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon																

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	163	863	179	148	1418	91	176	33	121	36	50	84
Future Vol, veh/h	163	863	179	148	1418	91	176	33	121	36	50	84
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	75	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	168	890	185	153	1462	94	181	34	125	37	52	87

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1556	0	0	1075	0	0	3111	3088	890	3213	3226	1509
Stage 1	-	-	-	-	-	-	1226	1226	-	1815	1815	-
Stage 2	-	-	-	-	-	-	1885	1862	-	1398	1411	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	431	-	-	656	-	-	~7	~12	345	~6	~10	150
Stage 1	-	-	-	-	-	-	221	253	-	101	131	-
Stage 2	-	-	-	-	-	-	~92	124	-	176	206	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	431	-	-	656	-	-	~3	~6	345	~3	~5	150
Mov Cap-2 Maneuver	-	-	-	-	-	-	759	~149	-	129	~39	-
Stage 1	-	-	-	-	-	-	~135	154	-	62	100	-
Stage 2	-	-	-	-	-	-	~14	95	-	53	126	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	1.1	11.3	
HCM LOS			B	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	914	431	-	-	656	-	-	+
HCM Lane V/C Ratio	0.372	0.39	-	-	0.233	-	-	-
HCM Control Delay (s)	11.3	18.6	-	-	12.1	-	-	-
HCM Lane LOS	B	C	-	-	B	-	-	-
HCM 95th %tile Q(veh)	1.7	1.8	-	-	0.9	-	-	-

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection												
Int Delay, s/veh	82.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Traffic Vol, veh/h	62	920	38	36	1625	72	14	0	85	20	0	17
Future Vol, veh/h	62	920	38	36	1625	72	14	0	85	20	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	67	1000	41	39	1766	78	15	0	92	22	0	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1844	0	0	1041	0	0	3047	3077	521	2517	3058	1805
Stage 1	-	-	-	-	-	-	1155	1155	-	1883	1883	-
Stage 2	-	-	-	-	-	-	1892	1922	-	634	1175	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	334	-	-	676	-	-	~7	12	505	~17	13	100
Stage 1	-	-	-	-	-	-	213	274	-	92	121	-
Stage 2	-	-	-	-	-	-	91	116	-	439	268	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	334	-	-	676	-	-	~5	9	505	~11	10	100
Mov Cap-2 Maneuver	-	-	-	-	-	-	~3	34	-	55	67	-
Stage 1	-	-	-	-	-	-	170	219	-	74	114	-
Stage 2	-	-	-	-	-	-	70	109	-	287	214	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.2			\$ 2356.9			113.3		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	20	334	-	-	676	-	-	69
HCM Lane V/C Ratio	5.38	0.202	-	-	0.058	-	-	0.583
HCM Control Delay (s)	\$ 2356.9	18.5	-	-	10.7	-	-	113.3
HCM Lane LOS	F	C	-	-	B	-	-	F
HCM 95th %tile Q(veh)	13.9	0.7	-	-	0.2	-	-	2.5

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection														
Int Delay, s/veh														
5														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Vol, veh/h	19	1468	73	344	2655	43	54	23	173	61	40	30		
Future Vol, veh/h	19	1468	73	344	2655	43	54	23	173	61	40	30		
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop		
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None		
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-		
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0		
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0		
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92		
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0		
Mvmt Flow	21	1596	79	374	2886	47	59	25	188	66	43	33		
Major/Minor	Major1	Major2	Major2	Minor1	Minor1	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2
Conflicting Flow All	2933	0	0	1675	0	0	5374	5359	1636	5442	5375	2910		
Stage 1	-	-	-	-	-	-	1678	1678	-	3658	3658	-		
Stage 2	-	-	-	-	-	-	3696	3681	-	1784	1717	-		
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3		
Pot Cap-1 Maneuver	125	-	-	388	-	-	0	0	~126	0	0	~21		
Stage 1	-	-	-	-	-	-	121	153	-	~8	~14	-		
Stage 2	-	-	-	-	-	-	~7	~14	-	105	146	-		
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-		
Mov Cap-1 Maneuver	125	-	-	388	-	-	0	~126	-	0	~21	-		
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	0	-		
Stage 1	-	-	-	-	-	-	121	0	-	~8	~14	-		
Stage 2	-	-	-	-	-	-	~8	~14	-	-	0	-		
Approach	EB	WB	WB	NB	NB	SB	SB	SB	SB	SB	SB	SB	SB	SB
HCM Control Delay, s	0.5		7.9											
HCM LOS														
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	-	125	-	-	388	-	-	-						
HCM Lane V/C Ratio	-	0.165	-	-	0.964	-	-	-						
HCM Control Delay (s)	-	39.4	0	-	70.1	0	-	-						
HCM Lane LOS	-	E	A	-	F	A	-	-						
HCM 95th %tile Q(veh)	-	0.6	-	-	11	-	-	-						
Notes														
~: Volume exceeds capacity	\$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon													

Intersection												
Int Delay, s/veh	92.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖		↗	
Traffic Vol, veh/h	24	327	142	150	716	80	104	54	12	112	165	73
Future Vol, veh/h	24	327	142	150	716	80	104	54	12	112	165	73
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	200	-	-	200	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	26	352	153	161	770	86	112	58	13	120	177	78

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	856	0	0	505	0	0	1744	1659	253	1392	1692	813
Stage 1	-	-	-	-	-	-	481	481	-	1135	1135	-
Stage 2	-	-	-	-	-	-	1263	1178	-	257	557	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	793	-	-	1070	-	-	~ 62	99	753	~ 112	~ 94	382
Stage 1	-	-	-	-	-	-	540	557	-	248	280	-
Stage 2	-	-	-	-	-	-	210	267	-	731	515	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	793	-	-	1070	-	-	-	81	753	~ 69	~ 77	382
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 9	161	-	171	~ 161	-
Stage 1	-	-	-	-	-	-	522	539	-	240	238	-
Stage 2	-	-	-	-	-	-	~ 36	227	-	620	498	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.4		\$ 515.4
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	161	753	793	-	-	1070	-	-	187
HCM Lane V/C Ratio	-	0.361	0.017	0.033	-	-	0.151	-	-	2.013
HCM Control Delay (s)	-	39.5	9.9	9.7	-	-	9	-	-	\$ 515.4
HCM Lane LOS	-	E	A	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	-	1.5	0.1	0.1	-	-	0.5	-	-	28.6

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon



Intersection	
Intersection Delay, s/veh	942.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	45	877	37	253	1603	118	78	0	153	180	0	73
Future Vol, veh/h	45	877	37	253	1603	118	78	0	153	180	0	73
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	48	933	39	269	1705	126	83	0	163	191	0	78
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	3
HCM Control Delay	502.4	1378.8	31.8	38
HCM LOS	F	F	D	E

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	34%	100%	0%	0%	100%	0%	71%
Vol Thru, %	0%	0%	100%	0%	0%	93%	0%
Vol Right, %	66%	0%	0%	100%	0%	7%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	231	45	877	37	253	1721	253
LT Vol	78	45	0	0	253	0	180
Through Vol	0	0	877	0	0	1603	0
RT Vol	153	0	0	37	0	118	73
Lane Flow Rate	246	48	933	39	269	1831	269
Geometry Grp	7	7	7	7	8	8	7
Degree of Util (X)	0.602	0.117	2.145	0.083	0.694	4.442	0.682
Departure Headway (Hd)	12.206	11.248	10.719	9.979	11.391	10.805	12.384
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	300	321	345	361	320	366	296
Service Time	9.906	8.948	8.419	7.679	9.091	8.505	10.084
HCM Lane V/C Ratio	0.82	0.15	2.704	0.108	0.841	5.003	0.909
HCM Control Delay	31.8	15.4	548	13.6	36.3	1576.2	38
HCM Lane LOS	D	C	F	B	E	F	E
HCM 95th-tile Q	3.6	0.4	53.2	0.3	4.9	147.1	4.6

Intersection														
Int Delay, s/veh 247.6														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Vol, veh/h	37	1482	211	175	2854	48	61	10	49	43	84	69		
Future Vol, veh/h	37	1482	211	175	2854	48	61	10	49	43	84	69		
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop		
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None		
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-		
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-		
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-		
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92		
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0		
Mvmt Flow	40	1611	229	190	3102	52	66	11	53	47	91	75		
Major/Minor	Major1	Major2	Major2	Minor1	Minor1	Minor2								
Conflicting Flow All	3154	0	0	1840	0	0	5397	5340	1726	5346	5428	3128		
Stage 1	-	-	-	-	-	-	1806	1806	-	3508	3508	-		
Stage 2	-	-	-	-	-	-	3591	3534	-	1838	1920	-		
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3		
Pot Cap-1 Maneuver	102	-	-	335	-	-	0	0	111	0	0	~15		
Stage 1	-	-	-	-	-	-	102	132	-	~10	~17	-		
Stage 2	-	-	-	-	-	-	~8	16	-	98	116	-		
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-		
Mov Cap-1 Maneuver	102	-	-	335	-	-	-	0	111	0	0	~15		
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	0	0	-		
Stage 1	-	-	-	-	-	-	102	132	-	~10	~17	-		
Stage 2	-	-	-	-	-	-	140	16	-	47	116	-		
Approach	EB	WB	WB	NB	SB									
HCM Control Delay, s	1.3	1.6	1.6		\$ 6434.1									
HCM LOS					F									
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	-	102	-	-	335	-	-	15						
HCM Lane V/C Ratio	-	0.394	-	-	0.568	-	-	-14.203						
HCM Control Delay (s)	-	61.6	0	-	29	0	\$6434.1							
HCM Lane LOS	-	F	A	-	D	A	-	F						
HCM 95th %tile Q(veh)	-	1.6	-	-	3.3	-	-	27.6						
Notes														
~: Volume exceeds capacity	\$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon													

Timings

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

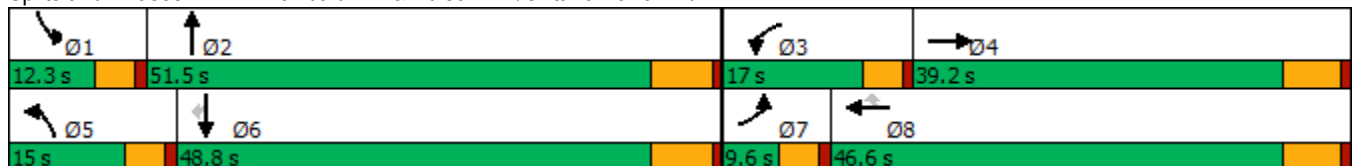
08/23/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	474	952	411	689	1985	299	515	1298	541	79	752	343
Future Volume (vph)	474	952	411	689	1985	299	515	1298	541	79	752	343
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	9.6	39.2		17.0	46.6	46.6	15.0	51.5		12.3	48.8	48.8
Total Split (%)	8.0%	32.7%		14.2%	38.8%	38.8%	12.5%	42.9%		10.3%	40.7%	40.7%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	5.0	33.0	119.8	12.4	40.4	40.4	10.4	45.0	119.8	7.5	42.1	42.1
Actuated g/C Ratio	0.04	0.28	1.00	0.10	0.34	0.34	0.09	0.38	1.00	0.06	0.35	0.35
v/c Ratio	3.76	0.99	0.26	2.19	3.20	0.50	3.59	0.99	0.35	0.76	0.61	0.53
Control Delay	1274.4	69.0	0.4	572.8	1008.6	22.4	1195.3	58.9	0.6	96.1	34.6	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1274.4	69.0	0.4	572.8	1008.6	22.4	1195.3	58.9	0.6	96.1	34.6	20.0
LOS	F	E	A	F	F	C	F	E	A	F	C	B
Approach Delay		364.9			808.4			294.1			34.4	
Approach LOS		F			F			F			C	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 119.8  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 3.76  
 Intersection Signal Delay: 456.5  
 Intersection LOS: F  
 Intersection Capacity Utilization 188.7%  
 ICU Level of Service H  
 Analysis Period (min) 15






























Splits and Phases: 44: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
 44: Archibald Av. & Edison Av./Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 				 			 	
Traffic Volume (veh/h)	474	952	411	689	1985	299	515	1298	541	79	752	343
Future Volume (veh/h)	474	952	411	689	1985	299	515	1298	541	79	752	343
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	489	981	0	710	2046	254	531	1338	0	81	775	321
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	132	998		326	643	545	149	1361		101	1260	562
Arrive On Green	0.04	0.28	0.00	0.10	0.34	0.34	0.09	0.38	0.00	0.06	0.35	0.35
Sat Flow, veh/h	3141	3610	1610	3141	1900	1610	1714	3610	1610	1714	3610	1610
Grp Volume(v), veh/h	489	981	0	710	2046	254	531	1338	0	81	775	321
Grp Sat Flow(s),veh/h/ln	1570	1805	1610	1570	1900	1610	1714	1805	1610	1714	1805	1610
Q Serve(g_s), s	5.0	32.2	0.0	12.4	40.4	14.8	10.4	43.8	0.0	5.6	21.2	19.3
Cycle Q Clear(g_c), s	5.0	32.2	0.0	12.4	40.4	14.8	10.4	43.8	0.0	5.6	21.2	19.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	132	998		326	643	545	149	1361		101	1260	562
V/C Ratio(X)	3.72	0.98		2.18	3.18	0.47	3.55	0.98		0.80	0.62	0.57
Avail Cap(c_a), veh/h	132	998		326	643	545	149	1361		111	1279	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.2	42.9	0.0	53.5	39.5	31.0	54.5	36.8	0.0	55.5	32.2	31.6
Incr Delay (d2), s/veh	1240.8	24.3	0.0	539.1	985.7	0.6	1166.2	20.4	0.0	27.6	0.9	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.6	17.0	0.0	29.2	193.7	5.6	52.7	21.5	0.0	3.1	8.8	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1298.0	67.2	0.0	592.6	1025.1	31.6	1220.7	57.2	0.0	83.0	33.1	32.9
LnGrp LOS	F	E		F	F	C	F	E		F	C	C
Approach Vol, veh/h		1470	A		3010			1869	A		1177	
Approach Delay, s/veh		476.6			839.3			387.7			36.5	
Approach LOS		F			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.7	51.5	17.0	39.2	15.0	48.2	9.6	46.6				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.7	45.0	12.4	33.0	10.4	42.3	5.0	40.4				
Max Q Clear Time (g_c+I1), s	7.6	45.8	14.4	34.2	12.4	23.2	7.0	42.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	530.7
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

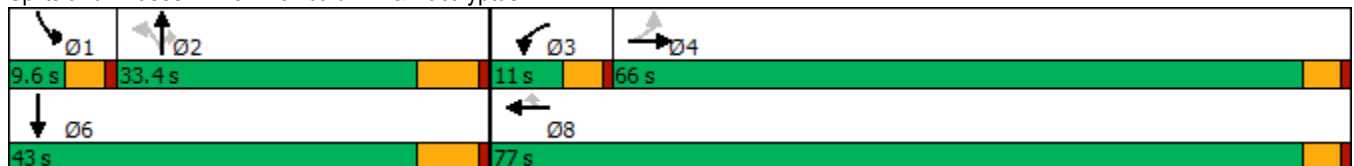


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖↗	↕	↖↗	↖	↕↕	↖	↖	↕↕
Traffic Volume (vph)	47	32	122	282	162	237	2032	84	60	1501
Future Volume (vph)	47	32	122	282	162	237	2032	84	60	1501
Turn Type	Perm	NA	Prot	NA	Perm	Perm	NA	Perm	Prot	NA
Protected Phases		4	3	8			2		1	6
Permitted Phases	4				8	2		2		
Detector Phase	4	4	3	8	8	2	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	9.5	9.5	9.5	32.5	32.5	32.5	9.6	16.5
Total Split (s)	66.0	66.0	11.0	77.0	77.0	33.4	33.4	33.4	9.6	43.0
Total Split (%)	55.0%	55.0%	9.2%	64.2%	64.2%	27.8%	27.8%	27.8%	8.0%	35.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	5.5	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	6.5	6.5	6.5	4.6	6.5
Lead/Lag	Lag	Lag	Lead			Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Max	Max	Max	None	Max
Act Effct Green (s)	9.6	9.6	7.5	19.3	19.3	27.1	27.1	27.1	5.0	36.8
Actuated g/C Ratio	0.14	0.14	0.11	0.29	0.29	0.40	0.40	0.40	0.07	0.55
v/c Ratio	0.34	0.28	0.37	0.55	0.30	2.38	1.50	0.14	0.51	0.92
Control Delay	32.4	26.1	33.7	23.9	4.7	672.5	251.4	15.4	48.2	25.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	26.1	33.7	23.9	4.7	672.5	251.4	15.4	48.2	25.4
LOS	C	C	C	C	A	F	F	B	D	C
Approach Delay		28.7		20.5			285.4			26.2
Approach LOS		C		C			F			C

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 67.2  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 2.38  
 Intersection Signal Delay: 153.6  
 Intersection LOS: F  
 Intersection Capacity Utilization 98.1%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 45: Archibald Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	32	36	122	282	162	237	2032	84	60	1501	169
Future Volume (veh/h)	47	32	36	122	282	162	237	2032	84	60	1501	169
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	51	34	28	131	303	104	255	2185	74	65	1614	134
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	204	91	75	226	453	384	168	1650	736	93	1976	163
Arrive On Green	0.09	0.09	0.09	0.07	0.24	0.24	0.46	0.46	0.46	0.05	0.59	0.59
Sat Flow, veh/h	942	964	794	3141	1900	1610	265	3610	1610	1714	3377	278
Grp Volume(v), veh/h	51	0	62	131	303	104	255	2185	74	65	856	892
Grp Sat Flow(s),veh/h/ln	942	0	1757	1570	1900	1610	265	1805	1610	1714	1805	1850
Q Serve(g_s), s	3.2	0.0	2.1	2.5	9.0	3.3	12.4	28.5	1.6	2.3	23.3	24.1
Cycle Q Clear(g_c), s	3.3	0.0	2.1	2.5	9.0	3.3	28.5	28.5	1.6	2.3	23.3	24.1
Prop In Lane	1.00		0.45	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	204	0	166	226	453	384	168	1650	736	93	1056	1082
V/C Ratio(X)	0.25	0.00	0.37	0.58	0.67	0.27	1.52	1.32	0.10	0.70	0.81	0.82
Avail Cap(c_a), veh/h	1043	0	1732	327	2208	1871	168	1650	736	137	1056	1082
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.1	0.0	26.5	28.0	21.5	19.3	29.3	16.9	9.6	29.0	10.2	10.4
Incr Delay (d2), s/veh	0.6	0.0	1.4	2.4	1.7	0.4	260.9	150.1	0.3	3.5	6.8	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.9	1.0	3.8	1.2	14.4	42.6	0.5	0.9	7.1	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.7	0.0	27.9	30.4	23.2	19.7	290.2	167.0	9.9	32.5	17.0	17.5
LnGrp LOS	C	A	C	C	C	B	F	F	A	C	B	B
Approach Vol, veh/h		113			538			2514			1813	
Approach Delay, s/veh		27.8			24.3			174.9			17.8	
Approach LOS		C			C			F			B	
Timer - Assigned Phs	1	2	3	4	6	8						
Phs Duration (G+Y+Rc), s	8.0	35.0	9.0	10.4	43.0	19.4						
Change Period (Y+Rc), s	4.6	6.5	4.5	4.5	6.5	4.5						
Max Green Setting (Gmax), s	5.0	26.9	6.5	61.5	36.5	72.5						
Max Q Clear Time (g_c+I1), s	4.3	30.5	4.5	5.3	26.1	11.0						
Green Ext Time (p_c), s	0.0	0.0	0.1	0.6	7.2	2.2						

Intersection Summary

HCM 6th Ctrl Delay	98.1
HCM 6th LOS	F

Timings  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

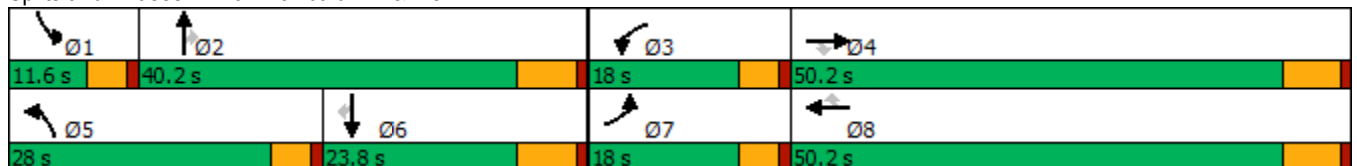
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	392	31	267	139	105	158	857	1492	88	48	925	763
Future Volume (vph)	392	31	267	139	105	158	857	1492	88	48	925	763
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	18.0	50.2	50.2	18.0	50.2	50.2	28.0	40.2	40.2	11.6	23.8	23.8
Total Split (%)	15.0%	41.8%	41.8%	15.0%	41.8%	41.8%	23.3%	33.5%	33.5%	9.7%	19.8%	19.8%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	13.6	17.9	17.9	11.5	15.7	15.7	23.8	39.7	39.7	5.9	17.6	17.6
Actuated g/C Ratio	0.15	0.19	0.19	0.12	0.17	0.17	0.26	0.43	0.43	0.06	0.19	0.19
v/c Ratio	1.62	0.09	0.52	0.68	0.34	0.40	2.02	0.69	0.12	0.25	1.40	1.49
Control Delay	324.1	30.2	7.3	57.5	35.2	8.5	491.1	26.7	3.9	47.7	219.1	252.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	324.1	30.2	7.3	57.5	35.2	8.5	491.1	26.7	3.9	47.7	219.1	252.0
LOS	F	C	A	E	D	A	F	C	A	D	F	F
Approach Delay		188.3			32.4			189.3			228.8	
Approach LOS		F			C			F			F	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 93  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 2.02  
 Intersection Signal Delay: 190.2  
 Intersection Capacity Utilization 120.1%  
 Analysis Period (min) 15

Intersection LOS: F  
 ICU Level of Service H

























Splits and Phases: 46: Archibald Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	392	31	267	139	105	158	857	1492	88	48	925	763
Future Volume (veh/h)	392	31	267	139	105	158	857	1492	88	48	925	763
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	404	32	220	143	108	68	884	1538	72	49	954	721
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	267	323	273	175	221	187	466	2247	697	126	726	324
Arrive On Green	0.16	0.17	0.17	0.10	0.12	0.12	0.27	0.43	0.43	0.04	0.20	0.20
Sat Flow, veh/h	1714	1900	1610	1714	1900	1610	1714	5187	1610	3141	3610	1610
Grp Volume(v), veh/h	404	32	220	143	108	68	884	1538	72	49	954	721
Grp Sat Flow(s),veh/h/ln	1714	1900	1610	1714	1900	1610	1714	1729	1610	1570	1805	1610
Q Serve(g_s), s	13.4	1.2	11.3	7.0	4.6	3.4	23.4	20.5	2.3	1.3	17.3	17.3
Cycle Q Clear(g_c), s	13.4	1.2	11.3	7.0	4.6	3.4	23.4	20.5	2.3	1.3	17.3	17.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	267	323	273	175	221	187	466	2247	697	126	726	324
V/C Ratio(X)	1.51	0.10	0.80	0.82	0.49	0.36	1.90	0.68	0.10	0.39	1.31	2.23
Avail Cap(c_a), veh/h	267	972	824	267	972	824	466	2247	697	256	726	324
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.3	30.1	34.3	37.8	35.6	35.1	31.3	19.6	14.5	40.2	34.3	34.3
Incr Delay (d2), s/veh	249.0	0.1	5.5	6.1	1.7	1.2	410.8	0.9	0.1	0.7	150.9	561.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	23.6	0.5	4.7	3.2	2.2	1.3	61.8	7.1	0.8	0.5	22.1	57.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	285.3	30.3	39.8	44.0	37.3	36.2	442.1	20.5	14.5	41.0	185.2	595.9
LnGrp LOS	F	C	D	D	D	D	F	C	B	D	F	F
Approach Vol, veh/h		656			319			2494			1724	
Approach Delay, s/veh		190.6			40.0			169.8			352.9	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	43.8	13.4	20.8	28.0	23.8	18.0	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.0	33.7	13.4	44.0	23.4	17.3	13.4	44.0				
Max Q Clear Time (g_c+I1), s	3.3	22.5	9.0	13.3	25.4	19.3	15.4	6.6				
Green Ext Time (p_c), s	0.0	7.0	0.1	0.8	0.0	0.0	0.0	0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay											225.2	
HCM 6th LOS											F	



Timings  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	215	583	113	366	865	757	149	1146	372	444	798
Future Volume (vph)	215	583	113	366	865	757	149	1146	372	444	798
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	1	5	2	3	1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	1	5	2	3	1	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	5.0	6.0	6.0
Minimum Split (s)	9.5	23.0	23.0	9.5	36.3	11.0	9.5	46.3	9.5	11.0	23.0
Total Split (s)	9.5	25.0	25.0	20.8	36.3	18.0	9.5	56.2	20.8	18.0	64.7
Total Split (%)	7.9%	20.8%	20.8%	17.3%	30.3%	15.0%	7.9%	46.8%	17.3%	15.0%	53.9%
Yellow Time (s)	3.5	4.0	4.0	3.5	4.3	4.0	3.5	4.3	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.0	5.0	4.5	5.3	5.0	4.5	5.3	4.5	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min
Act Effct Green (s)	5.0	20.5	20.5	15.8	31.0	44.3	5.0	50.9	72.0	13.0	59.7
Actuated g/C Ratio	0.04	0.17	0.17	0.13	0.26	0.37	0.04	0.42	0.60	0.11	0.50
v/c Ratio	3.12	1.03	0.29	0.82	1.92	1.26	2.16	1.48	0.38	2.37	1.13
Control Delay	1007.1	93.3	2.5	66.3	447.9	159.1	590.6	253.0	9.8	658.1	100.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1007.1	93.3	2.5	66.3	447.9	159.1	590.6	253.0	9.8	658.1	100.4
LOS	F	F	A	E	F	F	F	F	A	F	F
Approach Delay		297.8			271.0			230.2			272.1
Approach LOS		F			F			F			F

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 3.12  
 Intersection Signal Delay: 264.2  
 Intersection Capacity Utilization 159.1%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service H

Splits and Phases: 47: Archibald Av. & Limonite Av.



HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗	↘	↘↘	↗	↘	↘	↗	↘	↘	↗	↘
Traffic Volume (veh/h)	215	583	113	366	865	757	149	1146	372	444	798	193
Future Volume (veh/h)	215	583	113	366	865	757	149	1146	372	444	798	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	234	634	123	381	940	733	162	1194	341	462	831	210
Peak Hour Factor	0.92	0.92	0.92	0.96	0.92	0.96	0.92	0.96	0.96	0.96	0.96	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	629	281	439	490	580	75	809	887	196	726	184
Arrive On Green	0.04	0.17	0.17	0.12	0.26	0.26	0.04	0.43	0.43	0.11	0.50	0.50
Sat Flow, veh/h	1810	3610	1610	3510	1900	1576	1810	1900	1610	1810	1464	370
Grp Volume(v), veh/h	234	634	123	381	940	733	162	1194	341	462	0	1041
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1755	1900	1576	1810	1900	1610	1810	0	1833
Q Serve(g_s), s	5.0	21.0	8.2	12.8	31.0	31.0	5.0	51.2	14.5	13.0	0.0	59.7
Cycle Q Clear(g_c), s	5.0	21.0	8.2	12.8	31.0	31.0	5.0	51.2	14.5	13.0	0.0	59.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	75	629	281	439	490	580	75	809	887	196	0	910
V/C Ratio(X)	3.11	1.01	0.44	0.87	1.92	1.26	2.15	1.48	0.38	2.36	0.00	1.14
Avail Cap(c_a), veh/h	75	629	281	476	490	580	75	809	887	196	0	910
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.7	49.7	44.4	51.7	44.6	38.2	57.7	34.5	15.4	53.7	0.0	30.3
Incr Delay (d2), s/veh	984.1	37.8	1.1	14.9	421.5	132.0	560.7	221.1	0.3	628.8	0.0	77.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.8	12.5	3.3	6.3	71.2	37.2	13.9	71.4	4.9	39.8	0.0	42.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1041.8	87.5	45.5	66.5	466.1	170.3	618.3	255.7	15.7	682.4	0.0	108.2
LnGrp LOS	F	F	D	E	F	F	F	F	B	F	A	F
Approach Vol, veh/h		991			2054			1697			1503	
Approach Delay, s/veh		307.6			286.4			242.1			284.7	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	56.5	19.5	26.3	9.5	65.0	9.5	36.3				
Change Period (Y+Rc), s	5.0	5.3	4.5	* 5.3	4.5	* 5.3	4.5	5.3				
Max Green Setting (Gmax), s	13.0	50.9	16.3	* 20	5.0	* 60	5.0	31.0				
Max Q Clear Time (g_c+I1), s	15.0	53.2	14.8	23.0	7.0	61.7	7.0	33.0				
Green Ext Time (p_c), s	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	277.3
HCM 6th LOS	F

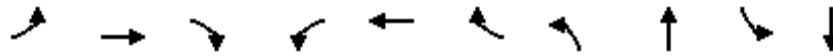
Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

48: Turner Av. & Ontario Ranch Rd.

08/23/2021

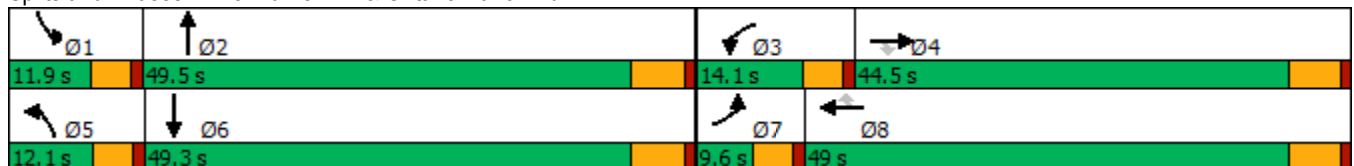


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗	↘	↗
Traffic Volume (vph)	101	1135	41	52	2482	93	70	30	96	19
Future Volume (vph)	101	1135	41	52	2482	93	70	30	96	19
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	25.8	25.8	9.6	45.8	9.6	47.8
Total Split (s)	9.6	44.5	44.5	14.1	49.0	49.0	12.1	49.5	11.9	49.3
Total Split (%)	8.0%	37.1%	37.1%	11.8%	40.8%	40.8%	10.1%	41.3%	9.9%	41.1%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	5.1	44.4	44.4	7.3	44.2	44.2	7.2	16.9	8.4	16.8
Actuated g/C Ratio	0.06	0.48	0.48	0.08	0.48	0.48	0.08	0.18	0.09	0.18
v/c Ratio	1.16	0.71	0.05	0.42	1.56	0.12	0.57	0.23	0.67	0.63
Control Delay	185.7	26.0	0.1	54.2	276.7	4.2	62.1	16.2	66.4	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	185.7	26.0	0.1	54.2	276.7	4.2	62.1	16.2	66.4	22.9
LOS	F	C	A	D	F	A	E	B	E	C
Approach Delay		37.8			262.6			38.3		35.3
Approach LOS		D			F			D		D

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 92  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.56  
 Intersection Signal Delay: 172.3  
 Intersection LOS: F  
 Intersection Capacity Utilization 110.5%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 48: Turner Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
48: Turner Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	1135	41	52	2482	93	70	30	45	96	19	219
Future Volume (veh/h)	101	1135	41	52	2482	93	70	30	45	96	19	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	110	1234	34	57	2698	92	76	33	36	104	21	215
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	95	1782	795	72	1734	773	96	131	142	130	26	263
Arrive On Green	0.06	0.49	0.49	0.04	0.48	0.48	0.06	0.16	0.16	0.08	0.18	0.18
Sat Flow, veh/h	1714	3610	1610	1714	3610	1610	1714	831	906	1714	145	1487
Grp Volume(v), veh/h	110	1234	34	57	2698	92	76	0	69	104	0	236
Grp Sat Flow(s),veh/h/ln	1714	1805	1610	1714	1805	1610	1714	0	1737	1714	0	1632
Q Serve(g_s), s	5.0	23.7	1.0	3.0	43.2	2.8	3.9	0.0	3.1	5.4	0.0	12.5
Cycle Q Clear(g_c), s	5.0	23.7	1.0	3.0	43.2	2.8	3.9	0.0	3.1	5.4	0.0	12.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		0.91
Lane Grp Cap(c), veh/h	95	1782	795	72	1734	773	96	0	273	130	0	289
V/C Ratio(X)	1.15	0.69	0.04	0.79	1.56	0.12	0.79	0.00	0.25	0.80	0.00	0.82
Avail Cap(c_a), veh/h	95	1782	795	181	1734	773	143	0	844	139	0	789
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.5	17.5	11.8	42.7	23.4	12.9	41.9	0.0	33.3	40.9	0.0	35.6
Incr Delay (d2), s/veh	139.7	2.2	0.1	6.9	253.2	0.3	8.8	0.0	0.5	23.5	0.0	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	9.1	0.3	1.3	76.7	1.0	1.8	0.0	1.3	3.0	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	182.2	19.8	11.9	49.6	276.6	13.2	50.8	0.0	33.8	64.4	0.0	41.3
LnGrp LOS	F	B	B	D	F	B	D	A	C	E	A	D
Approach Vol, veh/h		1378			2847			145				340
Approach Delay, s/veh		32.5			263.5			42.7				48.4
Approach LOS		C			F			D				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	19.9	8.4	50.2	9.7	21.7	9.6	49.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	7.3	43.7	9.5	38.7	7.5	43.5	5.0	43.2				
Max Q Clear Time (g_c+I1), s	7.4	5.1	5.0	25.7	5.9	14.5	7.0	45.2				
Green Ext Time (p_c), s	0.0	0.3	0.0	6.7	0.0	1.4	0.0	0.0				

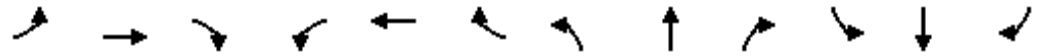
Intersection Summary

HCM 6th Ctrl Delay	173.6
HCM 6th LOS	F

Timings

49: Haven Av. & Ontario Ranch Rd.

08/23/2021

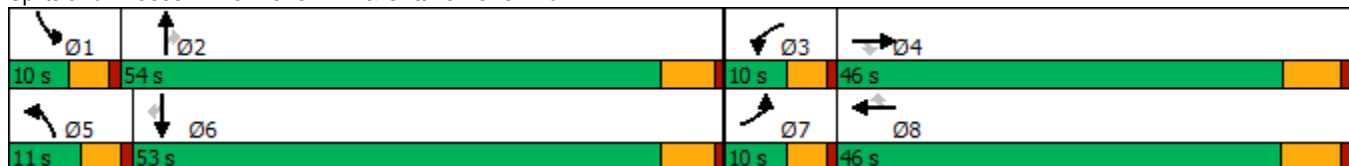


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (vph)	242	1280	44	26	2122	114	76	232	96	319	124	270
Future Volume (vph)	242	1280	44	26	2122	114	76	232	96	319	124	270
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	10.0	46.0	46.0	10.0	46.0	46.0	11.0	54.0	54.0	10.0	53.0	53.0
Total Split (%)	8.3%	38.3%	38.3%	8.3%	38.3%	38.3%	9.2%	45.0%	45.0%	8.3%	44.2%	44.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	5.5	46.8	46.8	5.3	40.0	40.0	6.5	19.7	19.7	5.5	18.7	18.7
Actuated g/C Ratio	0.06	0.51	0.51	0.06	0.43	0.43	0.07	0.21	0.21	0.06	0.20	0.20
v/c Ratio	2.54	0.52	0.05	0.29	0.80	0.16	0.68	0.61	0.24	3.36	0.34	0.66
Control Delay	746.4	19.0	0.1	53.4	26.9	4.8	72.9	38.5	5.3	1104.5	32.6	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	746.4	19.0	0.1	53.4	26.9	4.8	72.9	38.5	5.3	1104.5	32.6	24.6
LOS	F	B	A	D	C	A	E	D	A	F	C	C
Approach Delay		130.7			26.1			37.1			509.0	
Approach LOS		F			C			D			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 92.4	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.36	
Intersection Signal Delay: 129.7	Intersection LOS: F
Intersection Capacity Utilization 93.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 49: Haven Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
49: Haven Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	242	1280	44	26	2122	114	76	232	96	319	124	270
Future Volume (veh/h)	242	1280	44	26	2122	114	76	232	96	319	124	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	257	1362	34	28	2257	76	81	247	52	339	132	254
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	104	2482	770	48	2913	718	103	361	306	104	363	308
Arrive On Green	0.06	0.48	0.48	0.03	0.45	0.45	0.06	0.19	0.19	0.06	0.19	0.19
Sat Flow, veh/h	1714	5187	1610	1714	6536	1610	1714	1900	1610	1714	1900	1610
Grp Volume(v), veh/h	257	1362	34	28	2257	76	81	247	52	339	132	254
Grp Sat Flow(s),veh/h/ln	1714	1729	1610	1714	1634	1610	1714	1900	1610	1714	1900	1610
Q Serve(g_s), s	5.4	16.5	1.0	1.4	25.9	2.4	4.1	10.7	2.4	5.4	5.4	13.4
Cycle Q Clear(g_c), s	5.4	16.5	1.0	1.4	25.9	2.4	4.1	10.7	2.4	5.4	5.4	13.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	104	2482	770	48	2913	718	103	361	306	104	363	308
V/C Ratio(X)	2.46	0.55	0.04	0.58	0.77	0.11	0.79	0.68	0.17	3.25	0.36	0.83
Avail Cap(c_a), veh/h	104	2482	770	104	2913	718	124	1033	876	104	1012	857
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	16.3	12.3	42.6	20.8	14.3	41.1	33.4	30.0	41.6	31.2	34.4
Incr Delay (d2), s/veh	685.3	0.9	0.1	4.1	2.1	0.3	19.9	2.3	0.3	1035.1	0.6	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.0	5.8	0.3	0.6	8.7	0.8	2.2	4.9	0.9	32.2	2.4	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	726.9	17.2	12.4	46.6	22.9	14.6	61.0	35.7	30.3	1076.7	31.8	40.0
LnGrp LOS	F	B	B	D	C	B	E	D	C	F	C	D
Approach Vol, veh/h		1653			2361			380			725	
Approach Delay, s/veh		127.5			22.9			40.4			523.2	
Approach LOS		F			C			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	22.6	7.1	48.9	9.9	22.7	10.0	46.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	5.4	48.2	5.4	* 40	6.4	47.2	5.4	39.5				
Max Q Clear Time (g_c+I1), s	7.4	12.7	3.4	18.5	6.1	15.4	7.4	27.9				
Green Ext Time (p_c), s	0.0	1.5	0.0	9.3	0.0	1.5	0.0	9.6				

Intersection Summary

HCM 6th Ctrl Delay	128.8
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

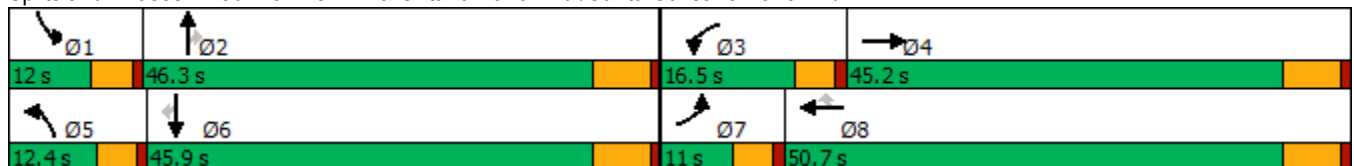


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	132	1180	388	1701	246	334	856	692	275	467	227
Future Volume (vph)	132	1180	388	1701	246	334	856	692	275	467	227
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.2	9.6	49.2	49.2	9.6	44.2	44.2	9.6	45.2	45.2
Total Split (s)	11.0	45.2	16.5	50.7	50.7	12.4	46.3	46.3	12.0	45.9	45.9
Total Split (%)	9.2%	37.7%	13.8%	42.3%	42.3%	10.3%	38.6%	38.6%	10.0%	38.3%	38.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.4	39.0	11.9	44.5	44.5	7.8	40.1	40.1	7.4	39.7	39.7
Actuated g/C Ratio	0.05	0.32	0.10	0.37	0.37	0.06	0.33	0.33	0.06	0.33	0.33
v/c Ratio	0.86	0.71	1.36	1.38	0.39	1.79	0.54	1.17	1.55	0.43	0.39
Control Delay	96.4	36.9	223.0	208.3	14.1	406.1	33.8	122.6	308.3	32.6	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.4	36.9	223.0	208.3	14.1	406.1	33.8	122.6	308.3	32.6	13.4
LOS	F	D	F	F	B	F	C	F	F	C	B
Approach Delay		42.1		190.3			132.6			106.3	
Approach LOS		D		F			F			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 120	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.79	
Intersection Signal Delay: 128.5	Intersection LOS: F
Intersection Capacity Utilization 94.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



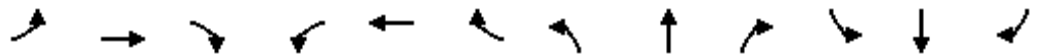


HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↑		↔↔	↑↑	↔	↔↔	↑↑↑↑	↔	↔↔	↑↑	↔
Traffic Volume (veh/h)	132	1180	195	388	1701	246	334	856	692	275	467	227
Future Volume (veh/h)	132	1180	195	388	1701	246	334	856	692	275	467	227
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	143	1283	212	422	1849	267	363	930	745	299	508	247
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	168	1851	305	311	1339	597	204	1733	538	194	1194	532
Arrive On Green	0.05	0.33	0.33	0.10	0.37	0.37	0.06	0.33	0.33	0.06	0.33	0.33
Sat Flow, veh/h	3141	5696	937	3141	3610	1610	3141	5187	1610	3141	3610	1609
Grp Volume(v), veh/h	143	1103	392	422	1849	267	363	930	745	299	508	247
Grp Sat Flow(s),veh/h/ln	1570	1634	1731	1570	1805	1610	1570	1729	1610	1570	1805	1609
Q Serve(g_s), s	5.4	23.5	23.7	11.9	44.5	15.0	7.8	17.5	40.1	7.4	13.2	14.6
Cycle Q Clear(g_c), s	5.4	23.5	23.7	11.9	44.5	15.0	7.8	17.5	40.1	7.4	13.2	14.6
Prop In Lane	1.00		0.54	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	168	1593	563	311	1339	597	204	1733	538	194	1194	532
V/C Ratio(X)	0.85	0.69	0.70	1.35	1.38	0.45	1.78	0.54	1.38	1.54	0.43	0.46
Avail Cap(c_a), veh/h	168	1593	563	311	1339	597	204	1733	538	194	1194	532
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	35.3	35.3	54.1	37.8	28.5	56.1	32.4	40.0	56.3	31.3	31.7
Incr Delay (d2), s/veh	31.1	1.3	3.7	179.3	176.3	0.5	369.2	0.3	184.4	268.7	0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	9.0	9.9	12.3	51.0	5.6	13.5	7.0	42.4	10.1	5.5	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.4	36.6	39.1	233.4	214.0	29.0	425.3	32.7	224.3	325.0	31.5	32.4
LnGrp LOS	F	D	D	F	F	C	F	C	F	F	C	C
Approach Vol, veh/h		1638			2538			2038			1054	
Approach Delay, s/veh		41.6			197.8			172.7			115.0	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	46.3	16.5	45.2	12.4	45.9	11.0	50.7				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	7.4	40.1	11.9	39.0	7.8	39.7	6.4	44.5				
Max Q Clear Time (g_c+I1), s	9.4	42.1	13.9	25.7	9.8	16.6	7.4	46.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	7.2	0.0	3.8	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	143.5
HCM 6th LOS	F



Timings  
51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021

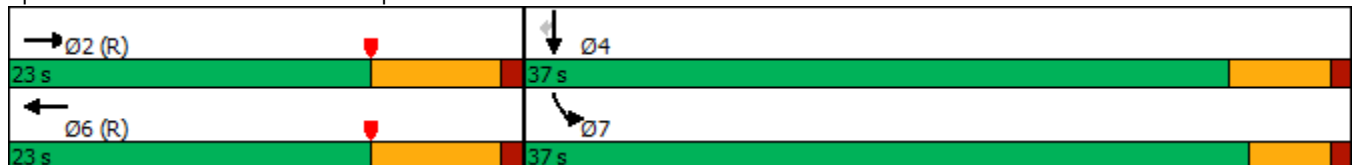


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑	↔	↑
Traffic Volume (vph)	1518	528	736	221	392	0	1567
Future Volume (vph)	1518	528	736	221	392	0	1567
Turn Type	NA	Free	NA	Free	Prot	NA	Perm
Protected Phases	2		6		7	4	
Permitted Phases		Free		Free			4
Detector Phase	2		6		7	4	4
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5	10.5
Total Split (s)	23.0		23.0		37.0	37.0	37.0
Total Split (%)	38.3%		38.3%		61.7%	61.7%	61.7%
Yellow Time (s)	5.8		5.8		3.6	4.5	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max		C-Min		None	Min	Min
Act Effct Green (s)	16.2	60.0	16.2	60.0	32.4	31.5	31.5
Actuated g/C Ratio	0.27	1.00	0.27	1.00	0.54	0.52	0.52
v/c Ratio	1.18	0.36	0.82	0.15	0.41	1.08	1.04
Control Delay	112.0	0.6	25.8	0.2	9.9	74.4	58.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	112.0	0.6	25.8	0.2	9.9	74.4	58.1
LOS	F	A	C	A	A	E	E
Approach Delay	83.3		19.9			56.2	
Approach LOS	F		B			E	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.18  
 Intersection Signal Delay: 60.4  
 Intersection LOS: E  
 Intersection Capacity Utilization 95.3%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑	↗				↘	↔	↗
Traffic Volume (veh/h)	0	1518	528	0	736	221	0	0	0	392	0	1567
Future Volume (veh/h)	0	1518	528	0	736	221	0	0	0	392	0	1567
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	1650	0	0	800	0				284	0	1399
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1647		0	1146					891	0	1586
Arrive On Green	0.00	0.32	0.00	0.00	0.32	0.00				0.49	0.00	0.49
Sat Flow, veh/h	0	5358	1610	0	3705	1610				1810	0	3220
Grp Volume(v), veh/h	0	1650	0	0	800	0				284	0	1399
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610				1810	0	1610
Q Serve(g_s), s	0.0	19.0	0.0	0.0	11.7	0.0				5.7	0.0	23.4
Cycle Q Clear(g_c), s	0.0	19.0	0.0	0.0	11.7	0.0				5.7	0.0	23.4
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1647		0	1146					891	0	1586
V/C Ratio(X)	0.00	1.00		0.00	0.70					0.32	0.00	0.88
Avail Cap(c_a), veh/h	0	1647		0	1146					977	0	1739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.22	0.00	0.00	0.87	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	20.5	0.0	0.0	18.0	0.0				9.2	0.0	13.7
Incr Delay (d2), s/veh	0.0	10.9	0.0	0.0	3.1	0.0				0.2	0.0	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.8	0.0	0.0	4.4	0.0				1.7	0.0	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	31.3	0.0	0.0	21.0	0.0				9.4	0.0	19.0
LnGrp LOS	A	F		A	C					A	A	B
Approach Vol, veh/h		1650	A		800	A					1683	
Approach Delay, s/veh		31.3			21.0						17.4	
Approach LOS		C			C						B	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		25.8		34.2		25.8						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		16.2		32.4		16.2						
Max Q Clear Time (g_c+I1), s		21.0		25.4		13.7						
Green Ext Time (p_c), s		0.0		4.2		1.2						

Intersection Summary

HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

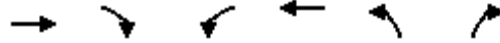
Notes

User approved volume balancing among the lanes for turning movement.  
 Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/23/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↙↘	↑↑↑	↙↘	↑
Traffic Volume (vph)	668	1243	445	637	319	365
Future Volume (vph)	668	1243	445	637	319	365
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	32.0	15.0	13.0	45.0	15.0	15.0
Total Split (%)	53.3%	25.0%	21.7%	75.0%	25.0%	25.0%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max
Act Effct Green (s)	24.7	41.0	7.0	37.7	9.0	9.0
Actuated g/C Ratio	0.41	0.68	0.12	0.63	0.15	0.15
v/c Ratio	0.34	1.22	1.19	0.21	0.84	0.56
Control Delay	11.2	119.7	134.5	5.0	34.2	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.2	119.7	134.5	5.0	34.2	9.7
LOS	B	F	F	A	C	A
Approach Delay	81.7			58.3	26.5	
Approach LOS	F			E	C	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.22  
 Intersection Signal Delay: 64.6  
 Intersection LOS: E  
 Intersection Capacity Utilization 99.7%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 52: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/23/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↵↵	↑↑↑	↵↵	↑
Traffic Volume (veh/h)	668	1243	445	637	319	365
Future Volume (veh/h)	668	1243	445	637	319	365
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	726	699	484	692	483	246
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2135	904	410	3259	543	242
Arrive On Green	0.69	0.69	0.12	0.63	0.15	0.15
Sat Flow, veh/h	5358	1610	3510	5358	3619	1610
Grp Volume(v), veh/h	726	699	484	692	483	246
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1810	1610
Q Serve(g_s), s	3.4	22.1	7.0	3.4	7.9	9.0
Cycle Q Clear(g_c), s	3.4	22.1	7.0	3.4	7.9	9.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2135	904	410	3259	543	242
V/C Ratio(X)	0.34	0.77	1.18	0.21	0.89	1.02
Avail Cap(c_a), veh/h	2135	904	410	3259	543	242
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.1	5.6	26.5	4.8	25.0	25.5
Incr Delay (d2), s/veh	0.0	0.6	104.2	0.0	19.3	62.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.1	8.5	0.7	4.4	7.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.1	6.2	130.7	4.8	44.3	88.3
LnGrp LOS	A	A	F	A	D	F
Approach Vol, veh/h	1425			1176	729	
Approach Delay, s/veh	6.2			56.6	59.1	
Approach LOS	A			E	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.0	32.0			45.0	15.0
Change Period (Y+Rc), s	6.0	7.3			7.3	6.0
Max Green Setting (Gmax), s	7.0	24.7			37.7	9.0
Max Q Clear Time (g_c+11), s	9.0	24.1			5.4	11.0
Green Ext Time (p_c), s	0.0	0.5			4.6	0.0

Intersection Summary

HCM 6th Ctrl Delay			35.6			
HCM 6th LOS			D			

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
1: Euclid Av. (SR-83) & SR-60 WB Ramps

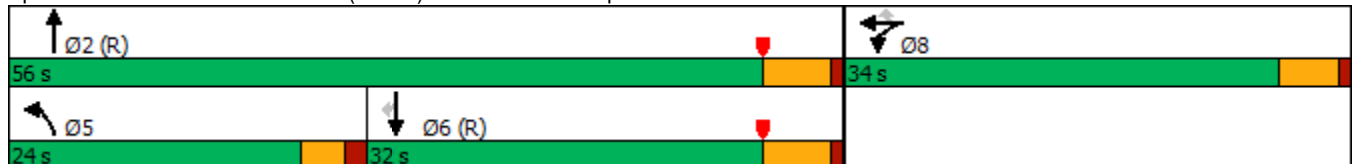


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations	↶	↷	↷	↶	↕	↕	↷
Traffic Volume (vph)	779	8	495	760	1353	1260	598
Future Volume (vph)	779	8	495	760	1353	1260	598
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	10.0	10.0	10.0
Minimum Split (s)	11.0	11.0	11.0	9.5	22.5	22.5	22.5
Total Split (s)	34.0	34.0	34.0	24.0	56.0	32.0	32.0
Total Split (%)	37.8%	37.8%	37.8%	26.7%	62.2%	35.6%	35.6%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.5	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 63 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated

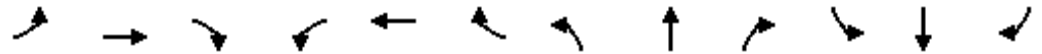
Splits and Phases: 1: Euclid Av. (SR-83) & SR-60 WB Ramps



HCM 6th Signalized Intersection Summary  
 1: Euclid Av. (SR-83) & SR-60 WB Ramps

Ontario Ranch Business Park (JN 13941)

08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↔	↗	↖	↕			↕	↗
Traffic Volume (veh/h)	0	0	0	779	8	495	760	1353	0	0	1260	598
Future Volume (veh/h)	0	0	0	779	8	495	760	1353	0	0	1260	598
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				918	0	226	792	1409	0	0	1312	418
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				1019	0	453	392	2173	0	0	1210	540
Arrive On Green				0.28	0.00	0.28	0.43	1.00	0.00	0.00	0.34	0.34
Sat Flow, veh/h				3619	0	1608	1810	3705	0	0	3705	1610
Grp Volume(v), veh/h				918	0	226	792	1409	0	0	1312	418
Grp Sat Flow(s),veh/h/ln				1810	0	1608	1810	1805	0	0	1805	1610
Q Serve(g_s), s				22.0	0.0	10.6	19.5	0.0	0.0	0.0	30.2	21.0
Cycle Q Clear(g_c), s				22.0	0.0	10.6	19.5	0.0	0.0	0.0	30.2	21.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1019	0	453	392	2173	0	0	1210	540
V/C Ratio(X)				0.90	0.00	0.50	2.02	0.65	0.00	0.00	1.08	0.77
Avail Cap(c_a), veh/h				1166	0	518	392	2173	0	0	1210	540
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				31.1	0.0	27.0	25.5	0.0	0.0	0.0	29.9	26.9
Incr Delay (d2), s/veh				8.3	0.0	0.3	459.9	0.1	0.0	0.0	51.8	10.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				10.0	0.0	3.8	55.5	0.0	0.0	0.0	20.8	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				39.4	0.0	27.4	485.4	0.1	0.0	0.0	81.8	37.2
LnGrp LOS				D	A	C	F	A	A	A	F	D
Approach Vol, veh/h					1144			2201			1730	
Approach Delay, s/veh					37.0			174.7			71.0	
Approach LOS					D			F			E	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		59.7			24.0	35.7		30.3				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.0				
Max Green Setting (Gmax), s		50.5			19.5	26.5		29.0				
Max Q Clear Time (g_c+I1), s		2.0			21.5	32.2		24.0				
Green Ext Time (p_c), s		21.4			0.0	0.0		1.3				

Intersection Summary

HCM 6th Ctrl Delay	108.3
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

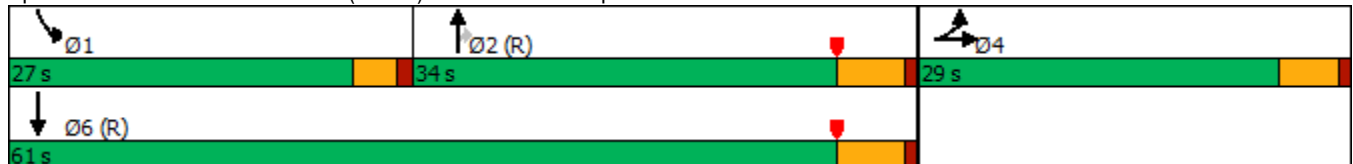


Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	505	4	1607	793	458	1582
Future Volume (vph)	505	4	1607	793	458	1582
Turn Type	Split	NA	NA	Perm	Prot	NA
Protected Phases	4	4	2		1	6
Permitted Phases				2		
Detector Phase	4	4	2	2	1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0	10.0	5.0	10.0
Minimum Split (s)	11.0	11.0	22.5	22.5	9.0	22.5
Total Split (s)	29.0	29.0	34.0	34.0	27.0	61.0
Total Split (%)	32.2%	32.2%	37.8%	37.8%	30.0%	67.8%
Yellow Time (s)	4.0	4.0	4.5	4.5	3.0	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated

Splits and Phases: 2: Euclid Av. (SR-83) & SR-60 EB Ramps



HCM 6th Signalized Intersection Summary  
 2: Euclid Av. (SR-83) & SR-60 EB Ramps

Ontario Ranch Business Park (JN 13941)

08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	505	4	587	0	0	0	0	1607	793	458	1582	0
Future Volume (veh/h)	505	4	587	0	0	0	0	1607	793	458	1582	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	515	4	532				0	1640	615	467	1614	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	483	3	427				0	1143	498	462	2226	0
Arrive On Green	0.27	0.27	0.27				0.00	0.32	0.32	0.51	1.00	0.00
Sat Flow, veh/h	1810	12	1600				0	3705	1571	1810	3705	0
Grp Volume(v), veh/h	515	0	536				0	1640	615	467	1614	0
Grp Sat Flow(s),veh/h/ln	1810	0	1612				0	1805	1571	1810	1805	0
Q Serve(g_s), s	24.0	0.0	24.0				0.0	28.5	28.5	23.0	0.0	0.0
Cycle Q Clear(g_c), s	24.0	0.0	24.0				0.0	28.5	28.5	23.0	0.0	0.0
Prop In Lane	1.00		0.99				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	483	0	430				0	1143	498	462	2226	0
V/C Ratio(X)	1.07	0.00	1.25				0.00	1.43	1.24	1.01	0.73	0.00
Avail Cap(c_a), veh/h	483	0	430				0	1143	498	462	2226	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.09	0.09	0.09	0.09	0.00
Uniform Delay (d), s/veh	33.0	0.0	33.0				0.0	30.7	30.7	22.0	0.0	0.0
Incr Delay (d2), s/veh	60.1	0.0	129.3				0.0	196.0	107.9	15.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.8	0.0	24.1				0.0	42.6	24.9	7.5	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.1	0.0	162.3				0.0	226.8	138.7	37.0	0.2	0.0
LnGrp LOS	F	A	F				A	F	F	F	A	A
Approach Vol, veh/h		1051						2255			2081	
Approach Delay, s/veh		128.4						202.8			8.5	
Approach LOS		F						F			A	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	27.0	34.0	29.0	61.0								
Change Period (Y+Rc), s	4.0	5.5	5.0	5.5								
Max Green Setting (Gmax), s	23.0	28.5	24.0	55.5								
Max Q Clear Time (g_c+I1), s	25.0	30.5	26.0	2.0								
Green Ext Time (p_c), s	0.0	0.0	0.0	27.8								

Intersection Summary

HCM 6th Ctrl Delay	113.2
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.



Timings  
3: Euclid Av. (SR-83) & Walnut Av.

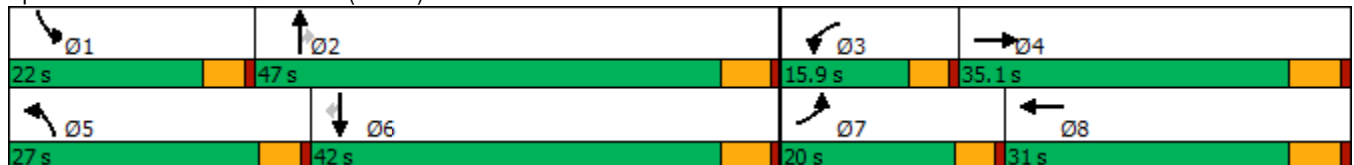


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕	↘	↕	↘	↕	↗	↘↗	↕↖	↗
Traffic Volume (vph)	179	449	85	449	251	2071	90	320	1616	265
Future Volume (vph)	179	449	85	449	251	2071	90	320	1616	265
Turn Type	Prot	NA	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8	5	2		1	6	
Permitted Phases							2			6
Detector Phase	7	4	3	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.8	9.6	29.8	9.6	27.4	27.4	9.6	29.4	29.4
Total Split (s)	20.0	35.1	15.9	31.0	27.0	47.0	47.0	22.0	42.0	42.0
Total Split (%)	16.7%	29.3%	13.3%	25.8%	22.5%	39.2%	39.2%	18.3%	35.0%	35.0%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.4	4.4	3.6	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.4	5.4	4.6	5.4	5.4
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 116.7  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated






























Splits and Phases: 3: Euclid Av. (SR-83) & Walnut Av.



HCM 6th Signalized Intersection Summary  
 3: Euclid Av. (SR-83) & Walnut Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  		 	  	
Traffic Volume (veh/h)	179	449	181	85	449	170	251	2071	90	320	1616	265
Future Volume (veh/h)	179	449	181	85	449	170	251	2071	90	320	1616	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	190	478	170	90	478	155	267	2203	69	340	1719	228
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	217	688	243	112	543	175	294	1899	588	395	1662	515
Arrive On Green	0.13	0.26	0.26	0.07	0.20	0.20	0.17	0.37	0.37	0.13	0.32	0.32
Sat Flow, veh/h	1714	2605	920	1714	2669	859	1714	5187	1608	3141	5187	1609
Grp Volume(v), veh/h	190	330	318	90	322	311	267	2203	69	340	1719	228
Grp Sat Flow(s),veh/h/ln	1714	1805	1719	1714	1805	1723	1714	1729	1608	1570	1729	1609
Q Serve(g_s), s	12.4	18.8	19.1	5.9	19.8	20.0	17.5	41.8	3.2	12.1	36.6	12.8
Cycle Q Clear(g_c), s	12.4	18.8	19.1	5.9	19.8	20.0	17.5	41.8	3.2	12.1	36.6	12.8
Prop In Lane	1.00		0.53	1.00		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	217	477	454	112	367	350	294	1899	588	395	1662	515
V/C Ratio(X)	0.88	0.69	0.70	0.80	0.88	0.89	0.91	1.16	0.12	0.86	1.03	0.44
Avail Cap(c_a), veh/h	231	477	454	170	398	380	336	1899	588	478	1662	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.0	37.9	37.9	52.7	44.1	44.2	46.5	36.2	24.0	49.0	38.8	30.7
Incr Delay (d2), s/veh	26.9	4.3	4.7	8.1	18.4	20.6	24.0	78.4	0.4	11.2	31.5	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	8.6	8.3	2.7	10.4	10.2	9.2	30.5	1.3	5.3	19.7	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.9	42.1	42.7	60.8	62.5	64.8	70.4	114.6	24.4	60.2	70.4	33.5
LnGrp LOS	E	D	D	E	E	E	E	F	C	E	F	C
Approach Vol, veh/h		838			723			2539			2287	
Approach Delay, s/veh		50.0			63.3			107.5			65.2	
Approach LOS		D			E			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	47.2	12.1	36.0	24.2	42.0	19.0	29.0				
Change Period (Y+Rc), s	4.6	5.4	4.6	5.8	4.6	5.4	4.6	5.8				
Max Green Setting (Gmax), s	17.4	41.6	11.3	29.3	22.4	36.6	15.4	25.2				
Max Q Clear Time (g_c+I1), s	14.1	43.8	7.9	21.1	19.5	38.6	14.4	22.0				
Green Ext Time (p_c), s	0.2	0.0	0.0	2.3	0.1	0.0	0.0	1.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				79.8								
HCM 6th LOS				E								

Timings  
4: Euclid Av. (SR-83) & Riverside Dr.

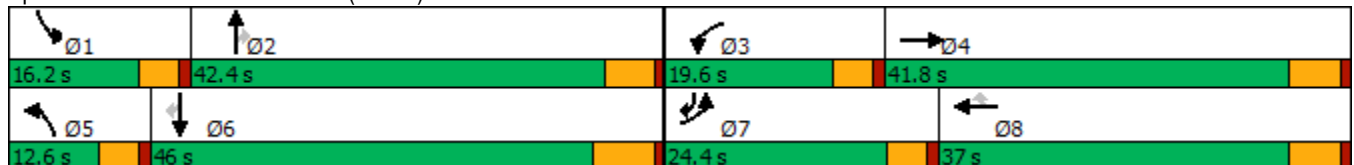


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	234	732	229	506	80	230	1864	295	173	1394	345
Future Volume (vph)	234	732	229	506	80	230	1864	295	173	1394	345
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4	3	8		5	2		1	6	7
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	7
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	24.4	41.8	19.6	37.0	37.0	12.6	42.4	42.4	16.2	46.0	24.4
Total Split (%)	20.3%	34.8%	16.3%	30.8%	30.8%	10.5%	35.3%	35.3%	13.5%	38.3%	20.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.



HCM 6th Signalized Intersection Summary  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	732	208	229	506	80	230	1864	295	173	1394	345
Future Volume (veh/h)	234	732	208	229	506	80	230	1864	295	173	1394	345
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	244	762	192	239	527	67	240	1942	253	180	1452	268
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	269	435	110	212	955	425	113	1103	492	164	1210	785
Arrive On Green	0.16	0.30	0.30	0.12	0.26	0.26	0.07	0.31	0.31	0.10	0.34	0.34
Sat Flow, veh/h	1714	1465	369	1714	3610	1608	1714	3610	1610	1714	3610	1590
Grp Volume(v), veh/h	244	0	954	239	527	67	240	1942	253	180	1452	268
Grp Sat Flow(s),veh/h/ln	1714	0	1834	1714	1805	1608	1714	1805	1610	1714	1805	1590
Q Serve(g_s), s	16.9	0.0	36.0	15.0	15.2	3.9	8.0	37.0	15.7	11.6	40.6	12.5
Cycle Q Clear(g_c), s	16.9	0.0	36.0	15.0	15.2	3.9	8.0	37.0	15.7	11.6	40.6	12.5
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	269	0	545	212	955	425	113	1103	492	164	1210	785
V/C Ratio(X)	0.91	0.00	1.75	1.13	0.55	0.16	2.12	1.76	0.51	1.10	1.20	0.34
Avail Cap(c_a), veh/h	280	0	545	212	955	425	113	1103	492	164	1210	785
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.2	0.0	42.6	53.1	38.4	34.2	56.5	42.1	34.6	54.8	40.3	18.8
Incr Delay (d2), s/veh	29.5	0.0	345.1	99.6	0.7	0.2	532.1	346.0	3.8	98.3	98.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	0.0	67.8	12.2	6.6	1.5	20.1	68.4	6.5	9.4	33.8	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.7	0.0	387.7	152.7	39.1	34.4	588.7	388.1	38.5	153.0	138.3	20.0
LnGrp LOS	E	A	F	F	D	C	F	F	D	F	F	B
Approach Vol, veh/h		1198			833			2435			1900	
Approach Delay, s/veh		325.0			71.3			371.5			123.0	
Approach LOS		F			E			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	43.5	19.6	41.8	12.6	47.1	23.6	37.8				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	11.6	* 37	15.0	36.0	8.0	39.5	19.8	31.2				
Max Q Clear Time (g_c+I1), s	13.6	39.0	17.0	38.0	10.0	42.6	18.9	17.2				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9				

Intersection Summary

HCM 6th Ctrl Delay	249.3
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
5: Euclid Av. (SR-83) & Chino Av.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	134	498	72	137	230	79	2188	278	39	1579	87
Future Volume (vph)	134	498	72	137	230	79	2188	278	39	1579	87
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	28.8	28.8	28.8	33.8	33.8	9.6	24.2	24.2	9.6	31.5	31.5
Total Split (s)	44.0	44.0	44.0	44.0	44.0	12.4	65.0	65.0	11.0	63.6	63.6
Total Split (%)	36.7%	36.7%	36.7%	36.7%	36.7%	10.3%	54.2%	54.2%	9.2%	53.0%	53.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.6	4.2	4.2	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8		5.8	4.6	5.2	5.2	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 119.8  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated























Splits and Phases: 5: Euclid Av. (SR-83) & Chino Av.



HCM 6th Signalized Intersection Summary  
 5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	498	72	137	230	20	79	2188	278	39	1579	87
Future Volume (veh/h)	134	498	72	137	230	20	79	2188	278	39	1579	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	144	535	54	147	247	18	85	2353	228	42	1698	61
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	267	607	514	66	68	4	106	1833	801	54	1724	753
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.06	0.51	0.51	0.03	0.48	0.48
Sat Flow, veh/h	1132	1900	1610	79	213	13	1714	3610	1577	1714	3610	1577
Grp Volume(v), veh/h	144	535	54	412	0	0	85	2353	228	42	1698	61
Grp Sat Flow(s),veh/h/ln	1132	1900	1610	306	0	0	1714	1805	1577	1714	1805	1577
Q Serve(g_s), s	0.0	31.9	2.8	6.3	0.0	0.0	5.9	60.7	9.9	2.9	55.5	2.5
Cycle Q Clear(g_c), s	23.2	31.9	2.8	38.2	0.0	0.0	5.9	60.7	9.9	2.9	55.5	2.5
Prop In Lane	1.00		1.00	0.36		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	267	607	514	139	0	0	106	1833	801	54	1724	753
V/C Ratio(X)	0.54	0.88	0.10	2.97	0.00	0.00	0.80	1.28	0.28	0.78	0.99	0.08
Avail Cap(c_a), veh/h	267	607	514	139	0	0	112	1833	801	92	1724	753
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	38.5	28.7	50.9	0.0	0.0	55.4	29.4	16.9	57.5	30.8	17.0
Incr Delay (d2), s/veh	2.2	14.2	0.1	907.5	0.0	0.0	29.1	131.9	0.9	8.7	18.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	16.6	1.1	39.0	0.0	0.0	3.3	56.6	3.5	1.3	25.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	52.7	28.7	958.4	0.0	0.0	84.5	161.3	17.8	66.2	49.2	17.2
LnGrp LOS	D	D	C	F	A	A	F	F	B	E	D	B
Approach Vol, veh/h		733			412			2666			1801	
Approach Delay, s/veh		48.0			958.4			146.6			48.6	
Approach LOS		D			F			F			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	67.2		44.0	12.0	63.6		44.0				
Change Period (Y+Rc), s	4.6	* 6.5		5.8	4.6	6.5		5.8				
Max Green Setting (Gmax), s	6.4	* 60		38.2	7.8	57.1		38.2				
Max Q Clear Time (g_c+I1), s	4.9	62.7		33.9	7.9	57.5		40.2				
Green Ext Time (p_c), s	0.0	0.0		1.6	0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	161.9
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
6: Euclid Av. (SR-83) & Schaefer Av.

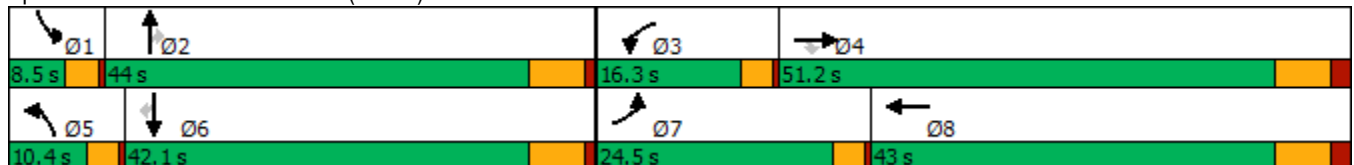


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	487	463	267	95	158	250	2125	100	203	1609	455
Future Volume (vph)	487	463	267	95	158	250	2125	100	203	1609	455
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.0	42.0	13.5	43.0	8.5	33.0	33.0	8.5	28.0	28.0
Total Split (s)	24.5	51.2	51.2	16.3	43.0	10.4	44.0	44.0	8.5	42.1	42.1
Total Split (%)	20.4%	42.7%	42.7%	13.6%	35.8%	8.7%	36.7%	36.7%	7.1%	35.1%	35.1%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	7.0	7.0	3.5	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 106  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 6: Euclid Av. (SR-83) & Schaefer Av.



HCM 6th Signalized Intersection Summary  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	487	463	267	95	158	75	250	2125	100	203	1609	455
Future Volume (veh/h)	487	463	267	95	158	75	250	2125	100	203	1609	455
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	492	468	229	96	160	71	253	2146	83	205	1625	430
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	358	533	451	159	205	91	118	1365	609	85	1297	578
Arrive On Green	0.21	0.28	0.28	0.09	0.16	0.16	0.07	0.38	0.38	0.05	0.36	0.36
Sat Flow, veh/h	1714	1900	1610	1714	1247	553	1714	3610	1610	1714	3610	1610
Grp Volume(v), veh/h	492	468	229	96	0	231	253	2146	83	205	1625	430
Grp Sat Flow(s),veh/h/ln	1714	1900	1610	1714	0	1800	1714	1805	1610	1714	1805	1610
Q Serve(g_s), s	21.0	23.6	12.0	5.4	0.0	12.4	6.9	38.0	3.4	5.0	36.1	23.5
Cycle Q Clear(g_c), s	21.0	23.6	12.0	5.4	0.0	12.4	6.9	38.0	3.4	5.0	36.1	23.5
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	358	533	451	159	0	295	118	1365	609	85	1297	578
V/C Ratio(X)	1.37	0.88	0.51	0.60	0.00	0.78	2.15	1.57	0.14	2.40	1.25	0.74
Avail Cap(c_a), veh/h	358	836	708	218	0	645	118	1365	609	85	1297	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	34.5	30.3	43.8	0.0	40.3	46.8	31.2	20.5	47.7	32.2	28.1
Incr Delay (d2), s/veh	184.8	5.8	0.7	1.4	0.0	3.4	544.4	261.0	0.1	665.8	120.4	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.8	11.1	4.5	2.3	0.0	5.5	20.6	64.1	1.2	17.8	35.7	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	224.6	40.3	31.0	45.2	0.0	43.7	591.2	292.2	20.6	713.6	152.6	33.3
LnGrp LOS	F	D	C	D	A	D	F	F	C	F	F	C
Approach Vol, veh/h		1189			327			2482			2260	
Approach Delay, s/veh		114.8			44.1			313.6			180.8	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	44.0	12.8	35.2	10.4	42.1	24.5	23.5				
Change Period (Y+Rc), s	3.5	6.0	3.5	7.0	3.5	6.0	3.5	7.0				
Max Green Setting (Gmax), s	5.0	38.0	12.8	44.2	6.9	36.1	21.0	36.0				
Max Q Clear Time (g_c+I1), s	7.0	40.0	7.4	25.6	8.9	38.1	23.0	14.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			213.8									
HCM 6th LOS			F									



Timings  
7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

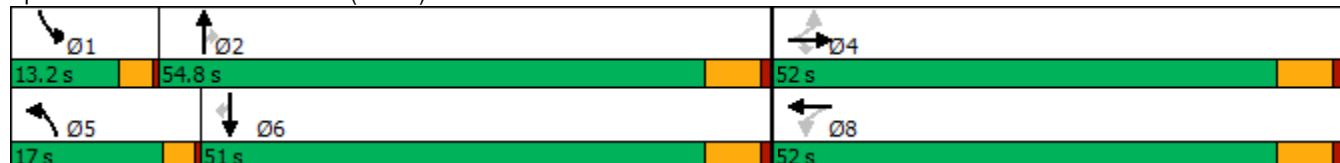


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	334	1266	387	472	835	253	1922	350	221	1659	220
Future Volume (vph)	334	1266	387	472	835	253	1922	350	221	1659	220
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.0	46.0	46.0	49.0	49.0	8.5	29.0	29.0	8.5	40.0	40.0
Total Split (s)	52.0	52.0	52.0	52.0	52.0	17.0	54.8	54.8	13.2	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	14.2%	45.7%	45.7%	11.0%	42.5%	42.5%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 100  
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 7: Euclid Av. (SR-83) & Edison Av.



HCM 6th Signalized Intersection Summary  
 7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	334	1266	387	472	835	404	253	1922	350	221	1659	220
Future Volume (veh/h)	334	1266	387	472	835	404	253	1922	350	221	1659	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	352	1333	325	497	879	419	266	2023	360	233	1746	200
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	60	712	604	60	454	216	193	1468	653	139	1354	604
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.11	0.41	0.41	0.08	0.38	0.38
Sat Flow, veh/h	431	1900	1610	305	1210	577	1714	3610	1606	1714	3610	1610
Grp Volume(v), veh/h	352	1333	325	497	0	1298	266	2023	360	233	1746	200
Grp Sat Flow(s),veh/h/ln	431	1900	1610	305	0	1787	1714	1805	1606	1714	1805	1610
Q Serve(g_s), s	0.0	45.0	19.0	0.0	0.0	45.0	13.5	48.8	20.6	9.7	45.0	10.6
Cycle Q Clear(g_c), s	45.0	45.0	19.0	45.0	0.0	45.0	13.5	48.8	20.6	9.7	45.0	10.6
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	60	713	604	60	0	670	193	1468	653	139	1354	604
V/C Ratio(X)	5.87	1.87	0.54	8.28	0.00	1.94	1.38	1.38	0.55	1.68	1.29	0.33
Avail Cap(c_a), veh/h	60	713	604	60	0	670	193	1468	653	139	1354	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.0	37.5	29.4	60.0	0.0	37.5	53.2	35.6	27.2	55.2	37.5	26.8
Incr Delay (d2), s/veh	2225.6	397.2	1.0	3311.3	0.0	426.9	199.7	174.5	1.0	335.9	136.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	38.9	98.3	7.2	57.0	0.0	98.0	16.3	55.1	7.5	16.9	43.8	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	2285.6	434.7	30.3	3371.3	0.0	464.4	252.9	210.1	28.2	391.1	173.6	27.1
LnGrp LOS	F	F	C	F	A	F	F	F	C	F	F	C
Approach Vol, veh/h		2010			1795			2649			2179	
Approach Delay, s/veh		693.5			1269.2			189.7			183.4	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.2	54.8		52.0	17.0	51.0		52.0				
Change Period (Y+Rc), s	3.5	6.0		7.0	3.5	6.0		7.0				
Max Green Setting (Gmax), s	9.7	48.8		45.0	13.5	45.0		45.0				
Max Q Clear Time (g_c+I1), s	11.7	50.8		47.0	15.5	47.0		47.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay	529.8											
HCM 6th LOS	F											

Timings  
8: Euclid Av. (SR-83) & Eucalyptus Av.

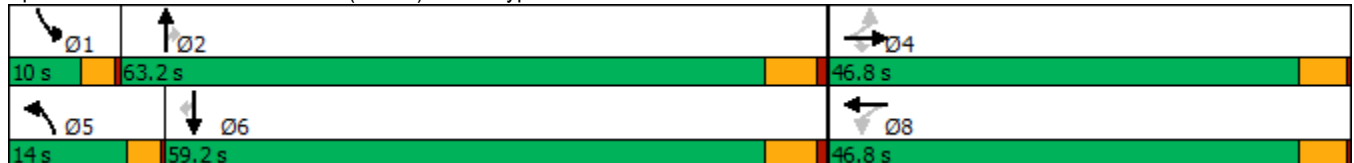


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	51	205	266	413	168	148	1941	383	286	1869	80
Future Volume (vph)	51	205	266	413	168	148	1941	383	286	1869	80
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.8	46.8	46.8	46.8	46.8	8.5	30.7	30.7	8.5	37.7	37.7
Total Split (s)	46.8	46.8	46.8	46.8	46.8	14.0	63.2	63.2	10.0	59.2	59.2
Total Split (%)	39.0%	39.0%	39.0%	39.0%	39.0%	11.7%	52.7%	52.7%	8.3%	49.3%	49.3%
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	3.0	4.7	4.7	3.0	4.7	4.7
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.8	4.8	3.5	5.7	5.7	3.5	5.7	5.7
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 8: Euclid Av. (SR-83) & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	205	266	413	168	314	148	1941	383	286	1869	80
Future Volume (veh/h)	51	205	266	413	168	314	148	1941	383	286	1869	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	55	223	177	449	183	338	161	2110	415	311	2032	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	116	665	564	324	209	386	150	1730	772	93	1609	703
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.09	0.48	0.48	0.05	0.45	0.45
Sat Flow, veh/h	895	1900	1610	1000	598	1104	1714	3610	1610	1714	3610	1577
Grp Volume(v), veh/h	55	223	177	449	0	521	161	2110	415	311	2032	75
Grp Sat Flow(s),veh/h/ln	895	1900	1610	1000	0	1701	1714	1805	1610	1714	1805	1577
Q Serve(g_s), s	7.4	10.4	9.6	31.6	0.0	34.4	10.5	57.5	21.7	6.5	53.5	3.3
Cycle Q Clear(g_c), s	41.8	10.4	9.6	42.0	0.0	34.4	10.5	57.5	21.7	6.5	53.5	3.3
Prop In Lane	1.00		1.00	1.00		0.65	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	116	665	564	324	0	595	150	1730	772	93	1609	703
V/C Ratio(X)	0.47	0.34	0.31	1.39	0.00	0.87	1.07	1.22	0.54	3.35	1.26	0.11
Avail Cap(c_a), veh/h	116	665	564	324	0	595	150	1730	772	93	1609	703
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	28.7	28.5	47.1	0.0	36.5	54.8	31.3	21.9	56.8	33.3	19.3
Incr Delay (d2), s/veh	2.2	0.2	0.2	192.3	0.0	13.5	94.4	104.4	0.7	1084.1	123.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.7	3.6	26.9	0.0	15.8	8.3	47.3	7.6	30.7	48.6	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.3	28.9	28.7	239.5	0.0	50.0	149.1	135.6	22.7	1140.9	156.5	19.4
LnGrp LOS	E	C	C	F	A	D	F	F	C	F	F	B
Approach Vol, veh/h		455			970			2686			2418	
Approach Delay, s/veh		32.4			137.7			119.0			278.9	
Approach LOS		C			F			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	63.2		46.8	14.0	59.2		46.8				
Change Period (Y+Rc), s	3.5	5.7		4.8	3.5	5.7		4.8				
Max Green Setting (Gmax), s	6.5	57.5		42.0	10.5	53.5		42.0				
Max Q Clear Time (g_c+I1), s	8.5	59.5		43.8	12.5	55.5		44.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay	175.0											
HCM 6th LOS	F											

Timings  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

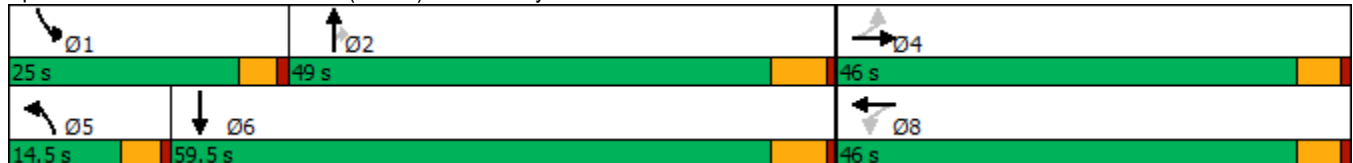


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↕		↕	↙	↕	↗	↙	↕
Traffic Volume (vph)	14	37	798	3	5	1903	866	425	2122
Future Volume (vph)	14	37	798	3	5	1903	866	425	2122
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	15.0	15.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	10.0	10.0	46.0	46.0	14.5	28.0	28.0	14.5	28.0
Total Split (s)	46.0	46.0	46.0	46.0	14.5	49.0	49.0	25.0	59.5
Total Split (%)	38.3%	38.3%	38.3%	38.3%	12.1%	40.8%	40.8%	20.8%	49.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	5.0	5.0	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		5.0		5.0	4.5	6.0	6.0	4.5	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated





















Splits and Phases: 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 6th Signalized Intersection Summary  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	37	15	798	3	525	5	1903	866	425	2122	1
Future Volume (veh/h)	14	37	15	798	3	525	5	1903	866	425	2122	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	15	40	15	867	3	561	5	2068	877	462	2307	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	137	355	124	366	1	205	22	1294	577	293	1864	0
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.01	0.36	0.36	0.17	0.52	0.00
Sat Flow, veh/h	294	1039	364	929	3	601	1714	3610	1610	1714	3705	0
Grp Volume(v), veh/h	70	0	0	1431	0	0	5	2068	877	462	2307	0
Grp Sat Flow(s),veh/h/ln	1696	0	0	1533	0	0	1714	1805	1610	1714	1805	0
Q Serve(g_s), s	0.0	0.0	0.0	37.9	0.0	0.0	0.3	43.0	43.0	20.5	62.0	0.0
Cycle Q Clear(g_c), s	3.1	0.0	0.0	41.0	0.0	0.0	0.3	43.0	43.0	20.5	62.0	0.0
Prop In Lane	0.21		0.21	0.61		0.39	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	616	0	0	572	0	0	22	1294	577	293	1864	0
V/C Ratio(X)	0.11	0.00	0.00	2.50	0.00	0.00	0.23	1.60	1.52	1.58	1.24	0.00
Avail Cap(c_a), veh/h	616	0	0	572	0	0	143	1294	577	293	1864	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.0	0.0	0.0	40.9	0.0	0.0	58.6	38.5	38.5	49.8	29.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	681.1	0.0	0.0	1.9	273.1	242.8	275.7	111.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	124.7	0.0	0.0	0.2	66.6	54.5	30.8	52.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	0.0	0.0	722.0	0.0	0.0	60.6	311.6	281.3	325.5	140.7	0.0
LnGrp LOS	C	A	A	F	A	A	E	F	F	F	F	A
Approach Vol, veh/h		70			1431			2950			2769	
Approach Delay, s/veh		27.1			722.0			302.1			171.6	
Approach LOS		C			F			F			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.0	49.0		46.0	6.0	68.0		46.0				
Change Period (Y+Rc), s	4.5	6.0		5.0	4.5	6.0		5.0				
Max Green Setting (Gmax), s	20.5	43.0		41.0	10.0	53.5		41.0				
Max Q Clear Time (g_c+I1), s	22.5	45.0		5.1	2.3	64.0		43.0				
Green Ext Time (p_c), s	0.0	0.0		0.3	0.0	0.0		0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay	332.6											
HCM 6th LOS	F											

Intersection													
Int Delay, s/veh		16.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	<b>T</b>	<b>4T</b>		<b>T</b>	<b>T</b>		<b>T</b>	<b>T</b>				<b>4T</b>	
Traffic Vol, veh/h	0	774	53	40	568	0	90	0	66	0	0	0	
Future Vol, veh/h	0	774	53	40	568	0	90	0	66	0	0	0	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	200	-	-	200	-	-	200	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	
Mvmt Flow	0	841	58	43	617	0	98	0	72	0	0	0	

Major/Minor	Major1	Major2	Minor1	Minor2	
Conflicting Flow All	617	0	899	0	1573 1573 450 1124 1602 617
Stage 1	-	-	-	-	870 870 - 703 703
Stage 2	-	-	-	-	703 703 - 421 899 -
Critical Hdwy	4.1	-	4.1	-	7.3 6.5 6.9 7.3 6.5 6.2
Critical Hdwy Stg 1	-	-	-	-	6.5 5.5 - 6.1 5.5 -
Critical Hdwy Stg 2	-	-	-	-	6.1 5.5 - 6.5 5.5 -
Follow-up Hdwy	2.2	-	2.2	-	3.5 4 3.3 3.5 4 3.3
Pot Cap-1 Maneuver	973	-	764	-	~ 83 111 562 173 107 494
Stage 1	-	-	-	-	317 372 - 431 443 -
Stage 2	-	-	-	-	431 443 - 586 360 -
Platoon blocked, %	-	-	-	-	- - - - -
Mov Cap-1 Maneuver	973	-	764	-	~ 79 105 562 144 101 494
Mov Cap-2 Maneuver	-	-	-	-	~ 79 105 - 144 101 -
Stage 1	-	-	-	-	317 372 - 431 418 -
Stage 2	-	-	-	-	407 418 - 511 360 -

Approach	EB	WB	NB	SB					
HCM Control Delay, s	0	0.7	162.3	0					
HCMLOS			F	A					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	79	562	973	-	-	764	-	-	-
HCM Lane V/C Ratio	1.238	0.128	-	-	-	0.057	-	-	-
HCM Control Delay (s)	272.3	12.3	0	-	-	10	-	-	0
HCM Lane LOS	F	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	7.3	0.4	0	-	-	0.2	-	-	-

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	10	0	8	0	149	4	3	90	0
Future Vol, veh/h	0	0	0	10	0	8	0	149	4	3	90	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	11	0	9	0	162	4	3	98	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	273	270	98	268	268	164	98	0	0	166	0	0
Stage 1	104	104	-	164	164	-	-	-	-	-	-	-
Stage 2	169	166	-	104	104	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	684	640	963	689	641	886	1508	-	-	1424	-	-
Stage 1	907	813	-	843	766	-	-	-	-	-	-	-
Stage 2	838	765	-	907	813	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	676	639	963	688	640	886	1508	-	-	1424	-	-
Mov Cap-2 Maneuver	755	696	-	766	699	-	-	-	-	-	-	-
Stage 1	907	811	-	843	766	-	-	-	-	-	-	-
Stage 2	830	765	-	905	811	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.5	0	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1508	-	-	-	815	1424	-
HCM Lane V/C Ratio	-	-	-	-	0.024	0.002	-
HCM Control Delay (s)	0	-	-	0	9.5	7.5	-
HCM Lane LOS	A	-	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0	-



Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	11	0	7	0	146	4	2	98	0
Future Vol, veh/h	0	0	0	11	0	7	0	146	4	2	98	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	12	0	8	0	159	4	2	107	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	276	274	107	272	272	161	107	0	0	163	0	0
Stage 1	111	111	-	161	161	-	-	-	-	-	-	-
Stage 2	165	163	-	111	111	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	680	637	953	685	638	889	1497	-	-	1428	-	-
Stage 1	899	807	-	846	769	-	-	-	-	-	-	-
Stage 2	842	767	-	899	807	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	673	636	953	684	637	889	1497	-	-	1428	-	-
Mov Cap-2 Maneuver	756	696	-	765	698	-	-	-	-	-	-	-
Stage 1	899	806	-	846	769	-	-	-	-	-	-	-
Stage 2	835	767	-	898	806	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.6	0	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1497	-	-	-	809	1428	-
HCM Lane V/C Ratio	-	-	-	-	0.024	0.002	-
HCM Control Delay (s)	0	-	-	0	9.6	7.5	-
HCM Lane LOS	A	-	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0	-

Intersection						
Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	8	9	141	3	3	106
Future Vol, veh/h	8	9	141	3	3	106
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	10	153	3	3	115

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	276	155	0	0	156
Stage 1	155	-	-	-	-
Stage 2	121	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	718	896	-	-	1436
Stage 1	878	-	-	-	-
Stage 2	909	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	717	896	-	-	1436
Mov Cap-2 Maneuver	791	-	-	-	-
Stage 1	878	-	-	-	-
Stage 2	907	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	843	1436
HCM Lane V/C Ratio	-	-	0.022	0.002
HCM Control Delay (s)	-	-	9.4	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	4	7	137	1	2	112
Future Vol, veh/h	4	7	137	1	2	112
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	8	149	1	2	122

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	276	150	0	0	150
Stage 1	150	-	-	-	-
Stage 2	126	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	718	902	-	-	1444
Stage 1	883	-	-	-	-
Stage 2	905	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	717	902	-	-	1444
Mov Cap-2 Maneuver	792	-	-	-	-
Stage 1	883	-	-	-	-
Stage 2	904	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	859	1444
HCM Lane V/C Ratio	-	-	0.014	0.002
HCM Control Delay (s)	-	-	9.3	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	8	6	132	3	2	114
Future Vol, veh/h	8	6	132	3	2	114
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	2	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	7	143	3	2	124

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	273	145	0	0	146
Stage 1	145	-	-	-	-
Stage 2	128	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	721	908	-	-	1448
Stage 1	887	-	-	-	-
Stage 2	903	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	720	908	-	-	1448
Mov Cap-2 Maneuver	793	-	-	-	-
Stage 1	887	-	-	-	-
Stage 2	902	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	839	1448
HCM Lane V/C Ratio	-	-	0.018	0.002
HCM Control Delay (s)	-	-	9.4	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	13	0	6	0	129	5	2	120	0
Future Vol, veh/h	0	0	0	13	0	6	0	129	5	2	120	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	14	0	7	0	140	5	2	130	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	280	279	130	277	277	143	130	0	0	145	0	0
Stage 1	134	134	-	143	143	-	-	-	-	-	-	-
Stage 2	146	145	-	134	134	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	676	632	925	679	634	910	1468	-	-	1450	-	-
Stage 1	874	789	-	865	782	-	-	-	-	-	-	-
Stage 2	861	781	-	874	789	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	671	631	925	678	633	910	1468	-	-	1450	-	-
Mov Cap-2 Maneuver	758	695	-	764	697	-	-	-	-	-	-	-
Stage 1	874	788	-	865	782	-	-	-	-	-	-	-
Stage 2	855	781	-	873	788	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.6	0	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1468	-	-	-	805	1450	-
HCM Lane V/C Ratio	-	-	-	-	0.026	0.001	-
HCM Control Delay (s)	0	-	-	0	9.6	7.5	-
HCM Lane LOS	A	-	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0	-

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↔		↔	↔	
Traffic Vol, veh/h	0	0	0	2	0	6	0	127	1	2	130	0
Future Vol, veh/h	0	0	0	2	0	6	0	127	1	2	130	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	100	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	0	0	2	0	7	0	138	1	2	141	0

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	287	284	141	284	284	139	-	0	0	139	0	0
Stage 1	145	145	-	139	139	-	-	-	-	-	-	-
Stage 2	142	139	-	145	145	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	-	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	-	-	-	2.2	-	-
Pot Cap-1 Maneuver	669	628	912	672	628	915	0	-	-	1457	-	-
Stage 1	863	781	-	869	785	-	0	-	-	-	-	-
Stage 2	866	785	-	863	781	-	0	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	664	627	912	671	627	915	-	-	-	1457	-	-
Mov Cap-2 Maneuver	755	693	-	760	693	-	-	-	-	-	-	-
Stage 1	863	780	-	869	785	-	-	-	-	-	-	-
Stage 2	860	785	-	862	780	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9.2	0	0.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	-	-	-	871	1457	-
HCM Lane V/C Ratio	-	-	-	0.01	0.001	-
HCM Control Delay (s)	-	-	0	9.2	7.5	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	0	-

Intersection						
Int Delay, s/veh	127.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↕		↘	↗
Traffic Vol, veh/h	22	1261	1213	22	113	87
Future Vol, veh/h	22	1261	1213	22	113	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	24	1371	1318	24	123	95

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1342	0	-	0	2749 671
Stage 1	-	-	-	-	1330 -
Stage 2	-	-	-	-	1419 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	520	-	-	-	~19 404
Stage 1	-	-	-	-	215 -
Stage 2	-	-	-	-	226 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	520	-	-	-	~18 404
Mov Cap-2 Maneuver	-	-	-	-	~18 -
Stage 1	-	-	-	-	205 -
Stage 2	-	-	-	-	226 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	\$ 1726
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	520	-	-	-	18	404
HCM Lane V/C Ratio	0.046	-	-	-	6.824	0.234
HCM Control Delay (s)	12.3	-	-	-	\$ 3042.1	16.6
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.1	-	-	-	16	0.9

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1278	1200	2	6	2
Future Vol, veh/h	1	1278	1200	2	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	1389	1304	2	7	2

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	1306	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	537	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	537	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	26.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	537	-	-	-	178
HCM Lane V/C Ratio	0.002	-	-	-	0.049
HCM Control Delay (s)	11.7	-	-	-	26.3
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.2



Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑	↘	
Traffic Vol, veh/h	761	3	7	573	10	20
Future Vol, veh/h	761	3	7	573	10	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	827	3	8	623	11	22

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	830	0	1468
Stage 1	-	-	-	-	829
Stage 2	-	-	-	-	639
Critical Hdwy	-	-	4.1	-	6.6
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	811	-	131
Stage 1	-	-	-	-	394
Stage 2	-	-	-	-	530
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	811	-	130
Mov Cap-2 Maneuver	-	-	-	-	321
Stage 1	-	-	-	-	394
Stage 2	-	-	-	-	525

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	13.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	462	-	-	811	-
HCM Lane V/C Ratio	0.071	-	-	0.009	-
HCM Control Delay (s)	13.4	-	-	9.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑	↑	↑
Traffic Vol, veh/h	779	3	7	570	10	20
Future Vol, veh/h	779	3	7	570	10	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	847	3	8	620	11	22

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	850	0	1485
Stage 1	-	-	-	-	849
Stage 2	-	-	-	-	636
Critical Hdwy	-	-	4.1	-	6.6
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	797	-	128
Stage 1	-	-	-	-	385
Stage 2	-	-	-	-	531
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	797	-	127
Mov Cap-2 Maneuver	-	-	-	-	316
Stage 1	-	-	-	-	385
Stage 2	-	-	-	-	526

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	13.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	455	-	-	797	-
HCM Lane V/C Ratio	0.072	-	-	0.01	-
HCM Control Delay (s)	13.5	-	-	9.6	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑↑		↘	
Traffic Vol, veh/h	1	1283	1200	2	6	2
Future Vol, veh/h	1	1283	1200	2	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	1395	1304	2	7	2

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1306	0	-	0	2702 653
Stage 1	-	-	-	-	1305 -
Stage 2	-	-	-	-	1397 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	537	-	-	-	21 415
Stage 1	-	-	-	-	222 -
Stage 2	-	-	-	-	231 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	537	-	-	-	21 415
Mov Cap-2 Maneuver	-	-	-	-	150 -
Stage 1	-	-	-	-	222 -
Stage 2	-	-	-	-	231 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	26.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	537	-	-	-	178
HCM Lane V/C Ratio	0.002	-	-	-	0.049
HCM Control Delay (s)	11.7	-	-	-	26.3
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑	↘	↘
Traffic Vol, veh/h	781	18	41	524	53	83
Future Vol, veh/h	781	18	41	524	53	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	200	-	200	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	849	20	45	570	58	90

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	869	0	1519
Stage 1	-	-	-	-	859
Stage 2	-	-	-	-	660
Critical Hdwy	-	-	4.1	-	6.6
Critical Hdwy Stg 1	-	-	-	-	5.8
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	784	-	122
Stage 1	-	-	-	-	380
Stage 2	-	-	-	-	518
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	784	-	115
Mov Cap-2 Maneuver	-	-	-	-	115
Stage 1	-	-	-	-	380
Stage 2	-	-	-	-	488

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	32.6
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	115	575	-	-	784	-
HCM Lane V/C Ratio	0.501	0.157	-	-	0.057	-
HCM Control Delay (s)	64.3	12.4	-	-	9.9	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	2.3	0.6	-	-	0.2	-

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑	↑	
Traffic Vol, veh/h	7	13	4	137	58	2
Future Vol, veh/h	7	13	4	137	58	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	14	4	149	63	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	221	64	65	0	0
Stage 1	64	-	-	-	-
Stage 2	157	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	772	1006	1550	-	-
Stage 1	964	-	-	-	-
Stage 2	876	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	770	1006	1550	-	-
Mov Cap-2 Maneuver	815	-	-	-	-
Stage 1	961	-	-	-	-
Stage 2	876	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1550	-	930	-	-
HCM Lane V/C Ratio	0.003	-	0.023	-	-
HCM Control Delay (s)	7.3	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	7	11	4	135	68	2
Future Vol, veh/h	7	11	4	135	68	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	12	4	147	74	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	230	75	76	0	0
Stage 1	75	-	-	-	-
Stage 2	155	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	763	992	1536	-	-
Stage 1	953	-	-	-	-
Stage 2	878	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	761	992	1536	-	-
Mov Cap-2 Maneuver	812	-	-	-	-
Stage 1	950	-	-	-	-
Stage 2	878	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1536	-	913	-	-
HCM Lane V/C Ratio	0.003	-	0.021	-	-
HCM Control Delay (s)	7.3	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	11	4	132	77	2
Future Vol, veh/h	7	11	4	132	77	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	12	4	143	84	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	236	85	86	0	0
Stage 1	85	-	-	-	-
Stage 2	151	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	757	980	1523	-	-
Stage 1	943	-	-	-	-
Stage 2	882	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	755	980	1523	-	-
Mov Cap-2 Maneuver	811	-	-	-	-
Stage 1	940	-	-	-	-
Stage 2	882	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1523	-	907	-	-
HCM Lane V/C Ratio	0.003	-	0.022	-	-
HCM Control Delay (s)	7.4	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	4	7	2	132	86	1
Future Vol, veh/h	4	7	2	132	86	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	8	2	143	93	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	241	94	94	0	0
Stage 1	94	-	-	-	-
Stage 2	147	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	752	968	1513	-	-
Stage 1	935	-	-	-	-
Stage 2	885	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	751	968	1513	-	-
Mov Cap-2 Maneuver	810	-	-	-	-
Stage 1	934	-	-	-	-
Stage 2	885	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1513	-	904	-	-
HCM Lane V/C Ratio	0.001	-	0.013	-	-
HCM Control Delay (s)	7.4	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-



Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	6	8	3	127	91	2
Future Vol, veh/h	6	8	3	127	91	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	9	3	138	99	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	244	100	101	0	0
Stage 1	100	-	-	-	-
Stage 2	144	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	749	961	1504	-	-
Stage 1	929	-	-	-	-
Stage 2	888	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	748	961	1504	-	-
Mov Cap-2 Maneuver	809	-	-	-	-
Stage 1	927	-	-	-	-
Stage 2	888	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1504	-	889	-	-
HCM Lane V/C Ratio	0.002	-	0.017	-	-
HCM Control Delay (s)	7.4	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑	↑	
Traffic Vol, veh/h	6	13	5	124	96	2
Future Vol, veh/h	6	13	5	124	96	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	7	14	5	135	104	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	250	105	106	0	0
Stage 1	105	-	-	-	-
Stage 2	145	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	743	955	1498	-	-
Stage 1	924	-	-	-	-
Stage 2	887	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	741	955	1498	-	-
Mov Cap-2 Maneuver	805	-	-	-	-
Stage 1	921	-	-	-	-
Stage 2	887	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1498	-	902	-	-
HCM Lane V/C Ratio	0.004	-	0.023	-	-
HCM Control Delay (s)	7.4	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	4	4	1	124	108	2
Future Vol, veh/h	4	4	1	124	108	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	4	1	135	117	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	255	118	119	0	0
Stage 1	118	-	-	-	-
Stage 2	137	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	738	939	1482	-	-
Stage 1	912	-	-	-	-
Stage 2	895	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	737	939	1482	-	-
Mov Cap-2 Maneuver	804	-	-	-	-
Stage 1	911	-	-	-	-
Stage 2	895	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1482	-	866	-	-
HCM Lane V/C Ratio	0.001	-	0.01	-	-
HCM Control Delay (s)	7.4	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	51.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↕		↘	↗
Traffic Vol, veh/h	33	1256	1103	18	77	99
Future Vol, veh/h	33	1256	1103	18	77	99
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	36	1365	1199	20	84	108

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1219	0	-	0	2646 610
Stage 1	-	-	-	-	1209 -
Stage 2	-	-	-	-	1437 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	579	-	-	-	~ 22 442
Stage 1	-	-	-	-	249 -
Stage 2	-	-	-	-	221 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	579	-	-	-	~ 21 442
Mov Cap-2 Maneuver	-	-	-	-	~ 21 -
Stage 1	-	-	-	-	234 -
Stage 2	-	-	-	-	221 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	\$ 761
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	579	-	-	-	21	442
HCM Lane V/C Ratio	0.062	-	-	-	3.986	0.243
HCM Control Delay (s)	11.6	-	-	-	\$ 1719.2	15.7
HCM Lane LOS	B	-	-	-	F	C
HCM 95th %tile Q(veh)	0.2	-	-	-	10.8	0.9

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	174.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Vol, veh/h	113	777	8	74	487	122	7	111	171	110	84	66
Future Vol, veh/h	113	777	8	74	487	122	7	111	171	110	84	66
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	123	845	9	80	529	133	8	121	186	120	91	72
Number of Lanes	0	2	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	136	336.1	35.9	33.7
HCM LOS	F	F	E	D

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	2%	23%	0%	11%	42%
Vol Thru, %	38%	77%	98%	71%	32%
Vol Right, %	59%	0%	2%	18%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	289	502	397	683	260
LT Vol	7	113	0	74	110
Through Vol	111	389	389	487	84
RT Vol	171	0	8	122	66
Lane Flow Rate	314	545	431	742	283
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.728	1.295	1.009	1.679	0.686
Departure Headway (Hd)	10.11	9.846	9.714	8.288	10.56
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	361	376	375	445	345
Service Time	8.11	7.546	7.414	6.288	8.56
HCM Lane V/C Ratio	0.87	1.449	1.149	1.667	0.82
HCM Control Delay	35.9	179.6	80.9	336.1	33.7
HCM Lane LOS	E	F	F	F	D
HCM 95th-tile Q	5.5	21.7	12.1	43.2	4.8

Intersection						
Int Delay, s/veh	6092.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↔	
Traffic Vol, veh/h	124	1258	969	115	119	135
Future Vol, veh/h	124	1258	969	115	119	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	135	1367	1053	125	129	147

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1178	0	-	0	2753 589
Stage 1	-	-	-	-	1116 -
Stage 2	-	-	-	-	1637 -
Critical Hdwy	4.1	-	-	-	6.6 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	600	-	-	-	~19 457
Stage 1	-	-	-	-	279 -
Stage 2	-	-	-	-	176 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	600	-	-	-	~1 457
Mov Cap-2 Maneuver	-	-	-	-	~1 -
Stage 1	-	-	-	-	~18 -
Stage 2	-	-	-	-	176 -

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	\$ 65237.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	600	-	-	-	2
HCM Lane V/C Ratio	0.225	-	-	-	138.043
HCM Control Delay (s)	12.7	0	-	-	\$ 65237.3
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0.9	-	-	-	37.1

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	2822.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕			↕			↕	
Traffic Vol, veh/h	327	383	101	75	322	295	45	930	107	123	424	238
Future Vol, veh/h	327	383	101	75	322	295	45	930	107	123	424	238
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.25	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	363	426	112	83	358	328	50	3720	119	137	471	264
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	565.6	633.7	4239.9	760.8
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	4%	46%	0%	11%	16%
Vol Thru, %	86%	54%	0%	47%	54%
Vol Right, %	10%	0%	100%	43%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1082	710	101	692	785
LT Vol	45	327	0	75	123
Through Vol	930	383	0	322	424
RT Vol	107	0	101	295	238
Lane Flow Rate	3889	789	112	769	872
Geometry Grp	2	7	7	5	2
Degree of Util (X)	10.309	2.175	0.28	2.02	2.288
Departure Headway (Hd)	22.795	40.273	39.39	65.798	71.304
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	233	103	93	69	61
Service Time	20.795	37.973	37.09	63.798	69.304
HCM Lane V/C Ratio	16.691	7.66	1.204	11.145	14.295
HCM Control Delay	4239.9	638	56.7	633.7	760.8
HCM Lane LOS	F	F	F	F	F
HCM 95th-tile Q	187	17.3	1	10.8	11.8

Intersection	
Intersection Delay, s/veh	39.8
Intersection LOS	F

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	560	1104	790	475	565	345
Future Vol, veh/h	560	1104	790	475	565	345
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	583	1150	823	495	589	359
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left			WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	1105.6	695.3	132.7
HCM LOS	F	F	F

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	34%	0%	100%	0%
Vol Thru, %	66%	62%	0%	0%
Vol Right, %	0%	38%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1664	1265	565	345
LT Vol	560	0	565	0
Through Vol	1104	790	0	0
RT Vol	0	475	0	345
Lane Flow Rate	1733	1318	589	359
Geometry Grp	2	2	7	7
Degree of Util (X)	3.4	2.478	1.324	0.689
Departure Headway (Hd)	9.418	10.331	10.817	9.51
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	416	369	341	385
Service Time	7.418	8.331	8.517	7.21
HCM Lane V/C Ratio	4.166	3.572	1.727	0.932
HCM Control Delay	1105.6	695.3	194.9	30.8
HCM Lane LOS	F	F	F	D
HCM 95th-tile Q	118.8	69.1	21.3	5



Intersection

Intersection Delay, s/v~~7~~54.4

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	95	2034	51	261	1418	65	91	75	369	173	298	69
Future Vol, veh/h	95	2034	51	261	1418	65	91	75	369	173	298	69
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	100	2141	54	275	1493	68	96	79	388	182	314	73
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	WB	NB	SB	SB
Opposing Approach	WB	EB	EB	SB	SB	NB
Opposing Lanes	1	1	1	1	1	1
Conflicting Approach Left SB	SB	NB	NB	EB	WB	WB
Conflicting Lanes Left	1	1	1	1	1	1
Conflicting Approach Right NB	NB	SB	SB	WB	EB	EB
Conflicting Lanes Right	1	1	1	1	1	1
HCM Control Delay	2367	1832.6	1832.6	374	396.5	396.5
HCM LOS	F	F	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1	NBLn1
Vol Left, %	17%	4%	15%	32%	
Vol Thru, %	14%	93%	81%	55%	
Vol Right, %	69%	2%	4%	13%	
Sign Control	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	535	2180	1744	540	
LT Vol	91	95	261	173	
Through Vol	75	2034	1418	298	
RT Vol	369	51	65	69	
Lane Flow Rate	563	2295	1836	568	
Geometry Grp	1	1	1	1	
Degree of Util (X)	1.442	6.114	4.898	1.513	
Departure Headway (Hd)	56.235	28.78	33.908	54.125	
Convergence, Y/N	Yes	Yes	Yes	Yes	
Cap	73	161	129	74	
Service Time	54.235	26.78	31.908	52.125	
HCM Lane V/C Ratio	7.712	14.255	14.233	7.676	
HCM Control Delay	374	2367	1832.6	396.5	
HCM Lane LOS	F	F	F	F	
HCM 95th-tile Q	7.9	83.4	55.3	8.6	

Intersection													
Int Delay, s/veh 2.2													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	410	345	36	14	252	210	87	302	21	140	105	110	
Future Vol, veh/h	410	345	36	14	252	210	87	302	21	140	105	110	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	
Mvmt Flow	446	375	39	15	274	228	95	328	23	152	114	120	
Major/Minor													
	Major1	Major2	Major2	Major2	Minor1	Minor1	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2	
Conflicting Flow All	502	0	0	414	0	0	1822	1819	395	1880	1724	388	
Stage 1	-	-	-	-	-	-	1287	1287	-	418	418	-	
Stage 2	-	-	-	-	-	-	535	532	-	1462	1306	-	
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-	
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3	
Pot Cap-1 Maneuver	1073	-	-	1156	-	-	~60	~79	659	~55	~90	665	
Stage 1	-	-	-	-	-	-	204	~237	-	616	594	-	
Stage 2	-	-	-	-	-	-	533	529	-	162	232	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	1073	-	-	1156	-	-	-	~35	659	-	~40	665	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~35	-	-	~40	-	
Stage 1	-	-	-	-	-	-	~93	~108	-	282	583	-	
Stage 2	-	-	-	-	-	-	345	519	-	-	~106	-	
Approach													
EB	WB	WB	NB	SB									
HCM Control Delay, s	5.6	0.2	-	-	-	-	-	-	-	-	-	-	
HCM LOS													
Minor Lane/Major Mvmt													
NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBT	SBR				
Capacity (veh/h)	-	1073	-	-	1156	-	-	-	-	-	-	-	
HCM Lane V/C Ratio	-	0.415	-	-	0.013	-	-	-	-	-	-	-	
HCM Control Delay (s)	-	10.7	0	-	8.2	0	-	-	-	-	-	-	
HCM Lane LOS	-	B	A	-	A	A	-	-	-	-	-	-	
HCM 95th %tile Q(veh)	-	2.1	-	-	0	-	-	-	-	-	-	-	
Notes													
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon													

Intersection												
Int Delay, s/veh	10.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	52	1458	159	107	977	46	121	65	157	96	49	167
Future Vol, veh/h	52	1458	159	107	977	46	121	65	157	96	49	167
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	75	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	25	91	91	91	91	91	97
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	57	1602	175	118	1074	184	133	71	173	105	54	172

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1258	0	0	1777	0	0	3231	3210	1602	3328	3293	1166
Stage 1	-	-	-	-	-	-	1716	1716	-	1402	1402	-
Stage 2	-	-	-	-	-	-	1515	1494	-	1926	1891	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	560	-	-	355	-	-	~6	~10	~132	~5	~9	238
Stage 1	-	-	-	-	-	-	~115	146	-	175	209	-
Stage 2	-	-	-	-	-	-	151	188	-	~87	120	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	560	-	-	355	-	-	~5	~6	~132	-	~5	238
Mov Cap-2 Maneuver	-	-	-	-	-	-	~71	~44	-	~426	~11	-
Stage 1	-	-	-	-	-	-	~103	131	-	157	140	-
Stage 2	-	-	-	-	-	-	~17	126	-	-	108	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.7	99	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	356	560	-	-	355	-	-	-
HCM Lane V/C Ratio	1.059	0.102	-	-	0.331	-	-	-
HCM Control Delay (s)	99	12.2	-	-	20.1	-	-	-
HCM Lane LOS	F	B	-	-	C	-	-	-
HCM 95th %tile Q(veh)	13.3	0.3	-	-	1.4	-	-	-

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection												
Int Delay, s/veh	14.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Traffic Vol, veh/h	22	1635	54	14	1028	26	38	0	25	75	0	64
Future Vol, veh/h	22	1635	54	14	1028	26	38	0	25	75	0	64
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	25	1858	61	16	1168	30	43	0	28	85	0	73

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1198	0	0	1920	0	0	3192	3170	961	2194	3185	1183
Stage 1	-	-	-	-	-	-	1940	1940	-	1215	1215	-
Stage 2	-	-	-	-	-	-	1252	1230	-	979	1970	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.3	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	590	-	-	312	-	-	~5	11	260	~29	10	233
Stage 1	-	-	-	-	-	-	69	113	-	224	256	-
Stage 2	-	-	-	-	-	-	213	252	-	272	109	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	590	-	-	312	-	-	~3	10	260	~24	9	233
Mov Cap-2 Maneuver	-	-	-	-	-	-	~39	70	-	109	62	-
Stage 1	-	-	-	-	-	-	66	108	-	215	243	-
Stage 2	-	-	-	-	-	-	139	239	-	232	104	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	\$ 302.8	165
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	59	590	-	-	312	-	-	144
HCM Lane V/C Ratio	1.213	0.042	-	-	0.051	-	-	1.097
HCM Control Delay (s)	\$ 302.8	11.4	-	-	17.2	-	-	165
HCM Lane LOS	F	B	-	-	C	-	-	F
HCM 95th %tile Q(veh)	6	0.1	-	-	0.2	-	-	8.6

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection																		
Int Delay, s/veh 33																		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations																		
Traffic Vol, veh/h	40	2922	74	229	1949	87	108	62	471	64	28	25						
Future Vol, veh/h	40	2922	74	229	1949	87	108	62	471	64	28	25						
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0						
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop						
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None						
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-						
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0						
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0						
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92						
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0						
Mvmt Flow	43	3176	80	249	2118	95	117	67	512	70	30	27						
Major/Minor																		
	Major1			Major2			Minor1			Minor2								
Conflicting Flow All	2213	0	0	3256	0	0	5994	6013	3216	6256	6006	2166						
Stage 1	-	-	-	-	-	-	3302	3302	-	2664	2664	-						
Stage 2	-	-	-	-	-	-	2692	2711	-	3592	3342	-						
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2						
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-						
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-						
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3						
Pot Cap-1 Maneuver	240	-	-	~92	-	-	0	0	~13	0	0	60						
Stage 1	-	-	-	-	-	-	~13	~22	-	~32	48	-						
Stage 2	-	-	-	-	-	-	~30	~45	-	~8	~21	-						
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-						
Mov Cap-1 Maneuver	240	-	-	~92	-	-	-	0	~13	-	0	60						
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	0	-						
Stage 1	-	-	-	-	-	-	~13	~22	-	~32	0	-						
Stage 2	-	-	-	-	-	-	-	0	-	634	~21	-						
Approach																		
	EB			WB			NB			SB								
HCM Control Delay, s	0.3			87.9														
HCM LOS																		
Minor Lane/Major Mvmt																		
	NBLn1			EBL			EBT			WBL			WBR			SBLn1		
Capacity (veh/h)	- 240			-			~92			-			-			-		
HCM Lane V/C Ratio	- 0.181			-			- 2.706			-			-			-		
HCM Control Delay (s)	- 23.3			0			-\$ 869.4			0			-			-		
HCM Lane LOS	-			C			A			F			A			-		
HCM 95th %tile Q(veh)	-			0.6			-			23.6			-			-		
Notes																		
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon																		

Intersection												
Int Delay, s/veh	65.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖		↖	↖	↖		↖↗	
Traffic Vol, veh/h	242	1335	158	68	692	332	127	119	82	423	142	249
Future Vol, veh/h	242	1335	158	68	692	332	127	119	82	423	142	249
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	200	-	-	200	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	269	1483	176	76	769	369	141	132	91	470	158	277

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1138	0	0	1660	0	0	3433	3400	831	2452	3304	954
Stage 1	-	-	-	-	-	-	2110	2110	-	1106	1106	-
Stage 2	-	-	-	-	-	-	1323	1290	-	1346	2198	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.4	6.5	6.9	7.3	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	621	-	-	393	-	-	~8	~8	317	~19	~9	317
Stage 1	-	-	-	-	-	-	~54	~93	-	~258	289	-
Stage 2	-	-	-	-	-	-	194	236	-	~162	~84	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	621	-	-	393	-	-	~2	~4	317	-	~4	317
Mov Cap-2 Maneuver	-	-	-	-	-	-	~32	~113	-	~145	~30	-
Stage 1	-	-	-	-	-	-	~31	~53	-	~146	233	-
Stage 2	-	-	-	-	-	-	~6	190	-	-	~48	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.1	1	\$ 772.9	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	32	113	317	621	-	-	393	-	-	-
HCM Lane V/C Ratio	4.41	1.17	0.287	0.433	-	-	0.192	-	-	-
HCM Control Delay (s)	\$ 1785.7	210.2	20.9	15.2	-	-	16.3	-	-	-
HCM Lane LOS	F	F	C	C	-	-	C	-	-	-
HCM 95th %tile Q(veh)	16.8	8.3	1.2	2.2	-	-	0.7	-	-	-

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	986.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↕			↕	
Traffic Vol, veh/h	67	1693	80	36	927	32	79	6	143	140	7	85
Future Vol, veh/h	67	1693	80	36	927	32	79	6	143	140	7	85
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	74	1881	89	40	1030	36	88	7	159	156	8	94
Number of Lanes	1	1	1	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	3
HCM Control Delay	1358.8	737.8	36.5	39.2
HCM LOS	F	F	E	E

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	35%	100%	0%	0%	100%	0%	60%
Vol Thru, %	3%	0%	100%	0%	0%	97%	3%
Vol Right, %	63%	0%	0%	100%	0%	3%	37%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	228	67	1693	80	36	959	232
LT Vol	79	67	0	0	36	0	140
Through Vol	6	0	1693	0	0	927	7
RT Vol	143	0	0	80	0	32	85
Lane Flow Rate	253	74	1881	89	40	1066	258
Geometry Grp	7	7	7	7	8	8	7
Degree of Util (X)	0.613	0.177	4.219	0.182	0.104	2.615	0.642
Departure Headway (Hd)	13.971	11.077	10.545	9.801	14.309	13.737	14.171
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	261	326	376	369	252	277	258
Service Time	11.671	8.777	8.245	7.501	12.009	11.437	11.871
HCM Lane V/C Ratio	0.969	0.227	5.003	0.241	0.159	3.848	1
HCM Control Delay	36.5	16.1	1475.5	14.7	18.7	764.8	39.2
HCM Lane LOS	E	C	F	B	C	F	E
HCM 95th-tile Q	3.7	0.6	141.2	0.7	0.3	57.4	4

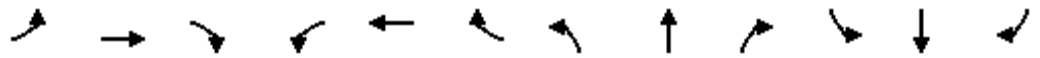
Intersection														
Int Delay, s/veh 6.8														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Vol, veh/h	83	3167	96	100	2016	67	205	89	256	58	24	44		
Future Vol, veh/h	83	3167	96	100	2016	67	205	89	256	58	24	44		
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop		
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None		
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-		
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0		
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0		
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92		
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0		
Mvmt Flow	90	3442	104	109	2191	73	223	97	278	63	26	48		
Major/Minor	Major1	Major2	Major2	Minor1	Minor1	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2	Minor2		
Conflicting Flow All	2264	0	0	3546	0	0	6157	6156	3494	6308	6172	2228		
Stage 1	-	-	-	-	-	-	3674	3674	-	2446	2446	-		
Stage 2	-	-	-	-	-	-	2483	2482	-	3862	3726	-		
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2		
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-		
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3		
Pot Cap-1 Maneuver	229	-	-	~71	-	-	0	0	~9	0	0	55		
Stage 1	-	-	-	-	-	-	~7	~14	-	~43	62	-		
Stage 2	-	-	-	-	-	-	~41	~60	-	~6	~13	-		
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-		
Mov Cap-1 Maneuver	229	-	-	~71	-	-	-	0	~9	-	0	55		
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	0	-		
Stage 1	-	-	-	-	-	-	~7	~14	-	~43	0	-		
Stage 2	-	-	-	-	-	-	-	0	-	1061	~13	-		
Approach	EB	WB	WB	NB	NB	SB								
HCM Control Delay, s	0.8	18.2												
HCM LOS														
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	-	229	-	-	~71	-	-	-						
HCM Lane V/C Ratio	-	0.394	-	-	1.531	-	-	-						
HCM Control Delay (s)	-	30.6	0	-	\$ 397	0	-	-						
HCM Lane LOS	-	D	A	-	F	A	-	-						
HCM 95th %tile Q(veh)	-	1.8	-	-	9.2	-	-	-						
Notes														
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon														



Timings

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

08/24/2021

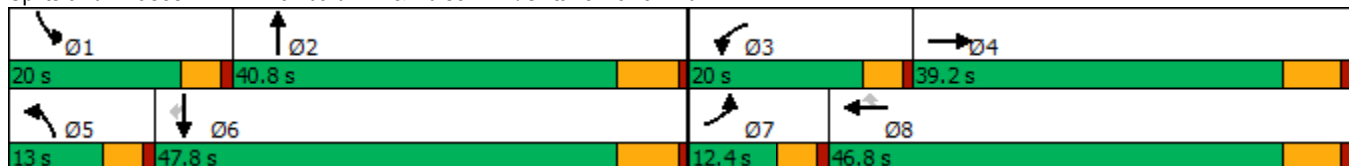


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖↗	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	482	2207	614	445	1443	157	433	965	611	278	1086	456
Future Volume (vph)	482	2207	614	445	1443	157	433	965	611	278	1086	456
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0
Minimum Split (s)	9.6	39.2		9.6	46.2	46.2	9.6	39.5		9.6	46.5	46.5
Total Split (s)	12.4	39.2		20.0	46.8	46.8	13.0	40.8		20.0	47.8	47.8
Total Split (%)	10.3%	32.7%		16.7%	39.0%	39.0%	10.8%	34.0%		16.7%	39.8%	39.8%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	5.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	Min
Act Effct Green (s)	7.8	33.0	120.0	15.4	40.6	40.6	8.4	34.3	120.0	15.4	41.3	41.3
Actuated g/C Ratio	0.06	0.28	1.00	0.13	0.34	0.34	0.07	0.29	1.00	0.13	0.34	0.34
v/c Ratio	2.45	2.29	0.39	1.14	2.32	0.25	3.75	0.97	0.39	1.31	0.90	0.73
Control Delay	690.2	608.2	0.7	136.2	620.0	5.7	1272.6	63.3	0.7	209.8	48.5	30.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	690.2	608.2	0.7	136.2	620.0	5.7	1272.6	63.3	0.7	209.8	48.5	30.2
LOS	F	F	A	F	F	A	F	E	A	F	D	C
Approach Delay		507.3			467.5			304.7			68.6	
Approach LOS		F			F			F			E	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 3.75  
 Intersection Signal Delay: 367.0  
 Intersection LOS: F  
 Intersection Capacity Utilization 165.0%  
 ICU Level of Service H  
 Analysis Period (min) 15






























Splits and Phases: 44: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
 44: Archibald Av. & Edison Av./Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 				 			 	
Traffic Volume (veh/h)	482	2207	614	445	1443	157	433	965	611	278	1086	456
Future Volume (veh/h)	482	2207	614	445	1443	157	433	965	611	278	1086	456
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	497	2275	0	459	1488	128	446	995	0	287	1120	448
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	204	993		403	643	545	120	1032		220	1242	542
Arrive On Green	0.06	0.28	0.00	0.13	0.34	0.34	0.07	0.29	0.00	0.13	0.34	0.34
Sat Flow, veh/h	3141	3610	1610	3141	1900	1610	1714	3610	1610	1714	3610	1574
Grp Volume(v), veh/h	497	2275	0	459	1488	128	446	995	0	287	1120	448
Grp Sat Flow(s),veh/h/ln	1570	1805	1610	1570	1900	1610	1714	1805	1610	1714	1805	1574
Q Serve(g_s), s	7.8	33.0	0.0	15.4	40.6	6.9	8.4	32.6	0.0	15.4	35.4	31.3
Cycle Q Clear(g_c), s	7.8	33.0	0.0	15.4	40.6	6.9	8.4	32.6	0.0	15.4	35.4	31.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	204	993		403	643	545	120	1032		220	1242	542
V/C Ratio(X)	2.43	2.29		1.14	2.31	0.23	3.72	0.96		1.30	0.90	0.83
Avail Cap(c_a), veh/h	204	993		403	643	545	120	1032		220	1242	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	43.5	0.0	52.3	39.7	28.5	55.8	42.2	0.0	52.3	37.4	36.1
Incr Delay (d2), s/veh	660.1	584.4	0.0	88.3	596.5	0.2	1242.7	19.9	0.0	166.0	9.3	10.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.7	94.5	0.0	10.8	124.3	2.6	44.9	16.4	0.0	16.5	16.1	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	716.2	627.9	0.0	140.6	636.2	28.8	1298.5	62.1	0.0	218.3	46.7	46.3
LnGrp LOS	F	F		F	F	C	F	E		F	D	D
Approach Vol, veh/h		2772	A		2075			1441	A		1855	
Approach Delay, s/veh		643.7			489.1			444.8			73.1	
Approach LOS		F			F			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	40.8	20.0	39.2	13.0	47.8	12.4	46.8				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	15.4	34.3	15.4	33.0	8.4	41.3	7.8	40.6				
Max Q Clear Time (g_c+I1), s	17.4	34.6	17.4	35.0	10.4	37.4	9.8	42.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	439.2
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

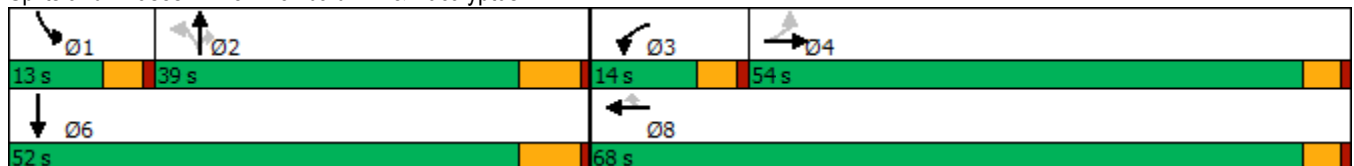


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↖↗	↕	↖↗	↖	↕↕	↖	↖	↕↕
Traffic Volume (vph)	207	377	107	76	73	89	1684	160	184	1695
Future Volume (vph)	207	377	107	76	73	89	1684	160	184	1695
Turn Type	Perm	NA	Prot	NA	Perm	Perm	NA	Perm	Prot	NA
Protected Phases		4	3	8			2		1	6
Permitted Phases	4				8	2		2		
Detector Phase	4	4	3	8	8	2	2	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	9.5	9.5	9.5	32.5	32.5	32.5	9.6	16.5
Total Split (s)	54.0	54.0	14.0	68.0	68.0	39.0	39.0	39.0	13.0	52.0
Total Split (%)	45.0%	45.0%	11.7%	56.7%	56.7%	32.5%	32.5%	32.5%	10.8%	43.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	5.5	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	6.5	6.5	6.5	4.6	6.5
Lead/Lag	Lag	Lag	Lead			Lag	Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Max	Max	Max	None	Max
Act Effct Green (s)	48.5	48.5	8.7	61.7	61.7	32.5	32.5	32.5	8.4	45.5
Actuated g/C Ratio	0.41	0.41	0.07	0.52	0.52	0.27	0.27	0.27	0.07	0.38
v/c Ratio	0.42	0.97	0.47	0.08	0.09	1.58	1.80	0.39	1.62	1.38
Control Delay	28.1	60.3	59.4	14.3	3.3	357.2	393.9	38.6	348.7	208.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.1	60.3	59.4	14.3	3.3	357.2	393.9	38.6	348.7	208.3
LOS	C	E	E	B	A	F	F	D	F	F
Approach Delay		52.8		30.0			362.9			221.3
Approach LOS		D		C			F			F

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 118.2  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.80  
 Intersection Signal Delay: 236.1  
 Intersection LOS: F  
 Intersection Capacity Utilization 119.4%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 45: Archibald Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖	↑↑	↖	↖	↗	↖↗
Traffic Volume (veh/h)	207	377	305	107	76	73	89	1684	160	184	1695	102
Future Volume (veh/h)	207	377	305	107	76	73	89	1684	160	184	1695	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	220	401	191	114	81	69	95	1791	127	196	1803	82
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	508	449	214	172	881	732	68	1114	496	137	1519	69
Arrive On Green	0.37	0.37	0.37	0.05	0.46	0.46	0.31	0.31	0.31	0.08	0.43	0.43
Sat Flow, veh/h	1190	1216	579	3326	1900	1578	232	3610	1608	1714	3518	159
Grp Volume(v), veh/h	220	0	592	114	81	69	95	1791	127	196	919	966
Grp Sat Flow(s),veh/h/ln	1190	0	1796	1663	1900	1578	232	1805	1608	1714	1805	1871
Q Serve(g_s), s	15.1	0.0	32.7	3.5	2.5	2.6	0.0	32.5	6.2	8.4	45.5	45.5
Cycle Q Clear(g_c), s	15.1	0.0	32.7	3.5	2.5	2.6	32.5	32.5	6.2	8.4	45.5	45.5
Prop In Lane	1.00		0.32	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	508	0	663	172	881	732	68	1114	496	137	780	808
V/C Ratio(X)	0.43	0.00	0.89	0.66	0.09	0.09	1.39	1.61	0.26	1.43	1.18	1.20
Avail Cap(c_a), veh/h	627	0	844	300	1145	951	68	1114	496	137	780	808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	0.0	31.3	49.1	15.8	15.8	52.7	36.4	27.4	48.5	29.9	29.9
Incr Delay (d2), s/veh	0.6	0.0	10.0	4.3	0.0	0.1	243.3	277.9	1.2	231.9	93.7	99.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	15.4	1.6	1.1	0.9	6.3	56.0	2.5	12.2	37.6	40.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.3	0.0	41.2	53.4	15.9	15.9	296.0	314.4	28.6	280.4	123.6	129.7
LnGrp LOS	C	A	D	D	B	B	F	F	C	F	F	F
Approach Vol, veh/h		812			264			2013			2081	
Approach Delay, s/veh		37.2			32.1			295.5			141.2	
Approach LOS		D			C			F			F	
Timer - Assigned Phs	1	2	3	4	6	8						
Phs Duration (G+Y+Rc), s	13.0	39.0	9.9	43.4	52.0	53.4						
Change Period (Y+Rc), s	4.6	6.5	4.5	4.5	6.5	4.5						
Max Green Setting (Gmax), s	8.4	32.5	9.5	49.5	45.5	63.5						
Max Q Clear Time (g_c+I1), s	10.4	34.5	5.5	34.7	47.5	4.6						
Green Ext Time (p_c), s	0.0	0.0	0.1	4.2	0.0	0.7						

Intersection Summary

HCM 6th Ctrl Delay	179.4
HCM 6th LOS	F

Timings  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

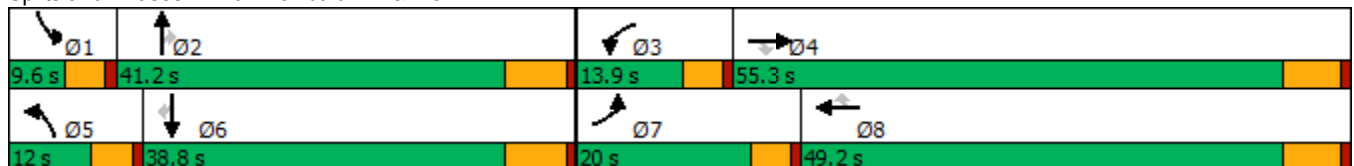
08/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	792	111	904	129	67	67	360	1057	193	88	1511	379
Future Volume (vph)	792	111	904	129	67	67	360	1057	193	88	1511	379
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	16.2	16.2	9.6	49.2	49.2	9.6	36.5	36.5	9.6	16.5	16.5
Total Split (s)	20.0	55.3	55.3	13.9	49.2	49.2	12.0	41.2	41.2	9.6	38.8	38.8
Total Split (%)	16.7%	46.1%	46.1%	11.6%	41.0%	41.0%	10.0%	34.3%	34.3%	8.0%	32.3%	32.3%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	25.2	49.1	49.1	9.3	36.4	36.4	7.4	34.7	34.7	5.0	32.3	32.3
Actuated g/C Ratio	0.21	0.41	0.41	0.08	0.30	0.30	0.06	0.29	0.29	0.04	0.27	0.27
v/c Ratio	2.27	0.15	1.25	1.01	0.12	0.12	3.53	0.73	0.33	0.70	1.60	0.71
Control Delay	604.1	23.0	153.4	135.7	27.2	0.4	1180.1	41.8	6.0	84.1	308.0	31.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	604.1	23.0	153.4	135.7	27.2	0.4	1180.1	41.8	6.0	84.1	308.0	31.7
LOS	F	C	F	F	C	A	F	D	A	F	F	C
Approach Delay		342.9			73.6			291.9			245.0	
Approach LOS		F			E			F			F	

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 3.53  
 Intersection Signal Delay: 281.6  
 Intersection LOS: F  
 Intersection Capacity Utilization 130.2%  
 ICU Level of Service H  
 Analysis Period (min) 15

























Splits and Phases: 46: Archibald Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	792	111	904	129	67	67	360	1057	193	88	1511	379
Future Volume (veh/h)	792	111	904	129	67	67	360	1057	193	88	1511	379
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	816	114	747	133	69	30	371	1090	185	91	1558	333
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	220	777	659	133	681	577	106	1500	460	131	972	433
Arrive On Green	0.13	0.41	0.41	0.08	0.36	0.36	0.06	0.29	0.29	0.04	0.27	0.27
Sat Flow, veh/h	1714	1900	1610	1714	1900	1610	1714	5187	1590	3141	3610	1610
Grp Volume(v), veh/h	816	114	747	133	69	30	371	1090	185	91	1558	333
Grp Sat Flow(s),veh/h/ln	1714	1900	1610	1714	1900	1610	1714	1729	1590	1570	1805	1610
Q Serve(g_s), s	15.4	4.5	49.1	9.3	2.9	1.5	7.4	22.7	11.2	3.4	32.3	22.9
Cycle Q Clear(g_c), s	15.4	4.5	49.1	9.3	2.9	1.5	7.4	22.7	11.2	3.4	32.3	22.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	220	777	659	133	681	577	106	1500	460	131	972	433
V/C Ratio(X)	3.71	0.15	1.13	1.00	0.10	0.05	3.51	0.73	0.40	0.70	1.60	0.77
Avail Cap(c_a), veh/h	220	777	659	133	681	577	106	1500	460	131	972	433
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.3	22.3	35.5	55.3	25.6	25.2	56.3	38.4	34.3	56.7	43.8	40.4
Incr Delay (d2), s/veh	1230.2	0.1	78.1	78.4	0.1	0.0	1152.6	1.8	0.6	12.6	276.4	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	81.6	2.0	32.8	6.9	1.3	0.6	36.9	9.3	4.4	1.5	50.8	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1282.5	22.4	113.5	133.7	25.7	25.2	1208.9	40.2	34.9	69.4	320.2	48.5
LnGrp LOS	F	C	F	F	C	C	F	D	C	E	F	D
Approach Vol, veh/h		1677			232			1646			1982	
Approach Delay, s/veh		676.1			87.6			303.0			263.1	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	41.2	13.9	55.3	12.0	38.8	20.0	49.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	5.0	34.7	9.3	49.1	7.4	32.3	15.4	43.0				
Max Q Clear Time (g_c+1), s	5.4	24.7	11.3	51.1	9.4	34.3	17.4	4.9				
Green Ext Time (p_c), s	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			392.7									
HCM 6th LOS			F									

Timings  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	212	833	127	470	758	731	131	1190	484	765	1529
Future Volume (vph)	212	833	127	470	758	731	131	1190	484	765	1529
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	1	5	2	3	1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	1	5	2	3	1	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0
Minimum Split (s)	9.5	23.0	23.0	11.3	36.3	11.0	9.5	46.3	11.3	11.0	23.0
Total Split (s)	9.5	23.6	23.6	22.2	36.3	27.0	9.5	47.2	22.2	27.0	64.7
Total Split (%)	7.9%	19.7%	19.7%	18.5%	30.3%	22.5%	7.9%	39.3%	18.5%	22.5%	53.9%
Yellow Time (s)	3.5	4.0	4.0	4.3	4.3	4.0	3.5	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.0	5.0	5.3	5.3	5.0	4.5	5.3	5.3	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min
Act Effct Green (s)	5.0	18.6	18.6	16.9	31.0	58.3	5.0	41.9	58.8	22.0	59.7
Actuated g/C Ratio	0.04	0.16	0.16	0.14	0.26	0.49	0.04	0.35	0.49	0.18	0.50
v/c Ratio	3.07	1.62	0.33	0.97	1.68	0.91	1.89	1.83	0.59	2.37	2.01
Control Delay	983.6	320.2	3.7	86.1	345.7	43.5	478.7	406.4	17.4	647.7	482.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	983.6	320.2	3.7	86.1	345.7	43.5	478.7	406.4	17.4	647.7	482.5
LOS	F	F	A	F	F	D	F	F	B	F	F
Approach Delay		405.8			175.0			308.1			531.2
Approach LOS		F			F			F			F

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 3.07  
 Intersection Signal Delay: 364.6  
 Intersection LOS: F  
 Intersection Capacity Utilization 173.4%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 47: Archibald Av. & Limonite Av.





























HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	833	127	470	758	731	131	1190	484	765	1529	282
Future Volume (veh/h)	212	833	127	470	758	731	131	1190	484	765	1529	282
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	230	905	138	480	824	696	142	1214	473	781	1560	307
Peak Hour Factor	0.92	0.92	0.92	0.98	0.92	0.98	0.92	0.98	0.98	0.98	0.98	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	557	248	492	493	712	75	665	782	330	763	150
Arrive On Green	0.04	0.15	0.15	0.14	0.26	0.26	0.04	0.35	0.35	0.18	0.50	0.50
Sat Flow, veh/h	1810	3610	1610	3510	1900	1610	1810	1900	1590	1810	1542	303
Grp Volume(v), veh/h	230	905	138	480	824	696	142	1214	473	781	0	1867
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1755	1900	1610	1810	1900	1590	1810	0	1845
Q Serve(g_s), s	5.0	18.6	9.6	16.4	31.3	31.3	5.0	42.2	26.0	22.0	0.0	59.7
Cycle Q Clear(g_c), s	5.0	18.6	9.6	16.4	31.3	31.3	5.0	42.2	26.0	22.0	0.0	59.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	75	557	248	492	493	712	75	665	782	330	0	914
V/C Ratio(X)	3.07	1.63	0.56	0.98	1.67	0.98	1.89	1.83	0.60	2.37	0.00	2.04
Avail Cap(c_a), veh/h	75	557	248	492	493	712	75	665	782	330	0	914
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.8	51.0	47.2	51.6	44.7	33.1	57.8	39.2	22.3	49.3	0.0	30.5
Incr Delay (d2), s/veh	963.9	289.6	2.7	34.1	310.8	28.1	447.4	377.6	1.5	624.0	0.0	473.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.3	30.5	3.9	9.3	56.6	23.8	11.5	88.1	9.3	66.7	0.0	143.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1021.7	340.6	49.9	85.7	355.4	61.2	505.2	416.8	23.8	673.3	0.0	504.0
LnGrp LOS	F	F	D	F	F	E	F	F	C	F	A	F
Approach Vol, veh/h		1273			2000			1829			2648	
Approach Delay, s/veh		432.2			188.3			322.0			553.9	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	27.0	47.5	22.2	23.9	9.5	65.0	9.5	36.6				
Change Period (Y+Rc), s	5.0	5.3	5.3	* 5.3	4.5	* 5.3	4.5	5.3				
Max Green Setting (Gmax), s	22.0	41.9	16.9	* 19	5.0	* 60	5.0	31.0				
Max Q Clear Time (g_c+I1), s	24.0	44.2	18.4	20.6	7.0	61.7	7.0	33.3				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	384.8
HCM 6th LOS	F

Notes

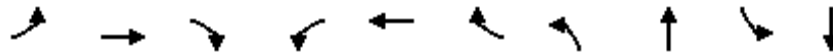
\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Timings

48: Turner Av. & Ontario Ranch Rd.

08/24/2021

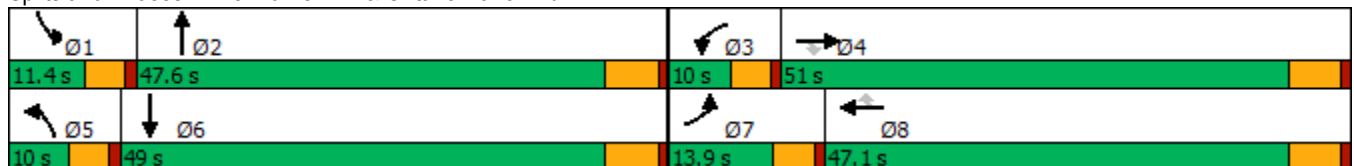


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↗	↘	↗
Traffic Volume (vph)	207	2688	48	39	1804	142	32	10	126	10
Future Volume (vph)	207	2688	48	39	1804	142	32	10	126	10
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	25.8	25.8	9.6	45.8	9.6	47.8
Total Split (s)	13.9	51.0	51.0	10.0	47.1	47.1	10.0	47.6	11.4	49.0
Total Split (%)	11.6%	42.5%	42.5%	8.3%	39.3%	39.3%	8.3%	39.7%	9.5%	40.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None
Act Effct Green (s)	9.5	50.6	50.6	5.4	42.1	42.1	5.4	14.9	8.0	18.1
Actuated g/C Ratio	0.10	0.55	0.55	0.06	0.46	0.46	0.06	0.16	0.09	0.20
v/c Ratio	1.28	1.47	0.06	0.42	1.19	0.19	0.35	0.20	0.93	0.35
Control Delay	198.4	237.3	0.1	59.5	116.3	7.8	56.3	12.9	103.9	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	198.4	237.3	0.1	59.5	116.3	7.8	56.3	12.9	103.9	8.7
LOS	F	F	A	E	F	A	E	B	F	A
Approach Delay		230.8			107.4			28.4		54.0
Approach LOS		F			F			C		D

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 92  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.47  
 Intersection Signal Delay: 172.1  
 Intersection LOS: F  
 Intersection Capacity Utilization 114.6%  
 ICU Level of Service H  
 Analysis Period (min) 15

























Splits and Phases: 48: Turner Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
48: Turner Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

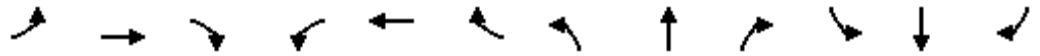
08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	2688	48	39	1804	142	32	10	48	126	10	129
Future Volume (veh/h)	207	2688	48	39	1804	142	32	10	48	126	10	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	225	2922	40	42	1961	151	35	11	34	137	11	126
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	178	1907	851	62	1663	742	56	52	160	130	22	256
Arrive On Green	0.10	0.53	0.53	0.04	0.46	0.46	0.03	0.13	0.13	0.08	0.17	0.17
Sat Flow, veh/h	1714	3610	1610	1714	3610	1610	1714	406	1254	1714	131	1499
Grp Volume(v), veh/h	225	2922	40	42	1961	151	35	0	45	137	0	137
Grp Sat Flow(s),veh/h/ln	1714	1805	1610	1714	1805	1610	1714	0	1660	1714	0	1630
Q Serve(g_s), s	9.3	47.4	1.1	2.2	41.3	5.0	1.8	0.0	2.2	6.8	0.0	6.8
Cycle Q Clear(g_c), s	9.3	47.4	1.1	2.2	41.3	5.0	1.8	0.0	2.2	6.8	0.0	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	1.00		0.92
Lane Grp Cap(c), veh/h	178	1907	851	62	1663	742	56	0	212	130	0	279
V/C Ratio(X)	1.27	1.53	0.05	0.68	1.18	0.20	0.63	0.00	0.21	1.05	0.00	0.49
Avail Cap(c_a), veh/h	178	1907	851	103	1663	742	103	0	774	130	0	786
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.2	21.1	10.2	42.7	24.2	14.4	42.8	0.0	35.1	41.4	0.0	33.6
Incr Delay (d2), s/veh	156.2	242.2	0.1	4.7	87.2	0.6	4.3	0.0	0.5	93.9	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	80.7	0.4	1.0	35.4	1.8	0.8	0.0	0.9	6.1	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	196.4	263.3	10.3	47.4	111.3	15.0	47.1	0.0	35.6	135.4	0.0	35.0
LnGrp LOS	F	F	B	D	F	B	D	A	D	F	A	C
Approach Vol, veh/h		3187			2154			80				274
Approach Delay, s/veh		255.4			103.3			40.6				85.2
Approach LOS		F			F			D				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	17.2	7.8	53.2	7.5	21.1	13.9	47.1				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.8	41.8	5.4	45.2	5.4	43.2	9.3	41.3				
Max Q Clear Time (g_c+I1), s	8.8	4.2	4.2	49.4	3.8	8.8	11.3	43.3				
Green Ext Time (p_c), s	0.0	0.2	0.0	0.0	0.0	0.8	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			186.7									
HCM 6th LOS			F									

Timings

49: Haven Av. & Ontario Ranch Rd.

08/24/2021

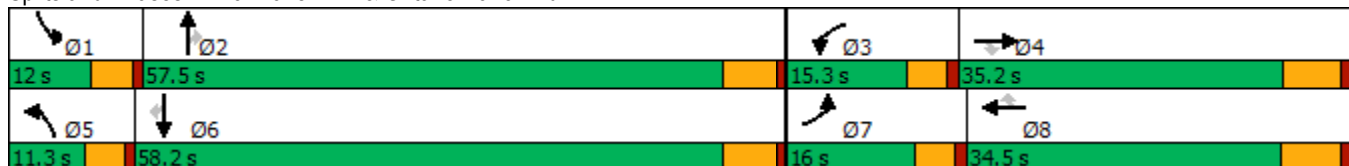


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (vph)	369	2250	81	75	1602	349	79	242	47	283	320	269
Future Volume (vph)	369	2250	81	75	1602	349	79	242	47	283	320	269
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	16.0	35.2	35.2	15.3	34.5	34.5	11.3	57.5	57.5	12.0	58.2	58.2
Total Split (%)	13.3%	29.3%	29.3%	12.8%	28.8%	28.8%	9.4%	47.9%	47.9%	10.0%	48.5%	48.5%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	11.5	34.2	34.2	8.1	28.3	28.3	6.8	22.5	22.5	7.5	23.2	23.2
Actuated g/C Ratio	0.13	0.37	0.37	0.09	0.31	0.31	0.07	0.25	0.25	0.08	0.25	0.25
v/c Ratio	1.79	1.21	0.13	0.52	0.83	0.49	0.65	0.54	0.10	2.12	0.69	0.45
Control Delay	399.8	128.7	3.8	54.3	34.9	5.8	68.8	33.5	0.4	551.2	38.1	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	399.8	128.7	3.8	54.3	34.9	5.8	68.8	33.5	0.4	551.2	38.1	5.5
LOS	F	F	A	D	C	A	E	C	A	F	D	A
Approach Delay		162.0			30.6			36.9			194.7	
Approach LOS		F			C			D			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 91.6	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 2.12	
Intersection Signal Delay: 114.4	Intersection LOS: F
Intersection Capacity Utilization 94.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 49: Haven Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
49: Haven Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↑	↗
Traffic Volume (veh/h)	369	2250	81	75	1602	349	79	242	47	283	320	269
Future Volume (veh/h)	369	2250	81	75	1602	349	79	242	47	283	320	269
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	384	2344	53	78	1669	290	82	252	35	295	333	207
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	231	2115	656	99	2162	533	104	367	311	150	418	354
Arrive On Green	0.13	0.41	0.41	0.06	0.33	0.33	0.06	0.19	0.19	0.09	0.22	0.22
Sat Flow, veh/h	1714	5187	1610	1714	6536	1610	1714	1900	1610	1714	1900	1610
Grp Volume(v), veh/h	384	2344	53	78	1669	290	82	252	35	295	333	207
Grp Sat Flow(s),veh/h/ln	1714	1729	1610	1714	1634	1610	1714	1900	1610	1714	1900	1610
Q Serve(g_s), s	11.4	34.5	1.7	3.8	19.4	12.4	4.0	10.4	1.5	7.4	14.0	9.7
Cycle Q Clear(g_c), s	11.4	34.5	1.7	3.8	19.4	12.4	4.0	10.4	1.5	7.4	14.0	9.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	231	2115	656	99	2162	533	104	367	311	150	418	354
V/C Ratio(X)	1.66	1.11	0.08	0.79	0.77	0.54	0.79	0.69	0.11	1.97	0.80	0.58
Avail Cap(c_a), veh/h	231	2115	656	217	2162	533	136	1161	984	150	1176	997
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	25.1	15.4	39.4	25.4	23.1	39.2	31.8	28.2	38.6	31.2	29.6
Incr Delay (d2), s/veh	316.8	56.3	0.2	5.1	2.7	4.0	15.2	2.3	0.2	458.8	3.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.7	23.1	0.6	1.6	7.0	4.7	2.0	4.7	0.5	22.0	6.4	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	353.4	81.4	15.6	44.5	28.2	27.1	54.5	34.1	28.3	497.5	34.8	31.1
LnGrp LOS	F	F	B	D	C	C	D	C	C	F	C	C
Approach Vol, veh/h		2781			2037			369			835	
Approach Delay, s/veh		117.7			28.7			38.1			197.3	
Approach LOS		F			C			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	22.1	9.5	41.0	9.7	24.4	16.0	34.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	7.4	51.7	10.7	* 29	6.7	52.4	11.4	28.0				
Max Q Clear Time (g_c+I1), s	9.4	12.4	5.8	36.5	6.0	16.0	13.4	21.4				
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.0	2.6	0.0	5.1				

Intersection Summary

HCM 6th Ctrl Delay	93.7
HCM 6th LOS	F

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

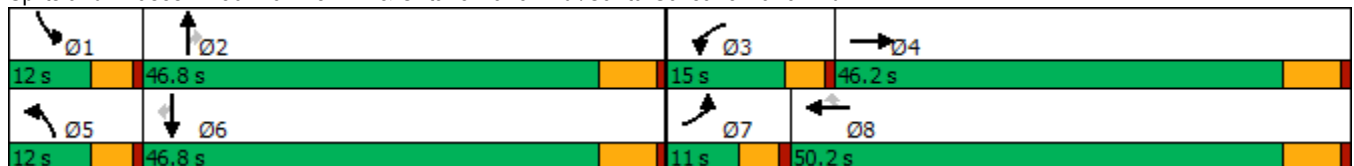


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	196	1816	940	1257	167	391	475	294	569	1050	232
Future Volume (vph)	196	1816	940	1257	167	391	475	294	569	1050	232
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases					8			2			6
Detector Phase	7	4	3	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	45.2	9.6	49.2	49.2	9.6	44.2	44.2	9.6	45.2	45.2
Total Split (s)	11.0	46.2	15.0	50.2	50.2	12.0	46.8	46.8	12.0	46.8	46.8
Total Split (%)	9.2%	38.5%	12.5%	41.8%	41.8%	10.0%	39.0%	39.0%	10.0%	39.0%	39.0%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min
Act Effct Green (s)	6.4	40.0	10.4	44.0	44.0	7.4	39.5	39.5	7.4	39.5	39.5
Actuated g/C Ratio	0.05	0.34	0.09	0.37	0.37	0.06	0.33	0.33	0.06	0.33	0.33
v/c Ratio	1.21	1.13	3.87	0.98	0.26	2.25	0.29	0.50	3.04	0.91	0.39
Control Delay	184.7	101.2	1313.2	57.9	8.7	607.3	29.8	20.6	952.7	50.3	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	184.7	101.2	1313.2	57.9	8.7	607.3	29.8	20.6	952.7	50.3	15.5
LOS	F	F	F	E	A	F	C	C	F	D	B
Approach Delay		107.6		553.6			222.0			323.4	
Approach LOS		F		F			F			F	

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 118.9	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 3.87	
Intersection Signal Delay: 307.8	Intersection LOS: F
Intersection Capacity Utilization 124.9%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔
Traffic Volume (veh/h)	196	1816	537	940	1257	167	391	475	294	569	1050	232
Future Volume (veh/h)	196	1816	537	940	1257	167	391	475	294	569	1050	232
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	204	1892	533	979	1309	158	407	495	270	593	1094	112
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	170	1728	483	256	1341	598	182	1710	530	196	1190	530
Arrive On Green	0.05	0.34	0.34	0.09	0.37	0.37	0.06	0.33	0.33	0.06	0.33	0.33
Sat Flow, veh/h	3141	5115	1430	2914	3610	1610	2914	5187	1609	3141	3610	1609
Grp Volume(v), veh/h	204	1813	612	979	1309	158	407	495	270	593	1094	112
Grp Sat Flow(s),veh/h/ln	1570	1634	1643	1457	1805	1610	1457	1729	1609	1570	1805	1609
Q Serve(g_s), s	6.4	40.0	40.0	10.4	42.3	8.1	7.4	8.4	16.0	7.4	34.5	5.9
Cycle Q Clear(g_c), s	6.4	40.0	40.0	10.4	42.3	8.1	7.4	8.4	16.0	7.4	34.5	5.9
Prop In Lane	1.00		0.87	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	170	1656	555	256	1341	598	182	1710	530	196	1190	530
V/C Ratio(X)	1.20	1.09	1.10	3.83	0.98	0.26	2.24	0.29	0.51	3.02	0.92	0.21
Avail Cap(c_a), veh/h	170	1656	555	256	1341	598	182	1778	551	196	1238	551
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	39.2	39.2	54.0	36.7	25.9	55.5	29.4	32.0	55.5	38.2	28.6
Incr Delay (d2), s/veh	133.7	52.8	69.8	1281.0	19.0	0.2	573.2	0.1	0.8	923.2	10.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	22.9	25.6	49.2	20.9	3.0	17.1	3.3	6.0	28.0	16.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	189.8	92.0	109.0	1335.0	55.7	26.2	628.7	29.5	32.7	978.8	49.1	28.8
LnGrp LOS	F	F	F	F	E	C	F	C	C	F	D	C
Approach Vol, veh/h		2629			2446			1172			1799	
Approach Delay, s/veh		103.6			565.8			238.3			354.3	
Approach LOS		F			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	45.2	15.0	46.2	12.0	45.2	11.0	50.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	7.4	40.6	10.4	40.0	7.4	40.6	6.4	44.0				
Max Q Clear Time (g_c+I1), s	9.4	18.0	12.4	42.0	9.4	36.5	8.4	44.3				
Green Ext Time (p_c), s	0.0	3.9	0.0	0.0	0.0	2.5	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	319.8
HCM 6th LOS	F

Timings  
51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/24/2021

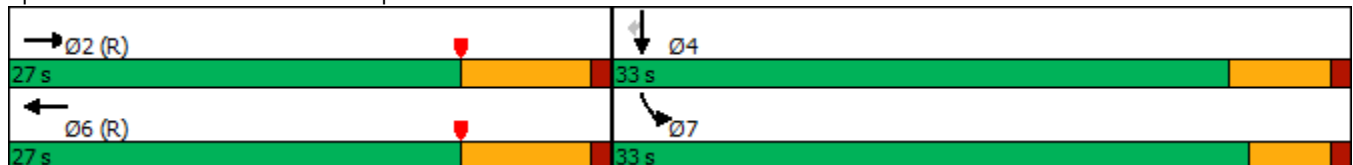


Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑	↑	↑	↔	↑
Traffic Volume (vph)	2099	632	908	528	522	0	1393
Future Volume (vph)	2099	632	908	528	522	0	1393
Turn Type	NA	Free	NA	Free	Prot	NA	Perm
Protected Phases	2		6		7	4	
Permitted Phases		Free		Free			4
Detector Phase	2		6		7	4	4
Switch Phase							
Minimum Initial (s)	5.0		5.0		5.0	5.0	5.0
Minimum Split (s)	11.8		11.8		9.6	10.5	10.5
Total Split (s)	27.0		27.0		33.0	33.0	33.0
Total Split (%)	45.0%		45.0%		55.0%	55.0%	55.0%
Yellow Time (s)	5.8		5.8		3.6	4.5	4.5
All-Red Time (s)	1.0		1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0		0.0	0.0	0.0
Total Lost Time (s)	6.8		6.8		4.6	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	C-Max		C-Min		None	Min	Min
Act Effct Green (s)	20.2	60.0	20.2	60.0	28.4	27.5	27.5
Actuated g/C Ratio	0.34	1.00	0.34	1.00	0.47	0.46	0.46
v/c Ratio	1.24	0.40	0.77	0.34	0.60	1.04	1.01
Control Delay	135.2	0.8	18.3	0.8	15.4	62.1	54.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	135.2	0.8	18.3	0.8	15.4	62.1	54.0
LOS	F	A	B	A	B	E	D
Approach Delay	104.1		11.9			47.6	
Approach LOS	F		B			D	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 53 (88%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.24  
 Intersection Signal Delay: 64.5  
 Intersection LOS: E  
 Intersection Capacity Utilization 92.9%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 51: I-15 SB Ramps & Cantu Galleano Ranch Rd.





HCM 6th Signalized Intersection Summary  
51: I-15 SB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑	↗				↘	↔	↗
Traffic Volume (veh/h)	0	2099	632	0	908	528	0	0	0	522	0	1393
Future Volume (veh/h)	0	2099	632	0	908	528	0	0	0	522	0	1393
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1900	1900	0	1900	1900				1900	1900	1900
Adj Flow Rate, veh/h	0	2164	0	0	936	0				359	0	1296
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0				0	0	0
Cap, veh/h	0	1874		0	1304					812	0	1445
Arrive On Green	0.00	0.36	0.00	0.00	0.36	0.00				0.45	0.00	0.45
Sat Flow, veh/h	0	5358	1610	0	3705	1610				1810	0	3220
Grp Volume(v), veh/h	0	2164	0	0	936	0				359	0	1296
Grp Sat Flow(s),veh/h/ln	0	1729	1610	0	1805	1610				1810	0	1610
Q Serve(g_s), s	0.0	21.7	0.0	0.0	13.4	0.0				8.2	0.0	22.3
Cycle Q Clear(g_c), s	0.0	21.7	0.0	0.0	13.4	0.0				8.2	0.0	22.3
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1874		0	1304					812	0	1445
V/C Ratio(X)	0.00	1.16		0.00	0.72					0.44	0.00	0.90
Avail Cap(c_a), veh/h	0	1874		0	1304					857	0	1524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.00	0.00	0.86	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.2	0.0	0.0	16.5	0.0				11.4	0.0	15.3
Incr Delay (d2), s/veh	0.0	70.4	0.0	0.0	3.0	0.0				0.4	0.0	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	18.9	0.0	0.0	4.9	0.0				2.6	0.0	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	89.6	0.0	0.0	19.5	0.0				11.7	0.0	22.4
LnGrp LOS	A	F		A	B					B	A	C
Approach Vol, veh/h		2164	A		936	A					1655	
Approach Delay, s/veh		89.6			19.5						20.1	
Approach LOS		F			B						C	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		28.5		31.5		28.5						
Change Period (Y+Rc), s		6.8		4.6		6.8						
Max Green Setting (Gmax), s		20.2		28.4		20.2						
Max Q Clear Time (g_c+I1), s		23.7		24.3		15.4						
Green Ext Time (p_c), s		0.0		2.7		2.4						

Intersection Summary

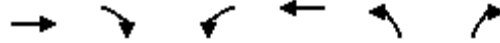
HCM 6th Ctrl Delay	51.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.  
Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Timings  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

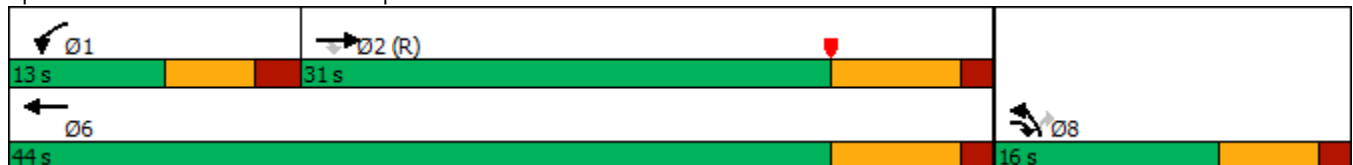


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Traffic Volume (vph)	914	1709	368	1032	404	289
Future Volume (vph)	914	1709	368	1032	404	289
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	29.3	11.0	11.0	12.3	11.0	11.0
Total Split (s)	31.0	16.0	13.0	44.0	16.0	16.0
Total Split (%)	51.7%	26.7%	21.7%	73.3%	26.7%	26.7%
Yellow Time (s)	5.8	4.5	4.0	5.8	4.5	4.5
All-Red Time (s)	1.5	1.5	2.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.0	6.0	7.3	6.0	6.0
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	Max	Max	None	Max	Max
Act Effct Green (s)	23.7	41.0	7.0	36.7	10.0	10.0
Actuated g/C Ratio	0.40	0.68	0.12	0.61	0.17	0.17
v/c Ratio	0.47	1.63	0.95	0.34	0.83	0.52
Control Delay	10.4	299.2	63.5	6.1	37.5	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.4	299.2	63.5	6.1	37.5	8.7
LOS	B	F	E	A	D	A
Approach Delay	198.6			21.2	28.5	
Approach LOS	F			C	C	

Intersection Summary

Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 2:EBT, Start of Yellow, Master Intersection  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.63  
 Intersection Signal Delay: 120.9  
 Intersection LOS: F  
 Intersection Capacity Utilization 126.3%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 52: I-15 NB Ramps & Cantu Galleano Ranch Rd.



HCM 6th Signalized Intersection Summary  
52: I-15 NB Ramps & Cantu Galleano Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/24/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↵	↑↑↑	↵	↑
Traffic Volume (veh/h)	914	1709	368	1032	404	289
Future Volume (veh/h)	914	1709	368	1032	404	289
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	962	1167	387	1086	425	201
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2049	904	410	3173	603	268
Arrive On Green	0.66	0.66	0.12	0.61	0.17	0.17
Sat Flow, veh/h	5358	1610	3510	5358	3619	1610
Grp Volume(v), veh/h	962	1167	387	1086	425	201
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1810	1610
Q Serve(g_s), s	5.5	23.7	6.6	6.2	6.7	7.1
Cycle Q Clear(g_c), s	5.5	23.7	6.6	6.2	6.7	7.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2049	904	410	3173	603	268
V/C Ratio(X)	0.47	1.29	0.94	0.34	0.70	0.75
Avail Cap(c_a), veh/h	2049	904	410	3173	603	268
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.1	6.2	26.3	5.7	23.6	23.8
Incr Delay (d2), s/veh	0.1	131.5	32.6	0.1	6.8	17.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	37.7	4.2	1.2	3.0	3.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.2	137.6	58.9	5.8	30.4	41.2
LnGrp LOS	A	F	E	A	C	D
Approach Vol, veh/h	2129			1473	626	
Approach Delay, s/veh	78.7			19.7	33.8	
Approach LOS	E			B	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	13.0	31.0			44.0	16.0
Change Period (Y+Rc), s	6.0	7.3			7.3	6.0
Max Green Setting (Gmax), s	7.0	23.7			36.7	10.0
Max Q Clear Time (g_c+I1), s	8.6	25.7			8.2	9.1
Green Ext Time (p_c), s	0.0	0.0			7.7	0.2

Intersection Summary

HCM 6th Ctrl Delay	51.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

**APPENDIX 7.3:**

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT  
ANALYSIS WORKSHEETS**

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### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>HY NP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>08/19/21</u>
Major Street: <u>Eucalyptus Ave</u>				<u>CHK</u>	<u>MT</u>	<u>08/19/21</u>
Minor Street: <u>Sultana Av</u>					Critical Approach Speed (Major)	<u>45 mph</u>
					Critical Approach Speed (Minor)	<u>25 mph</u>
Major Street Approach Lanes =	<u>1</u>	lane		Minor Street Approach Lane:	<u>1</u>	lane
Major Street Future ADT =	<u>7,562</u>	vpd		Minor Street Future ADT =	<u>1,058</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....					<input checked="" type="checkbox"/>	
					or	<b>RURAL (R)</b>
In built up area of isolated community of < 10,000 population .....					<input type="checkbox"/>	

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
<b>XX</b>					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>7,562</b>	1 <b>1,058</b>	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
<b>XX</b>					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>7,562</b>	1 <b>1,058</b>	12,000	8,400	1,200	850 *
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
<b>XX</b>					
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<u>A</u>	<u>B</u>			
	<b>63%</b>	<b>90%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>HY NP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>08/19/21</u>
Major Street: <u>Eucalyptus Ave</u>				<u>MT</u>		<u>08/19/21</u>
Minor Street: <u>Campus Av</u>					Critical Approach Speed (Major) <u>45 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	
Major Street Approach Lanes =	<u>1</u>	lane		Minor Street Approach Lane:	<u>1</u>	lane
Major Street Future ADT =	<u>6,426</u>	vpd		Minor Street Future ADT =	<u>692</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....					<input checked="" type="checkbox"/>	
					or	<b>RURAL (R)</b>
In built up area of isolated community of < 10,000 population .....					<input type="checkbox"/>	

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
<b>XX</b>					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>6,426</b>	1 <b>692</b>	8,000	5,600 *	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
<b>XX</b>					
<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>6,426</b>	1 <b>692</b>	12,000	8,400	1,200	850
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
<b>XX</b>					
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<u>A</u>	<u>B</u>			
	<b>41%</b>	<b>77%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>HY NP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>08/19/21</u>
Major Street: <u>Merrill Av</u>				<u>CHK</u>	<u>MT</u>	<u>08/19/21</u>
Minor Street: <u>Campus Av</u>					Critical Approach Speed (Major)	<u>50 mph</u>
					Critical Approach Speed (Minor)	<u>25 mph</u>

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 26,354 vpd                      Minor Street Future ADT = 940 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or **RURAL (R)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
	<b>XX</b>	EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	<b>XX</b>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 26,354</u>	<u>1 940</u>	8,000	5,600 *	2,400	1,680
<u>2 +</u>	<u>1</u>	9,600	6,720	2,400	1,680
<u>2 +</u>	<u>2 +</u>	9,600	6,720	3,200	2,240
<u>1</u>	<u>2 +</u>	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
<b>XX</b>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 26,354</u>	<u>1 940</u>	12,000	8,400 *	1,200	850 *
<u>2 +</u>	<u>1</u>	14,400	10,080	1,200	850
<u>2 +</u>	<u>2 +</u>	14,400	10,080	1,600	1,120
<u>1</u>	<u>2 +</u>	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....	<b>XX</b>				
	<u>A</u>				
	<b>56%</b>				
	<u>B</u>				
	<b>100%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



**Figure 4C-4. Warrant 3, Peak Hour (70% Factor)**

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **HY NP Conditions - Weekday PM Peak Hour**

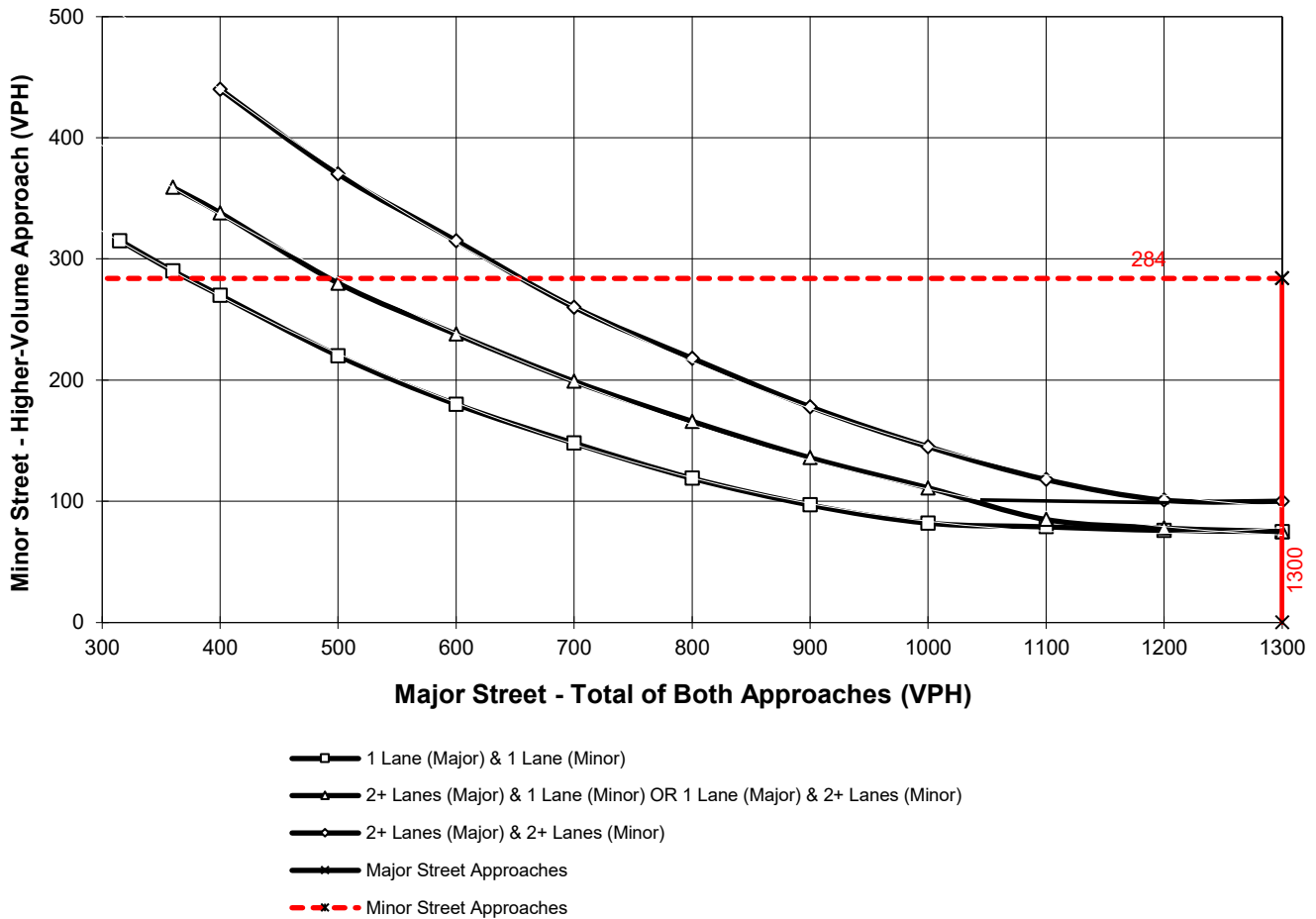
Major Street Name = **Eucalyptus Av.**

Total of Both Approaches (VPH) = **1460**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Bon View Av.**

High Volume Approach (VPH) = **284**  
 Number of Approach Lanes Minor Street = **1**

**WARRANTED FOR A SIGNAL**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane



### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **HY NP Conditions - Weekday PM Peak Hour**

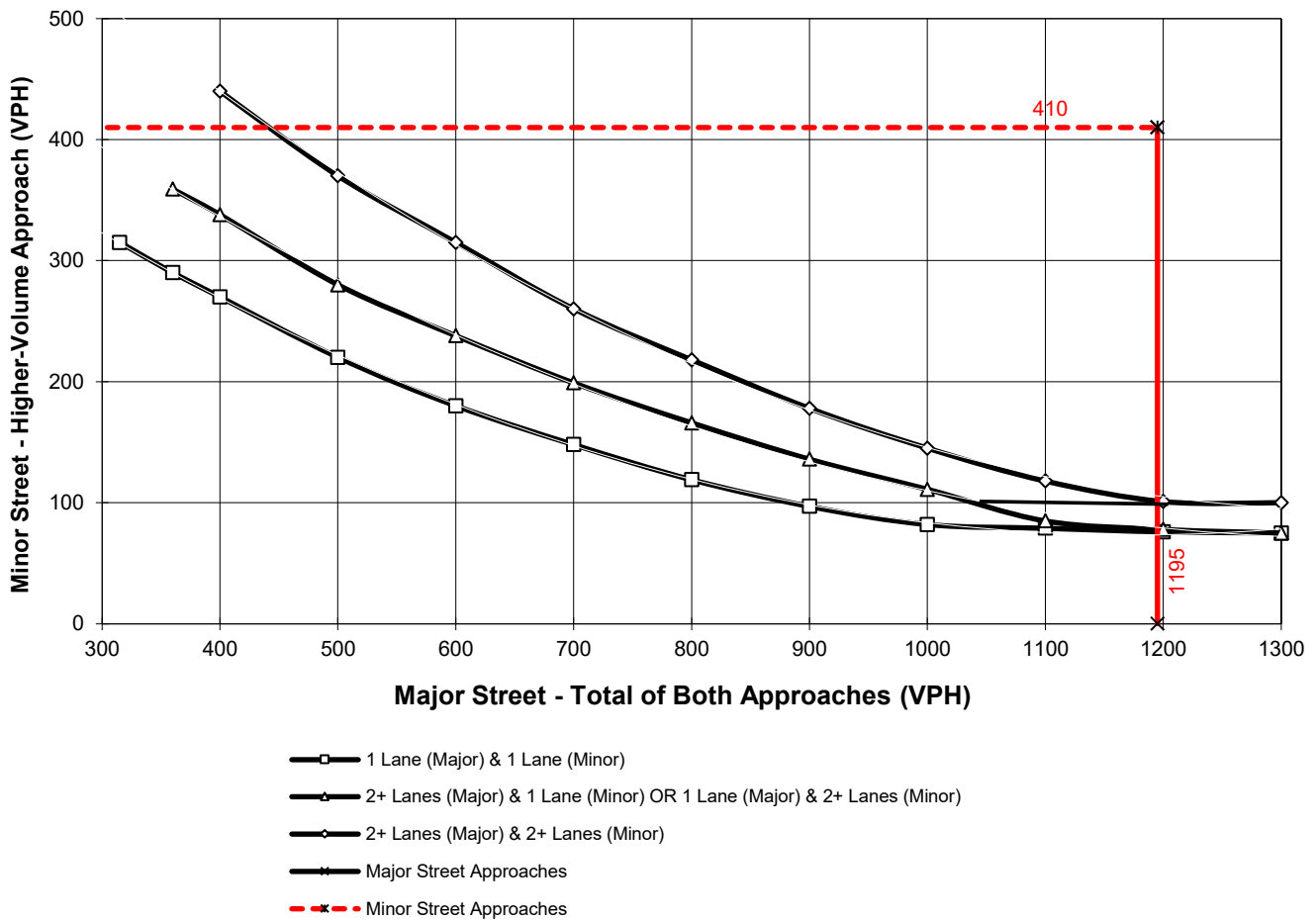
Major Street Name = **Eucalyptus Av.**

Total of Both Approaches (VPH) = **1195**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Walker Av**

High Volume Approach (VPH) = **410**  
 Number of Approach Lanes Minor Street = **1**

**WARRANTED FOR A SIGNAL**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **HY NP Conditions - Weekday PM Peak Hour**

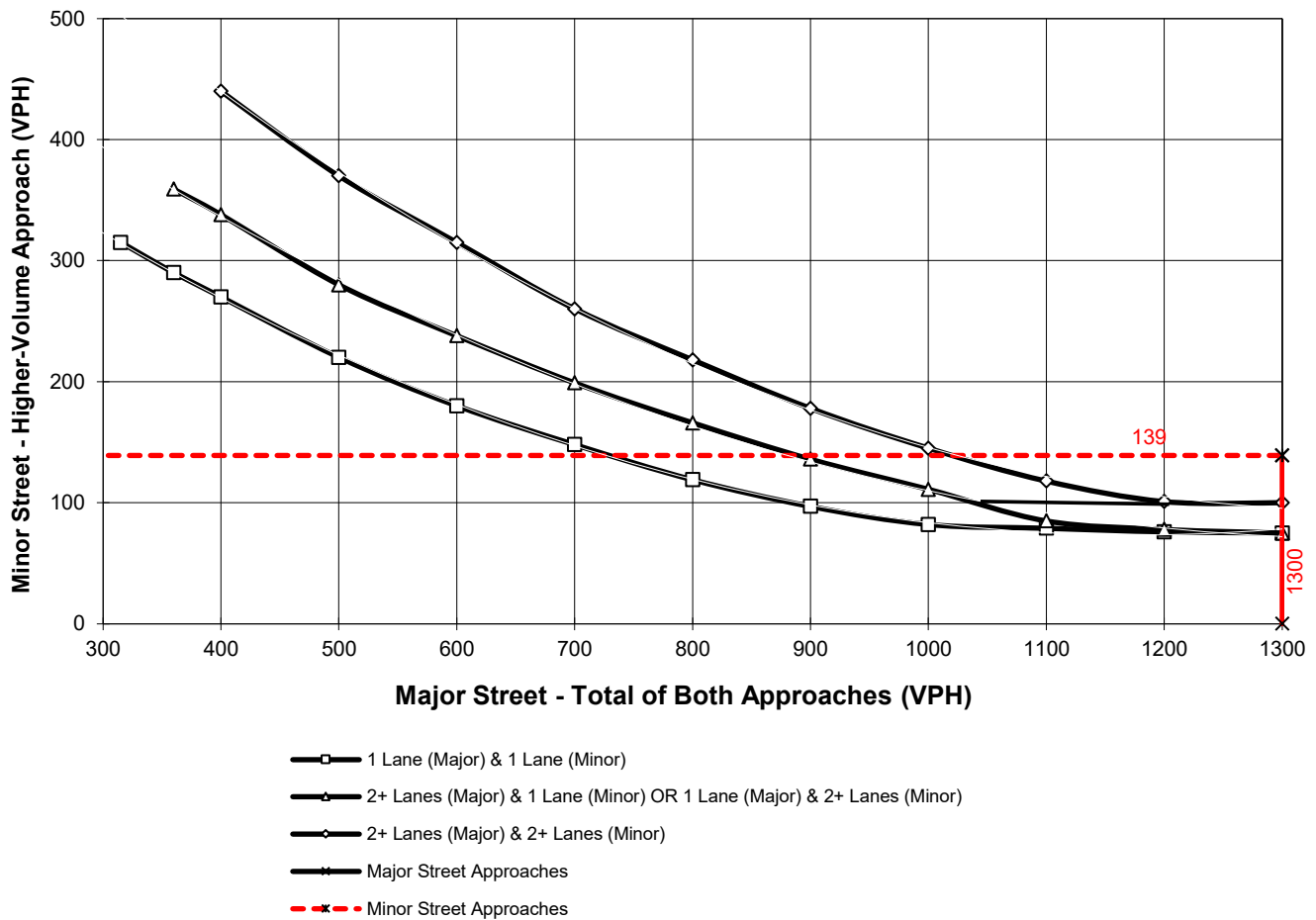
Major Street Name = **Merrill Av.**

Total of Both Approaches (VPH) = **2563**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Baker Av.**

High Volume Approach (VPH) = **139**  
 Number of Approach Lanes Minor Street = **1**

**WARRANTED FOR A SIGNAL**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

### Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **HY NP Conditions - Weekday PM Peak Hour**

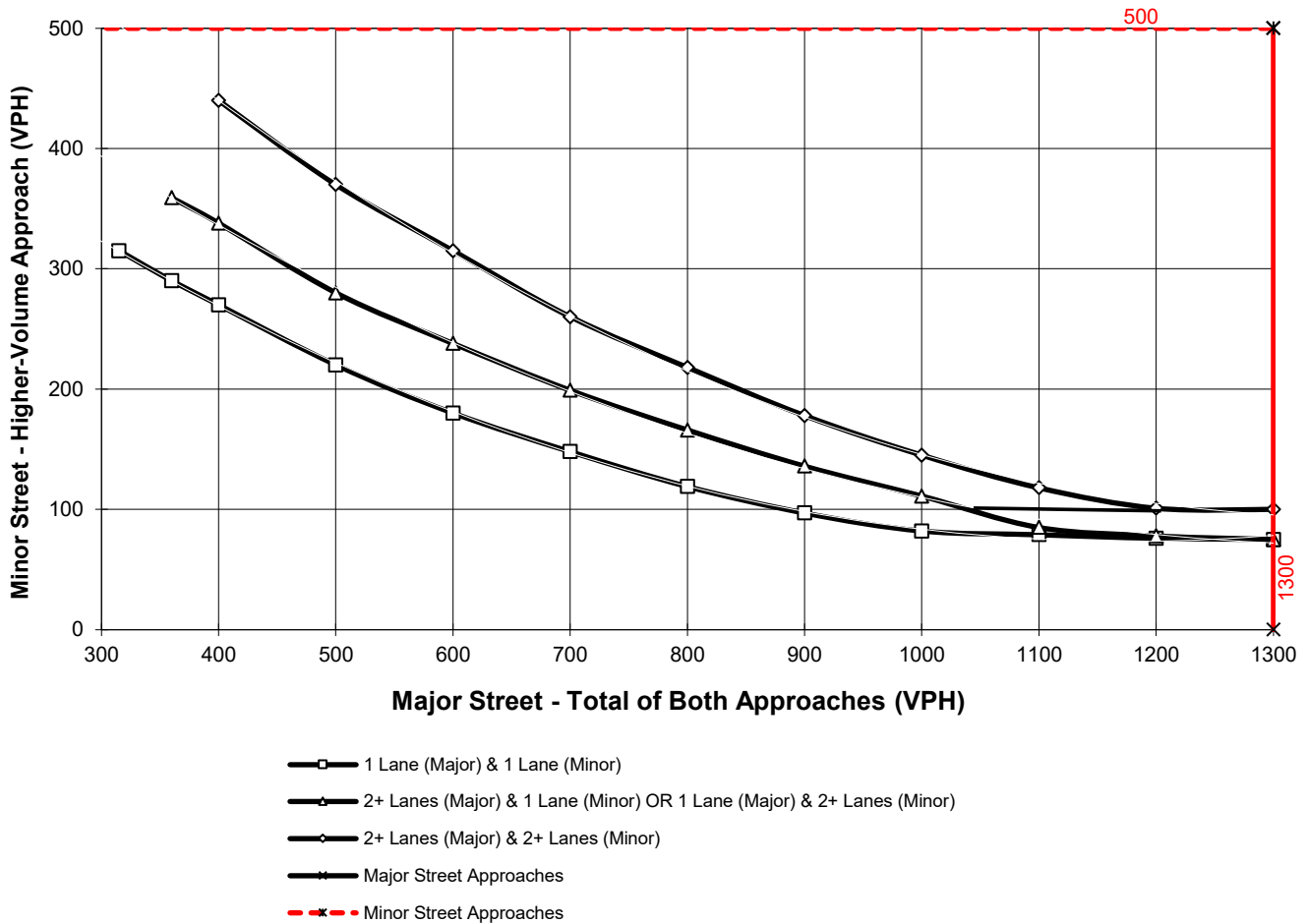
Major Street Name = **Merrill Av.**

Total of Both Approaches (VPH) = **2619**  
 Number of Approach Lanes Major Street = **1**

Minor Street Name = **Hellman Av.**

High Volume Approach (VPH) = **814**  
 Number of Approach Lanes Minor Street = **1**

**WARRANTED FOR A SIGNAL**



\*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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**APPENDIX 7.4:**

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT  
ANALYSIS WORKSHEETS**

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### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>HY WP</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>		DATE <u>08/19/21</u>
Major Street: <u>Eucalyptus</u>					Critical Approach Speed (Major)	<u>45</u> mph
Minor Street: <u>Sultana Av</u>					Critical Approach Speed (Minor)	<u>25</u> mph

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 8,478 vpd                      Minor Street Future ADT = 1,428 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or **RURAL (R)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements			
		<b>XX</b>		EADT			
<u>CONDITION A - Minimum Vehicular Volume</u>		<u>Not Satisfied</u>		Vehicles Per Day on		Vehicles Per Day	
<u>Satisfied</u>		<u>Not Satisfied</u>		Major Street		on Higher-Volume	
		<b>XX</b>		(Total of Both Approaches)		Minor Street Approach	
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach		Urban		Urban	
<u>Major Street</u>		<u>Minor Street</u>		Rural		Rural	
1 <b>8,478</b>		1 <b>1,428</b>		8,000		2,400	
2 +		1		5,600 *		1,680	
2 +		2 +		6,720		2,400	
1		2 +		9,600		3,200	
1		2 +		6,720		2,240	
1		2 +		8,000		3,200	
1		2 +		5,600		2,240	
<u>CONDITION B - Interruption of Continuous Traffic</u>		<u>Not Satisfied</u>		Vehicles Per Day		Vehicles Per Day	
<u>Satisfied</u>		<u>Not Satisfied</u>		on Major Street		on Higher-Volume	
		<b>XX</b>		(Total of Both Approaches)		Minor Street Approach	
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach		Urban		Urban	
<u>Major Street</u>		<u>Minor Street</u>		Rural		Rural	
1 <b>8,478</b>		1 <b>1,428</b>		12,000		1,200	
2 +		1		8,400 *		850 *	
2 +		2 +		14,400		1,200	
1		2 +		10,080		1,600	
1		2 +		14,400		1,120	
1		2 +		8,400		1,600	
1		2 +		12,000		1,120	
<u>Combination of CONDITIONS A + B</u>		<u>Not Satisfied</u>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
		<b>XX</b>					
No one condition satisfied, but following conditions fulfilled 80% of more .....		No one condition satisfied, but following conditions fulfilled 80% of more .....					
		<u>A</u>		<u>B</u>			
		<b>85%</b>		<b>100%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>HY WP</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>		DATE <u>08/23/21</u>
Major Street: <u>Sultana Av</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>Driveway 1</u>					Critical Approach Speed (Minor)	<u>25</u> mph
Major Street Approach Lanes = <u>1</u> lane				Minor Street Approach Lane: <u>1</u> lane		
Major Street Future ADT = <u>2,908</u> vpd				Minor Street Future ADT = <u>164</u> vpd		
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....						<input type="text"/>
						or
In built up area of isolated community of < 10,000 population .....						<input type="text"/>

**URBAN (U)**

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u> <b>XX</b>		<u>RURAL</u>		Minimum Requirements EADT			
<u>CONDITION A - Minimum Vehicular Volume</u> <u>Satisfied</u>		<u>Not Satisfied</u> <b>XX</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>2,908</b>		1 <b>164</b>		8,000	5,600	2,400	1,680
2 +		1		9,600	6,720	2,400	1,680
2 +		2 +		9,600	6,720	3,200	2,240
1		2 +		8,000	5,600	3,200	2,240
<u>CONDITION B - Interruption of Continuous Traffic</u> <u>Satisfied</u>		<u>Not Satisfied</u> <b>XX</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>2,908</b>		1 <b>164</b>		12,000	8,400	1,200	850
2 +		1		14,400	10,080	1,200	850
2 +		2 +		14,400	10,080	1,600	1,120
1		2 +		12,000	8,400	1,600	1,120
<u>Combination of CONDITIONS A + B</u> <u>Satisfied</u>		<u>Not Satisfied</u> <b>XX</b>		2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<u>A</u> <b>7%</b>					
		<u>B</u> <b>14%</b>					

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.





### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>HY WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/23/21</u>
Major Street: <u>Sultana Av</u>				<u>CHK MT</u>		<u>DATE 08/23/21</u>
Minor Street: <u>Driveway 3</u>					Critical Approach Speed (Major) <u>25 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 3,130 vpd                      Minor Street Future ADT = 146 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>		<u>Urban</u> <u>Rural</u>		<u>Urban</u> <u>Rural</u>	
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
<u>Major Street</u>		<u>Minor Street</u>					
1 <b>3,130</b>		1 <b>146</b>					
2 +		1					
2 +		2 +					
1		2 +					
8,000		5,600					
9,600		6,720					
9,600		6,720					
8,000		5,600					
2,400		1,680					
2,400		1,680					
3,200		2,240					
3,200		2,240					
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>					
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
<u>Major Street</u>		<u>Minor Street</u>					
1 <b>3,130</b>		1 <b>146</b>					
2 +		1					
2 +		2 +					
1		2 +					
12,000		8,400					
14,400		10,080					
14,400		10,080					
12,000		8,400					
1,200		850					
1,200		850					
1,600		1,120					
1,600		1,120					
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<b>XX</b>					
		<u>A</u>		<u>B</u>			
		<b>6%</b>		<b>12%</b>			

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>HY WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE</u> <u>08/23/21</u>
Major Street: <u>Sultana Av</u>				<u>CHK</u> <u>MT</u>		<u>DATE</u> <u>08/23/21</u>
Minor Street: <u>Driveway 5</u>					Critical Approach Speed (Major) <u>25</u> mph	
					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 3,168 vpd                      Minor Street Future ADT = 132 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		<u>Not Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>1 3,168</b>		<b>1 132</b>		8,000	5,600	2,400	1,680
2 +		1		9,600	6,720	2,400	1,680
2 +		2 +		9,600	6,720	3,200	2,240
1		2 +		8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		<u>Not Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>1 3,168</b>		<b>1 132</b>		12,000	8,400	1,200	850
2 +		1		14,400	10,080	1,200	850
2 +		2 +		14,400	10,080	1,600	1,120
1		2 +		12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<b>XX</b>					
		<b>A</b>					
		<b>6%</b>					
		<b>B</b>					
		<b>11%</b>					

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>HY WP</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>		DATE <u>08/23/21</u>
Major Street: <u>Sultana Av</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>Driveway 6</u>					Critical Approach Speed (Minor)	<u>25</u> mph

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 3,305 vpd                      Minor Street Future ADT = 185 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>		<u>Urban</u> <u>Rural</u>		<u>Urban</u> <u>Rural</u>	
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach					
<u>Major Street</u>		<u>Minor Street</u>					
1 <b>3,305</b>		1 <b>185</b>					
2 +		1					
2 +		2 +					
1		2 +					
8,000		5,600					
9,600		6,720					
9,600		6,720					
8,000		5,600					
2,400		1,680					
2,400		1,680					
3,200		2,240					
3,200		2,240					
2,400		1,680					
2,400		1,680					
1,200		850					
1,200		850					
1,600		1,120					
1,600		1,120					
1,600		1,120					
1,600		1,120					
2 CONDITIONS		2 CONDITIONS					
80%		80%					
80%		15%					
80%		15%					

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>HY WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/23/21</u>
Major Street: <u>Sultana Av</u>				<u>CHK MT</u>		<u>DATE 08/23/21</u>
Minor Street: <u>Driveway 7</u>					Critical Approach Speed (Major) <u>25 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 3,369 vpd                      Minor Street Future ADT = 59 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>	<u>Minor Street</u>	<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>3,369</b>	1 <b>59</b>	1 <b>3,369</b>	1 <b>59</b>	8,000	5,600	2,400	1,680
2 +	1	2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	1	2 +	8,000	5,600	3,200	2,240
Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)		(Total of Both Approaches)		(One Direction Only)	
No one condition satisfied, but following conditions fulfilled 80% of more .....		No one condition satisfied, but following conditions fulfilled 80% of more .....		2 CONDITIONS 80%		2 CONDITIONS 80%	
		<b>XX</b>					
		<b>A</b>					
		<b>2%</b>					
		<b>B</b>					
		<b>5%</b>					

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	HY WP
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/19/21</u>	DATE <u>08/19/21</u>
Major Street: <u>Merrill Av</u>					Critical Approach Speed (Major) <u>50</u> mph	
Minor Street: <u>Driveway 8</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 27,544 vpd      Minor Street Future ADT = 56 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....  or  **RURAL (R)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
	<b>XX</b>	EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	<b>XX</b>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 27,544</u>	<u>1 56</u>	8,000	5,600 *	2,400	1,680
<u>2 +</u>	<u>1</u>	9,600	6,720	2,400	1,680
<u>2 +</u>	<u>2 +</u>	9,600	6,720	3,200	2,240
<u>1</u>	<u>2 +</u>	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>	<u>Not Satisfied</u>	(Total of Both Approaches)		(One Direction Only)	
	<b>XX</b>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 27,544</u>	<u>1 56</u>	12,000	8,400 *	1,200	850
<u>2 +</u>	<u>1</u>	14,400	10,080	1,200	850
<u>2 +</u>	<u>2 +</u>	14,400	10,080	1,600	1,120
<u>1</u>	<u>2 +</u>	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....	<b>XX</b>				
	<b>A</b>				
	<b>3%</b>				
	<b>B</b>				
	<b>7%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>HY WP</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>		DATE <u>08/19/21</u>
Major Street: <u>Eucalyptus Av</u>					Critical Approach Speed (Major)	<u>45</u> mph
Minor Street: <u>Driveway 9</u>					Critical Approach Speed (Minor)	<u>25</u> mph

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 7,313 vpd                      Minor Street Future ADT = 211 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or **RURAL (R)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements			
		EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<b>Not Satisfied</b>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>XX</b>					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 7,313</u>	<u>1 211</u>	8,000	5,600 *	2,400	1,680
<u>2+</u>	<u>1</u>	9,600	6,720	2,400	1,680
<u>2+</u>	<u>2+</u>	9,600	6,720	3,200	2,240
<u>1</u>	<u>2+</u>	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street		Vehicles Per Day on Higher-Volume Minor Street Approach	
<u>Satisfied</u>		(Total of Both Approaches)		(One Direction Only)	
<b>Not Satisfied</b>		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>XX</b>					
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 7,313</u>	<u>1 211</u>	12,000	8,400	1,200	850
<u>2+</u>	<u>1</u>	14,400	10,080	1,200	850
<u>2+</u>	<u>2+</u>	14,400	10,080	1,600	1,120
<u>1</u>	<u>2+</u>	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		80%		80%	
<b>Not Satisfied</b>					
<b>XX</b>					
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<u>A</u>				
	<b>13%</b>				
	<u>B</u>				
	<b>25%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.





### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	HY WP
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/19/21</u>	DATE <u>08/19/21</u>
Major Street: <u>Eucalyptus Av</u>					Critical Approach Speed (Major) <u>50</u> mph	
Minor Street: <u>Driveway 11</u>					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 27,601 vpd                      Minor Street Future ADT = 57 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or **RURAL (R)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 27,601</u>	<u>1 57</u>	8,000	5,600 *	2,400	1,680
<u>2+</u>	<u>1</u>	9,600	6,720	2,400	1,680
<u>2+</u>	<u>2+</u>	9,600	6,720	3,200	2,240
<u>1</u>	<u>2+</u>	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	XX	Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach					
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 27,601</u>	<u>1 57</u>	12,000	8,400 *	1,200	850
<u>2+</u>	<u>1</u>	14,400	10,080	1,200	850
<u>2+</u>	<u>2+</u>	14,400	10,080	1,600	1,120
<u>1</u>	<u>2+</u>	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
	XX				
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	A				
	3%				
	B				
	7%				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	CALC <u>MT</u>	TRAFFIC CONDITIONS	<u>HY WP</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>	DATE <u>08/19/21</u>	DATE <u>08/19/21</u>
Major Street: <u>Eucalyptus Ave</u>					Critical Approach Speed (Major) <u>45 mph</u>	
Minor Street: <u>Campus Av</u>					Critical Approach Speed (Minor) <u>25 mph</u>	

Major Street Approach Lanes = 1 lane      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 7,647 vpd      Minor Street Future ADT = 1,066 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....  or  **RURAL (R)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
		Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach	Number of lanes for moving traffic on each approach				
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 7,647</u>	<u>1 1,066</u>	8,000	5,600 *	2,400	1,680
<u>2 +</u>	<u>1</u>	9,600	6,720	2,400	1,680
<u>2 +</u>	<u>2 +</u>	9,600	6,720	3,200	2,240
<u>1</u>	<u>2 +</u>	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>				
	<b>XX</b>				
		Urban	Rural	Urban	Rural
Number of lanes for moving traffic on each approach	Number of lanes for moving traffic on each approach				
<u>Major Street</u>	<u>Minor Street</u>				
<u>1 7,647</u>	<u>1 1,066</u>	12,000	8,400	1,200	850 *
<u>2 +</u>	<u>1</u>	14,400	10,080	1,200	850
<u>2 +</u>	<u>2 +</u>	14,400	10,080	1,600	1,120
<u>1</u>	<u>2 +</u>	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>	<u>Not Satisfied</u>	80%		80%	
	<b>XX</b>				
No one condition satisfied, but following conditions fulfilled 80% of more .....					
	<u>A</u>				
	<b>63%</b>				
	<u>B</u>				
	<b>91%</b>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>HY WP</u>
Jurisdiction: <u>City of Ontario</u>				CHK <u>MT</u>		DATE <u>08/19/21</u>
Major Street: <u>Campus Av</u>					Critical Approach Speed (Major)	<u>25</u> mph
Minor Street: <u>Driveway 12</u>					Critical Approach Speed (Minor)	<u>25</u> mph

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 2,213 vpd                      Minor Street Future ADT = 171 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

In built up area of isolated community of < 10,000 population .....  **URBAN (U)**

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>		<u>Urban</u> <u>Rural</u>		<u>Urban</u> <u>Rural</u>	
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Minor Street					
<u>Major Street</u>		<u>Minor Street</u>					
1 <b>2,213</b>		1 <b>171</b>					
2 +		1					
2 +		2 +					
1		2 +					
8,000		5,600					
9,600		6,720					
9,600		6,720					
8,000		5,600					
2,400		1,680					
2,400		1,680					
3,200		2,240					
3,200		2,240					
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>					
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Minor Street					
<u>Major Street</u>		<u>Minor Street</u>					
1 <b>2,213</b>		1 <b>171</b>					
2 +		1					
2 +		2 +					
1		2 +					
12,000		8,400					
14,400		10,080					
14,400		10,080					
12,000		8,400					
1,200		850					
1,200		850					
1,600		1,120					
1,600		1,120					
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<b>XX</b>					
		<b>A</b>					
		<b>7%</b>					
		<b>B</b>					
		<b>14%</b>					

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>HY WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/19/21</u>
Major Street: <u>Campus Av</u>				<u>CHK MT</u>		<u>DATE 08/19/21</u>
Minor Street: <u>Driveway 13</u>					Critical Approach Speed (Major) <u>25 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 2,369 vpd                      Minor Street Future ADT = 165 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach		(Total of Both Approaches)		(One Direction Only)	
<u>Major Street</u>	<u>Minor Street</u>	<u>Major Street</u>	<u>Minor Street</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 <b>2,369</b>	1 <b>165</b>	1 <b>2,369</b>	1 <b>165</b>	8,000	5,600	2,400	1,680
2 +	1	2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	1	2 +	8,000	5,600	3,200	2,240
Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)		(Total of Both Approaches)		(One Direction Only)	
No one condition satisfied, but following conditions fulfilled 80% of more .....		No one condition satisfied, but following conditions fulfilled 80% of more .....		2 CONDITIONS 80%		2 CONDITIONS 80%	
		<b>XX</b>					
		<b>A</b>					
		<b>7%</b>					
		<b>B</b>					
		<b>14%</b>					

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>HY WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/19/21</u>
Major Street: <u>Campus Av</u>				<u>CHK MT</u>		<u>DATE 08/19/21</u>
Minor Street: <u>Driveway 14</u>					Critical Approach Speed (Major) <u>25 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	
Major Street Approach Lanes =	<u>1</u>	lane		Minor Street Approach Lane:	<u>1</u>	lane
Major Street Future ADT =	<u>2,500</u>	vpd		Minor Street Future ADT =	<u>148</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....			<input type="text"/>	or	<b>URBAN (U)</b>	
In built up area of isolated community of < 10,000 population .....			<input type="text"/>			

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>		<u>Urban</u>		<u>Urban</u>	
<u>Major Street</u>		<u>Minor Street</u>		<u>Rural</u>		<u>Rural</u>	
<b>1 2,500</b>		<b>1 148</b>		8,000		2,400	
2 +		1		9,600		2,400	
2 +		2 +		9,600		3,200	
1		2 +		8,000		2,240	
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>		<u>Urban</u>		<u>Urban</u>	
<u>Major Street</u>		<u>Minor Street</u>		<u>Rural</u>		<u>Rural</u>	
<b>1 2,500</b>		<b>1 148</b>		12,000		1,200	
2 +		1		14,400		1,200	
2 +		2 +		14,400		1,600	
1		2 +		12,000		1,600	
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<b>XX</b>					
		<u>A</u>					
		<u>B</u>					
		<b>6%</b>					
		<b>12%</b>					

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>HY WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/19/21</u>
Major Street: <u>Campus Av</u>				<u>CHK MT</u>		<u>DATE 08/19/21</u>
Minor Street: <u>Driveway 15</u>					Critical Approach Speed (Major) <u>25 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	
Major Street Approach Lanes =	<u>1</u>	lane		Minor Street Approach Lane:	<u>1</u>	lane
Major Street Future ADT =	<u>2,575</u>	vpd		Minor Street Future ADT =	<u>75</u>	vpd
Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....			<input type="text"/>	or		
In built up area of isolated community of < 10,000 population .....			<input type="text"/>		<b>URBAN (U)</b>	

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>		<u>Urban</u>		<u>Urban</u>	
<u>Major Street</u>		<u>Minor Street</u>		<u>Rural</u>		<u>Rural</u>	
<b>1 2,575</b>		<b>1 75</b>		8,000		2,400	
2 +		1		9,600		2,400	
2 +		2 +		9,600		3,200	
1		2 +		8,000		2,240	
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>		<u>Urban</u>		<u>Urban</u>	
<u>Major Street</u>		<u>Minor Street</u>		<u>Rural</u>		<u>Rural</u>	
<b>1 2,575</b>		<b>1 75</b>		12,000		1,200	
2 +		1		14,400		1,200	
2 +		2 +		14,400		1,600	
1		2 +		12,000		1,600	
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<b>XX</b>					
		<u>A</u>					
		<b>3%</b>					
		<u>B</u>					
		<b>6%</b>					

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

DIST	CO	RTE	PM	CALC	TRAFFIC CONDITIONS	HY	WP
Jurisdiction: <u>City of Ontario</u>				CHK	<u>MT</u>	DATE	<u>08/19/21</u>
Major Street: <u>Campus Av</u>						DATE	<u>08/19/21</u>
Minor Street: <u>Driveway 16</u>					Critical Approach Speed (Major)		<u>25</u> mph
					Critical Approach Speed (Minor)		<u>25</u> mph

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 2,635 vpd                      Minor Street Future ADT = 131 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

In built up area of isolated community of < 10,000 population .....  **URBAN (U)**

#### (Based on Estimated Average Daily Traffic - See Note)

	<u>URBAN</u>	<u>RURAL</u>	Minimum Requirements EADT			
	<del>XX</del>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<b>CONDITION A - Minimum Vehicular Volume</b>	<u>Satisfied</u>	<u>Not Satisfied</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
		<del>XX</del>				
Number of lanes for moving traffic on each approach						
<u>Major Street</u>		<u>Minor Street</u>				
1 <b>2,635</b>		1 <b>131</b>	8,000	5,600	2,400	1,680
2 +		1	9,600	6,720	2,400	1,680
2 +		2 +	9,600	6,720	3,200	2,240
1		2 +	8,000	5,600	3,200	2,240
<b>CONDITION B - Interruption of Continuous Traffic</b>	<u>Satisfied</u>	<u>Not Satisfied</u>	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
		<del>XX</del>				
Number of lanes for moving traffic on each approach						
<u>Major Street</u>		<u>Minor Street</u>				
1 <b>2,635</b>		1 <b>131</b>	12,000	8,400	1,200	850
2 +		1	14,400	10,080	1,200	850
2 +		2 +	14,400	10,080	1,600	1,120
1		2 +	12,000	8,400	1,600	1,120
<b>Combination of CONDITIONS A + B</b>	<u>Satisfied</u>	<u>Not Satisfied</u>	2 CONDITIONS 80%		2 CONDITIONS 80%	
		<del>XX</del>				
No one condition satisfied, but following conditions fulfilled 80% of more .....						
		<u>A</u>				
		<del>5%</del>				
		<u>B</u>				
		<del>11%</del>				

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>HY WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE</u> <u>08/19/21</u>
Major Street: <u>Campus Av</u>				<u>CHK</u> <u>MT</u>		<u>DATE</u> <u>08/19/21</u>
Minor Street: <u>Driveway 17</u>					Critical Approach Speed (Major) <u>25</u> mph	
					Critical Approach Speed (Minor) <u>25</u> mph	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 2,772 vpd                      Minor Street Future ADT = 184 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>		<u>Urban</u> <u>Rural</u>		<u>Urban</u> <u>Rural</u>	
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Minor Street					
<u>Major Street</u>		<u>Minor Street</u>					
1 <b>2,772</b>		1 <b>184</b>					
2 +		1					
2 +		2 +					
1		2 +					
<b>CONDITION B - Interruption of Continuous Traffic</b>		<b>Not Satisfied</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>		<u>Urban</u> <u>Rural</u>		<u>Urban</u> <u>Rural</u>	
<b>XX</b>		<b>XX</b>					
Number of lanes for moving traffic on each approach		Minor Street					
<u>Major Street</u>		<u>Minor Street</u>					
1 <b>2,772</b>		1 <b>184</b>					
2 +		1					
2 +		2 +					
1		2 +					
<b>Combination of CONDITIONS A + B</b>		<b>Not Satisfied</b>		2 CONDITIONS		2 CONDITIONS	
<u>Satisfied</u>		<u>Not Satisfied</u>		80%		80%	
No one condition satisfied, but following conditions fulfilled 80% of more .....		<b>XX</b>					
		<u>A</u>					
		<u>B</u>					
		<b>8%</b>					
		<b>15%</b>					

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

### Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

<u>DIST</u>	<u>CO</u>	<u>RTE</u>	<u>PM</u>	<u>CALC</u>	<u>TRAFFIC CONDITIONS</u>	<u>HY WP</u>
Jurisdiction: <u>City of Ontario</u>				<u>MT</u>		<u>DATE 08/19/21</u>
Major Street: <u>Campus Av</u>				<u>CHK MT</u>		<u>DATE 08/19/21</u>
Minor Street: <u>Driveway 18</u>					Critical Approach Speed (Major) <u>25 mph</u>	
					Critical Approach Speed (Minor) <u>25 mph</u>	

Major Street Approach Lanes = 1 lane                      Minor Street Approach Lane: 1 lane

Major Street Future ADT = 2,865 vpd                      Minor Street Future ADT = 61 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); .....

or

**URBAN (U)**

In built up area of isolated community of < 10,000 population .....

**(Based on Estimated Average Daily Traffic - See Note)**

<u>URBAN</u>		<u>RURAL</u>		Minimum Requirements EADT			
<b>CONDITION A - Minimum Vehicular Volume</b>		<b>CONDITION B - Interruption of Continuous Traffic</b>		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>		<u>Satisfied</u>		<u>Not Satisfied</u>	
<u>Major Street</u>		<u>Minor Street</u>		<u>Urban</u>		<u>Rural</u>	
<b>XX</b>		<b>XX</b>		<b>XX</b>		<b>XX</b>	
<b>1 2,865</b>		<b>1 61</b>		<b>8,000 5,600</b>		<b>2,400 1,680</b>	
<b>2 +</b>		<b>1</b>		<b>9,600 6,720</b>		<b>2,400 1,680</b>	
<b>2 +</b>		<b>2 +</b>		<b>9,600 6,720</b>		<b>3,200 2,240</b>	
<b>1</b>		<b>2 +</b>		<b>8,000 5,600</b>		<b>3,200 2,240</b>	
<b>12,000 8,400</b>		<b>1,200 850</b>		<b>14,400 10,080</b>		<b>1,200 850</b>	
<b>14,400 10,080</b>		<b>1,600 1,120</b>		<b>12,000 8,400</b>		<b>1,600 1,120</b>	
<b>2 CONDITIONS</b>		<b>2 CONDITIONS</b>		<b>80%</b>		<b>80%</b>	
<b>80%</b>		<b>80%</b>		<b>80%</b>		<b>80%</b>	

**Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.**

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

**APPENDIX 7.5:**

**HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS OFF-RAMP QUEUING  
ANALYSIS WORKSHEETS**

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## Queues

## 1: Euclid Av. (SR-83) &amp; SR-60 WB Ramps

08/24/2021



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	494	483	445	617	1273	1310	631
v/c Ratio	0.96	0.98	0.86	1.31	0.60	1.33	0.75
Control Delay	64.0	67.5	41.9	165.4	23.5	186.9	11.0
Queue Delay	0.0	0.0	0.0	0.0	32.3	0.0	0.0
Total Delay	64.0	67.5	41.9	165.4	55.8	186.9	11.0
Queue Length 50th (ft)	289	289	206	~459	398	~514	33
Queue Length 95th (ft)	#497	#513	#388	m#356	m318	#645	159
Internal Link Dist (ft)		1410			396	1540	
Turn Bay Length (ft)	400		400	285			
Base Capacity (vph)	514	494	519	471	2105	982	842
Starvation Cap Reductn	0	0	0	0	902	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.98	0.86	1.31	1.06	1.33	0.75

## Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues  
2: Euclid Av. (SR-83) & SR-60 EB Ramps



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	492	884	1323	905	483	1669
v/c Ratio	1.03	1.97	1.20	1.01	1.05	0.76
Control Delay	84.2	468.8	128.9	44.9	67.5	6.5
Queue Delay	28.5	5.0	0.0	0.0	0.0	7.7
Total Delay	112.6	473.8	128.9	44.9	67.5	14.2
Queue Length 50th (ft)	~318	~830	~485	~235	~248	105
Queue Length 95th (ft)	#518	#1074	#616	#518	m184	m94
Internal Link Dist (ft)		1071	1048			396
Turn Bay Length (ft)	900					
Base Capacity (vph)	476	448	1103	896	461	2186
Starvation Cap Reductn	0	0	0	0	0	487
Spillback Cap Reductn	184	167	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.68	3.15	1.20	1.01	1.05	0.98

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

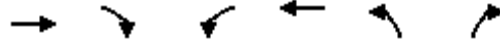
51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1637	574	798	240	383	855	846
v/c Ratio	1.17	0.36	0.82	0.15	0.41	1.06	1.01
Control Delay	108.2	0.6	25.4	0.2	9.9	65.0	50.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	108.2	0.6	25.4	0.2	9.9	65.0	50.3
Queue Length 50th (ft)	~267	0	151	0	77	~371	~287
Queue Length 95th (ft)	#353	0	m#232	m0	134	#593	#547
Internal Link Dist (ft)	2023		797			1504	
Turn Bay Length (ft)					620		470
Base Capacity (vph)	1400	1615	974	1615	926	809	838
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.17	0.36	0.82	0.15	0.41	1.06	1.01

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	725	1338	484	690	510	234
v/c Ratio	0.35	1.21	1.19	0.22	0.77	0.53
Control Delay	11.6	114.0	134.5	5.4	27.9	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	114.0	134.5	5.4	27.9	8.8
Queue Length 50th (ft)	45	~623	~112	35	70	0
Queue Length 95th (ft)	m42	m#365	#194	49	#135	57
Internal Link Dist (ft)	797			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2048	1104	408	3172	663	440
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.35	1.21	1.19	0.22	0.77	0.53

**Intersection Summary**

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.



Queues

1: Euclid Av. (SR-83) & SR-60 WB Ramps

08/24/2021



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	457	456	413	758	1407	1311	623
v/c Ratio	0.87	0.91	0.79	1.80	0.67	1.23	0.68
Control Delay	48.3	52.8	34.7	383.3	27.8	143.9	6.6
Queue Delay	0.0	0.0	0.0	0.0	48.7	0.0	0.0
Total Delay	48.3	52.8	34.7	383.3	76.5	143.9	6.6
Queue Length 50th (ft)	250	256	176	~684	460	~490	0
Queue Length 95th (ft)	#421	#448	#326	m#482	m339	#621	84
Internal Link Dist (ft)		1410			396	1540	
Turn Bay Length (ft)				285			400
Base Capacity (vph)	552	528	545	421	2085	1062	915
Starvation Cap Reductn	0	0	0	0	818	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.86	0.76	1.80	1.11	1.23	0.68

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues  
2: Euclid Av. (SR-83) & SR-60 EB Ramps



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	463	643	1604	785	467	1605
v/c Ratio	1.01	1.47	1.40	0.87	1.01	0.72
Control Delay	80.3	251.5	214.7	19.2	56.2	5.4
Queue Delay	47.1	16.1	0.1	0.0	0.0	3.2
Total Delay	127.3	267.6	214.8	19.2	56.2	8.6
Queue Length 50th (ft)	~283	~524	~649	98	~216	90
Queue Length 95th (ft)	#489	#747	#784	#365	m194	m100
Internal Link Dist (ft)		1071	1048			396
Turn Bay Length (ft)	900					
Base Capacity (vph)	457	437	1143	903	461	2226
Starvation Cap Reductn	0	0	0	0	0	505
Spillback Cap Reductn	329	300	25	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	3.62	4.69	1.43	0.87	1.01	0.93

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



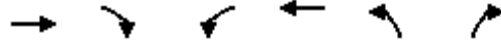
Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	2114	652	935	544	484	736	738
v/c Ratio	1.21	0.40	0.77	0.34	0.60	1.03	1.00
Control Delay	122.8	0.8	18.3	0.8	15.4	59.2	50.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	122.8	0.8	18.3	0.8	15.4	59.2	50.8
Queue Length 50th (ft)	~353	0	103	0	126	~279	244
Queue Length 95th (ft)	#443	0	m230	m8	214	#517	#486
Internal Link Dist (ft)	2023		797			1504	
Turn Bay Length (ft)					620		470
Base Capacity (vph)	1746	1615	1215	1615	811	717	740
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.21	0.40	0.77	0.34	0.60	1.03	1.00

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

52: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	960	1752	387	1085	501	228
v/c Ratio	0.47	1.58	0.95	0.34	0.83	0.52
Control Delay	10.3	280.0	63.5	6.1	37.5	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.3	280.0	63.5	6.1	37.5	8.7
Queue Length 50th (ft)	56	~964	73	60	86	0
Queue Length 95th (ft)	m51	m#828	#148	80	#159	56
Internal Link Dist (ft)	797		1857		1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2048	1107	408	3172	600	435
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.47	1.58	0.95	0.34	0.83	0.52

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

**APPENDIX 7.6:**

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS OFF-RAMP QUEUING ANALYSIS  
WORKSHEETS**

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## Queues

## 1: Euclid Av. (SR-83) &amp; SR-60 WB Ramps

08/24/2021



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	498	498	450	627	1274	1312	631
v/c Ratio	0.97	1.01	0.87	1.33	0.61	1.34	0.75
Control Delay	65.7	75.6	43.0	174.8	23.5	187.8	11.1
Queue Delay	0.0	0.0	0.0	0.0	32.6	0.0	0.0
Total Delay	65.7	75.6	43.0	174.8	56.2	187.8	11.1
Queue Length 50th (ft)	292	~307	210	~472	399	~516	34
Queue Length 95th (ft)	#503	#537	#395	m#364	m316	#646	161
Internal Link Dist (ft)		1410			396	1540	
Turn Bay Length (ft)	400		400	285			
Base Capacity (vph)	514	493	519	471	2105	982	841
Starvation Cap Reductn	0	0	0	0	902	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	1.01	0.87	1.33	1.06	1.34	0.75

## Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues  
2: Euclid Av. (SR-83) & SR-60 EB Ramps



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	492	917	1333	913	483	1696
v/c Ratio	1.03	2.06	1.21	1.02	1.05	0.78
Control Delay	84.2	505.2	132.6	47.5	67.6	6.7
Queue Delay	28.5	5.1	0.0	0.0	0.0	10.1
Total Delay	112.7	510.3	132.6	47.5	67.6	16.8
Queue Length 50th (ft)	~318	~874	~491	~257	~249	111
Queue Length 95th (ft)	#518	#1122	#623	#528	m184	m97
Internal Link Dist (ft)		1071	1048			396
Turn Bay Length (ft)	900					
Base Capacity (vph)	476	446	1103	896	461	2186
Starvation Cap Reductn	0	0	0	0	0	482
Spillback Cap Reductn	186	168	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.70	3.30	1.21	1.02	1.05	1.00

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Queues

51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1650	574	800	240	383	877	869
v/c Ratio	1.18	0.36	0.82	0.15	0.41	1.08	1.04
Control Delay	112.0	0.6	25.8	0.2	9.9	74.4	58.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	112.0	0.6	25.8	0.2	9.9	74.4	58.1
Queue Length 50th (ft)	~270	0	152	0	77	~391	~354
Queue Length 95th (ft)	#356	0	m#220	m0	134	#614	#569
Internal Link Dist (ft)	2023		797			1504	
Turn Bay Length (ft)					620		470
Base Capacity (vph)	1400	1615	974	1615	926	809	838
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.18	0.36	0.82	0.15	0.41	1.08	1.04

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	726	1351	484	692	510	234
v/c Ratio	0.34	1.22	1.19	0.21	0.84	0.56
Control Delay	11.2	119.7	134.5	5.0	34.2	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.2	119.7	134.5	5.0	34.2	9.7
Queue Length 50th (ft)	45	~633	~112	33	72	0
Queue Length 95th (ft)	m42	m#369	#194	46	#146	58
Internal Link Dist (ft)	797			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2135	1104	408	3259	606	419
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	1.22	1.19	0.21	0.84	0.56

**Intersection Summary**

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

1: Euclid Av. (SR-83) & SR-60 WB Ramps



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	462	455	418	792	1409	1313	623
v/c Ratio	0.88	0.91	0.80	1.88	0.68	1.24	0.68
Control Delay	49.6	52.7	35.6	418.3	27.9	144.7	6.6
Queue Delay	0.0	0.0	0.0	0.0	48.7	0.0	0.0
Total Delay	49.6	52.7	35.6	418.3	76.6	144.7	6.6
Queue Length 50th (ft)	253	256	180	~727	461	~491	0
Queue Length 95th (ft)	#428	#447	#334	m#502	m333	#622	84
Internal Link Dist (ft)		1410			396	1540	
Turn Bay Length (ft)				285			400
Base Capacity (vph)	552	528	545	421	2086	1062	915
Starvation Cap Reductn	0	0	0	0	818	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.86	0.77	1.88	1.11	1.24	0.68

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues  
2: Euclid Av. (SR-83) & SR-60 EB Ramps



Lane Group	EBL	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	463	655	1640	809	467	1614
v/c Ratio	1.01	1.50	1.43	0.90	1.01	0.73
Control Delay	80.3	263.2	228.3	22.2	56.2	5.5
Queue Delay	47.7	16.7	0.1	0.0	0.0	3.4
Total Delay	128.0	279.9	228.4	22.2	56.2	8.9
Queue Length 50th (ft)	~283	~540	~672	120	~218	91
Queue Length 95th (ft)	#489	#764	#807	#398	m195	m101
Internal Link Dist (ft)		1071	1048			396
Turn Bay Length (ft)	900					
Base Capacity (vph)	457	437	1143	903	461	2226
Starvation Cap Reductn	0	0	0	0	0	502
Spillback Cap Reductn	333	304	28	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	3.73	4.92	1.47	0.90	1.01	0.94

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

51: I-15 SB Ramps & Cantu Galleano Ranch Rd.



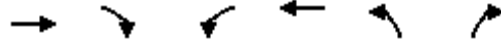
Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	2164	652	936	544	484	743	747
v/c Ratio	1.24	0.40	0.77	0.34	0.60	1.04	1.01
Control Delay	135.2	0.8	18.3	0.8	15.4	62.1	54.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	135.2	0.8	18.3	0.8	15.4	62.1	54.0
Queue Length 50th (ft)	~368	0	103	0	126	~312	~256
Queue Length 95th (ft)	#458	0	m229	m8	214	#523	#495
Internal Link Dist (ft)	2023		797			1504	
Turn Bay Length (ft)					620		470
Base Capacity (vph)	1746	1615	1215	1615	811	717	740
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.24	0.40	0.77	0.34	0.60	1.04	1.01

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues

52: I-15 NB Ramps & Cantu Galleano Ranch Rd.



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	962	1799	387	1086	501	228
v/c Ratio	0.47	1.63	0.95	0.34	0.83	0.52
Control Delay	10.4	299.2	63.5	6.1	37.5	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.4	299.2	63.5	6.1	37.5	8.7
Queue Length 50th (ft)	55	~1003	73	60	86	0
Queue Length 95th (ft)	m49	m#838	#148	80	#159	56
Internal Link Dist (ft)	797			1857	1852	
Turn Bay Length (ft)			260		590	450
Base Capacity (vph)	2048	1107	408	3172	600	435
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.47	1.63	0.95	0.34	0.83	0.52

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

**APPENDIX 7.7:**

**HORIZON YEAR (2040) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS  
ANALYSIS WORKSHEETS WITH IMPROVEMENTS**

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Timings  
1: Euclid Av. (SR-83) & SR-60 WB Ramps

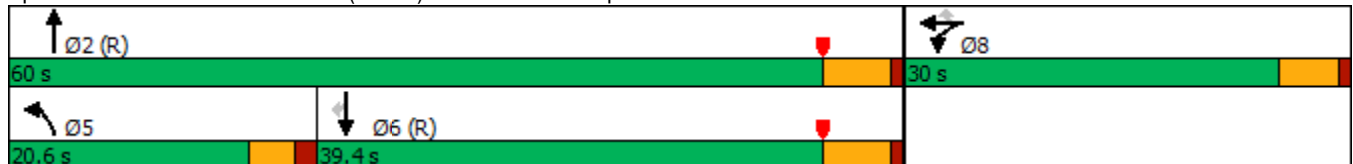


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	837	7	516	589	1198	1233	593
Future Volume (vph)	837	7	516	589	1198	1233	593
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	10.0	10.0	10.0
Minimum Split (s)	11.0	11.0	11.0	9.5	22.5	22.5	22.5
Total Split (s)	30.0	30.0	30.0	20.6	60.0	39.4	39.4
Total Split (%)	33.3%	33.3%	33.3%	22.9%	66.7%	43.8%	43.8%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.5	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 63 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Euclid Av. (SR-83) & SR-60 WB Ramps



HCM 6th Signalized Intersection Summary  
 1: Euclid Av. (SR-83) & SR-60 WB Ramps

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↔	↗	↖↗	↕			↕	↖
Traffic Volume (veh/h)	0	0	0	837	7	516	589	1198	0	0	1233	593
Future Volume (veh/h)	0	0	0	837	7	516	589	1198	0	0	1233	593
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				995	0	222	627	1274	0	0	1312	403
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				1005	0	447	628	2186	0	0	1360	606
Arrive On Green				0.28	0.00	0.28	0.36	1.00	0.00	0.00	0.38	0.38
Sat Flow, veh/h				3619	0	1610	3510	3705	0	0	3705	1610
Grp Volume(v), veh/h				995	0	222	627	1274	0	0	1312	403
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1755	1805	0	0	1805	1610
Q Serve(g_s), s				24.6	0.0	10.4	16.1	0.0	0.0	0.0	32.0	18.7
Cycle Q Clear(g_c), s				24.6	0.0	10.4	16.1	0.0	0.0	0.0	32.0	18.7
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1005	0	447	628	2186	0	0	1360	606
V/C Ratio(X)				0.99	0.00	0.50	1.00	0.58	0.00	0.00	0.96	0.66
Avail Cap(c_a), veh/h				1005	0	447	628	2186	0	0	1360	606
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.22	0.22	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				32.4	0.0	27.2	28.9	0.0	0.0	0.0	27.5	23.3
Incr Delay (d2), s/veh				25.8	0.0	0.3	16.5	0.3	0.0	0.0	17.3	5.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				13.5	0.0	3.8	6.3	0.1	0.0	0.0	15.9	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				58.1	0.0	27.5	45.3	0.3	0.0	0.0	44.8	29.0
LnGrp LOS				E	A	C	D	A	A	A	D	C
Approach Vol, veh/h					1217			1901			1715	
Approach Delay, s/veh					52.6			15.1			41.1	
Approach LOS					D			B			D	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		60.0			20.6	39.4		30.0				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.0				
Max Green Setting (Gmax), s		54.5			16.1	33.9		25.0				
Max Q Clear Time (g_c+I1), s		2.0			18.1	34.0		26.6				
Green Ext Time (p_c), s		18.8			0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

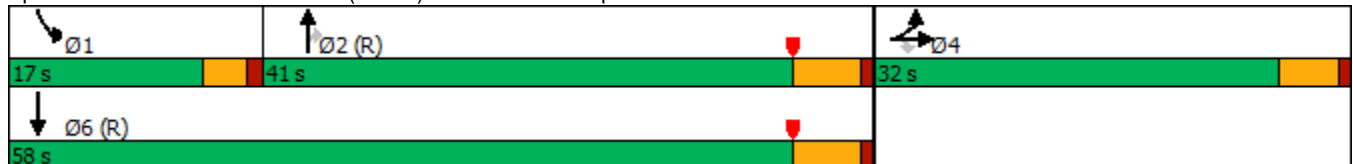


Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	520	3	816	1266	867	459	1611
Future Volume (vph)	520	3	816	1266	867	459	1611
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4	4		2		1	6
Permitted Phases			4		2		
Detector Phase	4	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	10.0	10.0	5.0	10.0
Minimum Split (s)	11.0	11.0	11.0	22.5	22.5	9.0	22.5
Total Split (s)	32.0	32.0	32.0	41.0	41.0	17.0	58.0
Total Split (%)	35.6%	35.6%	35.6%	45.6%	45.6%	18.9%	64.4%
Yellow Time (s)	4.0	4.0	4.0	4.5	4.5	3.0	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

Splits and Phases: 2: Euclid Av. (SR-83) & SR-60 EB Ramps



HCM 6th Signalized Intersection Summary  
 2: Euclid Av. (SR-83) & SR-60 EB Ramps

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	520	3	816	0	0	0	0	1266	867	459	1611	0
Future Volume (veh/h)	520	3	816	0	0	0	0	1266	867	459	1611	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	366	0	1001				0	1333	714	483	1696	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	543	0	966				0	1424	625	507	2106	0
Arrive On Green	0.30	0.00	0.30				0.00	0.39	0.39	0.19	0.78	0.00
Sat Flow, veh/h	1810	0	3220				0	3705	1585	3510	3705	0
Grp Volume(v), veh/h	366	0	1001				0	1333	714	483	1696	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1805	1585	1755	1805	0
Q Serve(g_s), s	16.0	0.0	27.0				0.0	31.9	35.5	12.2	25.3	0.0
Cycle Q Clear(g_c), s	16.0	0.0	27.0				0.0	31.9	35.5	12.2	25.3	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	543	0	966				0	1424	625	507	2106	0
V/C Ratio(X)	0.67	0.00	1.04				0.00	0.94	1.14	0.95	0.81	0.00
Avail Cap(c_a), veh/h	543	0	966				0	1424	625	507	2106	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.33	1.33	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.33	0.33	0.12	0.12	0.00
Uniform Delay (d), s/veh	27.6	0.0	31.5				0.0	26.2	27.2	36.0	7.0	0.0
Incr Delay (d2), s/veh	2.7	0.0	38.7				0.0	5.2	70.8	6.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	14.8				0.0	13.5	24.5	5.2	4.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.3	0.0	70.2				0.0	31.3	98.0	42.1	7.5	0.0
LnGrp LOS	C	A	F				A	C	F	D	A	A
Approach Vol, veh/h		1367						2047			2179	
Approach Delay, s/veh		59.5						54.6			15.1	
Approach LOS		E						D			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	17.0	41.0	32.0	58.0								
Change Period (Y+Rc), s	4.0	5.5	5.0	5.5								
Max Green Setting (Gmax), s	13.0	35.5	27.0	52.5								
Max Q Clear Time (g_c+I1), s	14.2	37.5	29.0	27.3								
Green Ext Time (p_c), s	0.0	0.0	0.0	18.3								

Intersection Summary

HCM 6th Ctrl Delay	40.4
HCM 6th LOS	D

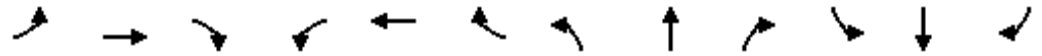
Notes

User approved volume balancing among the lanes for turning movement.

Timings  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/24/2021

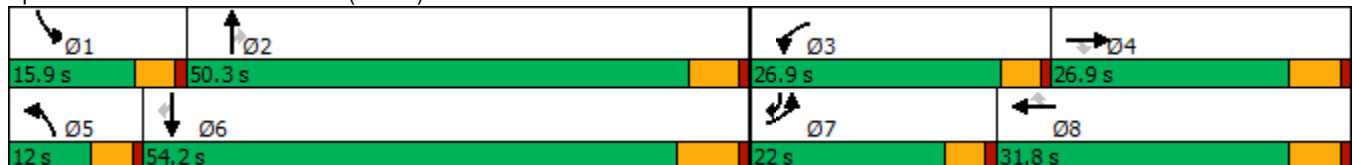


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗	↘	↘	↗↗	↘	↘↘	↗↗↗	↘	↘↘	↗↗↗	↘
Traffic Volume (vph)	193	457	154	241	627	149	163	1383	201	220	1790	192
Future Volume (vph)	193	457	154	241	627	149	163	1383	201	220	1790	192
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	22.0	26.9	26.9	26.9	31.8	31.8	12.0	50.3	50.3	15.9	54.2	22.0
Total Split (%)	18.3%	22.4%	22.4%	22.4%	26.5%	26.5%	10.0%	41.9%	41.9%	13.3%	45.2%	18.3%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 117.6  
 Natural Cycle: 100  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.



HCM 6th Signalized Intersection Summary  
 4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘↗	↑↑↑	↗	↘↗	↑↑↑	↗
Traffic Volume (veh/h)	193	457	154	241	627	149	163	1383	201	220	1790	192
Future Volume (veh/h)	193	457	154	241	627	149	163	1383	201	220	1790	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	203	481	146	254	660	128	172	1456	172	232	1884	143
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	229	639	285	281	747	333	199	1997	620	283	2135	878
Arrive On Green	0.13	0.18	0.18	0.16	0.21	0.21	0.06	0.39	0.39	0.09	0.41	0.41
Sat Flow, veh/h	1714	3610	1610	1714	3610	1610	3141	5187	1610	3141	5187	1609
Grp Volume(v), veh/h	203	481	146	254	660	128	172	1456	172	232	1884	143
Grp Sat Flow(s),veh/h/ln	1714	1805	1610	1714	1805	1610	1570	1729	1610	1570	1729	1609
Q Serve(g_s), s	13.6	14.8	9.6	17.0	20.7	8.0	6.3	28.0	8.6	8.5	39.1	5.2
Cycle Q Clear(g_c), s	13.6	14.8	9.6	17.0	20.7	8.0	6.3	28.0	8.6	8.5	39.1	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	229	639	285	281	747	333	199	1997	620	283	2135	878
V/C Ratio(X)	0.89	0.75	0.51	0.91	0.88	0.38	0.86	0.73	0.28	0.82	0.88	0.16
Avail Cap(c_a), veh/h	256	653	291	328	805	359	199	1997	620	304	2135	878
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.6	45.6	43.4	47.9	44.9	39.9	54.1	30.7	24.7	52.1	31.7	13.2
Incr Delay (d2), s/veh	25.2	4.8	1.4	23.3	10.9	0.7	28.9	2.4	1.1	14.0	5.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	6.8	3.8	8.8	10.1	3.1	3.2	11.2	3.3	3.8	16.6	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.9	50.4	44.9	71.2	55.8	40.6	83.1	33.0	25.8	66.1	37.4	13.6
LnGrp LOS	E	D	D	E	E	D	F	C	C	E	D	B
Approach Vol, veh/h		830			1042			1800			2259	
Approach Delay, s/veh		55.4			57.7			37.1			38.9	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.1	51.4	23.7	26.4	12.0	54.5	20.2	29.9				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	11.3	* 45	22.3	21.1	7.4	47.7	17.4	26.0				
Max Q Clear Time (g_c+I1), s	10.5	30.0	19.0	16.8	8.3	41.1	15.6	22.7				
Green Ext Time (p_c), s	0.0	8.4	0.1	1.4	0.0	5.5	0.1	1.4				

Intersection Summary

HCM 6th Ctrl Delay	44.0
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
5: Euclid Av. (SR-83) & Chino Av.

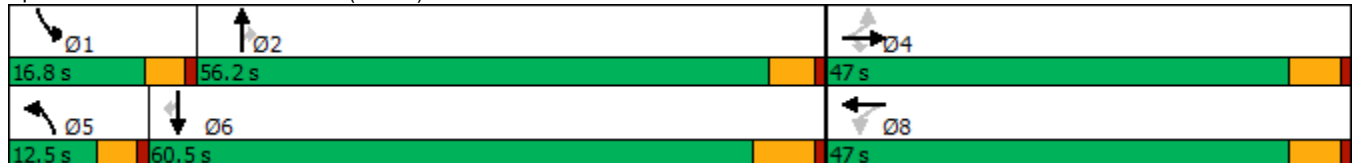


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖	↑↑↑	↗	↖	↑↑↑	↗
Traffic Volume (vph)	131	247	71	105	296	70	1487	180	71	1950	116
Future Volume (vph)	131	247	71	105	296	70	1487	180	71	1950	116
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	28.8	28.8	28.8	33.8	33.8	9.6	24.2	24.2	9.6	31.5	31.5
Total Split (s)	47.0	47.0	47.0	47.0	47.0	12.5	56.2	56.2	16.8	60.5	60.5
Total Split (%)	39.2%	39.2%	39.2%	39.2%	39.2%	10.4%	46.8%	46.8%	14.0%	50.4%	50.4%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.6	4.2	4.2	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	4.6	5.2	5.2	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 108.4  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 5: Euclid Av. (SR-83) & Chino Av.



HCM 6th Signalized Intersection Summary  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	247	71	105	296	84	70	1487	180	71	1950	116
Future Volume (veh/h)	131	247	71	105	296	84	70	1487	180	71	1950	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	139	263	60	112	315	77	74	1582	167	76	2074	92
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	220	641	543	310	496	121	93	2394	743	96	2402	730
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.05	0.46	0.46	0.06	0.46	0.46
Sat Flow, veh/h	1008	1900	1609	1073	1470	359	1714	5187	1610	1714	5187	1577
Grp Volume(v), veh/h	139	263	60	112	0	392	74	1582	167	76	2074	92
Grp Sat Flow(s),veh/h/ln	1008	1900	1609	1073	0	1830	1714	1729	1610	1714	1729	1577
Q Serve(g_s), s	15.7	12.4	3.0	10.4	0.0	21.1	5.0	27.5	7.3	5.1	41.7	3.9
Cycle Q Clear(g_c), s	36.8	12.4	3.0	22.9	0.0	21.1	5.0	27.5	7.3	5.1	41.7	3.9
Prop In Lane	1.00		1.00	1.00		0.20	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	220	641	543	310	0	618	93	2394	743	96	2402	730
V/C Ratio(X)	0.63	0.41	0.11	0.36	0.00	0.63	0.79	0.66	0.22	0.79	0.86	0.13
Avail Cap(c_a), veh/h	236	671	568	327	0	647	116	2394	743	179	2402	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	29.7	26.6	38.5	0.0	32.6	54.5	24.3	18.9	54.4	28.0	17.8
Incr Delay (d2), s/veh	4.9	0.4	0.1	0.7	0.0	1.9	20.2	1.4	0.7	5.4	4.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	5.5	1.1	2.7	0.0	9.3	2.6	10.5	2.6	2.3	16.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.9	30.1	26.7	39.2	0.0	34.5	74.7	25.8	19.6	59.8	32.4	18.2
LnGrp LOS	D	C	C	D	A	C	E	C	B	E	C	B
Approach Vol, veh/h		462			504			1823			2242	
Approach Delay, s/veh		36.5			35.5			27.2			32.8	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	60.3		45.1	10.9	60.5		45.1				
Change Period (Y+Rc), s	4.6	* 6.5		5.8	4.6	6.5		5.8				
Max Green Setting (Gmax), s	12.2	* 51		41.2	7.9	54.0		41.2				
Max Q Clear Time (g_c+I1), s	7.1	29.5		38.8	7.0	43.7		24.9				
Green Ext Time (p_c), s	0.0	11.3		0.6	0.0	8.2		2.4				

Intersection Summary

HCM 6th Ctrl Delay	31.4
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Timings  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

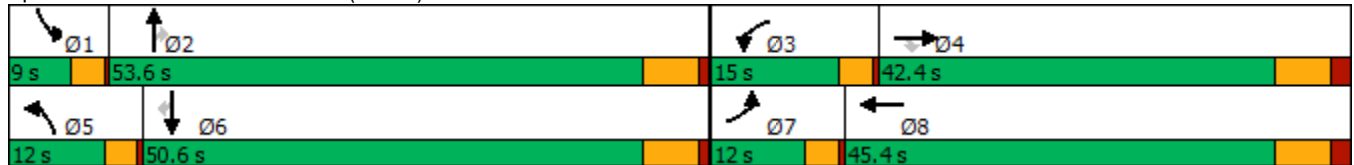


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑	↖	↖	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (vph)	193	92	106	177	377	232	1447	44	40	1859	457
Future Volume (vph)	193	92	106	177	377	232	1447	44	40	1859	457
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.0	42.0	13.5	43.0	8.5	33.0	33.0	8.5	28.0	28.0
Total Split (s)	12.0	42.4	42.4	15.0	45.4	12.0	53.6	53.6	9.0	50.6	50.6
Total Split (%)	10.0%	35.3%	35.3%	12.5%	37.8%	10.0%	44.7%	44.7%	7.5%	42.2%	42.2%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	7.0	7.0	3.5	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated































Splits and Phases: 6: Euclid Av. (SR-83) & Schaefer Av.



HCM 6th Signalized Intersection Summary  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 						 	  		 	  	
Traffic Volume (veh/h)	193	92	106	177	377	190	232	1447	44	40	1859	457
Future Volume (veh/h)	193	92	106	177	377	190	232	1447	44	40	1859	457
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	208	99	95	190	405	202	249	1556	37	43	1999	457
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	230	562	476	165	383	191	243	2333	659	109	2109	595
Arrive On Green	0.07	0.30	0.30	0.10	0.32	0.32	0.07	0.61	0.41	0.03	0.56	0.37
Sat Flow, veh/h	3238	1900	1610	1714	1195	596	3429	5700	1610	3429	5700	1608
Grp Volume(v), veh/h	208	99	95	190	0	607	249	1556	37	43	1999	457
Grp Sat Flow(s),veh/h/ln	1619	1900	1610	1714	0	1791	1714	1900	1610	1714	1900	1608
Q Serve(g_s), s	7.6	4.6	5.3	11.5	0.0	38.4	8.5	21.4	1.7	1.5	39.4	29.9
Cycle Q Clear(g_c), s	7.6	4.6	5.3	11.5	0.0	38.4	8.5	21.4	1.7	1.5	39.4	29.9
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	562	476	165	0	574	243	2333	659	109	2109	595
V/C Ratio(X)	0.90	0.18	0.20	1.15	0.00	1.06	1.02	0.67	0.06	0.39	0.95	0.77
Avail Cap(c_a), veh/h	230	562	476	165	0	574	243	2333	659	158	2124	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	1.00	1.00	1.50	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	31.3	31.5	54.1	0.0	40.6	55.6	17.8	21.4	56.8	25.5	33.2
Incr Delay (d2), s/veh	34.1	0.1	0.2	117.4	0.0	53.4	63.7	0.7	0.0	0.9	9.9	6.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	2.1	2.0	10.2	0.0	24.6	5.7	6.6	0.6	0.6	14.3	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.3	31.4	31.7	171.5	0.0	94.0	119.3	18.5	21.4	57.7	35.4	39.1
LnGrp LOS	F	C	C	F	A	F	F	B	C	E	D	D
Approach Vol, veh/h		402			797			1842			2499	
Approach Delay, s/veh		61.4			112.5			32.2			36.5	
Approach LOS		E			F			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	55.0	15.0	42.4	12.0	50.3	12.0	45.4				
Change Period (Y+Rc), s	3.5	6.0	3.5	7.0	3.5	6.0	3.5	7.0				
Max Green Setting (Gmax), s	5.5	47.6	11.5	35.4	8.5	44.6	8.5	38.4				
Max Q Clear Time (g_c+1), s	3.5	23.4	13.5	7.3	10.5	41.4	9.6	40.4				
Green Ext Time (p_c), s	0.0	11.3	0.0	0.6	0.0	2.9	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				47.8								
HCM 6th LOS				D								

Timings  
7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	196	1063	189	279	1185	351	289	1334	176	343	1588	211
Future Volume (vph)	196	1063	189	279	1185	351	289	1334	176	343	1588	211
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	46.0	46.0	9.5	49.0	8.5	8.5	29.0	29.0	8.5	40.0	9.5
Total Split (s)	12.4	46.2	46.2	15.2	49.0	15.9	15.4	42.7	42.7	15.9	43.2	12.4
Total Split (%)	10.3%	38.5%	38.5%	12.7%	40.8%	13.3%	12.8%	35.6%	35.6%	13.3%	36.0%	10.3%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	3.0	5.0	5.0	3.0	5.0	3.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	0.5	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0	3.5	3.5	6.0	6.0	3.5	6.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 119.4  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated




































Splits and Phases: 7: Euclid Av. (SR-83) & Edison Av.

Ø1	Ø2	Ø3	Ø4
15.9 s	42.7 s	15.2 s	46.2 s
Ø5	Ø6	Ø7	Ø8
15.4 s	43.2 s	12.4 s	49 s

HCM 6th Signalized Intersection Summary  
7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	 		 	  		 	  	
Traffic Volume (veh/h)	196	1063	189	279	1185	351	289	1334	176	343	1588	211
Future Volume (veh/h)	196	1063	189	279	1185	351	289	1334	176	343	1588	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	204	1107	142	291	1234	361	301	1390	175	357	1654	169
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	228	1847	521	304	1321	727	323	1743	493	337	1767	606
Arrive On Green	0.07	0.32	0.32	0.09	0.35	0.35	0.10	0.31	0.31	0.10	0.31	0.31
Sat Flow, veh/h	3238	5700	1609	3238	3800	1609	3238	5700	1610	3238	5700	1587
Grp Volume(v), veh/h	204	1107	142	291	1234	361	301	1390	175	357	1654	169
Grp Sat Flow(s),veh/h/ln	1619	1900	1609	1619	1900	1609	1619	1900	1610	1619	1900	1587
Q Serve(g_s), s	7.4	19.4	7.8	10.7	37.4	18.9	11.0	26.7	10.1	12.4	33.6	8.8
Cycle Q Clear(g_c), s	7.4	19.4	7.8	10.7	37.4	18.9	11.0	26.7	10.1	12.4	33.6	8.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	228	1847	521	304	1321	727	323	1743	493	337	1767	606
V/C Ratio(X)	0.89	0.60	0.27	0.96	0.93	0.50	0.93	0.80	0.36	1.06	0.94	0.28
Avail Cap(c_a), veh/h	228	1875	529	304	1339	735	323	1756	496	337	1780	609
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.9	33.8	29.9	53.7	37.6	23.1	53.2	38.0	32.2	53.4	40.0	25.6
Incr Delay (d2), s/veh	32.0	0.5	0.3	39.5	12.1	0.5	32.1	2.7	0.4	65.6	9.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	8.7	3.0	5.9	18.7	6.9	5.7	12.1	3.9	7.9	16.2	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.9	34.3	30.1	93.2	49.6	23.6	85.4	40.6	32.6	118.9	49.8	25.8
LnGrp LOS	F	C	C	F	D	C	F	D	C	F	D	C
Approach Vol, veh/h		1453			1886			1866			2180	
Approach Delay, s/veh		41.3			51.4			47.1			59.3	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.9	42.4	15.2	45.6	15.4	42.9	12.4	48.4				
Change Period (Y+Rc), s	3.5	6.0	4.0	7.0	3.5	6.0	4.0	7.0				
Max Green Setting (Gmax), s	12.4	36.7	11.2	39.2	11.9	37.2	8.4	42.0				
Max Q Clear Time (g_c+I1), s	14.4	28.7	12.7	21.4	13.0	35.6	9.4	39.4				
Green Ext Time (p_c), s	0.0	5.2	0.0	7.3	0.0	1.3	0.0	2.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			50.6									
HCM 6th LOS			D									

Timings  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	50	205	385	197	206	221	1587	133	182	1764	55
Future Volume (vph)	85	50	205	385	197	206	221	1587	133	182	1764	55
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.8	46.8	46.8	46.8	46.8	46.8	8.5	30.7	30.7	8.5	37.7	37.7
Total Split (s)	46.8	46.8	46.8	46.8	46.8	46.8	22.0	53.6	53.6	19.6	51.2	51.2
Total Split (%)	39.0%	39.0%	39.0%	39.0%	39.0%	39.0%	18.3%	44.7%	44.7%	16.3%	42.7%	42.7%
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.0	4.7	4.7	3.0	4.7	4.7
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	3.5	5.7	5.7	3.5	5.7	5.7
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 96.3  
 Natural Cycle: 105  
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 8: Euclid Av. (SR-83) & Eucalyptus Av.

Ø1	Ø2	Ø4
19.6 s	53.6 s	46.8 s
Ø5	Ø6	Ø8
22 s	51.2 s	46.8 s

HCM 6th Signalized Intersection Summary  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	50	205	385	197	206	221	1587	133	182	1764	55
Future Volume (veh/h)	85	50	205	385	197	206	221	1587	133	182	1764	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	87	51	123	393	201	202	226	1619	135	186	1800	45
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	225	440	373	671	440	373	264	2460	764	222	2335	724
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.15	0.47	0.47	0.13	0.45	0.45
Sat Flow, veh/h	998	1900	1610	2386	1900	1610	1714	5187	1610	1714	5187	1608
Grp Volume(v), veh/h	87	51	123	393	201	202	226	1619	135	186	1800	45
Grp Sat Flow(s),veh/h/ln	998	1900	1610	1193	1900	1610	1714	1729	1610	1714	1729	1608
Q Serve(g_s), s	7.0	1.8	5.4	13.3	7.7	9.4	10.9	20.3	4.1	9.0	24.9	1.3
Cycle Q Clear(g_c), s	14.7	1.8	5.4	15.1	7.7	9.4	10.9	20.3	4.1	9.0	24.9	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	225	440	373	671	440	373	264	2460	764	222	2335	724
V/C Ratio(X)	0.39	0.12	0.33	0.59	0.46	0.54	0.86	0.66	0.18	0.84	0.77	0.06
Avail Cap(c_a), veh/h	486	938	795	1296	938	795	373	2919	906	324	2773	860
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	25.8	27.2	31.8	28.1	28.7	35.1	17.1	12.8	36.2	19.7	13.2
Incr Delay (d2), s/veh	0.8	0.1	0.4	0.6	0.6	0.9	11.8	0.4	0.1	10.4	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.8	2.0	3.6	3.3	3.5	5.0	6.7	1.3	4.1	8.5	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	25.9	27.6	32.4	28.6	29.6	46.9	17.5	12.9	46.6	20.9	13.3
LnGrp LOS	D	C	C	C	C	C	D	B	B	D	C	B
Approach Vol, veh/h		261			796			1980			2031	
Approach Delay, s/veh		29.8			30.7			20.6			23.0	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.5	46.1		24.5	16.6	44.0		24.5				
Change Period (Y+Rc), s	3.5	5.7		4.8	3.5	5.7		4.8				
Max Green Setting (Gmax), s	16.1	47.9		42.0	18.5	45.5		42.0				
Max Q Clear Time (g_c+I1), s	11.0	22.3		16.7	12.9	26.9		17.1				
Green Ext Time (p_c), s	0.1	12.6		0.8	0.2	11.4		2.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				23.6								
HCM 6th LOS				C								

Timings  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

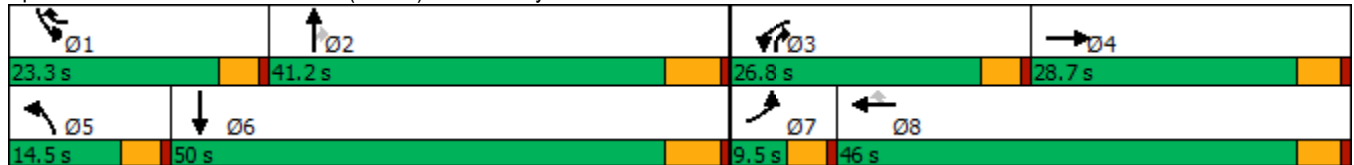


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	10	10	443	60	489	13	1451	600	476	1829
Future Volume (vph)	10	10	443	60	489	13	1451	600	476	1829
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4	3	8	1	5	2	3	1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	1	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	15.0	10.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.5	10.0	9.5	46.0	14.5	14.5	28.0	9.5	14.5	28.0
Total Split (s)	9.5	28.7	26.8	46.0	23.3	14.5	41.2	26.8	23.3	50.0
Total Split (%)	7.9%	23.9%	22.3%	38.3%	19.4%	12.1%	34.3%	22.3%	19.4%	41.7%
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	3.5	5.0	3.5	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.0	4.5	5.0	4.5	4.5	6.0	4.5	4.5	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 97.9  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated






























Splits and Phases: 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 6th Signalized Intersection Summary  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

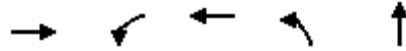
Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 		 	 	  
Traffic Volume (veh/h)	10	10	21	443	60	489	13	1451	600	476	1829	49
Future Volume (veh/h)	10	10	21	443	60	489	13	1451	600	476	1829	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1700	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	10	10	21	457	62	477	13	1496	576	491	1886	37
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	21	58	122	537	504	710	52	1781	828	551	2556	50
Arrive On Green	0.01	0.11	0.11	0.17	0.27	0.27	0.03	0.34	0.34	0.18	0.49	0.49
Sat Flow, veh/h	1714	546	1147	3141	1900	1610	1714	5187	1610	3141	5234	103
Grp Volume(v), veh/h	10	0	31	457	62	477	13	1496	576	491	1246	677
Grp Sat Flow(s),veh/h/ln	1714	0	1694	1570	1900	1610	1714	1729	1610	1570	1729	1879
Q Serve(g_s), s	0.6	0.0	1.6	13.9	2.4	23.1	0.7	26.1	26.6	15.0	28.3	28.3
Cycle Q Clear(g_c), s	0.6	0.0	1.6	13.9	2.4	23.1	0.7	26.1	26.6	15.0	28.3	28.3
Prop In Lane	1.00		0.68	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	21	0	181	537	504	710	52	1781	828	551	1689	918
V/C Ratio(X)	0.48	0.00	0.17	0.85	0.12	0.67	0.25	0.84	0.70	0.89	0.74	0.74
Avail Cap(c_a), veh/h	87	0	409	713	793	955	175	1860	852	601	1689	918
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.2	0.0	39.9	39.5	27.4	21.8	46.5	29.7	18.0	39.6	20.1	20.1
Incr Delay (d2), s/veh	16.1	0.0	0.2	7.6	0.0	0.4	0.9	3.5	2.4	13.8	1.7	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.7	5.6	1.0	7.8	0.3	10.3	9.0	6.4	10.1	11.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.3	0.0	40.1	47.1	27.4	22.2	47.4	33.2	20.4	53.4	21.8	23.3
LnGrp LOS	E	A	D	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		41			996			2085			2414	
Approach Delay, s/veh		46.0			33.9			29.8			28.6	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.7	39.7	21.3	15.5	7.5	54.0	5.7	31.0				
Change Period (Y+Rc), s	4.5	6.0	4.5	5.0	4.5	6.0	4.5	5.0				
Max Green Setting (Gmax), s	18.8	35.2	22.3	23.7	10.0	44.0	5.0	41.0				
Max Q Clear Time (g_c+I1), s	17.0	28.6	15.9	3.6	2.7	30.3	2.6	25.1				
Green Ext Time (p_c), s	0.2	5.2	0.9	0.1	0.0	9.3	0.0	0.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			30.2									
HCM 6th LOS			C									



Timings  
10: Sultana Av. & Eucalyptus Av.

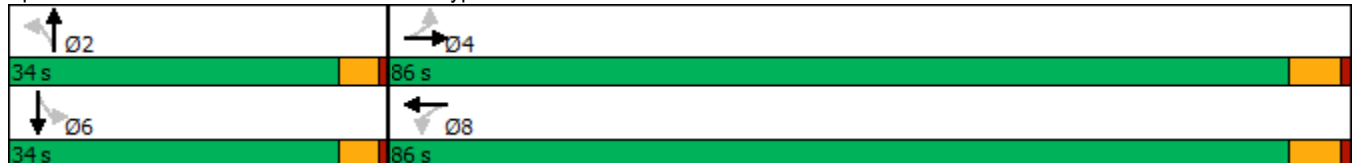


Lane Group	EBT	WBL	WBT	NBL	NBT	Ø6
Lane Configurations	↑↑	↖	↗	↖	↗	
Traffic Volume (vph)	237	94	675	23	0	
Future Volume (vph)	237	94	675	23	0	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		8		2	6
Permitted Phases		8		2		
Detector Phase	4	8	8	2	2	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.8	22.8	22.8	21.6	21.6	21.6
Total Split (s)	86.0	86.0	86.0	34.0	34.0	34.0
Total Split (%)	71.7%	71.7%	71.7%	28.3%	28.3%	28%
Yellow Time (s)	4.8	4.8	4.8	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.6	4.6	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 37.9  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 10: Sultana Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
 10: Sultana Av. & Eucalyptus Av.

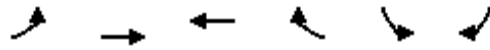
Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗			↕	
Traffic Volume (veh/h)	0	237	92	94	675	0	23	0	20	0	0	0
Future Volume (veh/h)	0	237	92	94	675	0	23	0	20	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	258	100	102	734	0	25	0	22	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	236	1268	479	666	940	0	517	0	264	0	312	0
Arrive On Green	0.00	0.49	0.49	0.49	0.49	0.00	0.16	0.00	0.16	0.00	0.00	0.00
Sat Flow, veh/h	696	2563	968	985	1900	0	1714	0	1610	0	1900	0
Grp Volume(v), veh/h	0	180	178	102	734	0	25	0	22	0	0	0
Grp Sat Flow(s),veh/h/ln	696	1805	1726	985	1900	0	1714	0	1610	0	1900	0
Q Serve(g_s), s	0.0	1.7	1.8	2.0	9.7	0.0	0.4	0.0	0.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	1.7	1.8	3.8	9.7	0.0	0.4	0.0	0.4	0.0	0.0	0.0
Prop In Lane	1.00		0.56	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	236	893	854	666	940	0	517	0	264	0	312	0
V/C Ratio(X)	0.00	0.20	0.21	0.15	0.78	0.00	0.05	0.00	0.08	0.00	0.00	0.00
Avail Cap(c_a), veh/h	1723	4750	4541	2771	5000	0	1890	0	1553	0	1833	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	4.3	4.3	5.4	6.3	0.0	10.8	0.0	10.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	0.1	1.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	4.4	4.4	5.4	6.9	0.0	10.8	0.0	10.8	0.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	B	A	B	A	A	A
Approach Vol, veh/h		358			836			47				0
Approach Delay, s/veh		4.4			6.7			10.8				0.0
Approach LOS		A			A			B				
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.6		20.9		9.6		20.9				
Change Period (Y+Rc), s		4.6		5.8		4.6		5.8				
Max Green Setting (Gmax), s		29.4		80.2		29.4		80.2				
Max Q Clear Time (g_c+I1), s		2.4		3.8		0.0		11.7				
Green Ext Time (p_c), s		0.1		1.2		0.0		3.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				6.2								
HCM 6th LOS				A								

Timings  
18: Merrill Av. & Sultana Av.

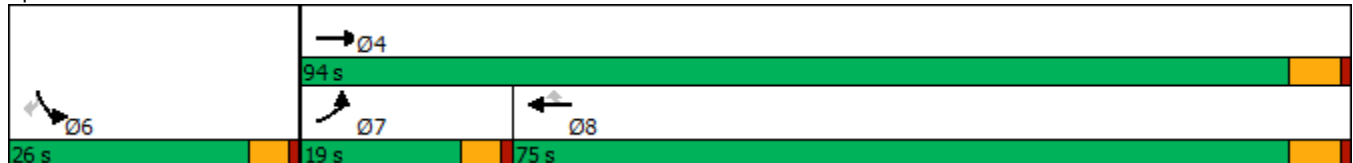


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↗	↗↗	↗↗	↗	↘	↘
Traffic Volume (vph)	63	1031	1140	59	30	25
Future Volume (vph)	63	1031	1140	59	30	25
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.8	22.8	22.8	21.6	21.6
Total Split (s)	19.0	94.0	75.0	75.0	26.0	26.0
Total Split (%)	15.8%	78.3%	62.5%	62.5%	21.7%	21.7%
Yellow Time (s)	3.6	4.8	4.8	4.8	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	5.8	4.6	4.6
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 48.6  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 18: Merrill Av. & Sultana Av.



HCM 6th Signalized Intersection Summary  
 18: Merrill Av. & Sultana Av.

Ontario Ranch Business Park (JN 13941)  
 08/24/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↗	↑↑	↑↑	↖	↗	↖	
Traffic Volume (veh/h)	63	1031	1140	59	30	25	
Future Volume (veh/h)	63	1031	1140	59	30	25	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1800	1900	
Adj Flow Rate, veh/h	66	1085	1200	62	32	26	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	117	2373	1702	721	209	196	
Arrive On Green	0.06	0.62	0.45	0.45	0.12	0.12	
Sat Flow, veh/h	1810	3800	3800	1610	1714	1610	
Grp Volume(v), veh/h	66	1085	1200	62	32	26	
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1610	1714	1610	
Q Serve(g_s), s	1.5	6.2	10.5	0.9	0.7	0.6	
Cycle Q Clear(g_c), s	1.5	6.2	10.5	0.9	0.7	0.6	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	117	2373	1702	721	209	196	
V/C Ratio(X)	0.57	0.46	0.71	0.09	0.15	0.13	
Avail Cap(c_a), veh/h	635	8172	6412	2717	894	840	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	18.6	4.0	9.1	6.5	16.1	16.1	
Incr Delay (d2), s/veh	1.6	0.1	0.2	0.0	0.1	0.1	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.5	0.4	2.2	0.2	0.2	0.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	20.2	4.1	9.3	6.5	16.2	16.2	
LnGrp LOS	C	A	A	A	B	B	
Approach Vol, veh/h		1151	1262		58		
Approach Delay, s/veh		5.0	9.2		16.2		
Approach LOS		A	A		B		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				31.4	9.6	7.2	24.2
Change Period (Y+Rc), s				5.8	4.6	4.6	5.8
Max Green Setting (Gmax), s				88.2	21.4	14.4	69.2
Max Q Clear Time (g_c+11), s				8.2	2.7	3.5	12.5
Green Ext Time (p_c), s				5.0	0.1	0.0	5.9
<b>Intersection Summary</b>							
HCM 6th Ctrl Delay			7.4				
HCM 6th LOS			A				

Timings  
23: Campus Av. & Eucalyptus Av.



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↙	↑↑	↙	↗
Traffic Volume (vph)	183	102	720	13	23
Future Volume (vph)	183	102	720	13	23
Turn Type	NA	Prot	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases					2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.8	9.6	21.6	21.6	21.6
Total Split (s)	45.0	44.0	89.0	31.0	31.0
Total Split (%)	37.5%	36.7%	74.2%	25.8%	25.8%
Yellow Time (s)	4.8	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	4.6	4.6	4.6	4.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	None	None	None	Min	Min

Intersection Summary

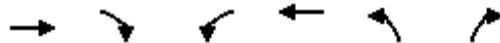
Cycle Length: 120  
 Actuated Cycle Length: 34.6  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Campus Av. & Eucalyptus Av.



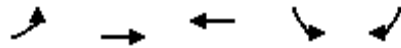
HCM 6th Signalized Intersection Summary  
23: Campus Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)  
08/24/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (veh/h)	183	47	102	720	13	23
Future Volume (veh/h)	183	47	102	720	13	23
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1800	1900	1800	1900
Adj Flow Rate, veh/h	199	51	111	783	14	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	513	128	177	1616	307	289
Arrive On Green	0.18	0.18	0.10	0.45	0.18	0.18
Sat Flow, veh/h	2955	716	1714	3705	1714	1610
Grp Volume(v), veh/h	124	126	111	783	14	25
Grp Sat Flow(s),veh/h/ln	1805	1771	1714	1805	1714	1610
Q Serve(g_s), s	1.7	1.8	1.7	4.3	0.2	0.4
Cycle Q Clear(g_c), s	1.7	1.8	1.7	4.3	0.2	0.4
Prop In Lane		0.40	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	324	318	177	1616	307	289
V/C Ratio(X)	0.38	0.40	0.63	0.48	0.05	0.09
Avail Cap(c_a), veh/h	2538	2490	2422	10928	1623	1525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.1	10.1	12.0	5.4	9.5	9.5
Incr Delay (d2), s/veh	0.3	0.3	1.4	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.4	0.5	0.4	0.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.4	10.4	13.3	5.5	9.5	9.6
LnGrp LOS	B	B	B	A	A	A
Approach Vol, veh/h				894	39	
Approach Delay, s/veh				6.5	9.6	
Approach LOS				A	A	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		9.6	7.5	10.8		18.3
Change Period (Y+Rc), s		4.6	4.6	5.8		* 5.8
Max Green Setting (Gmax), s		26.4	39.4	39.2		* 84
Max Q Clear Time (g_c+I1), s		2.4	3.7	3.8		6.3
Green Ext Time (p_c), s		0.0	0.1	0.8		3.4
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			7.4			
HCM 6th LOS			A			
<b>Notes</b>						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

Timings  
31: Merrill Av. & Campus Av.

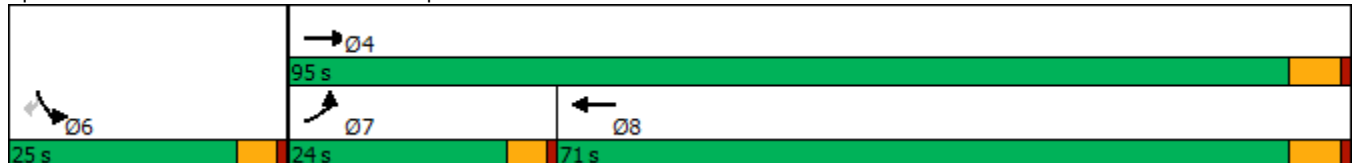


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↘	↑↑	↑↑	↘	↗
Traffic Volume (vph)	98	937	1094	21	26
Future Volume (vph)	98	937	1094	21	26
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	7	4	8	6	
Permitted Phases					6
Detector Phase	7	4	8	6	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.8	22.8	21.6	21.6
Total Split (s)	24.0	95.0	71.0	25.0	25.0
Total Split (%)	20.0%	79.2%	59.2%	20.8%	20.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	4.6
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	None	None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 57.3  
 Natural Cycle: 65  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Merrill Av. & Campus Av.



HCM 6th Signalized Intersection Summary  
31: Merrill Av. & Campus Av.

Ontario Ranch Business Park (JN 13941)  
08/24/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↖	↑↑	↗		↙	↘	
Traffic Volume (veh/h)	98	937	1094	54	21	26	
Future Volume (veh/h)	98	937	1094	54	21	26	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	107	1018	1189	59	23	28	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	144	2311	1570	78	211	188	
Arrive On Green	0.08	0.64	0.45	0.45	0.12	0.12	
Sat Flow, veh/h	1714	3705	3595	174	1810	1610	
Grp Volume(v), veh/h	107	1018	613	635	23	28	
Grp Sat Flow(s),veh/h/ln	1714	1805	1805	1869	1810	1610	
Q Serve(g_s), s	2.6	6.0	12.1	12.2	0.5	0.7	
Cycle Q Clear(g_c), s	2.6	6.0	12.1	12.2	0.5	0.7	
Prop In Lane	1.00			0.09	1.00	1.00	
Lane Grp Cap(c), veh/h	144	2311	810	838	211	188	
V/C Ratio(X)	0.74	0.44	0.76	0.76	0.11	0.15	
Avail Cap(c_a), veh/h	777	7524	2750	2847	863	768	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	19.1	3.9	9.9	9.9	16.9	17.0	
Incr Delay (d2), s/veh	2.8	0.0	0.6	0.5	0.1	0.1	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.9	0.4	2.7	2.8	0.2	0.6	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	22.0	3.9	10.4	10.4	17.0	17.1	
LnGrp LOS	C	A	B	B	B	B	
Approach Vol, veh/h		1125	1248		51		
Approach Delay, s/veh		5.6	10.4		17.1		
Approach LOS		A	B		B		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				33.2	9.6	8.2	25.0
Change Period (Y+Rc), s				5.8	4.6	4.6	5.8
Max Green Setting (Gmax), s				89.2	20.4	19.4	65.2
Max Q Clear Time (g_c+11), s				8.0	2.7	4.6	14.2
Green Ext Time (p_c), s				4.6	0.0	0.1	5.0
<b>Intersection Summary</b>							
HCM 6th Ctrl Delay			8.3				
HCM 6th LOS			A				



Timings  
32: Bon View Av. & Eucalyptus Av.

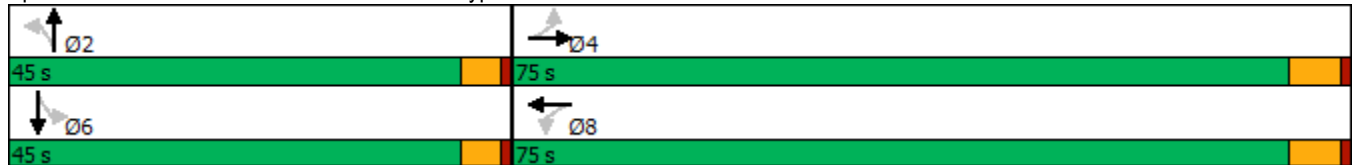


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↶↷	↶	↷		↷		↷
Traffic Volume (vph)	39	163	118	663	24	72	46	85
Future Volume (vph)	39	163	118	663	24	72	46	85
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	22.8	22.8	22.8	22.8	21.7	21.7	21.7	21.7
Total Split (s)	75.0	75.0	75.0	75.0	45.0	45.0	45.0	45.0
Total Split (%)	62.5%	62.5%	62.5%	62.5%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	4.8	4.8	4.8	4.8	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8		4.7		4.7
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 68.3  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 32: Bon View Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
 32: Bon View Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)  
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Volume (veh/h)	39	163	10	118	663	84	24	72	63	46	85	168
Future Volume (veh/h)	39	163	10	118	663	84	24	72	63	46	85	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	42	177	11	128	721	91	26	78	68	50	92	183
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	261	1851	114	760	886	112	116	240	180	123	147	244
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	683	3453	213	1214	1654	209	136	924	693	163	563	936
Grp Volume(v), veh/h	42	92	96	128	0	812	172	0	0	325	0	0
Grp Sat Flow(s),veh/h/ln	683	1805	1862	1214	0	1862	1752	0	0	1662	0	0
Q Serve(g_s), s	2.8	1.3	1.3	3.0	0.0	18.5	0.0	0.0	0.0	4.5	0.0	0.0
Cycle Q Clear(g_c), s	21.3	1.3	1.3	4.3	0.0	18.5	4.1	0.0	0.0	9.2	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.11	0.15		0.40	0.15		0.56
Lane Grp Cap(c), veh/h	261	967	998	760	0	998	536	0	0	513	0	0
V/C Ratio(X)	0.16	0.10	0.10	0.17	0.00	0.81	0.32	0.00	0.00	0.63	0.00	0.00
Avail Cap(c_a), veh/h	812	2425	2501	1741	0	2502	1390	0	0	1363	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.6	5.8	5.8	6.9	0.0	9.8	15.6	0.0	0.0	17.4	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.0	1.7	0.3	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.3	0.3	0.5	0.0	4.9	1.5	0.0	0.0	3.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.9	5.9	5.9	7.0	0.0	11.5	15.9	0.0	0.0	18.7	0.0	0.0
LnGrp LOS	B	A	A	A	A	B	B	A	A	B	A	A
Approach Vol, veh/h		230			940			172			325	
Approach Delay, s/veh		8.3			10.9			15.9			18.7	
Approach LOS		A			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		18.1		33.4		18.1		33.4				
Change Period (Y+Rc), s		* 4.7		5.8		* 4.7		5.8				
Max Green Setting (Gmax), s		* 40		69.2		* 40		69.2				
Max Q Clear Time (g_c+I1), s		6.1		23.3		11.2		20.5				
Green Ext Time (p_c), s		1.1		1.4		2.3		7.1				

Intersection Summary

HCM 6th Ctrl Delay	12.6
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
33: Merrill Av. & Bon View Av.

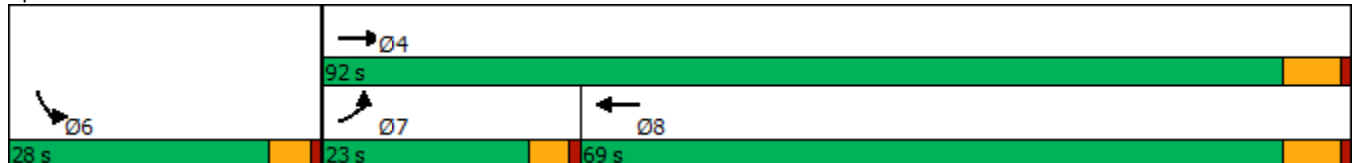


Lane Group	EBL	EBT	WBT	SBL
Lane Configurations	↖	↑↑	↑↑	↘
Traffic Volume (vph)	109	822	1119	74
Future Volume (vph)	109	822	1119	74
Turn Type	Prot	NA	NA	Prot
Protected Phases	7	4	8	6
Permitted Phases				
Detector Phase	7	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	23.2	21.7
Total Split (s)	23.0	92.0	69.0	28.0
Total Split (%)	19.2%	76.7%	57.5%	23.3%
Yellow Time (s)	3.6	5.2	5.2	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.7
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 81.3  
 Natural Cycle: 70  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Merrill Av. & Bon View Av.



HCM 6th Signalized Intersection Summary  
 33: Merrill Av. & Bon View Av.

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Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Volume (veh/h)	109	822	1119	162	74	71	
Future Volume (veh/h)	109	822	1119	162	74	71	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	118	893	1216	176	80	77	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	153	2448	1634	235	129	124	
Arrive On Green	0.09	0.68	0.52	0.52	0.15	0.15	
Sat Flow, veh/h	1714	3705	3262	456	864	832	
Grp Volume(v), veh/h	118	893	691	701	158	0	
Grp Sat Flow(s),veh/h/ln	1714	1805	1805	1818	1707	0	
Q Serve(g_s), s	4.2	6.7	18.9	19.1	5.5	0.0	
Cycle Q Clear(g_c), s	4.2	6.7	18.9	19.1	5.5	0.0	
Prop In Lane	1.00			0.25	0.51	0.49	
Lane Grp Cap(c), veh/h	153	2448	931	938	254	0	
V/C Ratio(X)	0.77	0.36	0.74	0.75	0.62	0.00	
Avail Cap(c_a), veh/h	501	4918	1800	1813	632	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	28.1	4.3	12.0	12.0	25.1	0.0	
Incr Delay (d2), s/veh	8.0	0.1	1.2	1.2	0.9	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.9	1.1	5.5	5.7	2.2	0.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	36.0	4.4	13.1	13.2	26.1	0.0	
LnGrp LOS	D	A	B	B	C	A	
Approach Vol, veh/h		1011	1392		158		
Approach Delay, s/veh		8.1	13.2		26.1		
Approach LOS		A	B		C		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				48.9	14.1	10.2	38.7
Change Period (Y+Rc), s				6.2	4.7	4.6	6.2
Max Green Setting (Gmax), s				85.8	23.3	18.4	62.8
Max Q Clear Time (g_c+I1), s				8.7	7.5	6.2	21.1
Green Ext Time (p_c), s				6.6	0.2	0.2	11.3

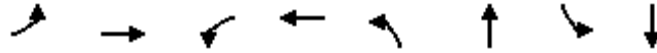
Intersection Summary

HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
34: Grove Av. & Eucalyptus Av.

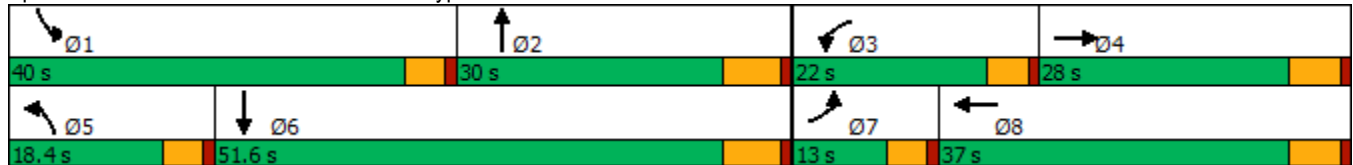


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	84	174	171	253	93	436	355	669
Future Volume (vph)	84	174	171	253	93	436	355	669
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	22.8	9.6	22.8	9.6	23.2	9.6	23.2
Total Split (s)	13.0	28.0	22.0	37.0	18.4	30.0	40.0	51.6
Total Split (%)	10.8%	23.3%	18.3%	30.8%	15.3%	25.0%	33.3%	43.0%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 89.9  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Grove Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
34: Grove Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Traffic Volume (veh/h)	84	174	21	171	253	150	93	436	46	355	669	309
Future Volume (veh/h)	84	174	21	171	253	150	93	436	46	355	669	309
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	91	189	23	186	275	163	101	474	50	386	727	336
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	115	432	52	225	436	251	128	683	72	430	929	429
Arrive On Green	0.07	0.13	0.13	0.13	0.20	0.20	0.07	0.20	0.20	0.25	0.38	0.38
Sat Flow, veh/h	1714	3245	390	1714	2207	1269	1714	3381	355	1714	2460	1136
Grp Volume(v), veh/h	91	104	108	186	223	215	101	266	258	386	561	502
Grp Sat Flow(s),veh/h/ln	1714	1805	1830	1714	1805	1672	1714	1900	1836	1714	1900	1696
Q Serve(g_s), s	3.9	4.0	4.1	7.9	8.5	8.9	4.3	9.7	9.8	16.3	19.6	19.6
Cycle Q Clear(g_c), s	3.9	4.0	4.1	7.9	8.5	8.9	4.3	9.7	9.8	16.3	19.6	19.6
Prop In Lane	1.00		0.21	1.00		0.76	1.00		0.19	1.00		0.67
Lane Grp Cap(c), veh/h	115	241	244	225	356	330	128	384	371	430	718	641
V/C Ratio(X)	0.79	0.43	0.44	0.83	0.63	0.65	0.79	0.69	0.70	0.90	0.78	0.78
Avail Cap(c_a), veh/h	192	534	541	398	751	695	315	603	582	809	1150	1026
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	29.9	29.9	31.7	27.6	27.7	34.1	27.8	27.8	27.2	20.6	20.6
Incr Delay (d2), s/veh	4.5	1.2	1.3	2.9	1.8	2.2	4.0	2.2	2.4	2.8	1.9	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.7	1.7	3.2	3.5	3.4	1.8	4.2	4.1	6.2	7.7	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	31.1	31.2	34.7	29.4	29.9	38.1	30.0	30.2	30.0	22.5	22.8
LnGrp LOS	D	C	C	C	C	C	D	C	C	C	C	C
Approach Vol, veh/h		303			624			625			1449	
Approach Delay, s/veh		33.5			31.1			31.4			24.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.4	21.4	14.5	15.8	10.2	34.5	9.7	20.6				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	35.4	23.8	17.4	22.2	13.8	45.4	8.4	31.2				
Max Q Clear Time (g_c+I1), s	18.3	11.8	9.9	6.1	6.3	21.6	5.9	10.9				
Green Ext Time (p_c), s	0.5	2.1	0.1	0.9	0.1	6.7	0.0	2.3				

Intersection Summary

HCM 6th Ctrl Delay	28.3
HCM 6th LOS	C

Timings  
35: Merrill Av. & Grove Av.

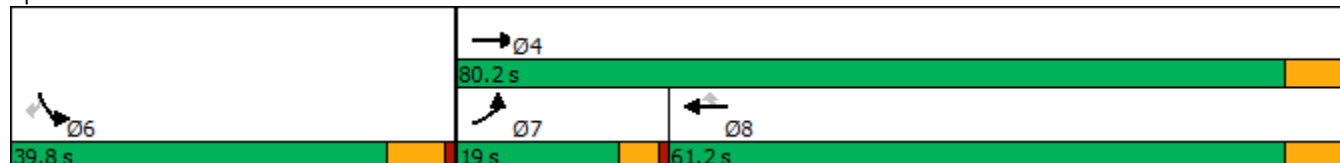


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑	↗	↘	↗
Traffic Volume (vph)	282	712	1161	516	494	272
Future Volume (vph)	282	712	1161	516	494	272
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	23.2	23.2	23.2	23.2
Total Split (s)	19.0	80.2	61.2	61.2	39.8	39.8
Total Split (%)	15.8%	66.8%	51.0%	51.0%	33.2%	33.2%
Yellow Time (s)	3.6	5.2	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2	6.2	6.2
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 110.8  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

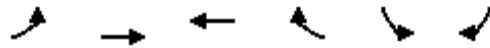
Splits and Phases: 35: Merrill Av. & Grove Av.



HCM 6th Signalized Intersection Summary  
 35: Merrill Av. & Grove Av.

Ontario Ranch Business Park (JN 13941)

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Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↖	↑↑	↑↑	↑	↘	↘	
Traffic Volume (veh/h)	282	712	1161	516	494	272	
Future Volume (veh/h)	282	712	1161	516	494	272	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1800	1900	
Adj Flow Rate, veh/h	291	734	1197	266	509	88	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	234	2167	1482	628	535	502	
Arrive On Green	0.14	0.57	0.39	0.39	0.31	0.31	
Sat Flow, veh/h	1714	3800	3800	1610	1714	1610	
Grp Volume(v), veh/h	291	734	1197	266	509	88	
Grp Sat Flow(s),veh/h/ln	1714	1900	1900	1610	1714	1610	
Q Serve(g_s), s	14.4	10.8	29.5	12.7	30.6	4.2	
Cycle Q Clear(g_c), s	14.4	10.8	29.5	12.7	30.6	4.2	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	234	2167	1482	628	535	502	
V/C Ratio(X)	1.24	0.34	0.81	0.42	0.95	0.18	
Avail Cap(c_a), veh/h	234	2670	1985	841	547	514	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	45.5	12.0	28.6	23.5	35.5	26.4	
Incr Delay (d2), s/veh	139.4	0.1	1.9	0.5	26.6	0.2	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	14.9	4.0	12.7	4.6	15.8	0.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	184.9	12.1	30.5	23.9	62.1	26.5	
LnGrp LOS	F	B	C	C	E	C	
Approach Vol, veh/h		1025	1463		597		
Approach Delay, s/veh		61.2	29.3		56.8		
Approach LOS		E	C		E		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				66.3	39.1	19.0	47.3
Change Period (Y+Rc), s				6.2	6.2	4.6	6.2
Max Green Setting (Gmax), s				74.0	33.6	14.4	55.0
Max Q Clear Time (g_c+I1), s				12.8	32.6	16.4	31.5
Green Ext Time (p_c), s				5.1	0.3	0.0	9.5
<b>Intersection Summary</b>							
HCM 6th Ctrl Delay			45.2				
HCM 6th LOS			D				



Timings  
36: Walker Av. & Edison Av.

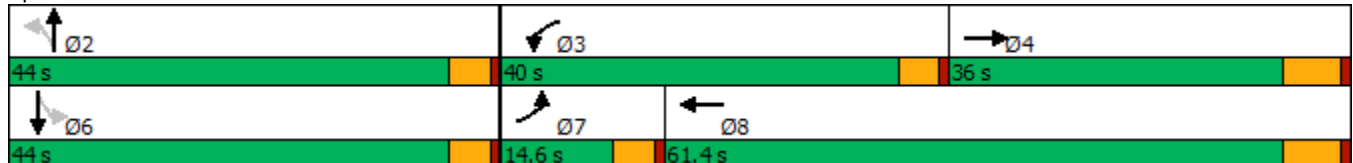


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗↗↗	↖	↗↗↗	↖	↗	↖	↗
Traffic Volume (vph)	63	953	441	1318	105	250	59	52
Future Volume (vph)	63	953	441	1318	105	250	59	52
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases					2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	9.6	23.2	21.7	21.7	21.7	21.7
Total Split (s)	14.6	36.0	40.0	61.4	44.0	44.0	44.0	44.0
Total Split (%)	12.2%	30.0%	33.3%	51.2%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.7	4.7	4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Min	None	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 103.2  
 Natural Cycle: 70  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 36: Walker Av. & Edison Av.



HCM 6th Signalized Intersection Summary  
36: Walker Av. & Edison Av.

Ontario Ranch Business Park (JN 13941)  
08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↖↗		↖	↗↖↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	63	953	96	441	1318	285	105	250	165	59	52	45
Future Volume (veh/h)	63	953	96	441	1318	285	105	250	165	59	52	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	64	972	98	450	1345	291	107	255	168	60	53	46
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	81	1220	123	482	2086	451	420	325	214	158	285	248
Arrive On Green	0.05	0.25	0.25	0.28	0.49	0.49	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1714	4789	482	1714	4269	923	1317	1069	704	979	939	815
Grp Volume(v), veh/h	64	701	369	450	1089	547	107	0	423	60	0	99
Grp Sat Flow(s),veh/h/ln	1714	1729	1812	1714	1729	1734	1317	0	1773	979	0	1753
Q Serve(g_s), s	3.6	18.4	18.4	24.8	22.8	22.8	6.3	0.0	21.1	5.8	0.0	4.0
Cycle Q Clear(g_c), s	3.6	18.4	18.4	24.8	22.8	22.8	10.4	0.0	21.1	26.9	0.0	4.0
Prop In Lane	1.00		0.27	1.00		0.53	1.00		0.40	1.00		0.46
Lane Grp Cap(c), veh/h	81	881	462	482	1690	847	420	0	539	158	0	533
V/C Ratio(X)	0.79	0.80	0.80	0.93	0.64	0.65	0.26	0.00	0.79	0.38	0.00	0.19
Avail Cap(c_a), veh/h	177	1065	558	627	1972	989	554	0	720	258	0	712
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.6	33.7	33.8	33.9	18.5	18.5	28.7	0.0	30.8	43.1	0.0	24.9
Incr Delay (d2), s/veh	6.2	3.6	6.7	16.2	0.6	1.1	0.3	0.0	4.1	1.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	7.6	8.4	11.7	8.1	8.2	2.0	0.0	9.4	1.5	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	37.3	40.5	50.1	19.1	19.6	29.0	0.0	34.9	44.6	0.0	25.0
LnGrp LOS	D	D	D	D	B	B	C	A	C	D	A	C
Approach Vol, veh/h		1134			2086			530				159
Approach Delay, s/veh		39.2			25.9			33.7				32.4
Approach LOS		D			C			C				C
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		34.1	31.8	30.9		34.1	9.2	53.5				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		* 4.7	4.6	6.2				
Max Green Setting (Gmax), s		* 39	35.4	29.8		* 39	10.0	55.2				
Max Q Clear Time (g_c+I1), s		23.1	26.8	20.4		28.9	5.6	24.8				
Green Ext Time (p_c), s		2.8	0.5	4.2		0.5	0.0	13.0				

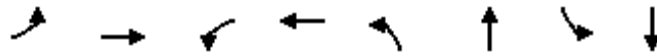
Intersection Summary

HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
37: Walker Av. & Eucalyptus Av.

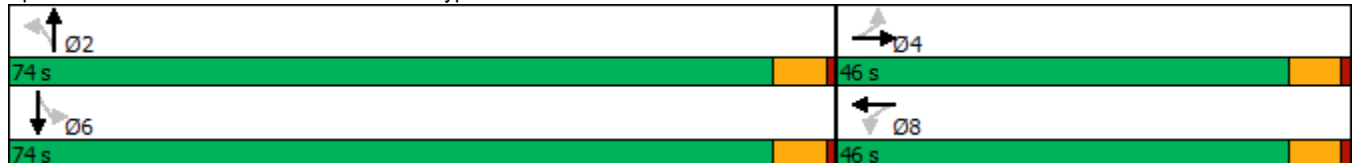


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	41	201	19	350	28	67	153	268
Future Volume (vph)	41	201	19	350	28	67	153	268
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8
Total Split (s)	46.0	46.0	46.0	46.0	74.0	74.0	74.0	74.0
Total Split (%)	38.3%	38.3%	38.3%	38.3%	61.7%	61.7%	61.7%	61.7%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8		5.8		5.8
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 93.6  
 Natural Cycle: 70  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Walker Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
37: Walker Av. & Eucalyptus Av.

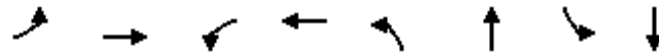
Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Traffic Volume (veh/h)	41	201	76	19	350	111	28	67	13	153	268	308
Future Volume (veh/h)	41	201	76	19	350	111	28	67	13	153	268	308
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	45	218	83	21	380	121	30	73	14	166	291	335
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	166	441	168	312	464	148	186	434	77	217	336	366
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	911	1311	499	1095	1381	440	250	833	147	314	645	703
Grp Volume(v), veh/h	45	0	301	21	0	501	117	0	0	792	0	0
Grp Sat Flow(s),veh/h/ln	911	0	1810	1095	0	1821	1231	0	0	1663	0	0
Q Serve(g_s), s	3.9	0.0	10.7	1.3	0.0	20.4	0.0	0.0	0.0	31.4	0.0	0.0
Cycle Q Clear(g_c), s	24.3	0.0	10.7	12.0	0.0	20.4	2.6	0.0	0.0	35.3	0.0	0.0
Prop In Lane	1.00		0.28	1.00		0.24	0.26		0.12	0.21		0.42
Lane Grp Cap(c), veh/h	166	0	609	312	0	612	697	0	0	919	0	0
V/C Ratio(X)	0.27	0.00	0.49	0.07	0.00	0.82	0.17	0.00	0.00	0.86	0.00	0.00
Avail Cap(c_a), veh/h	311	0	897	486	0	902	1152	0	0	1448	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.8	0.0	21.4	26.2	0.0	24.7	9.9	0.0	0.0	17.7	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.2	0.0	0.0	2.3	0.0	0.0	0.0	2.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	4.1	0.3	0.0	8.3	1.0	0.0	0.0	12.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	0.0	21.7	26.2	0.0	27.0	10.0	0.0	0.0	19.6	0.0	0.0
LnGrp LOS	D	A	C	C	A	C	A	A	A	B	A	A
Approach Vol, veh/h		346			522			117			792	
Approach Delay, s/veh		23.5			27.0			10.0			19.6	
Approach LOS		C			C			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		48.1		33.1		48.1		33.1				
Change Period (Y+Rc), s		5.8		5.8		5.8		5.8				
Max Green Setting (Gmax), s		68.2		40.2		68.2		40.2				
Max Q Clear Time (g_c+I1), s		4.6		26.3		37.3		22.4				
Green Ext Time (p_c), s		0.6		1.0		5.0		1.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				21.9								
HCM 6th LOS				C								

Timings  
38: Flight Av./Walker Av. & Merrill Av.

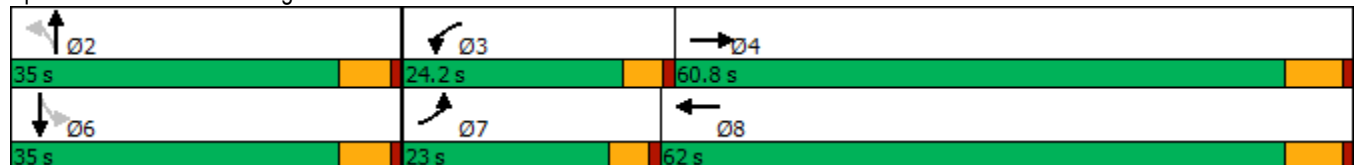


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↖	↕
Traffic Volume (vph)	163	863	148	1418	176	33	36	50
Future Volume (vph)	163	863	148	1418	176	33	36	50
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases					2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	9.6	23.2	22.8	22.8	22.8	22.8
Total Split (s)	23.0	60.8	24.2	62.0	35.0	35.0	35.0	35.0
Total Split (%)	19.2%	50.7%	20.2%	51.7%	29.2%	29.2%	29.2%	29.2%
Yellow Time (s)	3.6	5.2	3.6	5.2	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Min	None	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 103  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 38: Flight Av./Walker Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
38: Flight Av./Walker Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

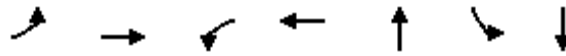
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	863	179	148	1418	91	176	33	121	36	50	84
Future Volume (veh/h)	163	863	179	148	1418	91	176	33	121	36	50	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	168	890	185	153	1462	94	181	34	125	37	52	87
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	199	1482	308	184	1684	108	286	81	298	265	146	244
Arrive On Green	0.12	0.50	0.50	0.11	0.49	0.49	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1714	2975	618	1714	3445	221	1340	356	1309	1316	639	1069
Grp Volume(v), veh/h	168	540	535	153	763	793	181	0	159	37	0	139
Grp Sat Flow(s),veh/h/ln	1714	1805	1789	1714	1805	1860	1340	0	1664	1316	0	1708
Q Serve(g_s), s	9.6	21.3	21.3	8.7	37.2	37.7	13.1	0.0	8.1	2.5	0.0	6.8
Cycle Q Clear(g_c), s	9.6	21.3	21.3	8.7	37.2	37.7	19.9	0.0	8.1	10.6	0.0	6.8
Prop In Lane	1.00		0.35	1.00		0.12	1.00		0.79	1.00		0.63
Lane Grp Cap(c), veh/h	199	899	891	184	883	910	286	0	379	265	0	389
V/C Ratio(X)	0.84	0.60	0.60	0.83	0.86	0.87	0.63	0.00	0.42	0.14	0.00	0.36
Avail Cap(c_a), veh/h	317	991	982	338	1013	1044	374	0	489	352	0	501
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.1	17.9	17.9	43.5	22.5	22.6	40.6	0.0	32.8	37.3	0.0	32.3
Incr Delay (d2), s/veh	6.1	0.9	0.9	3.7	7.2	7.4	2.3	0.0	0.7	0.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	8.0	7.9	3.7	15.4	16.1	4.3	0.0	3.2	0.8	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.1	18.7	18.8	47.3	29.7	30.0	42.9	0.0	33.5	37.5	0.0	32.8
LnGrp LOS	D	B	B	D	C	C	D	A	C	D	A	C
Approach Vol, veh/h		1243			1709			340				176
Approach Delay, s/veh		22.9			31.4			38.5				33.8
Approach LOS		C			C			D				C
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.5	15.3	55.7		28.5	16.1	54.8				
Change Period (Y+Rc), s		5.8	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		29.2	19.6	54.6		29.2	18.4	55.8				
Max Q Clear Time (g_c+I1), s		21.9	10.7	23.3		12.6	11.6	39.7				
Green Ext Time (p_c), s		0.8	0.1	7.2		0.8	0.1	8.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				29.2								
HCM 6th LOS				C								

Timings

39: Van Vliet Av. & Merrill Av.

08/24/2021

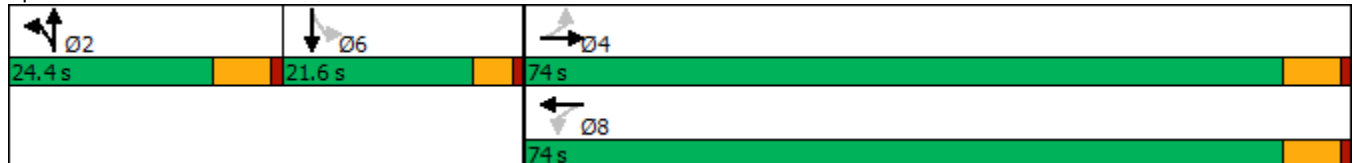


Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations	↖	↕↗	↖	↕↗	↕↗		↕↗
Traffic Volume (vph)	62	920	36	1625	0	20	0
Future Volume (vph)	62	920	36	1625	0	20	0
Turn Type	Perm	NA	Perm	NA	NA	Perm	NA
Protected Phases		4		8	2		6
Permitted Phases	4		8			6	
Detector Phase	4	4	8	8	2	6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.2	23.2	23.2	23.2	23.2	21.6	21.6
Total Split (s)	74.0	74.0	74.0	74.0	24.4	21.6	21.6
Total Split (%)	61.7%	61.7%	61.7%	61.7%	20.3%	18.0%	18.0%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2	6.2		4.6
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	Min	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 106.5  
 Natural Cycle: 100  
 Control Type: Actuated-Uncoordinated




















Splits and Phases: 39: Van Vliet Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
39: Van Vliet Av. & Merrill Av.

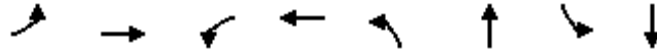
Ontario Ranch Business Park (JN 13941)

08/24/2021

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	62	920	38	36	1625	72	14	0	85	20	0	17	
Future Volume (veh/h)	62	920	38	36	1625	72	14	0	85	20	0	17	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No			No			No			No		
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1900	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	67	1000	41	39	1766	78	15	0	92	22	0	18	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0	
Cap, veh/h	154	2330	96	363	2323	102	22	0	137	64	0	52	
Arrive On Green	0.66	0.66	0.66	0.66	0.66	0.66	0.10	0.00	0.10	0.07	0.00	0.07	
Sat Flow, veh/h	255	3534	145	551	3523	155	229	0	1406	943	0	771	
Grp Volume(v), veh/h	67	511	530	39	900	944	107	0	0	40	0	0	
Grp Sat Flow(s),veh/h/ln	255	1805	1874	551	1805	1872	1635	0	0	1714	0	0	
Q Serve(g_s), s	23.8	13.0	13.0	3.5	32.8	33.6	6.1	0.0	0.0	2.2	0.0	0.0	
Cycle Q Clear(g_c), s	57.4	13.0	13.0	16.6	32.8	33.6	6.1	0.0	0.0	2.2	0.0	0.0	
Prop In Lane	1.00		0.08	1.00		0.08	0.14		0.86	0.55		0.45	
Lane Grp Cap(c), veh/h	154	1190	1236	363	1190	1235	159	0	0	117	0	0	
V/C Ratio(X)	0.44	0.43	0.43	0.11	0.76	0.76	0.67	0.00	0.00	0.34	0.00	0.00	
Avail Cap(c_a), veh/h	164	1262	1310	385	1262	1309	307	0	0	300	0	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	
Uniform Delay (d), s/veh	31.1	7.8	7.8	11.8	11.2	11.4	42.3	0.0	0.0	43.1	0.0	0.0	
Incr Delay (d2), s/veh	1.9	0.2	0.2	0.1	2.5	2.6	4.9	0.0	0.0	1.7	0.0	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.4	3.9	4.1	0.4	10.5	11.2	2.6	0.0	0.0	1.0	0.0	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	33.0	8.1	8.1	11.9	13.7	14.0	47.1	0.0	0.0	44.9	0.0	0.0	
LnGrp LOS	C	A	A	B	B	B	D	A	A	D	A	A	
Approach Vol, veh/h		1108			1883			107				40	
Approach Delay, s/veh		9.6			13.8			47.1				44.9	
Approach LOS		A			B			D				D	
Timer - Assigned Phs		2		4		6		8					
Phs Duration (G+Y+Rc), s		15.6		70.2		11.2		70.2					
Change Period (Y+Rc), s		6.2		6.2		4.6		6.2					
Max Green Setting (Gmax), s		18.2		67.8		17.0		67.8					
Max Q Clear Time (g_c+I1), s		8.1		59.4		4.2		35.6					
Green Ext Time (p_c), s		0.3		4.6		0.1		17.4					
<b>Intersection Summary</b>													
HCM 6th Ctrl Delay				13.9									
HCM 6th LOS				B									



Timings  
40: Vineyard Av. & Edison Av.

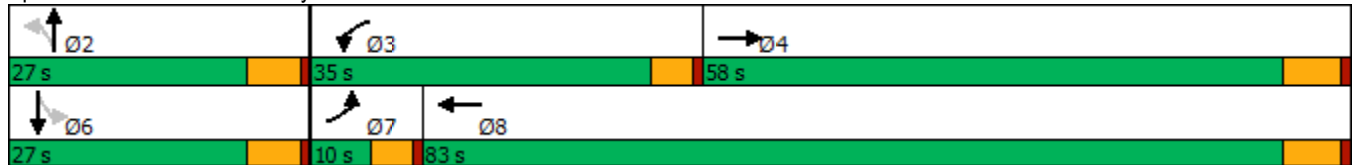


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↕↕↕	↖	↕↕↕	↖	↗	↖	↗
Traffic Volume (vph)	19	1468	344	2655	54	23	61	40
Future Volume (vph)	19	1468	344	2655	54	23	61	40
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases					2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	9.6	23.2	22.8	22.8	22.8	22.8
Total Split (s)	10.0	58.0	35.0	83.0	27.0	27.0	27.0	27.0
Total Split (%)	8.3%	48.3%	29.2%	69.2%	22.5%	22.5%	22.5%	22.5%
Yellow Time (s)	3.6	5.2	3.6	5.2	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Min	None	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 106  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 40: Vineyard Av. & Edison Av.



HCM 6th Signalized Intersection Summary  
40: Vineyard Av. & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑		↗	↑		↖	↑	
Traffic Volume (veh/h)	19	1468	73	344	2655	43	54	23	173	61	40	30
Future Volume (veh/h)	19	1468	73	344	2655	43	54	23	173	61	40	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	21	1596	79	374	2886	47	59	25	188	66	43	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	37	2196	109	400	3396	55	265	36	270	141	186	143
Arrive On Green	0.02	0.43	0.43	0.23	0.65	0.65	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1714	5062	250	1714	5258	85	1344	192	1447	1187	997	765
Grp Volume(v), veh/h	21	1090	585	374	1893	1040	59	0	213	66	0	76
Grp Sat Flow(s),veh/h/ln	1714	1729	1855	1714	1729	1885	1344	0	1640	1187	0	1762
Q Serve(g_s), s	1.4	29.6	29.6	24.3	48.6	49.5	4.4	0.0	13.8	6.3	0.0	4.2
Cycle Q Clear(g_c), s	1.4	29.6	29.6	24.3	48.6	49.5	8.6	0.0	13.8	20.1	0.0	4.2
Prop In Lane	1.00		0.14	1.00		0.05	1.00		0.88	1.00		0.43
Lane Grp Cap(c), veh/h	37	1500	805	400	2234	1218	265	0	306	141	0	329
V/C Ratio(X)	0.57	0.73	0.73	0.93	0.85	0.85	0.22	0.00	0.70	0.47	0.00	0.23
Avail Cap(c_a), veh/h	81	1576	846	459	2337	1274	265	0	306	141	0	329
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.1	26.6	26.6	42.7	15.7	15.9	42.9	0.0	43.2	52.6	0.0	39.3
Incr Delay (d2), s/veh	5.2	1.6	3.0	23.5	3.0	5.7	0.4	0.0	6.7	2.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	11.5	12.7	12.4	16.4	19.1	1.5	0.0	6.0	1.9	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.3	28.2	29.6	66.1	18.7	21.6	43.4	0.0	49.9	55.0	0.0	39.6
LnGrp LOS	E	C	C	E	B	C	D	A	D	D	A	D
Approach Vol, veh/h		1696			3307			272				142
Approach Delay, s/veh		29.1			25.0			48.5				46.8
Approach LOS		C			C			D				D
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		27.0	31.1	55.5		27.0	7.0	79.6				
Change Period (Y+Rc), s		5.8	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		21.2	30.4	51.8		21.2	5.4	76.8				
Max Q Clear Time (g_c+I1), s		15.8	26.3	31.6		22.1	3.4	51.5				
Green Ext Time (p_c), s		0.6	0.2	10.7		0.0	0.0	21.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			28.0									
HCM 6th LOS			C									

Timings  
41: Hellman Av./Vineyard Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

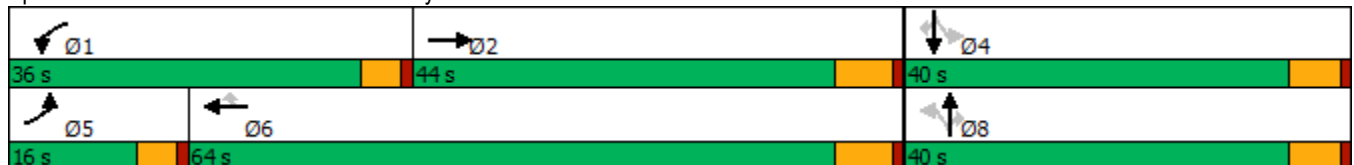


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	24	327	150	716	80	104	54	12	112	165	73
Future Volume (vph)	24	327	150	716	80	104	54	12	112	165	73
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6			8			4	
Permitted Phases					6	8		8	4		4
Detector Phase	5	2	1	6	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	9.6	23.2	23.2	22.8	22.8	22.8	22.8	22.8	22.8
Total Split (s)	16.0	44.0	36.0	64.0	64.0	40.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	13.3%	36.7%	30.0%	53.3%	53.3%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	5.8	5.8	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 54.4  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 41: Hellman Av./Vineyard Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
41: Hellman Av./Vineyard Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

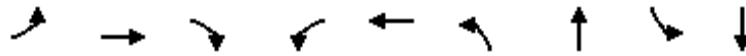


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗	↖	↖	↗	↖
Traffic Volume (veh/h)	24	327	142	150	716	80	104	54	12	112	165	73
Future Volume (veh/h)	24	327	142	150	716	80	104	54	12	112	165	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	26	352	153	161	770	86	112	58	13	120	177	78
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	53	648	277	208	1275	569	342	442	374	448	442	374
Arrive On Green	0.03	0.26	0.26	0.12	0.35	0.35	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1714	2463	1052	1714	3610	1610	1142	1900	1610	1350	1900	1610
Grp Volume(v), veh/h	26	256	249	161	770	86	112	58	13	120	177	78
Grp Sat Flow(s),veh/h/ln	1714	1805	1711	1714	1805	1610	1142	1900	1610	1350	1900	1610
Q Serve(g_s), s	0.6	5.3	5.4	3.9	7.6	1.6	4.0	1.0	0.3	3.3	3.4	1.7
Cycle Q Clear(g_c), s	0.6	5.3	5.4	3.9	7.6	1.6	7.4	1.0	0.3	4.4	3.4	1.7
Prop In Lane	1.00		0.62	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	53	475	450	208	1275	569	342	442	374	448	442	374
V/C Ratio(X)	0.49	0.54	0.55	0.78	0.60	0.15	0.33	0.13	0.03	0.27	0.40	0.21
Avail Cap(c_a), veh/h	451	1576	1494	1243	4820	2150	979	1501	1272	1201	1501	1272
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.6	13.7	13.8	18.5	11.5	9.6	17.2	13.2	12.9	14.9	14.1	13.4
Incr Delay (d2), s/veh	2.6	1.0	1.1	2.3	0.5	0.1	0.6	0.1	0.0	0.3	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.6	1.6	1.3	2.0	0.4	0.9	0.4	0.1	0.8	1.2	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.2	14.7	14.8	20.8	12.0	9.7	17.7	13.3	12.9	15.2	14.6	13.7
LnGrp LOS	C	B	B	C	B	A	B	B	B	B	B	B
Approach Vol, veh/h		531			1017			183			375	
Approach Delay, s/veh		15.2			13.2			16.0			14.6	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.8	17.6		15.9	5.9	21.5		15.9				
Change Period (Y+Rc), s	4.6	6.2		5.8	4.6	6.2		5.8				
Max Green Setting (Gmax), s	31.4	37.8		34.2	11.4	57.8		34.2				
Max Q Clear Time (g_c+1), s	5.9	7.4		6.4	2.6	9.6		9.4				
Green Ext Time (p_c), s	0.2	2.8		1.5	0.0	5.7		0.7				

Intersection Summary

HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B

Timings  
42: Carpenter Av. & Merrill Av.

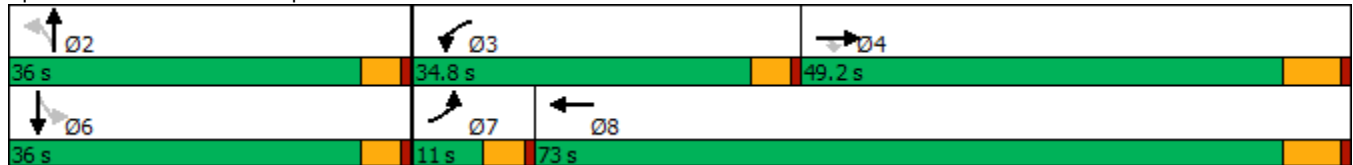


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↘	↖	↗	↖	↗	↖	↗
Traffic Volume (vph)	45	877	37	253	1603	78	0	180	0
Future Volume (vph)	45	877	37	253	1603	78	0	180	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases			4			2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	23.2	9.6	23.2	21.6	21.6	21.6	21.6
Total Split (s)	11.0	49.2	49.2	34.8	73.0	36.0	36.0	36.0	36.0
Total Split (%)	9.2%	41.0%	41.0%	29.0%	60.8%	30.0%	30.0%	30.0%	30.0%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	Min	Min	None	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 104.1  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 42: Carpenter Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
42: Carpenter Av. & Merrill Av.

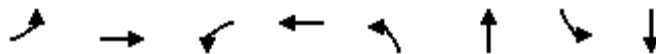
Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖	↑↑		↖	↗		↖	↗	
Traffic Volume (veh/h)	45	877	37	253	1603	118	78	0	153	180	0	73
Future Volume (veh/h)	45	877	37	253	1603	118	78	0	153	180	0	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	48	933	39	269	1705	126	83	0	163	191	0	78
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	61	1538	686	299	1928	141	360	0	413	281	0	413
Arrive On Green	0.04	0.43	0.43	0.17	0.57	0.57	0.26	0.00	0.26	0.26	0.00	0.26
Sat Flow, veh/h	1714	3610	1610	1714	3410	250	1342	0	1610	1242	0	1610
Grp Volume(v), veh/h	48	933	39	269	894	937	83	0	163	191	0	78
Grp Sat Flow(s),veh/h/ln	1714	1805	1610	1714	1805	1855	1342	0	1610	1242	0	1610
Q Serve(g_s), s	3.0	21.6	1.5	16.6	46.1	47.8	5.6	0.0	9.0	16.2	0.0	4.1
Cycle Q Clear(g_c), s	3.0	21.6	1.5	16.6	46.1	47.8	9.6	0.0	9.0	25.3	0.0	4.1
Prop In Lane	1.00		1.00	1.00		0.13	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	61	1538	686	299	1021	1049	360	0	413	281	0	413
V/C Ratio(X)	0.79	0.61	0.06	0.90	0.88	0.89	0.23	0.00	0.39	0.68	0.00	0.19
Avail Cap(c_a), veh/h	102	1538	686	480	1117	1148	406	0	468	324	0	468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.7	24.0	18.2	43.6	20.2	20.6	35.1	0.0	33.2	43.6	0.0	31.3
Incr Delay (d2), s/veh	8.3	0.7	0.0	8.6	7.6	8.6	0.3	0.0	0.6	4.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	8.6	0.5	7.4	18.6	20.0	1.9	0.0	3.6	5.4	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	24.7	18.2	52.2	27.8	29.2	35.4	0.0	33.8	48.3	0.0	31.6
LnGrp LOS	E	C	B	D	C	C	D	A	C	D	A	C
Approach Vol, veh/h		1020			2100			246				269
Approach Delay, s/veh		26.1			31.5			34.4				43.5
Approach LOS		C			C			C				D
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		32.3	23.4	52.2		32.3	8.4	67.2				
Change Period (Y+Rc), s		4.6	4.6	6.2		4.6	4.6	6.2				
Max Green Setting (Gmax), s		31.4	30.2	43.0		31.4	6.4	66.8				
Max Q Clear Time (g_c+I1), s		11.6	18.6	23.6		27.3	5.0	49.8				
Green Ext Time (p_c), s		1.2	0.3	5.9		0.4	0.0	11.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			31.1									
HCM 6th LOS			C									

Timings  
43: Hellman Av. & Edison Av.

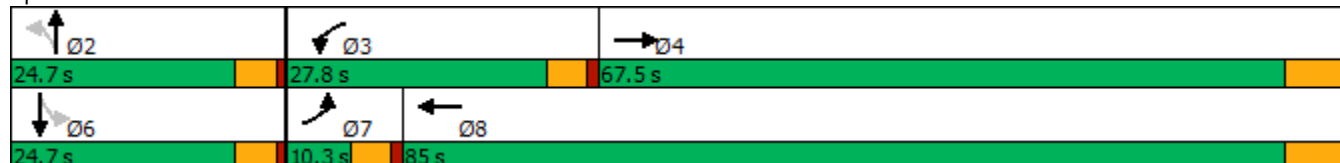


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗↗↗	↖	↗↗↗	↖	↗	↖	↗
Traffic Volume (vph)	37	1482	175	2854	61	10	43	84
Future Volume (vph)	37	1482	175	2854	61	10	43	84
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases					2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	9.6	23.2	21.7	21.7	21.7	21.7
Total Split (s)	10.3	67.5	27.8	85.0	24.7	24.7	24.7	24.7
Total Split (%)	8.6%	56.3%	23.2%	70.8%	20.6%	20.6%	20.6%	20.6%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.7	4.7	4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Min	None	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 109.9  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 43: Hellman Av. & Edison Av.



HCM 6th Signalized Intersection Summary  
43: Hellman Av. & Edison Av.

Ontario Ranch Business Park (JN 13941)  
08/24/2021



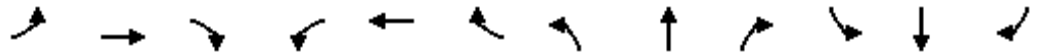
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑		↖	↑	
Traffic Volume (veh/h)	37	1482	211	175	2854	48	61	10	49	43	84	69
Future Volume (veh/h)	37	1482	211	175	2854	48	61	10	49	43	84	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	40	1611	229	190	3102	52	66	11	53	47	91	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	54	2655	376	218	3542	59	151	45	217	232	153	126
Arrive On Green	0.03	0.58	0.58	0.13	0.67	0.67	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1714	4590	650	1714	5255	88	1239	284	1369	1359	963	794
Grp Volume(v), veh/h	40	1212	628	190	2036	1118	66	0	64	47	0	166
Grp Sat Flow(s),veh/h/ln	1714	1729	1783	1714	1729	1884	1239	0	1654	1359	0	1757
Q Serve(g_s), s	2.6	26.0	26.1	12.4	53.2	54.3	6.0	0.0	3.9	3.6	0.0	10.0
Cycle Q Clear(g_c), s	2.6	26.0	26.1	12.4	53.2	54.3	16.0	0.0	3.9	7.4	0.0	10.0
Prop In Lane	1.00		0.36	1.00		0.05	1.00		0.83	1.00		0.45
Lane Grp Cap(c), veh/h	54	2000	1031	218	2331	1270	151	0	262	232	0	278
V/C Ratio(X)	0.74	0.61	0.61	0.87	0.87	0.88	0.44	0.00	0.24	0.20	0.00	0.60
Avail Cap(c_a), veh/h	86	2000	1031	349	2390	1302	172	0	290	256	0	308
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.7	15.6	15.6	48.8	14.7	14.9	52.0	0.0	42.0	45.3	0.0	44.6
Incr Delay (d2), s/veh	7.2	0.5	1.0	7.9	3.8	7.2	2.0	0.0	0.5	0.4	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	9.1	9.6	5.6	17.4	20.5	1.9	0.0	1.6	1.2	0.0	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.9	16.1	16.7	56.7	18.5	22.1	54.0	0.0	42.5	45.7	0.0	47.2
LnGrp LOS	E	B	B	E	B	C	D	A	D	D	A	D
Approach Vol, veh/h		1880			3344			130				213
Approach Delay, s/veh		17.3			21.9			48.3				46.9
Approach LOS		B			C			D				D
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		22.8	19.1	72.1		22.8	8.2	83.1				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		* 4.7	4.6	6.2				
Max Green Setting (Gmax), s		* 20	23.2	61.3		* 20	5.7	78.8				
Max Q Clear Time (g_c+I1), s		18.0	14.4	28.1		12.0	4.6	56.3				
Green Ext Time (p_c), s		0.1	0.2	15.8		0.6	0.0	20.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				21.9								
HCM 6th LOS				C								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												



Timings

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

08/25/2021

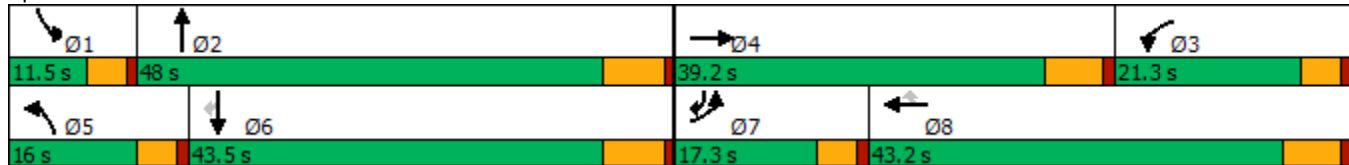


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	474	952	411	689	1985	299	515	1298	541	79	752	343
Future Volume (vph)	474	952	411	689	1985	299	515	1298	541	79	752	343
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	9.6	39.2		9.6	43.2	43.2	9.6	39.5		9.6	43.5	9.6
Total Split (s)	17.3	39.2		21.3	43.2	43.2	16.0	48.0		11.5	43.5	17.3
Total Split (%)	14.4%	32.7%		17.8%	36.0%	36.0%	13.3%	40.0%		9.6%	36.3%	14.4%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	4.6
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 113.8  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

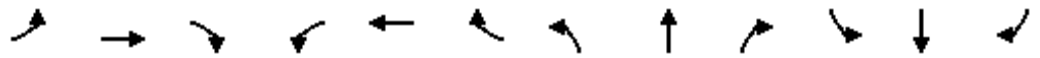
Splits and Phases: 44: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
 44: Archibald Av. & Edison Av./Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	474	952	411	689	1985	299	515	1298	541	79	752	343
Future Volume (veh/h)	474	952	411	689	1985	299	515	1298	541	79	752	343
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	489	981	0	710	2046	254	531	1338	0	81	775	321
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	359	1352		706	2169	534	341	1638		137	1320	594
Arrive On Green	0.11	0.21	0.00	0.22	0.33	0.33	0.10	0.32	0.00	0.04	0.25	0.25
Sat Flow, veh/h	3141	6536	1610	3141	6536	1610	3326	5187	1610	3326	5187	1610
Grp Volume(v), veh/h	489	981	0	710	2046	254	531	1338	0	81	775	321
Grp Sat Flow(s),veh/h/ln	1570	1634	1610	1570	1634	1610	1663	1729	1610	1663	1729	1610
Q Serve(g_s), s	12.7	15.6	0.0	25.0	33.9	13.9	11.4	26.5	0.0	2.7	14.6	17.5
Cycle Q Clear(g_c), s	12.7	15.6	0.0	25.0	33.9	13.9	11.4	26.5	0.0	2.7	14.6	17.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	359	1352		706	2169	534	341	1638		137	1320	594
V/C Ratio(X)	1.36	0.73		1.01	0.94	0.48	1.56	0.82		0.59	0.59	0.54
Avail Cap(c_a), veh/h	359	1939		706	2174	536	341	1935		206	1725	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	41.2	0.0	43.1	36.1	29.5	49.9	35.1	0.0	52.4	36.3	27.7
Incr Delay (d2), s/veh	180.6	0.8	0.0	35.1	9.2	0.7	265.0	2.5	0.0	1.5	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.8	6.0	0.0	12.6	13.9	5.2	17.0	10.7	0.0	1.1	5.8	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	229.9	42.0	0.0	78.3	45.3	30.1	314.9	37.5	0.0	53.9	36.8	28.4
LnGrp LOS	F	D		F	D	C	F	D		D	D	C
Approach Vol, veh/h		1470	A		3010			1869	A		1177	
Approach Delay, s/veh		104.5			51.8			116.3			35.7	
Approach LOS		F			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	41.6	31.2	29.2	16.0	34.8	17.3	43.1				
Change Period (Y+Rc), s	4.6	6.5	6.2	* 6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	6.9	41.5	16.7	* 33	11.4	37.0	12.7	37.0				
Max Q Clear Time (g_c+I1), s	4.7	28.5	27.0	17.6	13.4	19.5	14.7	35.9				
Green Ext Time (p_c), s	0.0	6.7	0.0	5.4	0.0	5.4	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	75.6
HCM 6th LOS	E

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.  
 Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
45: Archibald Av. & Eucalyptus Av.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↕	↙	↕	↗	↘	↕	↙	↕
Traffic Volume (vph)	47	32	122	282	162	237	2032	60	1501
Future Volume (vph)	47	32	122	282	162	237	2032	60	1501
Turn Type	Perm	NA	Prot	NA	Perm	Perm	NA	Prot	NA
Protected Phases		4	3	8			2	1	6
Permitted Phases	4				8	2			
Detector Phase	4	4	3	8	8	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	9.5	9.5	9.5	32.5	32.5	9.6	16.5
Total Split (s)	22.5	22.5	9.5	32.0	32.0	78.4	78.4	9.6	88.0
Total Split (%)	18.8%	18.8%	7.9%	26.7%	26.7%	65.3%	65.3%	8.0%	73.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	6.5	6.5	4.6	6.5
Lead/Lag	Lag	Lag	Lead			Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 115.3  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 45: Archibald Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	32	36	122	282	162	237	2032	84	60	1501	169
Future Volume (veh/h)	47	32	36	122	282	162	237	2032	84	60	1501	169
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	51	34	28	131	303	104	255	2185	74	65	1614	134
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	127	275	202	133	416	352	202	3129	106	72	3359	279
Arrive On Green	0.14	0.14	0.14	0.04	0.22	0.22	0.61	0.61	0.61	0.04	0.69	0.69
Sat Flow, veh/h	942	1987	1456	3141	1900	1610	265	5153	174	1714	4880	405
Grp Volume(v), veh/h	51	31	31	131	303	104	255	1464	795	65	1143	605
Grp Sat Flow(s),veh/h/ln	942	1805	1638	1570	1900	1610	265	1729	1869	1714	1729	1827
Q Serve(g_s), s	6.3	1.8	2.0	4.9	17.6	6.4	63.2	34.2	34.4	4.5	18.2	18.3
Cycle Q Clear(g_c), s	14.4	1.8	2.0	4.9	17.6	6.4	71.9	34.2	34.4	4.5	18.2	18.3
Prop In Lane	1.00		0.89	1.00		1.00	1.00		0.09	1.00		0.22
Lane Grp Cap(c), veh/h	127	250	227	133	416	352	202	2100	1135	72	2380	1258
V/C Ratio(X)	0.40	0.12	0.14	0.99	0.73	0.30	1.26	0.70	0.70	0.90	0.48	0.48
Avail Cap(c_a), veh/h	140	274	249	133	441	374	202	2100	1135	72	2380	1258
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	44.7	44.8	56.7	43.0	38.6	37.1	15.8	15.9	56.5	8.6	8.6
Incr Delay (d2), s/veh	2.0	0.2	0.3	74.2	5.7	0.5	150.8	1.0	1.9	70.3	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.8	0.8	3.3	8.8	0.0	14.3	11.6	13.0	3.3	5.4	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.1	44.9	45.1	130.9	48.6	39.1	187.9	16.9	17.8	126.7	8.7	8.9
LnGrp LOS	E	D	D	F	D	D	F	B	B	F	A	A
Approach Vol, veh/h		113			538			2514			1813	
Approach Delay, s/veh		50.0			66.8			34.5			13.0	
Approach LOS		D			E			C			B	
Timer - Assigned Phs	1	2	3	4	6	8						
Phs Duration (G+Y+Rc), s	9.6	78.4	9.5	20.9	88.0	30.4						
Change Period (Y+Rc), s	4.6	6.5	4.5	4.5	6.5	4.5						
Max Green Setting (Gmax), s	5.0	71.9	5.0	18.0	81.5	27.5						
Max Q Clear Time (g_c+I1), s	6.5	73.9	6.9	16.4	20.3	19.6						
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	16.6	1.3						

Intersection Summary

HCM 6th Ctrl Delay			30.5									
HCM 6th LOS			C									

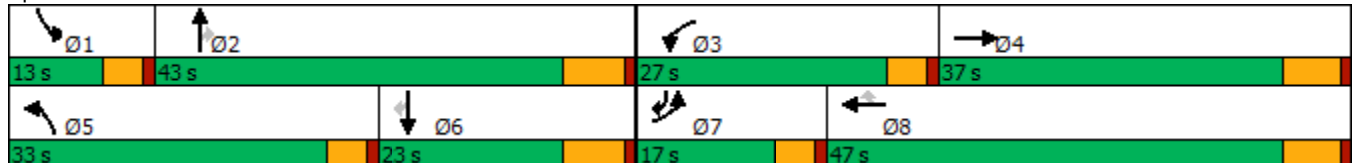
Timings  
46: Archibald Av. & Merrill Av.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	392	31	267	139	105	158	857	1492	88	48	925	763
Future Volume (vph)	392	31	267	139	105	158	857	1492	88	48	925	763
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	16.2		9.6	45.2	45.2	9.6	36.5	36.5	9.6	16.5	9.6
Total Split (s)	17.0	37.0		27.0	47.0	47.0	33.0	43.0	43.0	13.0	23.0	17.0
Total Split (%)	14.2%	30.8%		22.5%	39.2%	39.2%	27.5%	35.8%	35.8%	10.8%	19.2%	14.2%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 95.4  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated































Splits and Phases: 46: Archibald Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 		 	 		 	 	  		 		
Traffic Volume (veh/h)	392	31	267	139	105	158	857	1492	88	48	925	763
Future Volume (veh/h)	392	31	267	139	105	158	857	1492	88	48	925	763
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1800	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	404	32	0	143	108	163	884	1538	91	49	954	698
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	443	325		176	253	214	963	2269	704	125	973	529
Arrive On Green	0.14	0.17	0.00	0.10	0.13	0.13	0.29	0.44	0.44	0.04	0.19	0.19
Sat Flow, veh/h	3141	1900	1610	1714	1900	1610	3326	5187	1610	3141	5187	1610
Grp Volume(v), veh/h	404	32	0	143	108	163	884	1538	91	49	954	698
Grp Sat Flow(s),veh/h/ln	1570	1900	1610	1714	1900	1610	1663	1729	1610	1570	1729	1610
Q Serve(g_s), s	11.2	1.2	0.0	7.2	4.6	8.6	22.6	20.9	3.0	1.3	16.1	16.5
Cycle Q Clear(g_c), s	11.2	1.2	0.0	7.2	4.6	8.6	22.6	20.9	3.0	1.3	16.1	16.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	443	325		176	253	214	963	2269	704	125	973	529
V/C Ratio(X)	0.91	0.10		0.81	0.43	0.76	0.92	0.68	0.13	0.39	0.98	1.32
Avail Cap(c_a), veh/h	443	665		437	881	747	1074	2269	704	300	973	529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	30.7	0.0	38.6	35.1	36.8	30.2	19.8	14.8	41.2	35.6	29.5
Incr Delay (d2), s/veh	22.6	0.1	0.0	3.4	1.1	5.5	10.9	0.8	0.1	0.7	24.1	156.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.5	0.0	3.1	2.2	3.6	9.5	7.3	1.0	0.5	8.3	33.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.8	30.9	0.0	42.0	36.2	42.3	41.2	20.6	14.8	42.0	59.7	186.2
LnGrp LOS	E	C		D	D	D	D	C	B	D	E	F
Approach Vol, veh/h		436	A		414			2513			1701	
Approach Delay, s/veh		57.7			40.6			27.6			111.1	
Approach LOS		E			D			C			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	45.0	13.6	21.3	30.1	23.0	17.0	17.9				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	8.4	36.5	22.4	30.8	28.4	16.5	12.4	40.8				
Max Q Clear Time (g_c+I1), s	3.3	22.9	9.2	3.2	24.6	18.5	13.2	10.6				
Green Ext Time (p_c), s	0.0	8.1	0.1	0.1	0.8	0.0	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	59.3
HCM 6th LOS	E

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖	↑↑↑	↖	↖↗	↑↑↔
Traffic Volume (vph)	215	583	113	366	865	757	149	1146	372	444	798
Future Volume (vph)	215	583	113	366	865	757	149	1146	372	444	798
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	1	5	2	3	1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	1	5	2	3	1	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	5.0	6.0	6.0
Minimum Split (s)	9.5	23.0	23.0	9.5	36.3	11.0	9.5	41.3	9.5	11.0	23.0
Total Split (s)	13.4	29.2	29.2	20.5	36.3	28.0	23.3	42.3	20.5	28.0	47.0
Total Split (%)	11.2%	24.3%	24.3%	17.1%	30.3%	23.3%	19.4%	35.3%	17.1%	23.3%	39.2%
Yellow Time (s)	3.5	4.0	4.0	3.5	4.3	4.0	3.5	4.3	3.5	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.0	5.0	4.5	5.3	5.0	4.5	5.3	4.5	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 117.6  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 47: Archibald Av. & Limonite Av.



HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)  
08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↖	↑↑↑	↗	↔↔	↑↑↔	
Traffic Volume (veh/h)	215	583	113	366	865	757	149	1146	372	444	798	193
Future Volume (veh/h)	215	583	113	366	865	757	149	1146	372	444	798	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	234	634	123	381	940	733	162	1194	341	462	831	210
Peak Hour Factor	0.92	0.92	0.92	0.96	0.92	0.96	0.92	0.96	0.96	0.96	0.96	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	285	855	381	448	1022	700	194	1540	684	544	1444	363
Arrive On Green	0.08	0.24	0.24	0.13	0.28	0.28	0.11	0.30	0.30	0.16	0.35	0.35
Sat Flow, veh/h	3510	3610	1610	3510	3610	1590	1810	5187	1610	3510	4134	1038
Grp Volume(v), veh/h	234	634	123	381	940	733	162	1194	341	462	694	347
Grp Sat Flow(s),veh/h/ln	1755	1805	1610	1755	1805	1590	1810	1729	1610	1755	1729	1713
Q Serve(g_s), s	7.2	17.8	6.9	11.6	27.6	31.0	9.6	23.0	16.9	14.0	17.9	18.1
Cycle Q Clear(g_c), s	7.2	17.8	6.9	11.6	27.6	31.0	9.6	23.0	16.9	14.0	17.9	18.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.61
Lane Grp Cap(c), veh/h	285	855	381	448	1022	700	194	1540	684	544	1208	599
V/C Ratio(X)	0.82	0.74	0.32	0.85	0.92	1.05	0.84	0.78	0.50	0.85	0.57	0.58
Avail Cap(c_a), veh/h	285	855	381	513	1022	700	311	1753	749	737	1326	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	38.7	34.5	46.7	38.0	30.8	47.9	35.1	23.0	45.0	29.0	29.1
Incr Delay (d2), s/veh	17.1	3.5	0.5	11.7	12.7	47.2	10.3	2.1	0.7	7.0	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	8.0	2.6	5.6	13.3	25.8	4.7	9.4	6.1	6.3	6.9	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.6	42.2	35.0	58.4	50.8	78.0	58.2	37.2	23.7	52.0	29.2	29.6
LnGrp LOS	E	D	D	E	D	F	E	D	C	D	C	C
Approach Vol, veh/h		991			2054			1697			1503	
Approach Delay, s/veh		47.0			61.9			36.5			36.3	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	37.8	18.5	31.2	16.2	43.6	13.4	36.3				
Change Period (Y+Rc), s	5.0	5.3	4.5	* 5.3	4.5	* 5.3	4.5	5.3				
Max Green Setting (Gmax), s	23.0	37.0	16.0	* 24	18.8	* 42	8.9	31.0				
Max Q Clear Time (g_c+I1), s	16.0	25.0	13.6	19.8	11.6	20.1	9.2	33.0				
Green Ext Time (p_c), s	1.0	7.5	0.3	1.7	0.2	3.8	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	46.5
HCM 6th LOS	D

Notes

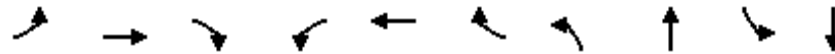
\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Timings

48: Turner Av. & Ontario Ranch Rd.

08/25/2021

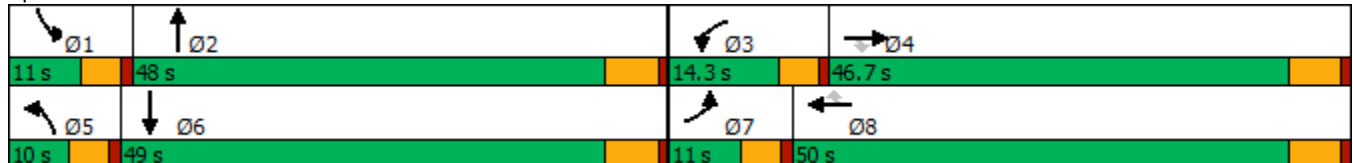


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↗	↘	↗
Traffic Volume (vph)	101	1135	41	52	2482	93	70	30	96	19
Future Volume (vph)	101	1135	41	52	2482	93	70	30	96	19
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	25.8	25.8	9.6	45.8	9.6	47.8
Total Split (s)	11.0	46.7	46.7	14.3	50.0	50.0	10.0	48.0	11.0	49.0
Total Split (%)	9.2%	38.9%	38.9%	11.9%	41.7%	41.7%	8.3%	40.0%	9.2%	40.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 94.8  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 48: Turner Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
48: Turner Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

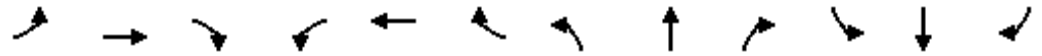
08/25/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	1135	41	52	2482	93	70	30	45	96	19	219
Future Volume (veh/h)	101	1135	41	52	2482	93	70	30	45	96	19	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	110	1234	34	57	2698	92	76	33	36	104	21	215
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	118	2720	809	72	2575	766	96	135	148	118	26	261
Arrive On Green	0.07	0.50	0.50	0.04	0.48	0.48	0.06	0.16	0.16	0.07	0.18	0.18
Sat Flow, veh/h	1714	5415	1610	1714	5415	1610	1714	831	906	1714	145	1487
Grp Volume(v), veh/h	110	1234	34	57	2698	92	76	0	69	104	0	236
Grp Sat Flow(s),veh/h/ln	1714	1805	1610	1714	1805	1610	1714	0	1737	1714	0	1632
Q Serve(g_s), s	5.9	13.7	1.0	3.1	44.2	3.0	4.1	0.0	3.2	5.6	0.0	12.9
Cycle Q Clear(g_c), s	5.9	13.7	1.0	3.1	44.2	3.0	4.1	0.0	3.2	5.6	0.0	12.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.52	1.00		0.91
Lane Grp Cap(c), veh/h	118	2720	809	72	2575	766	96	0	283	118	0	287
V/C Ratio(X)	0.93	0.45	0.04	0.79	1.05	0.12	0.79	0.00	0.24	0.88	0.00	0.82
Avail Cap(c_a), veh/h	118	2720	809	179	2575	766	100	0	789	118	0	759
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.1	14.9	11.8	44.1	24.4	13.6	43.3	0.0	33.9	42.9	0.0	36.9
Incr Delay (d2), s/veh	61.0	0.5	0.1	7.0	31.8	0.3	30.1	0.0	0.4	47.0	0.0	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	5.1	0.3	1.4	23.9	1.0	2.5	0.0	1.3	3.8	0.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.0	15.5	11.9	51.1	56.2	13.9	73.4	0.0	34.4	89.9	0.0	42.8
LnGrp LOS	F	B	B	D	F	B	E	A	C	F	A	D
Approach Vol, veh/h		1378			2847			145			340	
Approach Delay, s/veh		22.4			54.7			54.8			57.2	
Approach LOS		C			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	20.9	8.5	52.5	9.8	22.1	11.0	50.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	6.4	42.2	9.7	40.9	5.4	43.2	6.4	44.2				
Max Q Clear Time (g_c+I1), s	7.6	5.2	5.1	15.7	6.1	14.9	7.9	46.2				
Green Ext Time (p_c), s	0.0	0.3	0.0	9.2	0.0	1.4	0.0	0.0				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			45.5									
HCM 6th LOS			D									

Timings

49: Haven Av. & Ontario Ranch Rd.

08/25/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	242	1280	44	26	2122	114	76	232	96	319	124	270
Future Volume (vph)	242	1280	44	26	2122	114	76	232	96	319	124	270
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	15.0	43.4	43.4	9.6	38.0	38.0	17.0	50.0	50.0	17.0	50.0	50.0
Total Split (%)	12.5%	36.2%	36.2%	8.0%	31.7%	31.7%	14.2%	41.7%	41.7%	14.2%	41.7%	41.7%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None

Intersection Summary































Cycle Length: 120  
 Actuated Cycle Length: 92.9  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 49: Haven Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
49: Haven Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	242	1280	44	26	2122	114	76	232	96	319	124	270
Future Volume (veh/h)	242	1280	44	26	2122	114	76	232	96	319	124	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	257	1362	34	28	2257	76	81	247	52	339	132	254
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	208	2386	741	49	2400	591	103	421	188	248	725	324
Arrive On Green	0.12	0.46	0.46	0.03	0.37	0.37	0.06	0.12	0.12	0.14	0.20	0.20
Sat Flow, veh/h	1714	5187	1610	1714	6536	1610	1714	3610	1610	1714	3610	1610
Grp Volume(v), veh/h	257	1362	34	28	2257	76	81	247	52	339	132	254
Grp Sat Flow(s),veh/h/ln	1714	1729	1610	1714	1634	1610	1714	1805	1610	1714	1805	1610
Q Serve(g_s), s	10.4	16.5	1.0	1.4	28.6	2.7	4.0	5.6	2.5	12.4	2.6	12.8
Cycle Q Clear(g_c), s	10.4	16.5	1.0	1.4	28.6	2.7	4.0	5.6	2.5	12.4	2.6	12.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	208	2386	741	49	2400	591	103	421	188	248	725	324
V/C Ratio(X)	1.24	0.57	0.05	0.58	0.94	0.13	0.79	0.59	0.28	1.37	0.18	0.79
Avail Cap(c_a), veh/h	208	2386	741	100	2400	591	248	1860	829	248	1860	829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	17.0	12.8	41.2	26.2	18.0	39.8	35.9	34.6	36.7	28.4	32.5
Incr Delay (d2), s/veh	140.8	1.0	0.1	3.9	8.9	0.4	4.9	1.3	0.8	189.4	0.1	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.2	5.8	0.3	0.6	11.0	1.0	1.7	2.4	1.0	17.9	1.1	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	178.5	18.0	12.9	45.1	35.2	18.5	44.7	37.2	35.4	226.1	28.6	36.7
LnGrp LOS	F	B	B	D	D	B	D	D	D	F	C	D
Approach Vol, veh/h		1653			2361			380			725	
Approach Delay, s/veh		42.8			34.7			38.6			123.8	
Approach LOS		D			C			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	15.8	7.0	46.0	9.8	23.0	15.0	38.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	12.4	44.2	5.0	* 37	12.4	44.2	10.4	31.5				
Max Q Clear Time (g_c+I1), s	14.4	7.6	3.4	18.5	6.0	14.8	12.4	30.6				
Green Ext Time (p_c), s	0.0	1.6	0.0	8.7	0.0	1.6	0.0	0.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				50.2								
HCM 6th LOS				D								
<b>Notes</b>												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Timings

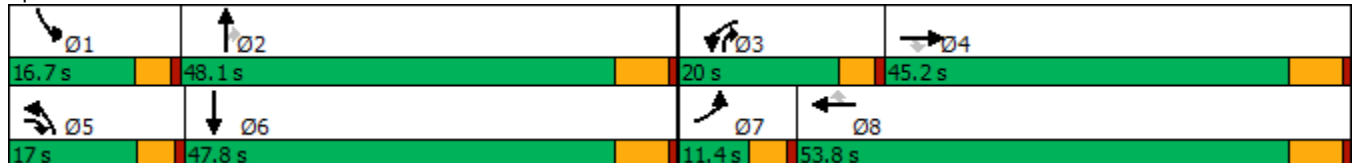


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑↔
Traffic Volume (vph)	132	1180	195	388	1701	246	334	856	692	275	467
Future Volume (vph)	132	1180	195	388	1701	246	334	856	692	275	467
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4	5	3	8		5	2	3	1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	5	3	8	8	5	2	3	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0
Minimum Split (s)	9.6	45.2	9.6	9.6	49.2	49.2	9.6	44.2	9.6	9.6	45.2
Total Split (s)	11.4	45.2	17.0	20.0	53.8	53.8	17.0	48.1	20.0	16.7	47.8
Total Split (%)	8.8%	34.8%	13.1%	15.4%	41.4%	41.4%	13.1%	37.0%	15.4%	12.8%	36.8%
Yellow Time (s)	3.6	5.2	3.6	3.6	5.2	5.2	3.6	5.2	3.6	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.2	6.2	4.6	6.2	4.6	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 113.5  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

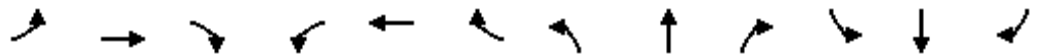


HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	132	1180	195	388	1701	246	334	856	692	275	467	227
Future Volume (veh/h)	132	1180	195	388	1701	246	334	856	692	275	467	227
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	143	1283	119	422	1849	201	363	930	566	299	508	247
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	171	2239	630	388	2060	582	312	1844	714	305	1221	517
Arrive On Green	0.05	0.29	0.29	0.12	0.36	0.36	0.10	0.32	0.32	0.09	0.32	0.32
Sat Flow, veh/h	3238	7600	1610	3238	5700	1610	3238	5700	1610	3238	3800	1609
Grp Volume(v), veh/h	143	1283	119	422	1849	201	363	930	566	299	508	247
Grp Sat Flow(s),veh/h/ln	1619	1900	1610	1619	1900	1610	1619	1900	1610	1619	1900	1609
Q Serve(g_s), s	5.6	18.4	6.2	15.4	39.4	11.7	12.4	17.0	38.8	11.9	13.5	15.8
Cycle Q Clear(g_c), s	5.6	18.4	6.2	15.4	39.4	11.7	12.4	17.0	38.8	11.9	13.5	15.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	2239	630	388	2060	582	312	1844	714	305	1221	517
V/C Ratio(X)	0.84	0.57	0.19	1.09	0.90	0.35	1.16	0.50	0.79	0.98	0.42	0.48
Avail Cap(c_a), veh/h	171	2305	644	388	2110	596	312	1857	717	305	1229	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.3	38.5	25.7	56.6	38.8	30.0	58.1	35.2	30.7	58.1	34.2	35.0
Incr Delay (d2), s/veh	27.2	0.3	0.1	71.5	5.5	0.4	102.6	0.2	6.1	46.2	0.2	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	8.2	2.3	9.9	18.4	4.4	9.4	7.6	15.3	6.7	6.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.5	38.8	25.9	128.1	44.3	30.3	160.7	35.4	36.8	104.3	34.4	35.7
LnGrp LOS	F	D	C	F	D	C	F	D	D	F	C	D
Approach Vol, veh/h		1545			2472			1859			1054	
Approach Delay, s/veh		42.3			57.5			60.3			54.5	
Approach LOS		D			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	47.8	20.0	44.1	17.0	47.5	11.4	52.7				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	12.1	41.9	15.4	39.0	12.4	41.6	6.8	47.6				
Max Q Clear Time (g_c+I1), s	13.9	40.8	17.4	20.4	14.4	17.8	7.6	41.4				
Green Ext Time (p_c), s	0.0	0.8	0.0	8.2	0.0	4.6	0.0	5.1				

Intersection Summary

HCM 6th Ctrl Delay	54.4
HCM 6th LOS	D

Timings  
1: Euclid Av. (SR-83) & SR-60 WB Ramps

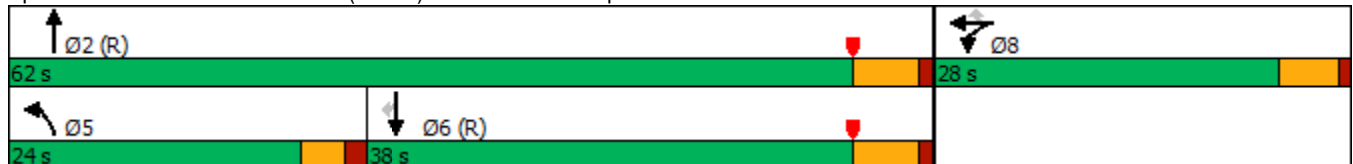


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	779	8	495	760	1353	1260	598
Future Volume (vph)	779	8	495	760	1353	1260	598
Turn Type	Split	NA	Perm	Prot	NA	NA	Perm
Protected Phases	8	8		5	2	6	
Permitted Phases			8				6
Detector Phase	8	8	8	5	2	6	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	5.0	10.0	10.0	10.0
Minimum Split (s)	11.0	11.0	11.0	9.5	22.5	22.5	22.5
Total Split (s)	28.0	28.0	28.0	24.0	62.0	38.0	38.0
Total Split (%)	31.1%	31.1%	31.1%	26.7%	68.9%	42.2%	42.2%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.5	4.5	4.5
All-Red Time (s)	1.0	1.0	1.0	1.5	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.5	5.5	5.5
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes		Yes	Yes
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 63 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated

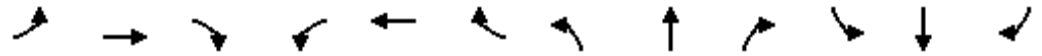
Splits and Phases: 1: Euclid Av. (SR-83) & SR-60 WB Ramps



HCM 6th Signalized Intersection Summary  
 1: Euclid Av. (SR-83) & SR-60 WB Ramps

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↖	↔	↗	↖↗	↕			↕	↖↗
Traffic Volume (veh/h)	0	0	0	779	8	495	760	1353	0	0	1260	598
Future Volume (veh/h)	0	0	0	779	8	495	760	1353	0	0	1260	598
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				918	0	226	792	1409	0	0	1312	418
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				925	0	411	761	2266	0	0	1304	581
Arrive On Green				0.26	0.00	0.26	0.43	1.00	0.00	0.00	0.36	0.36
Sat Flow, veh/h				3619	0	1608	3510	3705	0	0	3705	1610
Grp Volume(v), veh/h				918	0	226	792	1409	0	0	1312	418
Grp Sat Flow(s),veh/h/ln				1810	0	1608	1755	1805	0	0	1805	1610
Q Serve(g_s), s				22.8	0.0	11.0	19.5	0.0	0.0	0.0	32.5	20.2
Cycle Q Clear(g_c), s				22.8	0.0	11.0	19.5	0.0	0.0	0.0	32.5	20.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				925	0	411	761	2266	0	0	1304	581
V/C Ratio(X)				0.99	0.00	0.55	1.04	0.62	0.00	0.00	1.01	0.72
Avail Cap(c_a), veh/h				925	0	411	761	2266	0	0	1304	581
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.13	0.13	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.4	0.0	29.0	25.5	0.0	0.0	0.0	28.7	24.8
Incr Delay (d2), s/veh				27.7	0.0	0.9	24.5	0.2	0.0	0.0	26.5	7.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				12.8	0.0	4.1	7.9	0.1	0.0	0.0	17.7	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				61.1	0.0	29.9	50.0	0.2	0.0	0.0	55.2	32.3
LnGrp LOS				E	A	C	F	A	A	A	F	C
Approach Vol, veh/h					1144			2201			1730	
Approach Delay, s/veh					54.9			18.1			49.7	
Approach LOS					D			B			D	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		62.0			24.0	38.0		28.0				
Change Period (Y+Rc), s		5.5			4.5	5.5		5.0				
Max Green Setting (Gmax), s		56.5			19.5	32.5		23.0				
Max Q Clear Time (g_c+I1), s		2.0			21.5	34.5		24.8				
Green Ext Time (p_c), s		22.4			0.0	0.0		0.0				

Intersection Summary

HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.



Timings  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

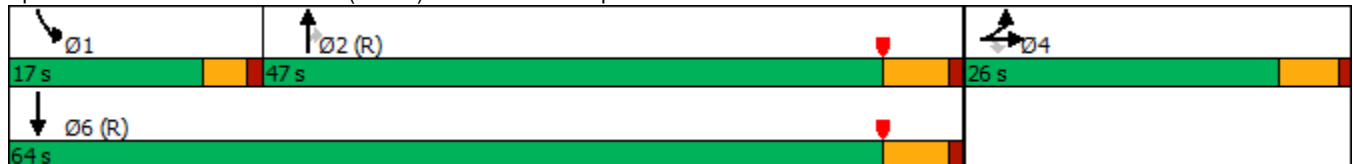


Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	505	4	587	1607	793	458	1582
Future Volume (vph)	505	4	587	1607	793	458	1582
Turn Type	Split	NA	Perm	NA	Perm	Prot	NA
Protected Phases	4	4		2		1	6
Permitted Phases			4		2		
Detector Phase	4	4	4	2	2	1	6
Switch Phase							
Minimum Initial (s)	6.0	6.0	6.0	10.0	10.0	5.0	10.0
Minimum Split (s)	11.0	11.0	11.0	22.5	22.5	9.0	22.5
Total Split (s)	26.0	26.0	26.0	47.0	47.0	17.0	64.0
Total Split (%)	28.9%	28.9%	28.9%	52.2%	52.2%	18.9%	71.1%
Yellow Time (s)	4.0	4.0	4.0	4.5	4.5	3.0	4.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.5	5.5	4.0	5.5
Lead/Lag				Lag	Lag	Lead	
Lead-Lag Optimize?				Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	C-Min	None	C-Min

Intersection Summary

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated

Splits and Phases: 2: Euclid Av. (SR-83) & SR-60 EB Ramps



HCM 6th Signalized Intersection Summary  
2: Euclid Av. (SR-83) & SR-60 EB Ramps

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	505	4	587	0	0	0	0	1607	793	458	1582	0
Future Volume (veh/h)	505	4	587	0	0	0	0	1607	793	458	1582	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	685	0	353				0	1640	615	467	1614	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	844	0	376				0	1665	732	507	2346	0
Arrive On Green	0.23	0.00	0.23				0.00	0.46	0.46	0.29	1.00	0.00
Sat Flow, veh/h	3619	0	1610				0	3705	1588	3510	3705	0
Grp Volume(v), veh/h	685	0	353				0	1640	615	467	1614	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1805	1588	1755	1805	0
Q Serve(g_s), s	16.1	0.0	19.4				0.0	40.4	30.7	11.6	0.0	0.0
Cycle Q Clear(g_c), s	16.1	0.0	19.4				0.0	40.4	30.7	11.6	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	844	0	376				0	1665	732	507	2347	0
V/C Ratio(X)	0.81	0.00	0.94				0.00	0.99	0.84	0.92	0.69	0.00
Avail Cap(c_a), veh/h	844	0	376				0	1665	732	507	2347	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.09	0.09	0.09	0.09	0.00
Uniform Delay (d), s/veh	32.6	0.0	33.9				0.0	23.9	21.3	31.5	0.0	0.0
Incr Delay (d2), s/veh	5.6	0.0	31.0				0.0	4.0	1.1	2.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	0.0	10.3				0.0	16.1	10.4	4.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.2	0.0	64.8				0.0	28.0	22.5	34.4	0.2	0.0
LnGrp LOS	D	A	E				A	C	C	C	A	A
Approach Vol, veh/h		1038						2255			2081	
Approach Delay, s/veh		47.3						26.5			7.8	
Approach LOS		D						C			A	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	17.0	47.0	26.0	64.0								
Change Period (Y+Rc), s	4.0	5.5	5.0	5.5								
Max Green Setting (Gmax), s	13.0	41.5	21.0	58.5								
Max Q Clear Time (g_c+I1), s	13.6	42.4	21.4	2.0								
Green Ext Time (p_c), s	0.0	0.0	0.0	28.5								

Intersection Summary

HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

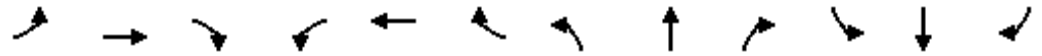
Notes

User approved volume balancing among the lanes for turning movement.

Timings

4: Euclid Av. (SR-83) & Riverside Dr.

08/24/2021

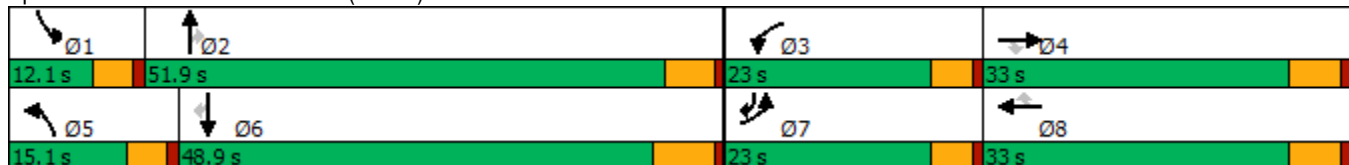


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘↗	↑↑↑	↗	↘↗	↑↑↑	↗
Traffic Volume (vph)	234	732	208	229	506	80	230	1864	295	173	1394	345
Future Volume (vph)	234	732	208	229	506	80	230	1864	295	173	1394	345
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	25.8	25.8	9.6	31.8	31.8	9.6	30.4	30.4	9.6	34.5	9.6
Total Split (s)	23.0	33.0	33.0	23.0	33.0	33.0	15.1	51.9	51.9	12.1	48.9	23.0
Total Split (%)	19.2%	27.5%	27.5%	19.2%	27.5%	27.5%	12.6%	43.3%	43.3%	10.1%	40.8%	19.2%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.4	4.4	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.4	5.4	4.6	6.5	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 119.3  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 4: Euclid Av. (SR-83) & Riverside Dr.



HCM 6th Signalized Intersection Summary  
4: Euclid Av. (SR-83) & Riverside Dr.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘↗	↑↑↑	↗	↘↗	↑↑↑	↗
Traffic Volume (veh/h)	234	732	208	229	506	80	230	1864	295	173	1394	345
Future Volume (veh/h)	234	732	208	229	506	80	230	1864	295	173	1394	345
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	244	762	192	239	527	67	240	1942	253	180	1452	268
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	261	810	361	261	810	361	272	1992	618	195	1864	816
Arrive On Green	0.15	0.22	0.22	0.15	0.22	0.22	0.09	0.38	0.38	0.06	0.36	0.36
Sat Flow, veh/h	1714	3610	1610	1714	3610	1608	3141	5187	1610	3141	5187	1590
Grp Volume(v), veh/h	244	762	192	239	527	67	240	1942	253	180	1452	268
Grp Sat Flow(s),veh/h/ln	1714	1805	1610	1714	1805	1608	1570	1729	1610	1570	1729	1590
Q Serve(g_s), s	17.0	25.1	12.7	16.6	16.1	4.1	9.1	44.6	13.9	6.9	30.2	12.0
Cycle Q Clear(g_c), s	17.0	25.1	12.7	16.6	16.1	4.1	9.1	44.6	13.9	6.9	30.2	12.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	261	810	361	261	810	361	272	1992	618	195	1864	816
V/C Ratio(X)	0.94	0.94	0.53	0.92	0.65	0.19	0.88	0.97	0.41	0.93	0.78	0.33
Avail Cap(c_a), veh/h	261	811	362	261	811	361	272	1992	618	195	1864	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	46.2	41.3	50.6	42.6	38.0	54.7	36.7	27.2	56.5	34.5	17.4
Incr Delay (d2), s/veh	38.4	18.7	1.5	34.0	1.8	0.2	25.8	15.0	2.0	43.2	3.3	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	13.0	5.1	9.4	7.2	1.6	4.4	20.1	5.5	3.9	12.8	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.2	64.9	42.8	84.6	44.5	38.2	80.5	51.7	29.2	99.7	37.8	18.5
LnGrp LOS	F	E	D	F	D	D	F	D	C	F	D	B
Approach Vol, veh/h		1198			833			2435			1900	
Approach Delay, s/veh		66.3			55.5			52.2			40.9	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	53.0	23.0	33.0	15.1	50.0	23.0	33.0				
Change Period (Y+Rc), s	4.6	* 6.5	4.6	5.8	4.6	6.5	4.6	5.8				
Max Green Setting (Gmax), s	7.5	* 47	18.4	27.2	10.5	42.4	18.4	27.2				
Max Q Clear Time (g_c+I1), s	8.9	46.6	18.6	27.1	11.1	32.2	19.0	18.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	7.0	0.0	2.3				

Intersection Summary

HCM 6th Ctrl Delay	51.9
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

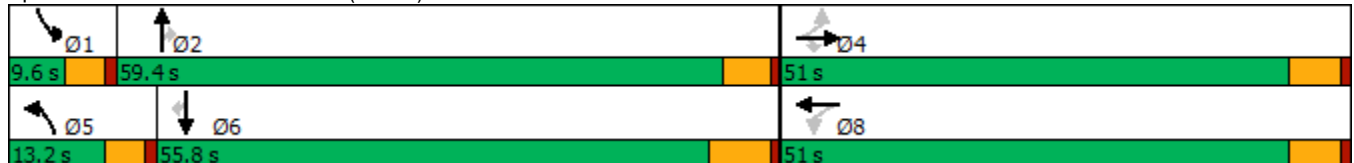


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	134	498	72	137	230	79	2188	278	39	1579	87
Future Volume (vph)	134	498	72	137	230	79	2188	278	39	1579	87
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8				2			6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	28.8	28.8	28.8	33.8	33.8	9.6	24.2	24.2	9.6	31.5	31.5
Total Split (s)	51.0	51.0	51.0	51.0	51.0	13.2	59.4	59.4	9.6	55.8	55.8
Total Split (%)	42.5%	42.5%	42.5%	42.5%	42.5%	11.0%	49.5%	49.5%	8.0%	46.5%	46.5%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	3.6	4.2	4.2	3.6	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8	5.8	4.6	5.2	5.2	4.6	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 119.5  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 5: Euclid Av. (SR-83) & Chino Av.



HCM 6th Signalized Intersection Summary  
 5: Euclid Av. (SR-83) & Chino Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	498	72	137	230	20	79	2188	278	39	1579	87
Future Volume (veh/h)	134	498	72	137	230	20	79	2188	278	39	1579	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	144	535	54	147	247	18	85	2353	228	42	1698	61
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	370	715	606	171	659	48	106	2341	712	54	2184	664
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.06	0.45	0.45	0.03	0.42	0.42
Sat Flow, veh/h	1132	1900	1610	840	1750	127	1714	5187	1577	1714	5187	1577
Grp Volume(v), veh/h	144	535	54	147	0	265	85	2353	228	42	1698	61
Grp Sat Flow(s),veh/h/ln	1132	1900	1610	840	0	1877	1714	1729	1577	1714	1729	1577
Q Serve(g_s), s	12.7	29.3	2.6	15.9	0.0	12.3	5.9	54.2	11.1	2.9	33.8	2.8
Cycle Q Clear(g_c), s	25.0	29.3	2.6	45.2	0.0	12.3	5.9	54.2	11.1	2.9	33.8	2.8
Prop In Lane	1.00		1.00	1.00		0.07	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	370	715	606	171	0	707	106	2341	712	54	2184	664
V/C Ratio(X)	0.39	0.75	0.09	0.86	0.00	0.38	0.80	1.00	0.32	0.78	0.78	0.09
Avail Cap(c_a), veh/h	370	715	606	171	0	707	123	2341	712	71	2184	664
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.3	32.5	24.2	54.0	0.0	27.2	55.6	32.9	21.1	57.7	29.9	20.9
Incr Delay (d2), s/veh	0.7	4.4	0.1	33.1	0.0	0.3	23.7	19.8	1.2	23.4	2.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	13.7	1.0	5.9	0.0	5.4	3.1	24.6	4.0	1.6	13.4	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.9	36.8	24.2	87.1	0.0	27.5	79.3	52.7	22.3	81.1	32.7	21.2
LnGrp LOS	D	D	C	F	A	C	E	F	C	F	C	C
Approach Vol, veh/h		733			412			2666			1801	
Approach Delay, s/veh		35.9			48.8			51.0			33.5	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	60.7		51.0	12.0	57.0		51.0				
Change Period (Y+Rc), s	4.6	* 6.5		5.8	4.6	6.5		5.8				
Max Green Setting (Gmax), s	5.0	* 54		45.2	8.6	49.3		45.2				
Max Q Clear Time (g_c+I1), s	4.9	56.2		31.3	7.9	35.8		47.2				
Green Ext Time (p_c), s	0.0	0.0		3.3	0.0	8.7		0.0				

Intersection Summary

HCM 6th Ctrl Delay	43.2
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

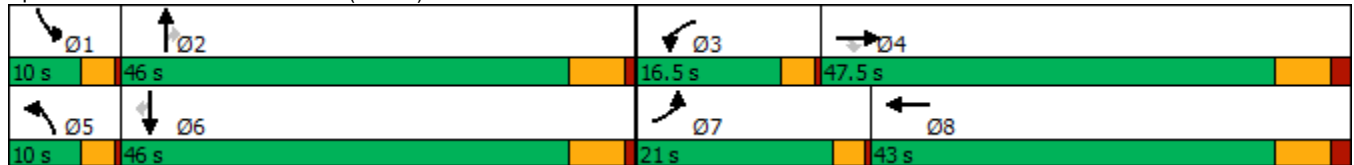


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑	↔	↔	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	487	463	267	95	158	250	2125	100	203	1609	455
Future Volume (vph)	487	463	267	95	158	250	2125	100	203	1609	455
Turn Type	Prot	NA	Perm	Prot	NA	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8	5	2		1	6	
Permitted Phases			4					2			6
Detector Phase	7	4	4	3	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	5.0	5.0	5.0	10.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	8.5	42.0	42.0	13.5	43.0	8.5	33.0	33.0	8.5	28.0	28.0
Total Split (s)	21.0	47.5	47.5	16.5	43.0	10.0	46.0	46.0	10.0	46.0	46.0
Total Split (%)	17.5%	39.6%	39.6%	13.8%	35.8%	8.3%	38.3%	38.3%	8.3%	38.3%	38.3%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	0.5	2.0	2.0	0.5	2.0	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.5	7.0	7.0	3.5	7.0	3.5	6.0	6.0	3.5	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 108.9  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated































Splits and Phases: 6: Euclid Av. (SR-83) & Schaefer Av.



HCM 6th Signalized Intersection Summary  
6: Euclid Av. (SR-83) & Schaefer Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 						 	  		 	  	
Traffic Volume (veh/h)	487	463	267	95	158	75	250	2125	100	203	1609	455
Future Volume (veh/h)	487	463	267	95	158	75	250	2125	100	203	1609	455
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1800	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	492	468	229	96	160	71	253	2146	83	205	1625	430
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	523	527	447	153	250	111	194	2171	613	194	2171	613
Arrive On Green	0.17	0.28	0.28	0.09	0.20	0.20	0.06	0.38	0.38	0.06	0.38	0.38
Sat Flow, veh/h	3141	1900	1610	1714	1247	553	3141	5700	1610	3141	5700	1610
Grp Volume(v), veh/h	492	468	229	96	0	231	253	2146	83	205	1625	430
Grp Sat Flow(s),veh/h/ln	1570	1900	1610	1714	0	1800	1570	1900	1610	1570	1900	1610
Q Serve(g_s), s	16.3	24.8	12.6	5.7	0.0	12.4	6.5	39.3	3.5	6.5	25.9	23.7
Cycle Q Clear(g_c), s	16.3	24.8	12.6	5.7	0.0	12.4	6.5	39.3	3.5	6.5	25.9	23.7
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	523	527	447	153	0	360	194	2171	613	194	2171	613
V/C Ratio(X)	0.94	0.89	0.51	0.63	0.00	0.64	1.30	0.99	0.14	1.05	0.75	0.70
Avail Cap(c_a), veh/h	523	733	621	212	0	617	194	2171	613	194	2171	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.2	36.4	32.0	46.1	0.0	38.5	49.3	32.3	21.2	49.3	28.2	27.5
Incr Delay (d2), s/veh	24.9	9.0	0.7	1.6	0.0	1.4	167.9	16.6	0.1	79.7	1.5	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	12.2	4.8	2.4	0.0	5.4	7.0	19.5	1.3	4.6	10.9	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.2	45.4	32.6	47.7	0.0	40.0	217.2	48.9	21.3	128.9	29.6	31.0
LnGrp LOS	E	D	C	D	A	D	F	D	C	F	C	C
Approach Vol, veh/h		1189			327			2482			2260	
Approach Delay, s/veh		52.4			42.2			65.1			38.9	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	46.0	12.9	36.1	10.0	46.0	21.0	28.0				
Change Period (Y+Rc), s	3.5	6.0	3.5	7.0	3.5	6.0	3.5	7.0				
Max Green Setting (Gmax), s	6.5	40.0	13.0	40.5	6.5	40.0	17.5	36.0				
Max Q Clear Time (g_c+1), s	8.5	41.3	7.7	26.8	8.5	27.9	18.3	14.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.3	0.0	8.5	0.0	0.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			52.0									
HCM 6th LOS			D									



Timings

7: Euclid Av. (SR-83) & Edison Av.

08/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗
Traffic Volume (vph)	334	1266	387	472	835	404	253	1922	350	221	1659	220
Future Volume (vph)	334	1266	387	472	835	404	253	1922	350	221	1659	220
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	1	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.0	42.0	42.0	9.0	42.0	8.5	8.5	29.0	29.0	8.5	40.0	9.0
Total Split (s)	18.2	42.0	42.0	19.2	43.0	11.8	14.0	47.0	47.0	11.8	44.8	18.2
Total Split (%)	15.2%	35.0%	35.0%	16.0%	35.8%	9.8%	11.7%	39.2%	39.2%	9.8%	37.3%	15.2%
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	3.0	3.0	5.0	5.0	3.0	5.0	3.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	0.5	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	7.0	7.0	4.0	7.0	3.5	3.5	6.0	6.0	3.5	6.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 119.4  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated


































Splits and Phases: 7: Euclid Av. (SR-83) & Edison Av.

11.8 s	47 s	19.2 s	42 s
14 s	44.8 s	18.2 s	43 s

HCM 6th Signalized Intersection Summary  
 7: Euclid Av. (SR-83) & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	 		 	  		 	 	
Traffic Volume (veh/h)	334	1266	387	472	835	404	253	1922	350	221	1659	220
Future Volume (veh/h)	334	1266	387	472	835	404	253	1922	350	221	1659	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	352	1333	325	497	879	419	266	2023	360	233	1746	200
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	390	1588	449	418	1091	570	289	1983	559	228	1877	724
Arrive On Green	0.12	0.28	0.28	0.13	0.29	0.29	0.09	0.52	0.35	0.07	0.49	0.33
Sat Flow, veh/h	3238	5700	1610	3238	3800	1590	3238	5700	1607	3238	5700	1610
Grp Volume(v), veh/h	352	1333	325	497	879	419	266	2023	360	233	1746	200
Grp Sat Flow(s),veh/h/ln	1619	1900	1610	1619	1900	1590	1619	1900	1607	1619	1900	1610
Q Serve(g_s), s	12.6	25.9	21.5	15.2	25.3	27.1	9.6	41.0	22.2	8.3	33.8	9.2
Cycle Q Clear(g_c), s	12.6	25.9	21.5	15.2	25.3	27.1	9.6	41.0	22.2	8.3	33.8	9.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	390	1588	449	418	1091	570	289	1983	559	228	1877	724
V/C Ratio(X)	0.90	0.84	0.72	1.19	0.81	0.74	0.92	1.02	0.64	1.02	0.93	0.28
Avail Cap(c_a), veh/h	390	1693	478	418	1161	599	289	1983	559	228	1877	724
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	1.00	1.00	1.50	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	40.0	38.4	51.3	38.9	33.0	53.3	28.2	32.3	54.8	28.6	20.4
Incr Delay (d2), s/veh	22.9	3.7	5.0	107.0	4.0	4.5	32.7	25.4	2.5	65.3	8.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	12.2	8.8	12.2	11.9	10.6	5.0	18.0	8.6	5.3	12.9	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.1	43.8	43.4	158.3	43.0	37.5	85.9	53.6	34.8	120.1	37.4	20.6
LnGrp LOS	E	D	D	F	D	D	F	F	C	F	D	C
Approach Vol, veh/h		2010			1795			2649			2179	
Approach Delay, s/veh		49.0			73.6			54.3			44.7	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	47.0	19.2	39.8	14.0	44.8	18.2	40.8				
Change Period (Y+Rc), s	3.5	6.0	4.0	7.0	3.5	6.0	4.0	7.0				
Max Green Setting (Gmax), s	8.3	41.0	15.2	35.0	10.5	38.8	14.2	36.0				
Max Q Clear Time (g_c+I1), s	10.3	43.0	17.2	27.9	11.6	35.8	14.6	29.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	4.9	0.0	2.5	0.0	3.8				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			54.7									
HCM 6th LOS			D									

Timings  
8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖↗	↑	↗	↖	↑↑↑	↗	↖	↑↑↑	↗
Traffic Volume (vph)	51	205	266	413	168	314	148	1941	383	286	1869	80
Future Volume (vph)	51	205	266	413	168	314	148	1941	383	286	1869	80
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	46.8	46.8	46.8	46.8	46.8	46.8	8.5	30.7	30.7	8.5	37.7	37.7
Total Split (s)	46.8	46.8	46.8	46.8	46.8	46.8	15.8	53.2	53.2	20.0	57.4	57.4
Total Split (%)	39.0%	39.0%	39.0%	39.0%	39.0%	39.0%	13.2%	44.3%	44.3%	16.7%	47.8%	47.8%
Yellow Time (s)	4.3	4.3	4.3	4.3	4.3	4.3	3.0	4.7	4.7	3.0	4.7	4.7
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0	0.5	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	3.5	5.7	5.7	3.5	5.7	5.7
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	Min	None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 111.8  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 8: Euclid Av. (SR-83) & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
 8: Euclid Av. (SR-83) & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘↗	↑	↗	↘	↑↑↑	↗	↘	↑↑↑	↗
Traffic Volume (veh/h)	51	205	266	413	168	314	148	1941	383	286	1869	80
Future Volume (veh/h)	51	205	266	413	168	314	148	1941	383	286	1869	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	55	223	177	449	183	338	161	2110	415	311	2032	75
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	309	660	559	598	660	559	176	2062	640	237	2244	682
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.10	0.40	0.40	0.14	0.43	0.43
Sat Flow, veh/h	895	1900	1610	1833	1900	1610	1714	5187	1610	1714	5187	1577
Grp Volume(v), veh/h	55	223	177	449	183	338	161	2110	415	311	2032	75
Grp Sat Flow(s),veh/h/ln	895	1900	1610	916	1900	1610	1714	1729	1610	1714	1729	1577
Q Serve(g_s), s	5.7	10.4	9.6	28.7	8.3	20.7	11.1	47.5	25.0	16.5	43.7	3.4
Cycle Q Clear(g_c), s	14.0	10.4	9.6	39.0	8.3	20.7	11.1	47.5	25.0	16.5	43.7	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	309	660	559	598	660	559	176	2062	640	237	2244	682
V/C Ratio(X)	0.18	0.34	0.32	0.75	0.28	0.60	0.91	1.02	0.65	1.31	0.91	0.11
Avail Cap(c_a), veh/h	312	668	566	606	668	566	176	2062	640	237	2244	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	28.8	28.6	43.3	28.2	32.2	53.1	36.0	29.2	51.5	31.6	20.2
Incr Delay (d2), s/veh	0.2	0.2	0.2	4.9	0.2	1.6	43.2	26.0	2.3	168.0	5.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.7	3.6	6.6	3.7	8.0	6.7	23.2	9.4	17.8	17.7	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.4	29.1	28.8	48.2	28.3	33.8	96.3	62.0	31.5	219.6	37.4	20.3
LnGrp LOS	C	C	C	D	C	C	F	F	C	F	D	C
Approach Vol, veh/h		455			970			2686			2418	
Approach Delay, s/veh		29.5			39.4			59.4			60.3	
Approach LOS		C			D			E			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.0	53.2		46.3	15.8	57.4		46.3				
Change Period (Y+Rc), s	3.5	5.7		4.8	3.5	5.7		4.8				
Max Green Setting (Gmax), s	16.5	47.5		42.0	12.3	51.7		42.0				
Max Q Clear Time (g_c+1), s	18.5	49.5		16.0	13.1	45.7		41.0				
Green Ext Time (p_c), s	0.0	0.0		1.6	0.0	5.1		0.5				

Intersection Summary

HCM 6th Ctrl Delay	54.7
HCM 6th LOS	D

Timings  
9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

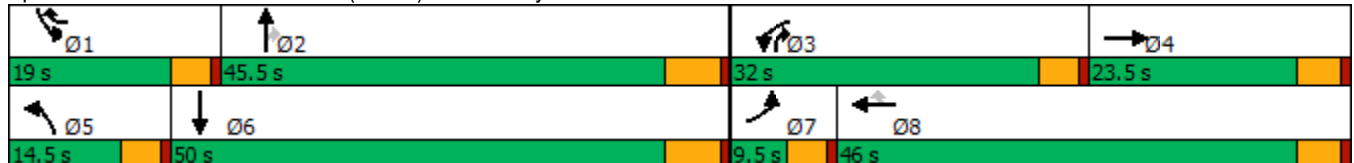


Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	14	37	798	3	525	5	1903	866	425	2122
Future Volume (vph)	14	37	798	3	525	5	1903	866	425	2122
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4	3	8	1	5	2	3	1	6
Permitted Phases					8			2		
Detector Phase	7	4	3	8	1	5	2	3	1	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	15.0	10.0	10.0	5.0	5.0	10.0	5.0
Minimum Split (s)	9.5	10.0	9.5	46.0	14.5	14.5	28.0	9.5	14.5	28.0
Total Split (s)	9.5	23.5	32.0	46.0	19.0	14.5	45.5	32.0	19.0	50.0
Total Split (%)	7.9%	19.6%	26.7%	38.3%	15.8%	12.1%	37.9%	26.7%	15.8%	41.7%
Yellow Time (s)	3.5	4.0	3.5	4.0	3.5	3.5	5.0	3.5	3.5	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.0	4.5	5.0	4.5	4.5	6.0	4.5	4.5	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 108.3  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.



HCM 6th Signalized Intersection Summary  
 9: Euclid Av. (SR-83) & E. Facility Dr./Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

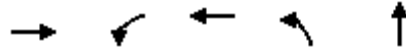


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖	↑↑↑	↖	↖↗	↑↑↗	
Traffic Volume (veh/h)	14	37	15	798	3	525	5	1903	866	425	2122	1
Future Volume (veh/h)	14	37	15	798	3	525	5	1903	866	425	2122	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1700	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	15	40	15	867	3	561	5	2068	877	462	2307	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	29	116	44	800	605	723	22	2022	969	422	2691	0
Arrive On Green	0.02	0.09	0.09	0.25	0.32	0.32	0.01	0.35	0.35	0.13	0.47	0.00
Sat Flow, veh/h	1714	1317	494	3238	1900	1610	1714	5700	1610	3238	5700	0
Grp Volume(v), veh/h	15	0	55	867	3	561	5	2068	877	462	2307	0
Grp Sat Flow(s),veh/h/ln	1714	0	1811	1619	1900	1610	1714	1900	1610	1619	1900	0
Q Serve(g_s), s	1.0	0.0	3.2	27.5	0.1	32.8	0.3	39.5	39.5	14.5	40.0	0.0
Cycle Q Clear(g_c), s	1.0	0.0	3.2	27.5	0.1	32.8	0.3	39.5	39.5	14.5	40.0	0.0
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	29	0	160	800	605	723	22	2022	969	422	2691	0
V/C Ratio(X)	0.52	0.00	0.34	1.08	0.00	0.78	0.23	1.02	0.91	1.10	0.86	0.00
Avail Cap(c_a), veh/h	77	0	301	800	700	803	154	2022	969	422	2691	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.3	0.0	47.7	41.9	25.9	25.9	54.4	35.9	19.4	48.4	26.1	0.0
Incr Delay (d2), s/veh	14.1	0.0	0.5	57.0	0.0	3.7	1.9	26.0	11.8	72.1	3.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.5	16.7	0.1	12.2	0.1	21.5	19.6	9.8	16.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.4	0.0	48.2	99.0	25.9	29.7	56.3	61.9	31.2	120.6	29.0	0.0
LnGrp LOS	E	A	D	F	C	C	E	F	C	F	C	A
Approach Vol, veh/h		70			1431			2950			2769	
Approach Delay, s/veh		52.5			71.6			52.7			44.3	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.0	45.5	32.0	14.8	5.9	58.6	6.4	40.5				
Change Period (Y+Rc), s	4.5	6.0	4.5	5.0	4.5	6.0	4.5	5.0				
Max Green Setting (Gmax), s	14.5	39.5	27.5	18.5	10.0	44.0	5.0	41.0				
Max Q Clear Time (g_c+I1), s	16.5	41.5	29.5	5.2	2.3	42.0	3.0	34.8				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	1.9	0.0	0.7				

Intersection Summary

HCM 6th Ctrl Delay	53.2
HCM 6th LOS	D

Timings  
10: Sultana Av. & Eucalyptus Av.

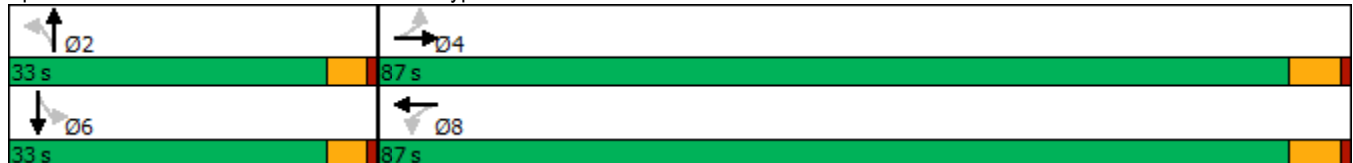


Lane Group	EBT	WBL	WBT	NBL	NBT	Ø6
Lane Configurations	↑↑	↑	↑	↑	↑	
Traffic Volume (vph)	774	40	568	90	0	
Future Volume (vph)	774	40	568	90	0	
Turn Type	NA	Perm	NA	Perm	NA	
Protected Phases	4		8		2	6
Permitted Phases		8		2		
Detector Phase	4	8	8	2	2	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.8	22.8	22.8	21.6	21.6	21.6
Total Split (s)	87.0	87.0	87.0	33.0	33.0	33.0
Total Split (%)	72.5%	72.5%	72.5%	27.5%	27.5%	28%
Yellow Time (s)	4.8	4.8	4.8	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	4.6	4.6	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	None	Min	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 36.9  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 10: Sultana Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
 10: Sultana Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷			↷	
Traffic Volume (veh/h)	0	774	53	40	568	0	90	0	66	0	0	0
Future Volume (veh/h)	0	774	53	40	568	0	90	0	66	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	0	841	58	43	617	0	98	0	72	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	261	1549	107	419	838	0	573	0	292	0	345	0
Arrive On Green	0.00	0.44	0.44	0.44	0.44	0.00	0.18	0.00	0.18	0.00	0.00	0.00
Sat Flow, veh/h	776	3514	242	596	1900	0	1714	0	1610	0	1900	0
Grp Volume(v), veh/h	0	455	444	43	617	0	98	0	72	0	0	0
Grp Sat Flow(s),veh/h/ln	776	1900	1856	596	1900	0	1714	0	1610	0	1900	0
Q Serve(g_s), s	0.0	4.8	4.8	1.6	7.4	0.0	1.4	0.0	1.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	4.8	4.8	6.4	7.4	0.0	1.4	0.0	1.1	0.0	0.0	0.0
Prop In Lane	1.00		0.13	1.00		0.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	261	838	818	419	838	0	573	0	292	0	345	0
V/C Ratio(X)	0.00	0.54	0.54	0.10	0.74	0.00	0.17	0.00	0.25	0.00	0.00	0.00
Avail Cap(c_a), veh/h	2206	5601	5473	1914	5601	0	2029	0	1660	0	1959	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	5.7	5.7	8.0	6.4	0.0	9.8	0.0	9.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.5	0.0	0.1	0.0	0.2	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.5	0.1	0.8	0.0	0.4	0.0	0.3	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	5.9	5.9	8.1	6.9	0.0	9.8	0.0	9.8	0.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		899			660			170				0
Approach Delay, s/veh		5.9			6.9			9.8				0.0
Approach LOS		A			A			A				
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.6		17.9		9.6		17.9				
Change Period (Y+Rc), s		4.6		5.8		4.6		5.8				
Max Green Setting (Gmax), s		28.4		81.2		28.4		81.2				
Max Q Clear Time (g_c+I1), s		3.4		6.8		0.0		9.4				
Green Ext Time (p_c), s		0.4		3.4		0.0		2.7				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				6.7								
HCM 6th LOS				A								



Timings  
18: Merrill Av. & Sultana Av.

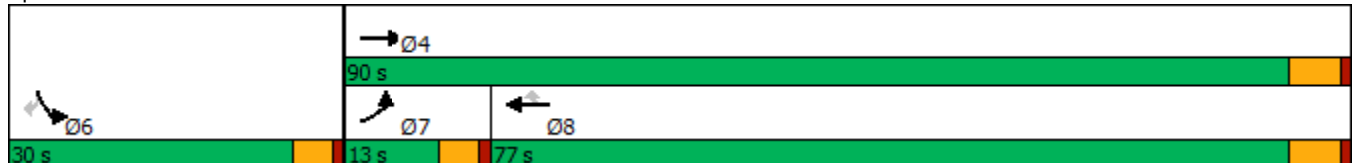


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖↖	↖	↘	↘
Traffic Volume (vph)	22	1261	1213	22	113	87
Future Volume (vph)	22	1261	1213	22	113	87
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.8	22.8	22.8	21.6	21.6
Total Split (s)	13.0	90.0	77.0	77.0	30.0	30.0
Total Split (%)	10.8%	75.0%	64.2%	64.2%	25.0%	25.0%
Yellow Time (s)	3.6	4.8	4.8	4.8	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	5.8	4.6	4.6
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 46.6  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 18: Merrill Av. & Sultana Av.



HCM 6th Signalized Intersection Summary  
 18: Merrill Av. & Sultana Av.

Ontario Ranch Business Park (JN 13941)  
 08/24/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↗	↑↑	↑↑	↗	↗	↗	
Traffic Volume (veh/h)	22	1261	1213	22	113	87	
Future Volume (veh/h)	22	1261	1213	22	113	87	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1800	1900	
Adj Flow Rate, veh/h	23	1327	1277	23	119	92	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	51	2347	1806	765	213	200	
Arrive On Green	0.03	0.62	0.48	0.48	0.12	0.12	
Sat Flow, veh/h	1810	3800	3800	1610	1714	1610	
Grp Volume(v), veh/h	23	1327	1277	23	119	92	
Grp Sat Flow(s),veh/h/ln	1810	1900	1900	1610	1714	1610	
Q Serve(g_s), s	0.5	8.3	10.7	0.3	2.6	2.1	
Cycle Q Clear(g_c), s	0.5	8.3	10.7	0.3	2.6	2.1	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	51	2347	1806	765	213	200	
V/C Ratio(X)	0.45	0.57	0.71	0.03	0.56	0.46	
Avail Cap(c_a), veh/h	377	7945	6719	2847	1081	1016	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	19.3	4.5	8.4	5.6	16.6	16.4	
Incr Delay (d2), s/veh	2.3	0.1	0.2	0.0	0.9	0.6	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.2	0.5	2.1	0.0	1.0	2.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	21.6	4.6	8.5	5.6	17.5	17.0	
LnGrp LOS	C	A	A	A	B	B	
Approach Vol, veh/h		1350	1300		211		
Approach Delay, s/veh		4.9	8.5		17.3		
Approach LOS		A	A		B		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				30.7	9.6	5.7	24.9
Change Period (Y+Rc), s				5.8	4.6	4.6	5.8
Max Green Setting (Gmax), s				84.2	25.4	8.4	71.2
Max Q Clear Time (g_c+11), s				10.3	4.6	2.5	12.7
Green Ext Time (p_c), s				6.8	0.3	0.0	6.4
<b>Intersection Summary</b>							
HCM 6th Ctrl Delay			7.4				
HCM 6th LOS			A				

Timings  
23: Campus Av. & Eucalyptus Av.

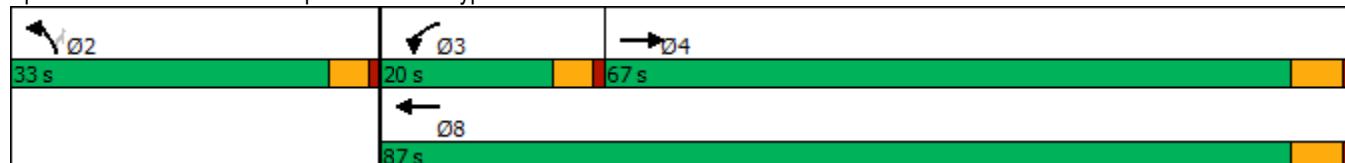


Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↖	↑↑	↖	↗
Traffic Volume (vph)	781	41	524	53	83
Future Volume (vph)	781	41	524	53	83
Turn Type	NA	Prot	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases					2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.8	9.6	22.8	21.6	21.6
Total Split (s)	67.0	20.0	87.0	33.0	33.0
Total Split (%)	55.8%	16.7%	72.5%	27.5%	27.5%
Yellow Time (s)	4.8	3.6	4.8	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	4.6	5.8	4.6	4.6
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	None	None	None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 39.7  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 23: Campus Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
23: Campus Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)  
08/24/2021



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (veh/h)	781	18	41	524	53	83
Future Volume (veh/h)	781	18	41	524	53	83
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1800	1900	1800	1900
Adj Flow Rate, veh/h	849	20	45	570	58	90
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1275	30	87	1956	255	240
Arrive On Green	0.35	0.35	0.05	0.54	0.15	0.15
Sat Flow, veh/h	3700	85	1714	3705	1714	1610
Grp Volume(v), veh/h	425	444	45	570	58	90
Grp Sat Flow(s),veh/h/ln	1805	1885	1714	1805	1714	1610
Q Serve(g_s), s	6.7	6.7	0.9	2.9	1.0	1.7
Cycle Q Clear(g_c), s	6.7	6.7	0.9	2.9	1.0	1.7
Prop In Lane		0.05	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	639	667	87	1956	255	240
V/C Ratio(X)	0.67	0.67	0.51	0.29	0.23	0.38
Avail Cap(c_a), veh/h	3287	3433	786	8723	1449	1361
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.2	9.2	15.5	4.2	12.6	12.9
Incr Delay (d2), s/veh	0.4	0.4	1.7	0.0	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.5	0.3	0.3	0.3	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.6	9.6	17.3	4.2	12.8	13.3
LnGrp LOS	A	A	B	A	B	B
Approach Vol, veh/h	869			615	148	
Approach Delay, s/veh	9.6			5.2	13.1	
Approach LOS	A			A	B	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		9.6	6.3	17.7		24.0
Change Period (Y+Rc), s		4.6	4.6	5.8		5.8
Max Green Setting (Gmax), s		28.4	15.4	61.2		81.2
Max Q Clear Time (g_c+I1), s		3.7	2.9	8.7		4.9
Green Ext Time (p_c), s		0.2	0.0	3.2		2.3
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			8.3			
HCM 6th LOS			A			

Timings  
31: Merrill Av. & Campus Av.

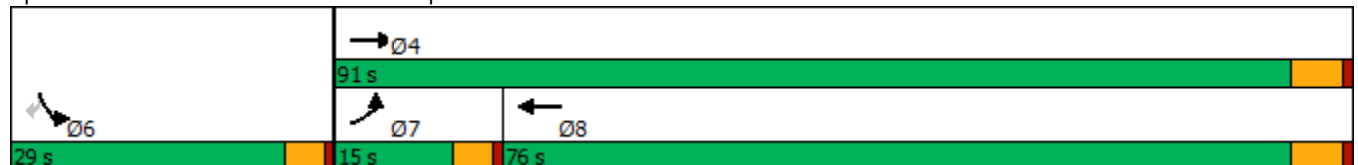


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↖	↗↗	↗↖	↖	↗
Traffic Volume (vph)	33	1256	1103	77	99
Future Volume (vph)	33	1256	1103	77	99
Turn Type	Prot	NA	NA	Prot	Perm
Protected Phases	7	4	8	6	
Permitted Phases					6
Detector Phase	7	4	8	6	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	22.8	22.8	21.6	21.6
Total Split (s)	15.0	91.0	76.0	29.0	29.0
Total Split (%)	12.5%	75.8%	63.3%	24.2%	24.2%
Yellow Time (s)	3.6	4.8	4.8	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	4.6
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	None	None	Min	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 48.7  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 31: Merrill Av. & Campus Av.



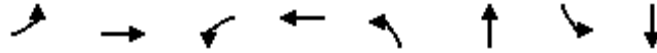
HCM 6th Signalized Intersection Summary  
 31: Merrill Av. & Campus Av.

Ontario Ranch Business Park (JN 13941)  
 08/24/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↖	↗↗	↖↗		↘	↘	
Traffic Volume (veh/h)	33	1256	1103	18	77	99	
Future Volume (veh/h)	33	1256	1103	18	77	99	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	36	1365	1199	20	84	108	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	71	2188	1625	27	231	206	
Arrive On Green	0.04	0.61	0.45	0.45	0.13	0.13	
Sat Flow, veh/h	1714	3705	3728	61	1810	1610	
Grp Volume(v), veh/h	36	1365	596	623	84	108	
Grp Sat Flow(s),veh/h/ln	1714	1805	1805	1889	1810	1610	
Q Serve(g_s), s	0.8	9.4	10.6	10.6	1.7	2.5	
Cycle Q Clear(g_c), s	0.8	9.4	10.6	10.6	1.7	2.5	
Prop In Lane	1.00			0.03	1.00	1.00	
Lane Grp Cap(c), veh/h	71	2188	807	845	231	206	
V/C Ratio(X)	0.51	0.62	0.74	0.74	0.36	0.52	
Avail Cap(c_a), veh/h	456	7866	3241	3392	1129	1005	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	18.4	4.9	8.9	8.9	15.6	15.9	
Incr Delay (d2), s/veh	2.1	0.1	0.5	0.5	0.4	0.8	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.3	0.6	2.1	2.2	0.6	0.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	20.4	5.0	9.4	9.4	15.9	16.7	
LnGrp LOS	C	A	A	A	B	B	
Approach Vol, veh/h		1401	1219		192		
Approach Delay, s/veh		5.4	9.4		16.4		
Approach LOS		A	A		B		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				29.5	9.6	6.2	23.3
Change Period (Y+Rc), s				5.8	4.6	4.6	5.8
Max Green Setting (Gmax), s				85.2	24.4	10.4	70.2
Max Q Clear Time (g_c+11), s				11.4	4.5	2.8	12.6
Green Ext Time (p_c), s				7.1	0.3	0.0	4.8
<b>Intersection Summary</b>							
HCM 6th Ctrl Delay			7.9				
HCM 6th LOS			A				

Timings  
32: Bon View Av. & Eucalyptus Av.

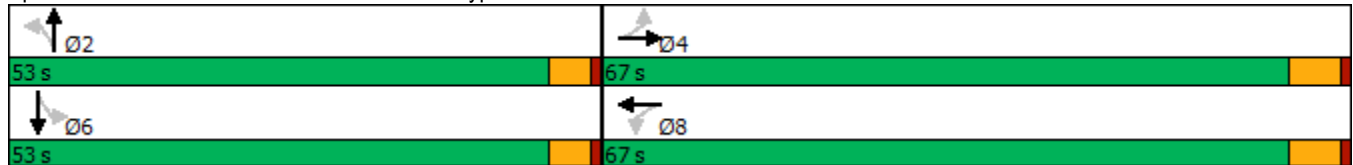


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↕	↖	↕		↕		↕
Traffic Volume (vph)	113	777	74	487	7	111	110	84
Future Volume (vph)	113	777	74	487	7	111	110	84
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	22.8	22.8	22.8	22.8	21.7	21.7	21.7	21.7
Total Split (s)	67.0	67.0	67.0	67.0	53.0	53.0	53.0	53.0
Total Split (%)	55.8%	55.8%	55.8%	55.8%	44.2%	44.2%	44.2%	44.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8		4.7		4.7
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 79.7  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 32: Bon View Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
32: Bon View Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	777	8	74	487	122	7	111	171	110	84	66
Future Volume (veh/h)	113	777	8	74	487	122	7	111	171	110	84	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	123	845	9	80	529	133	8	121	186	120	91	72
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	375	1992	21	420	798	201	74	176	259	228	149	95
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	829	3659	39	693	1465	368	15	689	1015	510	584	373
Grp Volume(v), veh/h	123	417	437	80	0	662	315	0	0	283	0	0
Grp Sat Flow(s),veh/h/ln	829	1805	1893	693	0	1834	1719	0	0	1467	0	0
Q Serve(g_s), s	6.5	7.2	7.2	4.0	0.0	13.5	0.0	0.0	0.0	0.5	0.0	0.0
Cycle Q Clear(g_c), s	20.0	7.2	7.2	11.2	0.0	13.5	8.8	0.0	0.0	9.2	0.0	0.0
Prop In Lane	1.00		0.02	1.00		0.20	0.03		0.59	0.42		0.25
Lane Grp Cap(c), veh/h	375	983	1030	420	0	998	509	0	0	472	0	0
V/C Ratio(X)	0.33	0.42	0.42	0.19	0.00	0.66	0.62	0.00	0.00	0.60	0.00	0.00
Avail Cap(c_a), veh/h	893	2110	2213	853	0	2143	1644	0	0	1431	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.6	7.1	7.1	10.4	0.0	8.5	17.8	0.0	0.0	17.8	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.3	0.3	0.2	0.0	0.8	1.2	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.7	1.8	0.5	0.0	3.4	3.2	0.0	0.0	2.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	7.4	7.3	10.6	0.0	9.3	19.0	0.0	0.0	19.0	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		977			742			315			283	
Approach Delay, s/veh		8.5			9.4			19.0			19.0	
Approach LOS		A			A			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		18.1		34.3		18.1		34.3				
Change Period (Y+Rc), s		* 4.7		5.8		* 4.7		5.8				
Max Green Setting (Gmax), s		* 48		61.2		* 48		61.2				
Max Q Clear Time (g_c+I1), s		10.8		22.0		11.2		15.5				
Green Ext Time (p_c), s		2.2		6.5		2.1		5.6				

Intersection Summary

HCM 6th Ctrl Delay	11.5
HCM 6th LOS	B

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Timings

33: Merrill Av. & Bon View Av.

08/24/2021

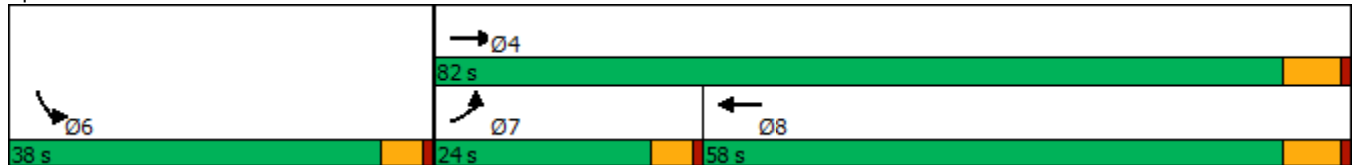


Lane Group	EBL	EBT	WBT	SBL
Lane Configurations	↖	↑↑	↑↑	↘
Traffic Volume (vph)	124	1258	969	119
Future Volume (vph)	124	1258	969	119
Turn Type	Prot	NA	NA	Prot
Protected Phases	7	4	8	6
Permitted Phases				
Detector Phase	7	4	8	6
Switch Phase				
Minimum Initial (s)	5.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	23.2	21.7
Total Split (s)	24.0	82.0	58.0	38.0
Total Split (%)	20.0%	68.3%	48.3%	31.7%
Yellow Time (s)	3.6	5.2	5.2	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.7
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	Min	Min	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 81.4  
 Natural Cycle: 65  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 33: Merrill Av. & Bon View Av.



HCM 6th Signalized Intersection Summary  
 33: Merrill Av. & Bon View Av.

Ontario Ranch Business Park (JN 13941)  
 08/24/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Volume (veh/h)	124	1258	969	115	119	135	
Future Volume (veh/h)	124	1258	969	115	119	135	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	135	1367	1053	125	129	147	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	175	2241	1433	170	155	176	
Arrive On Green	0.10	0.62	0.44	0.44	0.20	0.20	
Sat Flow, veh/h	1714	3705	3345	385	791	901	
Grp Volume(v), veh/h	135	1367	584	594	277	0	
Grp Sat Flow(s),veh/h/ln	1714	1805	1805	1831	1698	0	
Q Serve(g_s), s	4.6	13.7	15.9	15.9	9.3	0.0	
Cycle Q Clear(g_c), s	4.6	13.7	15.9	15.9	9.3	0.0	
Prop In Lane	1.00			0.21	0.47	0.53	
Lane Grp Cap(c), veh/h	175	2241	796	807	332	0	
V/C Ratio(X)	0.77	0.61	0.73	0.74	0.83	0.00	
Avail Cap(c_a), veh/h	560	4611	1575	1598	953	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	26.0	6.9	13.7	13.7	22.9	0.0	
Incr Delay (d2), s/veh	7.0	0.3	1.3	1.3	2.1	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.9	2.8	5.0	5.1	3.6	0.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	33.0	7.1	15.0	15.0	25.1	0.0	
LnGrp LOS	C	A	B	B	C	A	
Approach Vol, veh/h		1502	1178		277		
Approach Delay, s/veh		9.5	15.0		25.1		
Approach LOS		A	B		C		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				43.0	16.3	10.7	32.4
Change Period (Y+Rc), s				6.2	4.7	4.6	6.2
Max Green Setting (Gmax), s				75.8	33.3	19.4	51.8
Max Q Clear Time (g_c+I1), s				15.7	11.3	6.6	17.9
Green Ext Time (p_c), s				12.9	0.4	0.2	8.3

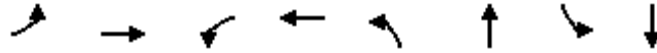
Intersection Summary

HCM 6th Ctrl Delay	13.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Timings  
34: Grove Av. & Eucalyptus Av.

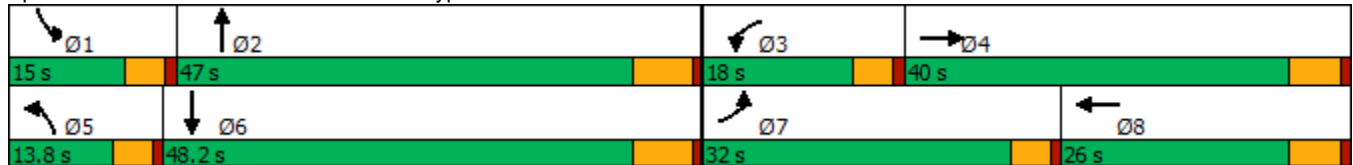


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↶	↷	↶	↷	↶	↷	↶	↷
Traffic Volume (vph)	327	383	75	322	45	930	123	424
Future Volume (vph)	327	383	75	322	45	930	123	424
Turn Type	Prot	NA	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	3	8	5	2	1	6
Permitted Phases								
Detector Phase	7	4	3	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	22.8	9.6	22.8	9.6	23.2	9.6	23.2
Total Split (s)	32.0	40.0	18.0	26.0	13.8	47.0	15.0	48.2
Total Split (%)	26.7%	33.3%	15.0%	21.7%	11.5%	39.2%	12.5%	40.2%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 113.4  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 34: Grove Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
34: Grove Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

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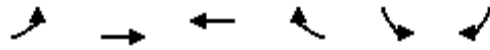


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘		↗	↗↘		↗	↗↘	
Traffic Volume (veh/h)	327	383	101	75	322	295	45	930	107	123	424	238
Future Volume (veh/h)	327	383	101	75	322	295	45	930	107	123	424	238
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	355	416	82	82	350	233	49	1011	86	134	461	189
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	380	1043	204	103	378	247	62	1127	96	156	978	398
Arrive On Green	0.22	0.34	0.34	0.06	0.18	0.18	0.04	0.33	0.33	0.09	0.38	0.38
Sat Flow, veh/h	1714	3088	604	1714	2146	1402	1714	3453	294	1714	2568	1044
Grp Volume(v), veh/h	355	255	243	82	309	274	49	556	541	134	340	310
Grp Sat Flow(s),veh/h/ln	1714	1900	1791	1714	1900	1648	1714	1900	1847	1714	1900	1712
Q Serve(g_s), s	23.3	11.7	11.9	5.4	18.3	18.8	3.3	32.0	32.0	8.8	15.5	15.7
Cycle Q Clear(g_c), s	23.3	11.7	11.9	5.4	18.3	18.8	3.3	32.0	32.0	8.8	15.5	15.7
Prop In Lane	1.00		0.34	1.00		0.85	1.00		0.16	1.00		0.61
Lane Grp Cap(c), veh/h	380	642	605	103	335	290	62	620	603	156	723	652
V/C Ratio(X)	0.93	0.40	0.40	0.79	0.92	0.94	0.79	0.90	0.90	0.86	0.47	0.48
Avail Cap(c_a), veh/h	410	642	605	200	335	290	138	676	657	156	723	652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.8	29.0	29.1	53.2	46.5	46.7	54.8	36.8	36.8	51.4	26.8	26.8
Incr Delay (d2), s/veh	26.5	0.4	0.4	5.1	30.3	37.9	8.0	14.0	14.4	34.5	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	5.2	5.0	2.4	11.2	10.5	1.5	16.3	15.9	5.1	6.7	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.3	29.4	29.5	58.3	76.7	84.5	62.8	50.8	51.2	85.9	27.2	27.4
LnGrp LOS	E	C	C	E	E	F	E	D	D	F	C	C
Approach Vol, veh/h		853			665			1146			784	
Approach Delay, s/veh		46.5			77.7			51.5			37.3	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	43.6	11.5	44.5	8.8	49.8	30.0	26.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	10.4	40.8	13.4	34.2	9.2	42.0	27.4	20.2				
Max Q Clear Time (g_c+I1), s	10.8	34.0	7.4	13.9	5.3	17.7	25.3	20.8				
Green Ext Time (p_c), s	0.0	3.4	0.0	2.6	0.0	3.6	0.1	0.0				

Intersection Summary

HCM 6th Ctrl Delay	52.1
HCM 6th LOS	D

Timings  
35: Merrill Av. & Grove Av.

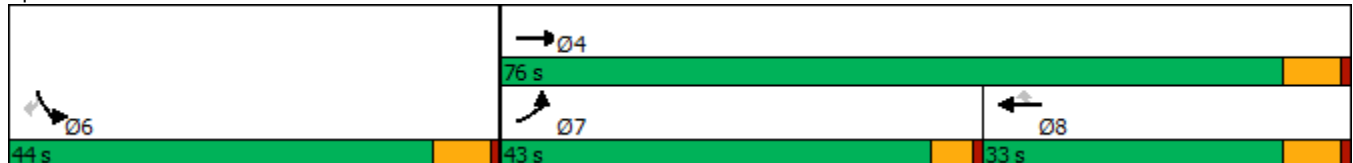


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖↖	↗	↘	↘
Traffic Volume (vph)	560	1104	790	475	565	345
Future Volume (vph)	560	1104	790	475	565	345
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases				8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	23.2	23.2	23.2	23.2
Total Split (s)	43.0	76.0	33.0	33.0	44.0	44.0
Total Split (%)	35.8%	63.3%	27.5%	27.5%	36.7%	36.7%
Yellow Time (s)	3.6	5.2	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	6.2	6.2	6.2
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

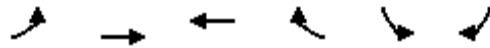
Splits and Phases: 35: Merrill Av. & Grove Av.



HCM 6th Signalized Intersection Summary  
 35: Merrill Av. & Grove Av.

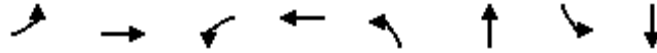
Ontario Ranch Business Park (JN 13941)

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Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Volume (veh/h)	560	1104	790	475	565	345	
Future Volume (veh/h)	560	1104	790	475	565	345	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1800	1900	1900	1900	1800	1900	
Adj Flow Rate, veh/h	583	1150	823	77	589	359	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	549	2210	849	360	540	507	
Arrive On Green	0.32	0.87	0.34	0.22	0.31	0.31	
Sat Flow, veh/h	1714	3800	3800	1610	1714	1610	
Grp Volume(v), veh/h	583	1150	823	77	589	359	
Grp Sat Flow(s),veh/h/ln	1714	1900	1900	1610	1714	1610	
Q Serve(g_s), s	38.4	8.5	25.6	4.7	37.8	23.6	
Cycle Q Clear(g_c), s	38.4	8.5	25.6	4.7	37.8	23.6	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	549	2210	849	360	540	507	
V/C Ratio(X)	1.06	0.52	0.97	0.21	1.09	0.71	
Avail Cap(c_a), veh/h	549	2210	849	360	540	507	
HCM Platoon Ratio	1.00	1.50	1.50	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	40.8	3.7	39.5	38.0	41.1	36.2	
Incr Delay (d2), s/veh	56.2	0.2	23.7	0.3	65.7	4.5	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	23.8	2.0	12.8	1.8	24.9	20.8	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	97.0	4.0	63.2	38.3	106.8	40.7	
LnGrp LOS	F	A	E	D	F	D	
Approach Vol, veh/h		1733	900		948		
Approach Delay, s/veh		35.3	61.0		81.8		
Approach LOS		D	E		F		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				76.0	44.0	43.0	33.0
Change Period (Y+Rc), s				6.2	6.2	4.6	6.2
Max Green Setting (Gmax), s				69.8	37.8	38.4	26.8
Max Q Clear Time (g_c+I1), s				10.5	39.8	40.4	27.6
Green Ext Time (p_c), s				9.6	0.0	0.0	0.0
<b>Intersection Summary</b>							
HCM 6th Ctrl Delay			54.1				
HCM 6th LOS			D				

Timings  
36: Walker Av. & Edison Av.

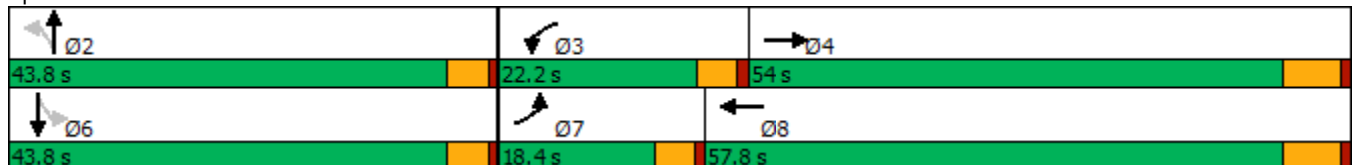


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗↗↗	↖	↖↖↖	↖	↗	↖	↗
Traffic Volume (vph)	95	2034	261	1418	91	75	173	298
Future Volume (vph)	95	2034	261	1418	91	75	173	298
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases					2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	9.6	23.2	21.7	21.7	21.7	21.7
Total Split (s)	18.4	54.0	22.2	57.8	43.8	43.8	43.8	43.8
Total Split (%)	15.3%	45.0%	18.5%	48.2%	36.5%	36.5%	36.5%	36.5%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.7	4.7	4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Min	None	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 36: Walker Av. & Edison Av.



HCM 6th Signalized Intersection Summary  
36: Walker Av. & Edison Av.

Ontario Ranch Business Park (JN 13941)

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑		↖	↑	
Traffic Volume (veh/h)	95	2034	51	261	1418	65	91	75	369	173	298	69
Future Volume (veh/h)	95	2034	51	261	1418	65	91	75	369	173	298	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	100	2141	54	275	1493	68	96	79	259	182	314	73
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	123	2205	55	251	2559	117	208	127	417	224	486	113
Arrive On Green	0.07	0.40	0.40	0.15	0.47	0.47	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1714	5536	139	1714	5409	246	1012	390	1279	1059	1491	347
Grp Volume(v), veh/h	100	1468	727	275	1049	512	96	0	338	182	0	387
Grp Sat Flow(s),veh/h/ln	1714	1900	1875	1714	1900	1856	1012	0	1670	1059	0	1838
Q Serve(g_s), s	6.9	45.5	45.7	17.6	24.1	24.1	10.7	0.0	20.5	18.6	0.0	21.6
Cycle Q Clear(g_c), s	6.9	45.5	45.7	17.6	24.1	24.1	32.3	0.0	20.5	39.1	0.0	21.6
Prop In Lane	1.00		0.07	1.00		0.13	1.00		0.77	1.00		0.19
Lane Grp Cap(c), veh/h	123	1514	747	251	1798	878	208	0	544	224	0	599
V/C Ratio(X)	0.81	0.97	0.97	1.09	0.58	0.58	0.46	0.00	0.62	0.81	0.00	0.65
Avail Cap(c_a), veh/h	197	1514	747	251	1798	878	208	0	544	224	0	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.9	35.4	35.5	51.2	23.0	23.0	48.3	0.0	34.2	51.6	0.0	34.5
Incr Delay (d2), s/veh	5.5	16.5	26.4	84.1	0.5	1.0	1.6	0.0	2.2	20.0	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	22.9	24.8	13.1	10.1	10.0	2.8	0.0	8.6	6.8	0.0	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	51.9	61.8	135.3	23.5	24.0	49.9	0.0	36.4	71.6	0.0	37.0
LnGrp LOS	E	D	E	F	C	C	D	A	D	E	A	D
Approach Vol, veh/h		2295			1836			434				569
Approach Delay, s/veh		55.4			40.4			39.4				48.0
Approach LOS		E			D			D				D
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		43.8	22.2	54.0		43.8	13.2	63.0				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		* 4.7	4.6	6.2				
Max Green Setting (Gmax), s		* 39	17.6	47.8		* 39	13.8	51.6				
Max Q Clear Time (g_c+I1), s		34.3	19.6	47.7		41.1	8.9	26.1				
Green Ext Time (p_c), s		1.1	0.0	0.1		0.0	0.0	11.1				

Intersection Summary

HCM 6th Ctrl Delay	47.9
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Timings  
37: Walker Av. & Eucalyptus Av.

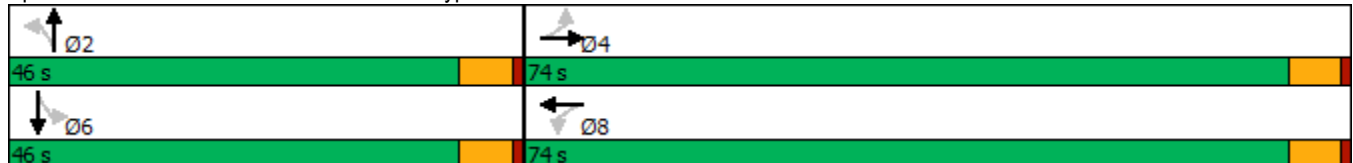


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	410	345	14	252	87	302	140	105
Future Volume (vph)	410	345	14	252	87	302	140	105
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8
Total Split (s)	74.0	74.0	74.0	74.0	46.0	46.0	46.0	46.0
Total Split (%)	61.7%	61.7%	61.7%	61.7%	38.3%	38.3%	38.3%	38.3%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8		5.8		5.8
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 37: Walker Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
37: Walker Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

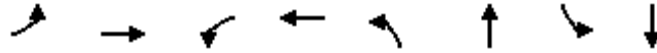


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	410	345	36	14	252	210	87	302	21	140	105	110
Future Volume (veh/h)	410	345	36	14	252	210	87	302	21	140	105	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	446	375	39	15	274	228	95	328	23	152	114	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	420	962	100	500	545	453	127	383	26	161	107	102
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	911	1692	176	988	959	798	269	1143	77	356	319	305
Grp Volume(v), veh/h	446	0	414	15	0	502	446	0	0	386	0	0
Grp Sat Flow(s),veh/h/ln	911	0	1868	988	0	1756	1489	0	0	980	0	0
Q Serve(g_s), s	47.5	0.0	14.7	1.0	0.0	20.7	0.0	0.0	0.0	6.4	0.0	0.0
Cycle Q Clear(g_c), s	68.2	0.0	14.7	15.8	0.0	20.7	33.8	0.0	0.0	40.2	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.45	0.21		0.05	0.39		0.31
Lane Grp Cap(c), veh/h	420	0	1062	500	0	998	535	0	0	370	0	0
V/C Ratio(X)	1.06	0.00	0.39	0.03	0.00	0.50	0.83	0.00	0.00	1.04	0.00	0.00
Avail Cap(c_a), veh/h	420	0	1062	500	0	998	535	0	0	370	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	39.7	0.0	14.4	18.7	0.0	15.7	37.2	0.0	0.0	42.9	0.0	0.0
Incr Delay (d2), s/veh	61.1	0.0	0.1	0.0	0.0	0.2	10.3	0.0	0.0	58.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.6	0.0	5.8	0.2	0.0	7.7	13.7	0.0	0.0	17.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	100.7	0.0	14.4	18.7	0.0	15.8	47.5	0.0	0.0	101.3	0.0	0.0
LnGrp LOS	F	A	B	B	A	B	D	A	A	F	A	A
Approach Vol, veh/h		860			517			446				386
Approach Delay, s/veh		59.2			15.9			47.5				101.3
Approach LOS		E			B			D				F
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		46.0		74.0		46.0		74.0				
Change Period (Y+Rc), s		5.8		5.8		5.8		5.8				
Max Green Setting (Gmax), s		40.2		68.2		40.2		68.2				
Max Q Clear Time (g_c+I1), s		35.8		70.2		42.2		22.7				
Green Ext Time (p_c), s		0.8		0.0		0.0		2.0				

Intersection Summary

HCM 6th Ctrl Delay	54.0
HCM 6th LOS	D

Timings  
38: Flight Av./Walker Av. & Merrill Av.

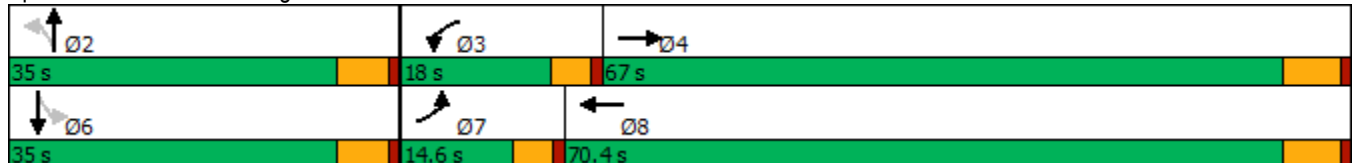


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↕	↖	↕	↖	↕	↖	↕
Traffic Volume (vph)	52	1458	107	977	121	65	96	49
Future Volume (vph)	52	1458	107	977	121	65	96	49
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases					2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.6	23.2	9.6	23.2	22.8	22.8	22.8	22.8
Total Split (s)	14.6	67.0	18.0	70.4	35.0	35.0	35.0	35.0
Total Split (%)	12.2%	55.8%	15.0%	58.7%	29.2%	29.2%	29.2%	29.2%
Yellow Time (s)	3.6	5.2	3.6	5.2	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Min	None	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 118  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated






















Splits and Phases: 38: Flight Av./Walker Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
38: Flight Av./Walker Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

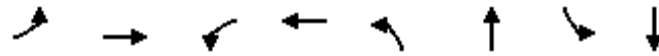
08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	1458	159	107	977	46	121	65	157	96	49	167
Future Volume (veh/h)	52	1458	159	107	977	46	121	65	157	96	49	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	57	1602	175	118	1074	184	133	71	173	105	54	172
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.25	0.91	0.91	0.91	0.91	0.91	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	72	1726	186	143	1747	299	220	120	292	205	98	311
Arrive On Green	0.04	0.53	0.53	0.08	0.57	0.57	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1714	3287	355	1714	3083	527	1238	490	1195	1218	399	1272
Grp Volume(v), veh/h	57	871	906	118	628	630	133	0	244	105	0	226
Grp Sat Flow(s),veh/h/ln	1714	1805	1836	1714	1805	1805	1238	0	1685	1218	0	1671
Q Serve(g_s), s	3.7	50.0	52.3	7.7	26.1	26.3	11.9	0.0	14.5	9.4	0.0	13.4
Cycle Q Clear(g_c), s	3.7	50.0	52.3	7.7	26.1	26.3	25.2	0.0	14.5	23.9	0.0	13.4
Prop In Lane	1.00		0.19	1.00		0.29	1.00		0.71	1.00		0.76
Lane Grp Cap(c), veh/h	72	948	964	143	1023	1023	220	0	412	205	0	408
V/C Ratio(X)	0.79	0.92	0.94	0.82	0.61	0.62	0.60	0.00	0.59	0.51	0.00	0.55
Avail Cap(c_a), veh/h	152	971	988	203	1025	1025	237	0	435	222	0	432
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	53.6	24.6	25.2	51.0	16.3	16.3	48.4	0.0	37.7	48.3	0.0	37.3
Incr Delay (d2), s/veh	6.8	13.2	16.0	11.6	1.1	1.1	3.8	0.0	2.0	2.0	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	22.2	24.2	3.6	9.7	9.8	3.8	0.0	6.0	3.0	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.5	37.8	41.2	62.6	17.4	17.4	52.2	0.0	39.7	50.3	0.0	38.7
LnGrp LOS	E	D	D	E	B	B	D	A	D	D	A	D
Approach Vol, veh/h		1834			1376			377				331
Approach Delay, s/veh		40.2			21.3			44.1				42.4
Approach LOS		D			C			D				D
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		33.4	14.1	65.6		33.4	9.4	70.2				
Change Period (Y+Rc), s		5.8	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		29.2	13.4	60.8		29.2	10.0	64.2				
Max Q Clear Time (g_c+I1), s		27.2	9.7	54.3		25.9	5.7	28.3				
Green Ext Time (p_c), s		0.4	0.0	5.0		0.6	0.0	9.3				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			34.1									
HCM 6th LOS			C									

Timings

39: Van Vliet Av. & Merrill Av.

08/24/2021

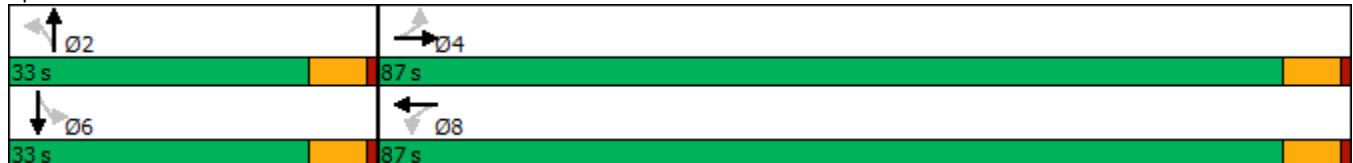


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↖	↗		↕		↕
Traffic Volume (vph)	22	1635	14	1028	38	0	75	0
Future Volume (vph)	22	1635	14	1028	38	0	75	0
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2
Total Split (s)	87.0	87.0	87.0	87.0	33.0	33.0	33.0	33.0
Total Split (%)	72.5%	72.5%	72.5%	72.5%	27.5%	27.5%	27.5%	27.5%
Yellow Time (s)	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	6.2	6.2	6.2	6.2		6.2		6.2
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Min	Min	Min	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 85.1  
 Natural Cycle: 70  
 Control Type: Actuated-Uncoordinated



















Splits and Phases: 39: Van Vliet Av. & Merrill Av.



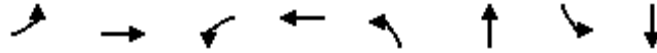
HCM 6th Signalized Intersection Summary  
39: Van Vliet Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1635	54	14	1028	26	38	0	25	75	0	64
Future Volume (veh/h)	22	1635	54	14	1028	26	38	0	25	75	0	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	25	1858	61	16	1168	30	43	0	28	85	0	73
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	357	2468	81	183	2488	64	194	19	87	183	13	102
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.14	0.00	0.14	0.14	0.00	0.14
Sat Flow, veh/h	474	3567	117	237	3596	92	833	140	634	776	92	746
Grp Volume(v), veh/h	25	935	984	16	586	612	71	0	0	158	0	0
Grp Sat Flow(s),veh/h/ln	474	1805	1879	237	1805	1883	1607	0	0	1615	0	0
Q Serve(g_s), s	1.8	24.0	24.5	3.4	10.7	10.7	0.0	0.0	0.0	3.9	0.0	0.0
Cycle Q Clear(g_c), s	12.6	24.0	24.5	27.9	10.7	10.7	2.7	0.0	0.0	6.6	0.0	0.0
Prop In Lane	1.00		0.06	1.00		0.05	0.61		0.39	0.54		0.46
Lane Grp Cap(c), veh/h	357	1249	1300	183	1249	1303	300	0	0	297	0	0
V/C Ratio(X)	0.07	0.75	0.76	0.09	0.47	0.47	0.24	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	559	2016	2098	284	2016	2103	648	0	0	657	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.0	7.1	7.2	16.2	5.1	5.1	28.1	0.0	0.0	29.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.9	0.9	0.2	0.3	0.3	0.4	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	5.0	5.3	0.2	2.2	2.3	1.0	0.0	0.0	2.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.0	8.1	8.1	16.4	5.4	5.4	28.5	0.0	0.0	31.2	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	C	A	A	C	A	A
Approach Vol, veh/h		1944			1214			71			158	
Approach Delay, s/veh		8.1			5.5			28.5			31.2	
Approach LOS		A			A			C			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		16.1		56.3		16.1		56.3				
Change Period (Y+Rc), s		6.2		6.2		6.2		6.2				
Max Green Setting (Gmax), s		26.8		80.8		26.8		80.8				
Max Q Clear Time (g_c+I1), s		4.7		26.5		8.6		29.9				
Green Ext Time (p_c), s		0.3		23.5		0.8		9.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				8.7								
HCM 6th LOS				A								

Timings  
40: Vineyard Av. & Edison Av.

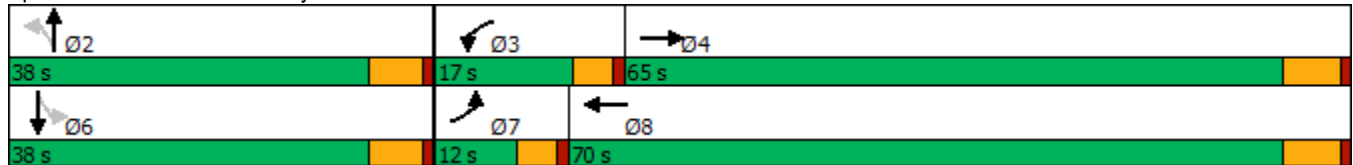


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗↗↗	↖	↖↖↖	↖	↗	↖	↗
Traffic Volume (vph)	40	2922	229	1949	108	62	64	28
Future Volume (vph)	40	2922	229	1949	108	62	64	28
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases					2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	9.6	23.2	22.8	22.8	22.8	22.8
Total Split (s)	12.0	65.0	17.0	70.0	38.0	38.0	38.0	38.0
Total Split (%)	10.0%	54.2%	14.2%	58.3%	31.7%	31.7%	31.7%	31.7%
Yellow Time (s)	3.6	5.2	3.6	5.2	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Min	None	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 100  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 40: Vineyard Av. & Edison Av.



HCM 6th Signalized Intersection Summary  
40: Vineyard Av. & Edison Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖	↑↑↑		↖	↑		↗	↑	
Traffic Volume (veh/h)	40	2922	74	229	1949	87	108	62	471	64	28	25
Future Volume (veh/h)	40	2922	74	229	1949	87	108	62	471	64	28	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	43	3176	80	249	2118	95	117	67	238	70	30	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	55	2784	69	182	3122	139	368	91	324	150	230	207
Arrive On Green	0.03	0.50	0.50	0.11	0.58	0.58	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1714	5537	138	1714	5415	242	1368	366	1300	1091	921	829
Grp Volume(v), veh/h	43	2171	1085	249	1484	729	117	0	305	70	0	57
Grp Sat Flow(s),veh/h/ln	1714	1900	1875	1714	1900	1856	1368	0	1666	1091	0	1751
Q Serve(g_s), s	2.9	58.8	58.8	12.4	31.7	32.0	8.5	0.0	19.7	7.4	0.0	3.0
Cycle Q Clear(g_c), s	2.9	58.8	58.8	12.4	31.7	32.0	11.4	0.0	19.7	27.0	0.0	3.0
Prop In Lane	1.00		0.07	1.00		0.13	1.00		0.78	1.00		0.47
Lane Grp Cap(c), veh/h	55	1910	943	182	2191	1070	368	0	415	150	0	437
V/C Ratio(X)	0.78	1.14	1.15	1.37	0.68	0.68	0.32	0.00	0.73	0.47	0.00	0.13
Avail Cap(c_a), veh/h	108	1910	943	182	2191	1070	404	0	459	178	0	482
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.2	29.1	29.1	52.3	17.2	17.3	38.5	0.0	40.3	52.8	0.0	34.1
Incr Delay (d2), s/veh	8.5	68.4	80.4	197.5	0.8	1.8	0.5	0.0	5.4	2.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	41.9	44.5	15.1	12.4	12.5	2.8	0.0	8.4	2.1	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.7	97.4	109.5	249.7	18.0	19.0	39.0	0.0	45.8	55.0	0.0	34.2
LnGrp LOS	E	F	F	F	B	B	D	A	D	E	A	C
Approach Vol, veh/h		3299			2462			422				127
Approach Delay, s/veh		101.0			41.8			43.9				45.7
Approach LOS		F			D			D				D
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		35.0	17.0	65.0		35.0	8.4	73.6				
Change Period (Y+Rc), s		5.8	4.6	6.2		5.8	4.6	6.2				
Max Green Setting (Gmax), s		32.2	12.4	58.8		32.2	7.4	63.8				
Max Q Clear Time (g_c+I1), s		21.7	14.4	60.8		29.0	4.9	34.0				
Green Ext Time (p_c), s		1.5	0.0	0.0		0.1	0.0	18.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				72.9								
HCM 6th LOS				E								



Timings  
41: Hellman Av./Vineyard Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕↔	↙	↕↕	↙	↙	↕	↙	↙	↕	↙
Traffic Volume (vph)	242	1335	68	692	332	127	119	82	423	142	249
Future Volume (vph)	242	1335	68	692	332	127	119	82	423	142	249
Turn Type	Prot	NA	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2	1	6			8			4	
Permitted Phases					6	8		8	4		4
Detector Phase	5	2	1	6	6	8	8	8	4	4	4
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	9.6	23.2	23.2	22.8	22.8	22.8	22.8	22.8	22.8
Total Split (s)	28.4	57.0	11.0	39.6	39.6	52.0	52.0	52.0	52.0	52.0	52.0
Total Split (%)	23.7%	47.5%	9.2%	33.0%	33.0%	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%
Yellow Time (s)	3.6	5.2	3.6	5.2	5.2	4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	6.2	5.8	5.8	5.8	5.8	5.8	5.8
Lead/Lag	Lead	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Min	None	Min	Min	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated
























Splits and Phases: 41: Hellman Av./Vineyard Av. & Merrill Av.



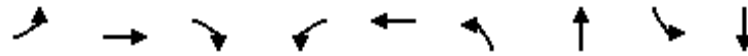
HCM 6th Signalized Intersection Summary  
41: Hellman Av./Vineyard Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/24/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	242	1335	158	68	692	332	127	119	82	423	142	249
Future Volume (veh/h)	242	1335	158	68	692	332	127	119	82	423	142	249
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	269	1483	56	76	769	125	141	132	61	470	158	116
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	295	1537	58	92	1155	489	431	733	621	471	733	621
Arrive On Green	0.17	0.42	0.42	0.05	0.30	0.30	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	1714	3638	137	1714	3800	1610	1123	1900	1610	1209	1900	1610
Grp Volume(v), veh/h	269	773	766	76	769	125	141	132	61	470	158	116
Grp Sat Flow(s),veh/h/ln	1714	1900	1875	1714	1900	1610	1123	1900	1610	1209	1900	1610
Q Serve(g_s), s	18.5	47.4	47.8	5.3	21.2	7.0	11.5	5.5	2.9	40.7	6.7	5.7
Cycle Q Clear(g_c), s	18.5	47.4	47.8	5.3	21.2	7.0	18.2	5.5	2.9	46.2	6.7	5.7
Prop In Lane	1.00		0.07	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	295	803	792	92	1155	489	431	733	621	471	733	621
V/C Ratio(X)	0.91	0.96	0.97	0.83	0.67	0.26	0.33	0.18	0.10	1.00	0.22	0.19
Avail Cap(c_a), veh/h	341	806	795	92	1155	489	431	733	621	471	733	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	33.7	33.8	56.2	36.4	31.5	30.8	24.3	23.5	42.1	24.7	24.4
Incr Delay (d2), s/veh	24.3	23.0	24.1	42.4	1.5	0.3	0.4	0.1	0.1	41.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.6	25.2	25.3	3.3	9.6	2.7	3.1	2.4	1.1	19.3	2.9	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.0	56.7	57.9	98.6	37.9	31.7	31.2	24.4	23.6	83.1	24.8	24.5
LnGrp LOS	E	E	E	F	D	C	C	C	C	F	C	C
Approach Vol, veh/h		1808			970			334			744	
Approach Delay, s/veh		59.6			41.8			27.1			61.6	
Approach LOS		E			D			C			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	56.8		52.0	25.2	42.6		52.0				
Change Period (Y+Rc), s	4.6	6.2		5.8	4.6	6.2		5.8				
Max Green Setting (Gmax), s	6.4	50.8		46.2	23.8	33.4		46.2				
Max Q Clear Time (g_c+I1), s	7.3	49.8		48.2	20.5	23.2		20.2				
Green Ext Time (p_c), s	0.0	0.8		0.0	0.1	3.7		1.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				52.7								
HCM 6th LOS				D								

Timings  
42: Carpenter Av. & Merrill Av.

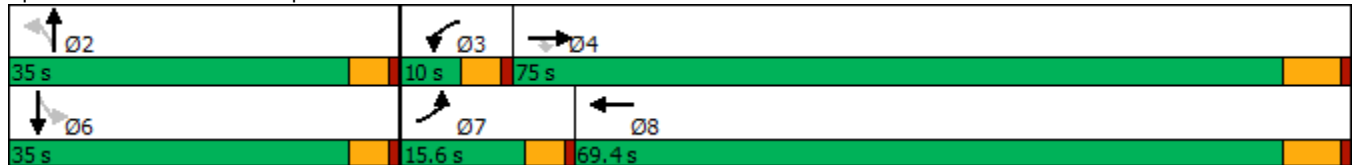


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↗	↘	↖	↗	↖	↗	↖	↗
Traffic Volume (vph)	67	1693	80	36	927	79	6	140	7
Future Volume (vph)	67	1693	80	36	927	79	6	140	7
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases			4			2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	23.2	9.6	23.2	21.6	21.6	21.6	21.6
Total Split (s)	15.6	75.0	75.0	10.0	69.4	35.0	35.0	35.0	35.0
Total Split (%)	13.0%	62.5%	62.5%	8.3%	57.8%	29.2%	29.2%	29.2%	29.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.2	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.2	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	Min	Min	None	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 100.5  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 42: Carpenter Av. & Merrill Av.



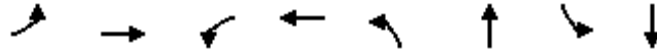
HCM 6th Signalized Intersection Summary  
42: Carpenter Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)  
08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗		↖	↗	
Traffic Volume (veh/h)	67	1693	80	36	927	32	79	6	143	140	7	85
Future Volume (veh/h)	67	1693	80	36	927	32	79	6	143	140	7	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	74	1881	89	40	1030	36	88	7	159	156	8	94
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	94	2126	948	56	2017	70	308	16	364	249	30	352
Arrive On Green	0.05	0.59	0.59	0.03	0.57	0.57	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1714	3610	1610	1714	3558	124	1313	68	1552	1239	128	1502
Grp Volume(v), veh/h	74	1881	89	40	522	544	88	0	166	156	0	102
Grp Sat Flow(s),veh/h/ln	1714	1805	1610	1714	1805	1877	1313	0	1621	1239	0	1630
Q Serve(g_s), s	4.6	47.8	2.6	2.5	18.8	18.9	6.3	0.0	9.3	13.1	0.0	5.5
Cycle Q Clear(g_c), s	4.6	47.8	2.6	2.5	18.8	18.9	11.7	0.0	9.3	22.5	0.0	5.5
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.96	1.00		0.92
Lane Grp Cap(c), veh/h	94	2126	948	56	1023	1064	308	0	380	249	0	382
V/C Ratio(X)	0.79	0.88	0.09	0.72	0.51	0.51	0.29	0.00	0.44	0.63	0.00	0.27
Avail Cap(c_a), veh/h	177	2326	1037	87	1068	1111	374	0	461	312	0	464
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.9	18.8	9.5	51.2	14.1	14.1	38.2	0.0	34.9	44.5	0.0	33.4
Incr Delay (d2), s/veh	5.4	4.2	0.0	6.3	0.4	0.4	0.5	0.0	0.8	2.6	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	17.8	0.8	1.1	6.8	7.1	2.1	0.0	3.8	4.2	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.3	23.0	9.6	57.4	14.5	14.5	38.7	0.0	35.7	47.0	0.0	33.8
LnGrp LOS	E	C	A	E	B	B	D	A	D	D	A	C
Approach Vol, veh/h		2044			1106			254				258
Approach Delay, s/veh		23.6			16.0			36.7				41.8
Approach LOS		C			B			D				D
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.6	8.1	69.1		29.6	10.4	66.7				
Change Period (Y+Rc), s		4.6	4.6	6.2		4.6	4.6	6.2				
Max Green Setting (Gmax), s		30.4	5.4	68.8		30.4	11.0	63.2				
Max Q Clear Time (g_c+I1), s		13.7	4.5	49.8		24.5	6.6	20.9				
Green Ext Time (p_c), s		1.2	0.0	13.1		0.6	0.0	7.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			23.5									
HCM 6th LOS			C									

Timings  
43: Hellman Av. & Edison Av.

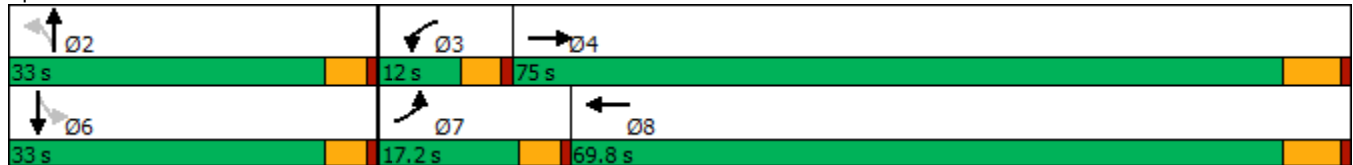


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↖	↕↕↕	↖	↕↕↕	↖	↕	↖	↕
Traffic Volume (vph)	83	3167	100	2016	205	89	58	24
Future Volume (vph)	83	3167	100	2016	205	89	58	24
Turn Type	Prot	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases	7	4	3	8		2		6
Permitted Phases					2		6	
Detector Phase	7	4	3	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	23.2	9.6	23.2	21.7	21.7	21.7	21.7
Total Split (s)	17.2	75.0	12.0	69.8	33.0	33.0	33.0	33.0
Total Split (%)	14.3%	62.5%	10.0%	58.2%	27.5%	27.5%	27.5%	27.5%
Yellow Time (s)	3.6	5.2	3.6	5.2	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	4.6	6.2	4.7	4.7	4.7	4.7
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Min	None	Min	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 118.1  
 Natural Cycle: 100  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 43: Hellman Av. & Edison Av.



HCM 6th Signalized Intersection Summary  
43: Hellman Av. & Edison Av.

Ontario Ranch Business Park (JN 13941)  
08/24/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑		↖	↑	
Traffic Volume (veh/h)	83	3167	96	100	2016	67	205	89	256	58	24	44
Future Volume (veh/h)	83	3167	96	100	2016	67	205	89	256	58	24	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	90	3442	104	109	2191	73	223	97	167	63	26	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	112	3220	96	108	3194	106	310	138	238	149	132	243
Arrive On Green	0.07	0.58	0.58	0.06	0.58	0.58	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1714	5506	165	1714	5485	182	1347	627	1079	1133	598	1104
Grp Volume(v), veh/h	90	2364	1182	109	1515	749	223	0	264	63	0	74
Grp Sat Flow(s),veh/h/ln	1714	1900	1870	1714	1900	1867	1347	0	1706	1133	0	1701
Q Serve(g_s), s	6.1	68.8	68.8	7.4	32.6	32.9	19.0	0.0	16.8	6.4	0.0	4.2
Cycle Q Clear(g_c), s	6.1	68.8	68.8	7.4	32.6	32.9	23.2	0.0	16.8	23.2	0.0	4.2
Prop In Lane	1.00		0.09	1.00		0.10	1.00		0.63	1.00		0.65
Lane Grp Cap(c), veh/h	112	2222	1094	108	2213	1087	310	0	376	149	0	375
V/C Ratio(X)	0.80	1.06	1.08	1.01	0.68	0.69	0.72	0.00	0.70	0.42	0.00	0.20
Avail Cap(c_a), veh/h	184	2222	1094	108	2213	1087	337	0	410	172	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	54.2	24.4	24.4	55.1	17.1	17.1	46.8	0.0	42.3	53.0	0.0	37.4
Incr Delay (d2), s/veh	5.0	38.7	51.7	89.6	0.9	1.8	6.6	0.0	4.8	1.9	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	38.2	41.5	5.8	12.7	12.9	6.9	0.0	7.5	1.9	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.2	63.1	76.2	144.7	18.0	19.0	53.4	0.0	47.1	54.9	0.0	37.6
LnGrp LOS	E	F	F	F	B	B	D	A	D	D	A	D
Approach Vol, veh/h		3636			2373			487				137
Approach Delay, s/veh		67.3			24.1			50.0				45.5
Approach LOS		E			C			D				D
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.6	12.0	75.0		30.6	12.3	74.7				
Change Period (Y+Rc), s		* 4.7	4.6	6.2		* 4.7	4.6	6.2				
Max Green Setting (Gmax), s		* 28	7.4	68.8		* 28	12.6	63.6				
Max Q Clear Time (g_c+I1), s		25.2	9.4	70.8		25.2	8.1	34.9				
Green Ext Time (p_c), s		0.7	0.0	0.0		0.1	0.0	18.9				

Intersection Summary

HCM 6th Ctrl Delay	50.1
HCM 6th LOS	D

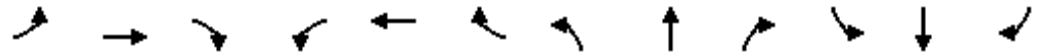
Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

44: Archibald Av. & Edison Av./Ontario Ranch Rd.

08/25/2021

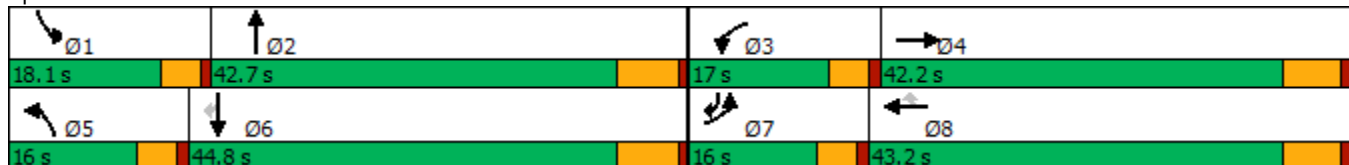


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (vph)	482	2207	614	445	1443	157	433	965	611	278	1086	456
Future Volume (vph)	482	2207	614	445	1443	157	433	965	611	278	1086	456
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Free	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			Free			8			Free			6
Detector Phase	7	4		3	8	8	5	2		1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0		5.0	10.0	5.0
Minimum Split (s)	9.6	39.2		9.6	43.2	43.2	9.6	39.5		9.6	43.5	9.6
Total Split (s)	16.0	42.2		17.0	43.2	43.2	16.0	42.7		18.1	44.8	16.0
Total Split (%)	13.3%	35.2%		14.2%	36.0%	36.0%	13.3%	35.6%		15.1%	37.3%	13.3%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5		3.6	5.5	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5		4.6	6.5	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min		None	Min	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 113.5  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 44: Archibald Av. & Edison Av./Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
44: Archibald Av. & Edison Av./Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)

08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	482	2207	614	445	1443	157	433	965	611	278	1086	456
Future Volume (veh/h)	482	2207	614	445	1443	157	433	965	611	278	1086	456
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	497	2275	0	459	1488	128	446	995	0	287	1120	397
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	314	2398		342	2465	522	333	1454		343	1470	611
Arrive On Green	0.10	0.32	0.00	0.11	0.32	0.32	0.10	0.28	0.00	0.10	0.28	0.28
Sat Flow, veh/h	3141	7600	1610	3141	7600	1610	3326	5187	1610	3326	5187	1588
Grp Volume(v), veh/h	497	2275	0	459	1488	128	446	995	0	287	1120	397
Grp Sat Flow(s),veh/h/ln	1570	1900	1610	1570	1900	1610	1663	1729	1610	1663	1729	1588
Q Serve(g_s), s	11.4	33.3	0.0	12.4	18.7	6.7	11.4	19.5	0.0	9.7	22.5	23.4
Cycle Q Clear(g_c), s	11.4	33.3	0.0	12.4	18.7	6.7	11.4	19.5	0.0	9.7	22.5	23.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	2398		342	2465	522	333	1454		343	1470	611
V/C Ratio(X)	1.58	0.95		1.34	0.60	0.25	1.34	0.68		0.84	0.76	0.65
Avail Cap(c_a), veh/h	314	2401		342	2467	523	333	1648		394	1743	695
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	38.1	0.0	50.8	32.3	28.3	51.3	36.5	0.0	50.2	37.3	28.9
Incr Delay (d2), s/veh	276.6	9.1	0.0	172.8	0.4	0.2	172.2	1.0	0.0	11.6	1.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.4	16.0	0.0	12.9	8.2	2.5	12.5	7.8	0.0	4.4	9.1	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	327.9	47.2	0.0	223.6	32.8	28.5	223.5	37.5	0.0	61.8	39.0	30.6
LnGrp LOS	F	D		F	C	C	F	D		E	D	C
Approach Vol, veh/h		2772	A		2075			1441	A		1804	
Approach Delay, s/veh		97.5			74.7			95.1			40.8	
Approach LOS		F			E			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.4	38.4	17.0	42.2	16.0	38.8	16.0	43.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	13.5	36.2	12.4	36.0	11.4	38.3	11.4	37.0				
Max Q Clear Time (g_c+I1), s	11.7	21.5	14.4	35.3	13.4	25.4	13.4	20.7				
Green Ext Time (p_c), s	0.1	5.2	0.0	0.6	0.0	6.7	0.0	9.1				

Intersection Summary

HCM 6th Ctrl Delay	78.6
HCM 6th LOS	E

Notes

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.



Timings  
45: Archibald Av. & Eucalyptus Av.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	207	377	107	76	73	89	1684	184	1695
Future Volume (vph)	207	377	107	76	73	89	1684	184	1695
Turn Type	Perm	NA	Prot	NA	Perm	Perm	NA	Prot	NA
Protected Phases		4	3	8			2	1	6
Permitted Phases	4				8	2			
Detector Phase	4	4	3	8	8	2	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	22.5	22.5	9.5	9.5	9.5	32.5	32.5	9.6	16.5
Total Split (s)	27.6	27.6	9.6	37.2	37.2	64.6	64.6	18.2	82.8
Total Split (%)	23.0%	23.0%	8.0%	31.0%	31.0%	53.8%	53.8%	15.2%	69.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	5.5	5.5	3.6	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	6.5	6.5	4.6	6.5
Lead/Lag	Lag	Lag	Lead			Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes			Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Min	Min	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 45: Archibald Av. & Eucalyptus Av.



HCM 6th Signalized Intersection Summary  
45: Archibald Av. & Eucalyptus Av.

Ontario Ranch Business Park (JN 13941)  
08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷	↶	↶	↷		↶	↷	↶
Traffic Volume (veh/h)	207	377	305	107	76	73	89	1684	160	184	1695	102
Future Volume (veh/h)	207	377	305	107	76	73	89	1684	160	184	1695	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	220	401	191	114	81	69	95	1791	127	196	1803	82
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	290	460	216	142	519	429	161	2386	169	195	3228	147
Arrive On Green	0.19	0.19	0.19	0.04	0.27	0.27	0.48	0.48	0.48	0.11	0.63	0.63
Sat Flow, veh/h	1189	2382	1121	3326	1900	1570	232	4945	350	1714	5085	231
Grp Volume(v), veh/h	220	303	289	114	81	69	95	1251	667	196	1225	660
Grp Sat Flow(s),veh/h/ln	1189	1805	1698	1663	1900	1570	232	1729	1837	1714	1729	1858
Q Serve(g_s), s	21.9	19.4	19.8	4.1	3.9	4.0	47.0	35.1	35.3	13.6	24.0	24.1
Cycle Q Clear(g_c), s	21.9	19.4	19.8	4.1	3.9	4.0	52.9	35.1	35.3	13.6	24.0	24.1
Prop In Lane	1.00		0.66	1.00		1.00	1.00		0.19	1.00		0.12
Lane Grp Cap(c), veh/h	290	349	328	142	519	429	161	1669	886	195	2195	1180
V/C Ratio(X)	0.76	0.87	0.88	0.80	0.16	0.16	0.59	0.75	0.75	1.01	0.56	0.56
Avail Cap(c_a), veh/h	290	349	328	142	519	429	161	1679	892	195	2205	1185
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	46.8	46.9	56.8	33.0	33.0	32.5	25.1	25.1	53.0	12.4	12.4
Incr Delay (d2), s/veh	11.0	20.2	23.3	27.5	0.1	0.2	5.6	1.9	3.6	66.0	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	10.6	10.4	2.2	1.8	1.5	2.6	13.4	14.7	9.2	7.8	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.8	66.9	70.3	84.3	33.1	33.2	38.1	27.0	28.7	119.0	12.7	13.0
LnGrp LOS	E	E	E	F	C	C	D	C	C	F	B	B
Approach Vol, veh/h		812			264			2013			2081	
Approach Delay, s/veh		65.9			55.2			28.1			22.8	
Approach LOS		E			E			C			C	
Timer - Assigned Phs	1	2	3	4	6	8						
Phs Duration (G+Y+Rc), s	18.2	64.2	9.6	27.6	82.4	37.2						
Change Period (Y+Rc), s	4.6	6.5	4.5	4.5	6.5	4.5						
Max Green Setting (Gmax), s	13.6	58.1	5.1	23.1	76.3	32.7						
Max Q Clear Time (g_c+1), s	15.6	54.9	6.1	23.9	26.1	6.0						
Green Ext Time (p_c), s	0.0	2.9	0.0	0.0	18.2	0.6						
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			33.3									
HCM 6th LOS			C									

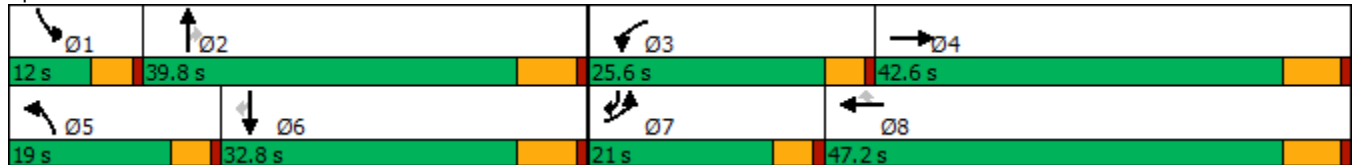
Timings  
46: Archibald Av. & Merrill Av.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	792	111	904	129	67	67	360	1057	193	88	1511	379
Future Volume (vph)	792	111	904	129	67	67	360	1057	193	88	1511	379
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			Free			8			2			6
Detector Phase	7	4		3	8	8	5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	16.2		9.6	45.2	45.2	9.6	36.5	36.5	9.6	16.5	9.6
Total Split (s)	21.0	42.6		25.6	47.2	47.2	19.0	39.8	39.8	12.0	32.8	21.0
Total Split (%)	17.5%	35.5%		21.3%	39.3%	39.3%	15.8%	33.2%	33.2%	10.0%	27.3%	17.5%
Yellow Time (s)	3.6	5.2		3.6	5.2	5.2	3.6	5.5	5.5	3.6	5.5	3.6
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2		4.6	6.2	6.2	4.6	6.5	6.5	4.6	6.5	4.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	Min	Min	None	Min	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 92.4  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

























Splits and Phases: 46: Archibald Av. & Merrill Av.



HCM 6th Signalized Intersection Summary  
46: Archibald Av. & Merrill Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	792	111	904	129	67	67	360	1057	193	88	1511	379
Future Volume (veh/h)	792	111	904	129	67	67	360	1057	193	88	1511	379
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1800	1900	1900	1800	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	816	114	0	133	69	69	371	1090	199	91	1558	391
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	598	399		165	220	187	447	2014	617	162	1583	798
Arrive On Green	0.19	0.21	0.00	0.10	0.12	0.12	0.13	0.39	0.39	0.05	0.31	0.31
Sat Flow, veh/h	3141	1900	1610	1714	1900	1610	3326	5187	1590	3141	5187	1610
Grp Volume(v), veh/h	816	114	0	133	69	69	371	1090	199	91	1558	391
Grp Sat Flow(s),veh/h/ln	1570	1900	1610	1714	1900	1610	1663	1729	1590	1570	1729	1610
Q Serve(g_s), s	16.4	4.3	0.0	6.6	2.9	3.4	9.4	14.0	7.5	2.4	25.7	13.9
Cycle Q Clear(g_c), s	16.4	4.3	0.0	6.6	2.9	3.4	9.4	14.0	7.5	2.4	25.7	13.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	598	399		165	220	187	447	2014	617	162	1583	798
V/C Ratio(X)	1.37	0.29		0.80	0.31	0.37	0.83	0.54	0.32	0.56	0.98	0.49
Avail Cap(c_a), veh/h	598	802		418	904	766	556	2014	617	270	1583	798
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.9	28.6	0.0	38.1	34.9	35.2	36.3	20.4	18.4	39.9	29.7	14.5
Incr Delay (d2), s/veh	175.0	0.4	0.0	3.5	0.8	1.2	7.0	0.3	0.3	1.1	18.9	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.3	1.9	0.0	2.8	1.3	1.4	3.9	5.0	2.7	0.9	12.2	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	209.9	29.0	0.0	41.6	35.8	36.4	43.3	20.7	18.7	41.1	48.7	15.0
LnGrp LOS	F	C		D	D	D	D	C	B	D	D	B
Approach Vol, veh/h		930	A		271			1660			2040	
Approach Delay, s/veh		187.7			38.8			25.5			41.9	
Approach LOS		F			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	40.0	12.9	24.3	16.2	32.8	21.0	16.2				
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2				
Max Green Setting (Gmax), s	7.4	33.3	21.0	36.4	14.4	26.3	16.4	41.0				
Max Q Clear Time (g_c+I1), s	4.4	16.0	8.6	6.3	11.4	27.7	18.4	5.4				
Green Ext Time (p_c), s	0.0	6.9	0.1	0.5	0.2	0.0	0.0	0.6				

Intersection Summary

HCM 6th Ctrl Delay	63.9
HCM 6th LOS	E

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Timings  
47: Archibald Av. & Limonite Av.

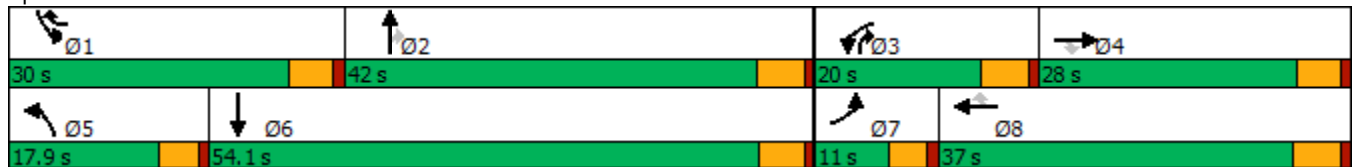


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↗	↑↑↑	↗	↔↔	↑↑↑
Traffic Volume (vph)	212	833	127	470	758	731	131	1190	484	765	1529
Future Volume (vph)	212	833	127	470	758	731	131	1190	484	765	1529
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4		3	8	1	5	2	3	1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	4	3	8	1	5	2	3	1	6
Switch Phase											
Minimum Initial (s)	5.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0
Minimum Split (s)	9.5	23.0	23.0	11.3	36.3	11.0	9.5	41.3	11.3	11.0	23.0
Total Split (s)	11.0	28.0	28.0	20.0	37.0	30.0	17.9	42.0	20.0	30.0	54.1
Total Split (%)	9.2%	23.3%	23.3%	16.7%	30.8%	25.0%	14.9%	35.0%	16.7%	25.0%	45.1%
Yellow Time (s)	3.5	4.0	4.0	4.3	4.3	4.0	3.5	4.3	4.3	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.0	5.0	5.3	5.3	5.0	4.5	5.3	5.3	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 116.7  
 Natural Cycle: 120  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 47: Archibald Av. & Limonite Av.



HCM 6th Signalized Intersection Summary  
47: Archibald Av. & Limonite Av.

Ontario Ranch Business Park (JN 13941)

08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↖	↑↑↑	↗	↔↔	↑↑↔	
Traffic Volume (veh/h)	212	833	127	470	758	731	131	1190	484	765	1529	282
Future Volume (veh/h)	212	833	127	470	758	731	131	1190	484	765	1529	282
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	216	850	59	480	773	542	134	1214	105	781	1560	109
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	206	764	324	465	1063	802	162	1535	635	791	2119	148
Arrive On Green	0.06	0.20	0.20	0.13	0.28	0.28	0.09	0.40	0.27	0.22	0.60	0.40
Sat Flow, veh/h	3619	3800	1610	3619	3800	1610	1810	5700	1590	3619	5266	368
Grp Volume(v), veh/h	216	850	59	480	773	542	134	1214	105	781	1125	544
Grp Sat Flow(s),veh/h/ln	1810	1900	1610	1810	1900	1610	1810	1900	1590	1810	1900	1834
Q Serve(g_s), s	6.5	23.0	3.5	14.7	21.0	29.1	8.3	21.3	4.9	24.6	24.2	25.3
Cycle Q Clear(g_c), s	6.5	23.0	3.5	14.7	21.0	29.1	8.3	21.3	4.9	24.6	24.2	25.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	206	764	324	465	1063	802	162	1535	635	791	1529	738
V/C Ratio(X)	1.05	1.11	0.18	1.03	0.73	0.68	0.83	0.79	0.17	0.99	0.74	0.74
Avail Cap(c_a), veh/h	206	764	324	465	1063	802	212	1829	717	791	1631	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.50	1.00	1.00	1.50	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	45.7	37.9	49.9	37.3	21.7	51.2	31.3	22.2	44.5	18.3	20.5
Incr Delay (d2), s/veh	76.7	68.0	0.3	50.3	2.2	1.9	18.1	2.2	0.1	28.8	1.4	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	17.7	1.3	9.6	9.6	10.4	4.5	8.2	1.7	13.5	7.3	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	130.6	113.7	38.2	100.1	39.5	23.6	69.3	33.5	22.4	73.4	19.7	23.3
LnGrp LOS	F	F	D	F	D	C	E	C	C	E	B	C
Approach Vol, veh/h		1125			1795			1453			2450	
Approach Delay, s/veh		113.0			50.9			36.0			37.6	
Approach LOS		F			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.0	36.1	20.0	28.3	14.8	51.3	11.0	37.3				
Change Period (Y+Rc), s	5.0	5.3	5.3	* 5.3	4.5	* 5.3	4.5	5.3				
Max Green Setting (Gmax), s	25.0	36.7	14.7	* 23	13.4	* 49	6.5	31.7				
Max Q Clear Time (g_c+I1), s	26.6	23.3	16.7	25.0	10.3	27.3	8.5	31.1				
Green Ext Time (p_c), s	0.0	7.5	0.0	0.0	0.1	6.9	0.0	0.3				

Intersection Summary

HCM 6th Ctrl Delay	53.2
HCM 6th LOS	D

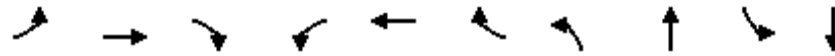
Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

48: Turner Av. & Ontario Ranch Rd.

08/25/2021

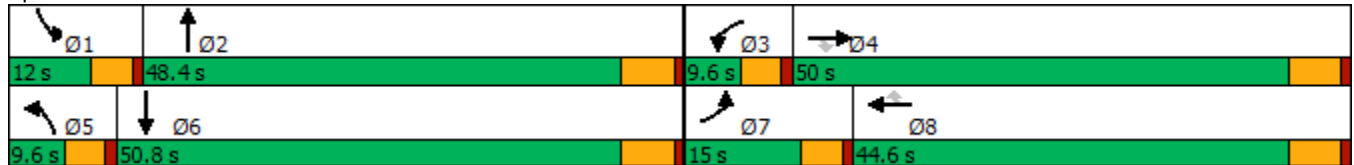


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑	↘	↗
Traffic Volume (vph)	207	2688	48	39	1804	142	32	10	126	10
Future Volume (vph)	207	2688	48	39	1804	142	32	10	126	10
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			4			8				
Detector Phase	7	4	4	3	8	8	5	2	1	6
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	22.8	22.8	9.6	25.8	25.8	9.6	45.8	9.6	47.8
Total Split (s)	15.0	50.0	50.0	9.6	44.6	44.6	9.6	48.4	12.0	50.8
Total Split (%)	12.5%	41.7%	41.7%	8.0%	37.2%	37.2%	8.0%	40.3%	10.0%	42.3%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	4.8	3.6	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	5.8	4.6	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None

Intersection Summary




























Cycle Length: 120  
 Actuated Cycle Length: 91  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 48: Turner Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
48: Turner Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/25/2021

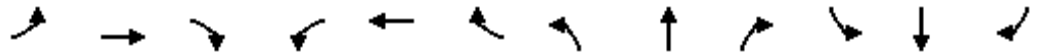
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	207	2688	48	39	1804	142	32	10	48	126	10	129
Future Volume (veh/h)	207	2688	48	39	1804	142	32	10	48	126	10	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	225	2922	40	42	1961	151	35	11	34	137	11	126
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	201	2803	833	62	2365	703	56	52	161	143	23	269
Arrive On Green	0.12	0.52	0.52	0.04	0.44	0.44	0.03	0.13	0.13	0.08	0.18	0.18
Sat Flow, veh/h	1714	5415	1610	1714	5415	1610	1714	406	1254	1714	131	1499
Grp Volume(v), veh/h	225	2922	40	42	1961	151	35	0	45	137	0	137
Grp Sat Flow(s),veh/h/ln	1714	1805	1610	1714	1805	1610	1714	0	1660	1714	0	1630
Q Serve(g_s), s	10.4	46.0	1.1	2.1	28.4	5.2	1.8	0.0	2.2	7.1	0.0	6.7
Cycle Q Clear(g_c), s	10.4	46.0	1.1	2.1	28.4	5.2	1.8	0.0	2.2	7.1	0.0	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	1.00		0.92
Lane Grp Cap(c), veh/h	201	2803	833	62	2365	703	56	0	214	143	0	292
V/C Ratio(X)	1.12	1.04	0.05	0.67	0.83	0.21	0.63	0.00	0.21	0.96	0.00	0.47
Avail Cap(c_a), veh/h	201	2803	833	96	2365	703	96	0	796	143	0	826
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.2	21.4	10.6	42.3	22.1	15.5	42.4	0.0	34.7	40.6	0.0	32.7
Incr Delay (d2), s/veh	99.8	29.4	0.1	4.7	3.5	0.7	4.2	0.0	0.5	62.4	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	23.8	0.4	1.0	11.4	1.9	0.8	0.0	0.9	5.3	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	139.0	50.8	10.7	46.9	25.6	16.2	46.7	0.0	35.1	102.9	0.0	33.8
LnGrp LOS	F	F	B	D	C	B	D	A	D	F	A	C
Approach Vol, veh/h		3187			2154			80				274
Approach Delay, s/veh		56.6			25.4			40.2				68.4
Approach LOS		E			C			D				E
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	17.2	7.8	51.8	7.5	21.7	15.0	44.6				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	7.4	42.6	5.0	44.2	5.0	45.0	10.4	38.8				
Max Q Clear Time (g_c+I1), s	9.1	4.2	4.1	48.0	3.8	8.7	12.4	30.4				
Green Ext Time (p_c), s	0.0	0.2	0.0	0.0	0.0	0.8	0.0	6.9				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			45.1									
HCM 6th LOS			D									



Timings

49: Haven Av. & Ontario Ranch Rd.

08/25/2021

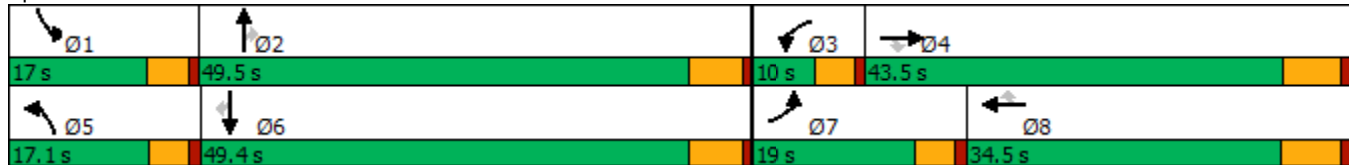


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	369	2250	81	75	1602	349	79	242	47	283	320	269
Future Volume (vph)	369	2250	81	75	1602	349	79	242	47	283	320	269
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	29.2	29.2	9.6	34.5	34.5	9.6	47.8	47.8	9.6	45.8	45.8
Total Split (s)	19.0	43.5	43.5	10.0	34.5	34.5	17.1	49.5	49.5	17.0	49.4	49.4
Total Split (%)	15.8%	36.3%	36.3%	8.3%	28.8%	28.8%	14.3%	41.3%	41.3%	14.2%	41.2%	41.2%
Yellow Time (s)	3.6	5.2	5.2	3.6	5.5	5.5	3.6	4.8	4.8	3.6	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	6.2	6.2	4.6	6.5	6.5	4.6	5.8	5.8	4.6	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 93.7  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 49: Haven Av. & Ontario Ranch Rd.



HCM 6th Signalized Intersection Summary  
49: Haven Av. & Ontario Ranch Rd.

Ontario Ranch Business Park (JN 13941)  
08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (veh/h)	369	2250	81	75	1602	349	79	242	47	283	320	269
Future Volume (veh/h)	369	2250	81	75	1602	349	79	242	47	283	320	269
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	384	2344	53	78	1669	290	82	252	35	295	333	207
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	286	2349	698	99	2343	522	104	418	187	246	717	320
Arrive On Green	0.17	0.43	0.43	0.06	0.32	0.32	0.06	0.12	0.12	0.14	0.20	0.20
Sat Flow, veh/h	1714	5415	1610	1714	7220	1610	1714	3610	1610	1714	3610	1610
Grp Volume(v), veh/h	384	2344	53	78	1669	290	82	252	35	295	333	207
Grp Sat Flow(s),veh/h/ln	1714	1805	1610	1714	1805	1610	1714	1805	1610	1714	1805	1610
Q Serve(g_s), s	14.4	37.3	1.7	3.9	17.5	12.8	4.1	5.7	1.7	12.4	7.0	10.2
Cycle Q Clear(g_c), s	14.4	37.3	1.7	3.9	17.5	12.8	4.1	5.7	1.7	12.4	7.0	10.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	286	2349	698	99	2343	522	104	418	187	246	717	320
V/C Ratio(X)	1.34	1.00	0.08	0.79	0.71	0.56	0.79	0.60	0.19	1.20	0.46	0.65
Avail Cap(c_a), veh/h	286	2349	698	107	2343	522	248	1828	815	246	1824	813
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	24.4	14.3	40.1	25.6	24.0	40.0	36.3	34.5	37.0	30.5	31.8
Incr Delay (d2), s/veh	175.7	18.1	0.2	26.6	1.9	4.2	4.8	1.4	0.5	121.4	0.5	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.5	17.4	0.6	2.2	6.9	4.9	1.8	2.5	0.6	13.2	2.9	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	211.7	42.5	14.5	66.8	27.5	28.2	44.8	37.7	35.0	158.3	31.0	34.0
LnGrp LOS	F	D	B	E	C	C	D	D	C	F	C	C
Approach Vol, veh/h		2781			2037			369			835	
Approach Delay, s/veh		65.3			29.1			39.0			76.7	
Approach LOS		E			C			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	15.8	9.6	43.9	9.9	22.9	19.0	34.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	* 6.5	4.6	5.8	4.6	6.5				
Max Green Setting (Gmax), s	12.4	43.7	5.4	* 37	12.5	43.6	14.4	28.0				
Max Q Clear Time (g_c+I1), s	14.4	7.7	5.9	39.3	6.1	12.2	16.4	19.5				
Green Ext Time (p_c), s	0.0	1.6	0.0	0.0	0.0	2.7	0.0	6.3				

Intersection Summary

HCM 6th Ctrl Delay	53.0
HCM 6th LOS	D

Notes

\* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Timings

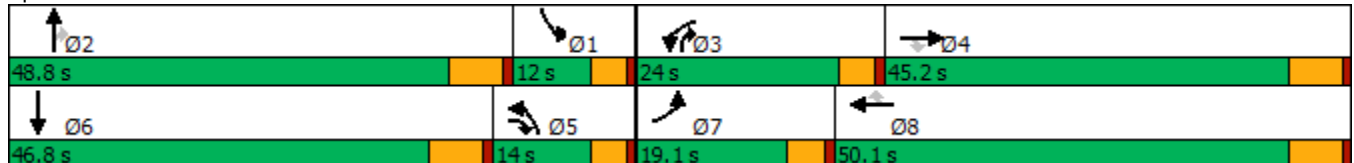


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑↑	↗	↖↖	↑↑↑
Traffic Volume (vph)	196	1816	537	940	1257	167	391	475	294	569	1050
Future Volume (vph)	196	1816	537	940	1257	167	391	475	294	569	1050
Turn Type	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA
Protected Phases	7	4	5	3	8		5	2	3	1	6
Permitted Phases			4			8			2		
Detector Phase	7	4	5	3	8	8	5	2	3	1	6
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	5.0	5.0	10.0
Minimum Split (s)	9.6	45.2	9.6	9.6	49.2	49.2	9.6	44.2	9.6	9.6	45.2
Total Split (s)	19.1	45.2	14.0	24.0	50.1	50.1	14.0	48.8	24.0	12.0	46.8
Total Split (%)	14.7%	34.8%	10.8%	18.5%	38.5%	38.5%	10.8%	37.5%	18.5%	9.2%	36.0%
Yellow Time (s)	3.6	5.2	3.6	3.6	5.2	5.2	3.6	5.2	3.6	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	2.6	4.2	2.6	2.6	4.2	4.2	2.6	4.2	2.6	2.6	4.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Min	None	None	Min

Intersection Summary

Cycle Length: 130  
 Actuated Cycle Length: 125.2  
 Natural Cycle: 115  
 Control Type: Actuated-Uncoordinated

Splits and Phases: 50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

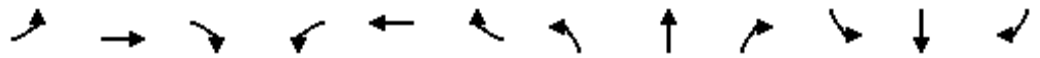


HCM 6th Signalized Intersection Summary

Ontario Ranch Business Park (JN 13941)

50: Hamner Av. & Ontario Ranch Rd./Cantu Galleano Ranch Rd.

08/25/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	196	1816	537	940	1257	167	391	475	294	569	1050	232
Future Volume (veh/h)	196	1816	537	940	1257	167	391	475	294	569	1050	232
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	204	1892	286	979	1309	174	407	495	154	593	1094	112
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	311	2448	675	592	2330	658	315	850	534	744	1432	146
Arrive On Green	0.10	0.48	0.32	0.18	0.61	0.41	0.10	0.22	0.15	0.23	0.42	0.28
Sat Flow, veh/h	3238	7600	1610	3238	5700	1610	3238	5700	1607	3238	5086	520
Grp Volume(v), veh/h	204	1892	286	979	1309	174	407	495	154	593	817	389
Grp Sat Flow(s),veh/h/ln	1619	1900	1610	1619	1900	1610	1619	1900	1607	1619	1900	1806
Q Serve(g_s), s	7.1	24.0	4.8	21.4	15.9	3.8	11.4	9.1	4.2	20.2	21.5	22.0
Cycle Q Clear(g_c), s	7.1	24.0	4.8	21.4	15.9	3.8	11.4	9.1	4.2	20.2	21.5	22.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	311	2448	675	592	2330	658	315	850	534	744	1070	509
V/C Ratio(X)	0.66	0.77	0.42	1.65	0.56	0.26	1.29	0.58	0.29	0.80	0.76	0.76
Avail Cap(c_a), veh/h	456	2661	721	592	2330	658	315	2171	906	744	1383	657
HCM Platoon Ratio	1.00	1.50	1.00	1.00	1.50	1.00	1.00	1.50	1.00	1.00	1.50	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.0	26.7	8.9	47.8	16.5	4.8	52.8	42.2	11.1	42.5	30.5	32.8
Incr Delay (d2), s/veh	0.9	1.4	0.4	301.9	0.3	0.2	152.7	0.6	0.3	5.6	1.9	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	8.4	2.2	33.1	5.3	2.8	11.2	4.0	1.7	8.3	8.2	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	28.1	9.4	349.8	16.8	5.0	205.5	42.8	11.4	48.1	32.4	36.8
LnGrp LOS	D	C	A	F	B	A	F	D	B	D	C	D
Approach Vol, veh/h		2382			2462			1056			1799	
Approach Delay, s/veh		27.9			148.3			100.9			38.5	
Approach LOS		C			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.5	21.7	24.0	41.9	14.0	37.2	13.9	52.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	7.4	42.6	19.4	39.0	9.4	40.6	14.5	43.9				
Max Q Clear Time (g_c+I1), s	22.2	11.1	23.4	26.0	13.4	24.0	9.1	17.9				
Green Ext Time (p_c), s	0.0	3.6	0.0	9.7	0.0	6.7	0.2	10.3				

Intersection Summary

HCM 6th Ctrl Delay	78.9
HCM 6th LOS	E

**APPENDIX I2**  
**VEHICLE MILES TRAVELED ANALYSIS**

May 5, 2021

Mr. Kevin Thomas  
Kimley Horn and Associates, Inc.  
3880 Lemon Street, Suite 420  
Riverside, CA 92501

**SUBJECT: ONTARIO RANCH BUSINESS PARK VEHICLE MILES TRAVELED (VMT) ANALYSIS**

Dear Mr. Kevin Thomas:

The following VMT Analysis has been prepared for the proposed Ontario Ranch Business Park Project (**Project**), which is located on the northwest corner of Campus Avenue and Merrill Avenue, in the City of Ontario (San Bernardino County).

## **PROJECT OVERVIEW**

The proposed Project is assumed to include the following mix of land uses, which represent a reasonable mix of industrial and business park uses that would be permitted by the Project:

- Industrial: 913,053 square feet of high-cube fulfillment center warehouse use, 179,135 square feet of high-cube cold storage warehouse, and 320,551 square feet of general warehousing use.
- Business Park: 227,951 square feet of a mix of uses including merchant wholesale, professional services, professional office, warehouse/storage, and research and development uses (as would fall under ITE Land Use Code 130).
- **Total of 1,640,690 square feet**

## **BACKGROUND**

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which require all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (**Technical Advisory**). (1) Based on OPR's Technical Advisory, the San Bernardino County Transportation Authority (SBCTA) prepared Recommended Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (**SBCTA Guidelines**) (2), which provided each of its member agencies a template for the development of VMT screening criteria, analysis methods and impact thresholds. The City of Ontario using both the Technical Advisory and SBCTA Guidelines developed their own transportation impact guidelines, which were adopted by City Council on June 16 2020 (**City Guidelines**). (3) This VMT analysis has been developed based on the adopted City Guidelines.

## PROJECT SCREENING

Projects that meet certain VMT screening criteria may be presumed to result in a less than significant transportation impact, which is consistent with the approach suggested in OPR's Technical Advisory. The screening criteria adopted by the City of Ontario are generally consistent with guidance identified in the Technical Advisory. The City of Ontario lists the following VMT screening criteria<sup>1</sup>:

- Low VMT Area Screening
- Low Trip Generating Uses Screening
- Transit Priority Area (TPA) Screening
- Project Type Screening

A land use project need only meet one of the above screening criteria to result in a less than significant impact.

### **LOW VMT AREA SCREENING**

City Guidelines state that projects may be presumed to have a less than significant VMT impact if located in low VMT generating model traffic analysis zones (TAZs) that generate total daily VMT per service population that is 15% less than the baseline level for the County.<sup>2</sup> The SBCTA screening tool was utilized to determine low areas of VMT within the City of Ontario. The screening tool uses the sub-regional San Bernardino Transportation Analysis Model (SBTAM) to measure VMT performance within individual TAZ's throughout the region. Parcel(s) containing the proposed Project were selected and the screening tool was run for the Origin/Destination (OD) VMT per service population (SP) measure of VMT. The results of the screening tool for the OD VMT per SP calculations are provided in Attachment A, which indicates that the Project resides within TAZ 53653301 that is not within a low VMT generating zone.

**The Low VMT Area screening threshold is not met.**

### **LOW TRIP GENERATING USES SCREENING**

The City Guidelines indicate that small development projects generating fewer than 110 daily vehicle trips or less may be presumed to have a less than significant impact, subject to discretionary approval by the City. Trips generated by the Project's proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10<sup>th</sup> Edition, 2017. (4) Based on information contained in the Project's LOS based traffic analysis report, the Project is anticipated to generate more than 110 daily trips. (5)

**The Low Trip Generating Uses screening threshold is not met.**

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<sup>1</sup> City of Ontario Vehicle Miles Traveled Analysis Thresholds for CEQA (SB 743); Page 1

<sup>2</sup> City Guidelines; Exhibit A.

## **TPA SCREENING**

Consistent with guidance identified in the City Guidelines, projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing “major transit stop”<sup>3</sup> or an existing stop along a “high-quality transit corridor”<sup>4</sup>) may be presumed to have a less than significant impact absent substantial evidence to the contrary. However, the presumption may not be appropriate if a project:

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

The Project site is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor.

**The TPA screening threshold is not met.**

## **PROJECT TYPE SCREENING**

The City Guidelines identify that local serving retail less than 50,000 square feet or other local serving essential services (e.g., day care centers, public schools, medical/dental office buildings, etc.) are presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, small projects anticipated to generate low traffic volumes and by association low greenhouse gas (GHG) emissions are also assumed to cause a less than significant impact. The Project consists of industrial and business park uses, which do not typically consist of local-serving or essential services.

**The Project Type screening threshold is not met.**

## **PROJECT GENERATED VMT**

The City Guidelines state that projects not screened from VMT analysis based on their location or land use type should conduct VMT forecasting through the SBTAM travel demand model to determine if the project would result in a significant VMT impact. SBTAM is a useful tool to calculate VMT as it considers interaction between different land uses based on socio-economic data such as population, employment

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<sup>3</sup> Pub. Resources Code, § 21064.3 (“‘Major transit stop’ means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.”).

<sup>4</sup> Pub. Resources Code, § 21155 (“For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.”).



and other factors, is identified in the City Guidelines as the appropriate travel forecasting tool for conducting VMT analysis in the City of Ontario.

Project generated VMT has been calculated using the most current version of SBTAM, which was updated by SBCTA as part of the development of their recommended VMT guidelines. Adjustments to socio-economic data (SED) (i.e., project employment levels) have been made to the appropriate TAZ. A separate TAZ is used to isolate project generated VMT from other land uses in the model. Table 1 summarizes the employment estimates for the Project.

**TABLE 1: SED ESTIMATES**

Land Use	% Mixture	Employees/TSF	Total TSF	Estimated Employment
Business Park	Non-Office (50%)	0.650	227.951	74
	Office (50%)	2.860		326
Industrial	Non-Office (90%)	0.650	1,412.739	826
	Office (10%)	2.860		404
<b>Total</b>			<b>1,640.690</b>	<b>1,630</b>

Because the tenant of the Project’s buildings are not yet known, the number of employees that the Project would generate cannot be precisely determined; therefore, for purposes of this analysis, employment estimates were calculated using employment density factors of 0.65 employees/thousand square feet (TSF) for non-office portions and 2.86 employees/TSF for office portions of industrial and business park uses consistent with the Ontario General Plan Buildout Methodology document (April 2015)<sup>5</sup>. Based on these employment generation rates; the Project is expected to generate approximately 1,630 employees. Project employment was added to the Project’s TAZ in both the base year model (2016) and the cumulative year model (2040). The base year model and cumulative year model were then run inclusive of the Project’s employment estimate.

The City has chosen the OD method of calculating VMT for purposes of establishing their impact threshold. The OD method of calculating VMT includes all vehicle trips and trip purposes (i.e., passenger cars and heavy trucks). Project generated VMT using the OD trip matrix from SBTAM was calculated for both the base year model (2016) and cumulative year model (2040), and linear interpolation was used to determine the Project’s baseline (2021) VMT value. The VMT value was then normalized by dividing by the Project’s SP, which in this case is the number of Project employees. Table 2 presents the key inputs for the calculation of project generated VMT per SP.

<sup>5</sup> Source: <http://www.ontarioplan.org/wp-content/uploads/sites/4/2016/01/Methodology-Revised.pdf>

**TABLE 2: PROJECT VMT PER SP**

	Base Year (2016)	Cumulative (2040)	Baseline (2021)
Project generated VMT	71,583	68,460	70,579
SP	1,630	1,630	1,630
Project VMT per SP	43.92	42.00	43.30

The City of Ontario has selected a threshold based on the General Plan Buildout VMT performance in the City. More specifically, the City Guidelines state that a significant impact would occur if the project VMT per SP exceeds the Citywide average VMT per SP under General Plan Buildout Conditions.

Table 3 presents a comparison between baseline project generated VMT per SP to the City’s impact threshold. As shown, the baseline project generated VMT per SP is 43.30 or 19.61% above the City’s threshold.

**TABLE 3: PROJECT VMT IMPACT DETERMINATION**

	Baseline (2021)
Project VMT per SP	43.30
General Plan Buildout VMT per SP	36.20
Percent Change	+19.61%
Potentially Significant?	Yes

**PROJECT’S CUMULATIVE EFFECT ON VMT**

Consistent with City Guidelines, projects that are found to have a potential impact using efficiency-based metrics (such as VMT per SP) should also provide an additional assessment to evaluate a project’s effect on VMT. This analysis is performed using the boundary method, which includes all vehicle trips with one or both trip-ends within a specific geographic area of interest (i.e., City of Ontario). As shown on Table 4, the Project is anticipated to result in an increase in total VMT within the City of Ontario for General Plan Buildout conditions.

**TABLE 4: CUMULATIVE NET CHANGE IN CITYWIDE VMT**

	General Plan Buildout (2040) No Project	General Plan Buildout (2040) With Project
VMT	8,992,608	9,008,768

## POTENTIAL VMT REDUCTION STRATEGIES

Consistent with City Guidelines, VMT reduction strategies should be considered to address project generated VMT that exceeds the City's adopted impact threshold. Transportation demand management (TDM) strategies have been evaluated for the purpose of reducing VMT impacts determined to be potentially significant. The effectiveness of TDM strategies to reduce VMT has been determined based on the SB 743 Implementation Mitigation and TDM Strategy Assessment (November 11, 2019, Fehr & Peers) prepared for SBCTA (**SBCTA TDM Report**), which was based on a regionally focused assessment of the previously published Quantifying Greenhouse Gas Mitigation Measures (CAPCOA, 2010) for its applicability to land use projects within the SBCTA region. The SBCTA TDM Report indicates that of the 50 transportation measures presented by CAPCOA, only 41 of those measures are applicable at a building and site level. The remaining 9 measures are functions of, or depend on, site location and/or actions by local and regional agencies or funders.<sup>6</sup>

Based on a review of the 41 transportation measures identified by CAPCOA, the SBCTA TDM Report identifies that only 7 of those measures may be effective at the project level. Land use context is a major factor relevant to the potential application and effectiveness of TDM measures. More specifically, the land use context for the area in which the Project resides is characteristically suburban<sup>7</sup>. Based on a review of the potentially relevant TDM measures presented in the SBCTA TDM Report, the following 7 TDM measures identified by the SBCTA TDM Report were evaluated for their applicability to the Project based on its suburban context and their ability to reduce project generated VMT:

- ***Measure 1: Increase Diversity of Land Uses (LUT-3).*** Having different types of land uses near one another can decrease VMT since trips between land use types are shorter and may be accommodated by non-auto modes of transportation. For example, when residential areas are in the same neighborhood as retail and office buildings, a resident does not need to travel outside of the neighborhood to meet his/her trip needs.

***Remarks:*** The Project proposes the construction of 1,640,690 square feet of industrial and business park use. In order for the above measure to apply, at least 3 of the following land uses should be located on-site, or if not on-site then within ¼ mile or less of the Project: residential development, retail development, office development, park, or open space. As the proposed Project does not include a diverse mix of land uses on-site, and is not located within a ¼ mile of 3 of the land uses listed above, this particular TDM measure is therefore not evaluated further as a means of providing a reduction in Project VMT.

It is, however, recognized that the Project would introduce additional employment opportunities, acting to generally improve the City and region jobs/housing balance. The resulting improved jobs/housing balance could reduce area commute VMT. This analysis, however, conservatively assumes no such VMT reduction.

- ***Measure 2: Provide Pedestrian Network Improvements (SDT-1).*** Providing on-site pedestrian access network to link areas of the Project to the off-site pedestrian network encourages people to walk for short trips instead

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<sup>6</sup> Measures obtained from SBCTA TDM report, p. 5.

<sup>7</sup> **Suburban:** Characterized by dispersed, low intensity, single use, automobile dependent land use patterns, usually outside of the central city (a suburb). (*Quantifying Greenhouse Gas Mitigation Measures*, p. 60).

of drive. This mode shift results in people driving less for nearby trips (typically less than ¼ mile and no greater than ½ mile) and thus a reduction in VMT.

Remarks: Although there are existing sidewalks off-site along portions of Merrill Avenue, field observations conducted at the time the Project's level of service analysis (i.e., traffic study) was prepared indicate there is nominal pedestrian activity in the study area likely due to the lack of pedestrian connections and a limited diversity of land uses. The Project would build pedestrian walkways within the site area connecting development and extending those sidewalk connections to the roadway adjacent pedestrian walkways. The potential reduction in VMT is limited with a maximum reduction 2.0 percent for pedestrian accommodations within the Project site and connecting off-site, as noted by CAPCOA (Quantifying Greenhouse Gas Mitigation Measures, p. 187).

- Measure 3: Provide Traffic Calming Measure (SDT-2). Providing traffic calming measures encourages people to walk or bike instead of using a passenger car. This mode shift would result in a decrease in VMT. Traffic calming features may include marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts or mini-circles, on-street parking, planter strips with street trees, chicanes/chokers, and others.

Remarks: Given the industrial nature of the Project and similar characteristics of surrounding uses, there is limited opportunity for pedestrian and bicycle activity. This measure is therefore not evaluated further as means of providing a reduction in Project VMT.

- Measure 4: Implement Car-Sharing Program (TRT-9). Implementing a car-sharing program would allow individuals to have on-demand access to a shared fleet of vehicles on an as-needed basis. User costs are typically determined through mileage or hourly rates, with deposits and/or annual membership fees.

Remarks: It is possible that employers within the Project site could implement car-sharing programs. This may provide car access for employees on an as-needed basis, and thereby alleviate some of the costs and responsibilities of individual car ownership. However, this would not necessarily result in a reduction in VMT but would rather transfer the VMT source from individually-owned autos to employee-subsidized autos. The potential reduction in VMT is also extremely limited with a maximum reduction in VMT between 0.4 – 0.7 percent as noted by CAPCOA (Quantifying Greenhouse Gas Mitigation Measures, p. 245), therefore, this measure is not evaluated further as a means of providing a reduction in Project VMT.

- Measure 5: Increase Transit Service Frequency and Speed (TST-4). This measure serves to reduce transit-passenger travel time through more reduced headways and increased speed and reliability. This makes transit service more attractive and may result in a mode shift from auto to transit which reduces VMT.

Remarks: The study area is currently served by Omnitrans, a public transit agency serving various jurisdictions within San Bernardino County. No bus routes currently provide proximate service (within one-quarter mile) of the Project site. Transit service is reviewed and updated periodically to address ridership, budget and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. It is recommended that the applicant work in conjunction with the Lead Agency and Omnitrans to coordinate potential bus service to the Project site. Since implementation of this strategy would require agency implementation it is not applicable for individual development projects. This measure is therefore not evaluated further as means of providing a reduction in Project VMT.

- Measure 6: Encourage Telecommuting and Alternative Work Schedule (TRT-6). Encouraging telecommuting and alternative work schedules reduces the number of commute trips and therefore VMT traveled by employees. Alternative work schedules could take the form of staggered starting times, flexible schedules, or compressed work weeks.  
*Remarks:* The effectiveness of this measure is dependent on the ultimate building tenant(s) which are unknown at this time. This measure could provide for a potential reduction in Project VMT. CAPCOA notes that implementation of this measure could reduce commute VMT by 0.07 – 5.50 percent (Quantifying Greenhouse Gas Mitigation Measures, p. 236).
- Measure 7: Provide Ride-Sharing Programs (TRT-3). This strategy focuses on encouraging carpooling and vanpooling, but its ultimate implementation is limited similarly as Measure 6 above.  
*Remarks:* The effectiveness of this measure is dependent on the ultimate building tenant(s) which are unknown at this time. This measure could provide for a potential reduction in Project VMT. CAPCOA notes that implementation of this measure could reduce commute VMT by 1.0 – 15.0 percent (Quantifying Greenhouse Gas Mitigation Measures, p. 227).

The effectiveness of the above-noted TDM measures would be dependent building occupancies, which are unknown at this time. Beyond Project tenancy considerations, land use context is a major factor relevant to the potential application and effectiveness of TDM measures. More specifically, the land use context of the Project is characteristically suburban. Of itself, the Project's suburban context acts to reduce the range of feasible TDM measures and moderates their potential effectiveness.

It is also recognized that as the Project area and City develop as envisioned under the City of Ontario Policy Plan, new residential, commercial/retail, and industrial development would be implemented. These actions could collectively alter transportation patterns, improve the City's jobs/housing ratio, diminish VMT/SP, and support implementation of new or alternative TDM measures. There is no means however to quantify any VMT reductions that could result. Additionally, the effectiveness of the TDM strategies that have potential to reduce the Project VMT/SP are dependent on as yet unknown final Project building tenant(s). Further, the identified TDM measures are not likely to reduce Project truck VMT. Pointedly, CAPCOA provides no TDM measures targeted at truck traffic.

## CONCLUSION

In summary, the Project was found to exceed the City's adopted VMT threshold by 19.61%. Reductions in commute VMT through feasible TDM measures such as those described previously will be provided by the Project. Inclusion of such VMT reduction measures in areas that are characteristically suburban<sup>8</sup> in context are noted to be limited to a maximum VMT reduction of 15%,<sup>9</sup> which is not enough to reduce

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<sup>8</sup> Suburban: A project characterized by dispersed, low-density, single-use, automobile dependent land use patterns, usually outside of the central city (a suburb).

<sup>9</sup> California Air Pollution Control Officers Association: "Quantifying Greenhouse Gas Mitigation Measures" August 2010; page 55.

Mr. Kevin Thomas  
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May 5, 2021  
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project generated VMT to a level below the City's adopted threshold. Finally, as future Project design features and building tenants are not yet known, reductions in VMT related to the above TDM measures cannot be accurately estimated or guaranteed. Therefore, the Project's transportation impact based on VMT should conservatively be considered **significant and unavoidable**.

If you have any questions, please contact me directly at [aevatt@urbanxroads.com](mailto:aevatt@urbanxroads.com).

Respectfully submitted,

URBAN CROSSROADS, INC.



Aric Evatt, PTP  
President



Robert Vu, PE  
Transportation Engineer

## REFERENCES

1. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.
2. **San Bernardino County Transportation Authority.** *Recommended Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment.* February 2020.
3. **City of Ontario.** *SB 743 VMT Thresholds.* City of Ontario : s.n., June 2020.
4. **Institute of Transportation Engineers.** *Trip Generation Manual.* 10th Edition. 2017.
5. **Urban Crossroads, Inc.** *Ontario Ranch Business Park Traffic Impact Analysis.* May 2021.

**ATTACHMENT A  
SCREENING RESULTS**



**SBCTA VMT Screening Tool** Powered by Fehr & Peers User's Guide

Find address or place

5344401  
LA Rochelle Way

**Complete #1 - 4, Then Click 'Run'**

Input Output

#1. Zoom in on the map to your project location so parcels appear on map. Next, select 'Parcels' from the drop-down. Then click the black square next to the drop-down so you can select the parcel(s) for your project by drawing a simple rectangle over the parcel(s) you need.\*

Parcels

#2. Select the VMT Metric. Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.\*

OD VMT Per Service Population

#3. Select the Baseline Year. The years available for analysis are from 2016 to 2040.\*

2020

#4. Select the Threshold (% reduction from baseline year). Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.\*

Below City Future Buildout (0%)

Run

Map Layers

- Project Area VMT
- Screening Results
- Low VMT Generating TAZs
- Parcels
- Jurisdiction Boundaries
- TAZ
- Transit Priority Area

Project Area VMT (1 of 2)

Assessor Parcel Number (APN)	105403102
Traffic Analysis Zone (TAZ)	53653001
TAZ VMT	898.9
Jurisdiction VMT	26.2
% Difference	2382.15%
VMT Metric	OD VMT Per Service Population
Threshold	96.2
Zoom to	...

**APPENDIX J**  
**WATER SUPPLY ASSESSMENT**

**Water Supply Assessment Ontario  
Ranch Business Park Specific Plan  
Amendment**

for City of Ontario

Prepared for:

Ontario Municipal Utilities Company

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April 2022

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## Introduction

This document prepared for the City of Ontario (City) is a Water Supply Assessment (WSA) intended to meet the requirements of Senate Bill (SB) 610. The water demand for the Ontario Ranch Business Park Specific Plan Amendment (“proposed Project or Project”) is calculated and the adequacy of water supplies to meet the proposed Project is evaluated.

SB 610 established the primary legal standards for assessing the sufficiency of water supplies for new development projects. These statutes require as part of the environmental review conducted for a qualifying project pursuant to the California Environmental Quality Act (CEQA), the public water supplier or land use agency – in this case the City – must prepare a “water supply assessment” of the reliability of water supplies for the Project, considering normal, single dry, and multiple dry years over a 20-year horizon. The basic requirement is that a WSA must “include a discussion with regard to whether the public water system’s total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed Project, in addition to the water system’s existing and planned future uses, including agricultural and manufacturing uses.”<sup>1</sup>

References used in preparing this document include the following:

- City of Ontario 2020 Urban Water Management Plan (UWMP).
- City of Ontario Draft 2020 Water Master Plan
- Chino Basin Desalter Authority 2020 UWMP
- Inland Empire Utilities Agency 2020 UWMP
- San Antonio Water Company 2015 UWMP

## Site Location and Project Description

The Project area is located within the City’s Ontario Ranch area (formerly known as New Model Colony), which comprises a portion of the former San Bernardino County Agricultural Preserve annexed by the City in 1999. Ontario Ranch is among the last significant underdeveloped areas in the San Bernardino Valley. The proposed Project is an extension of the Ontario Ranch Business Park Specific Plan project (Approved SP), and is an eastern expansion consisting of 72 acres, in the southwest portion of the City. The proposed Project consists of eight parcels and is bound by Eucalyptus Avenue to the north, Merrill Avenue to the south, Sultana Avenue to the west, and Campus Avenue to the east (refer to **Figure 1, Vicinity Map**). Furthermore, pursuant to the Housing Accountably Act, or Senate Bill 330 (SB330), the Project will create an Overlay District on an “SB330 Replacement Site” to increase the residential zoning capacity by 479 units, which will offset the “loss” of residential zoning capacity within the Project site. In addition, this SB330 Replacement Site is also being evaluated for substantial additional density (beyond what is required for this Project’s SB330 compliance) as part of the City’s The Ontario Plan (TOP) 2050 Update EIR and also as part of the City’s Housing Element Update EIR, both of which are planned for City Council approval in 2022.

Regional access to the Project site is provided by State Route 83 (SR-83; Euclid Avenue), which connects to State Route 60 (SR-60) and Interstate 10 (I-10) to the north, Interstate 15 (I-15) approximately 5.75 miles to the east, and State Route 71 (SR-71) approximately 3 miles to the southwest. SR-71 connects the project to Interstate 91 (I-91) in unincorporated Riverside County.

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<sup>1</sup> California Water Code Section 10910(c)(3).

The Approved SP was approved in September of 2020 and consisted of a General Plan Amendment (GPA), Specific Plan, Development Plan Review, Tentative Parcel Map, and a Development Agreement to allow for development of an Industrial and Business Park on eleven parcels covering 85.6 acres in the City. The Approved SP project included eight warehouse buildings totaling a maximum development of 1,905,027 square feet (SF) of warehouse and office uses. The proposed Project would incorporate the abutting approximately 72 acres to the east of the Approved SP site into the overall SP area.

The “Project” to be addressed is an extension, or Phase 2, of the Approved SP. The Project will allow for the development of approximately 1.6 million SF of Business Park and Industrial land uses on the 72-acre site, as described further below. The Project consists of two planning areas (PAs). PAs 3 and 4 are comprised of Business Park and Industrial development and would allow a total of 227,951 SF of Business Park and 1,412,739 SF of Industrial uses. The Project site is depicted in **Figure 2, Proposed Land Use Map**, and will be evaluated with the total maximum allowable development in the Project SP and associated onsite and offsite infrastructure improvements.

The Project site is currently developed as an operational dairy farm. The northeastern portion of the site is developed with cattle pens with multiple canopy structures, farmhouses, and structures associated with milking activities. The buildings appear to be single-story structures of wood frame construction and the canopies appear to be of metal frame construction. The northwestern portion and southern one-third of the site are planted with row crops. To the north, east, and west of the proposed Project site exists mostly rural farmland, and to the south is the Chino Airport. Furthermore, the Project proposes a comprehensive land use plan, circulation plan, streetscape plan, infrastructure service plan, grading plan, maintenance plan, phasing plan, design guidelines, development regulations, and implementation measures to guide the development of the 72-acre Project site into a master-planned business/industrial park. The Project includes a GPA, Specific Plan Amendment (SPA), a Development Agreement, Development Plan(s), and Tentative Parcel Map(s) to allow development of the two PAs which would accommodate a variety of industrial-serving commercial, low-intensity office, technology, light manufacturing, and warehouse/distribution uses that are compatible with the Project site’s location within the Ontario Ranch area. Refer to **Figure 2, Proposed Land Use Map**.

The Project would allow up to 1,640,690 SF of building space for these PAs. PAs 3 and 4 would place three buildings along Eucalyptus Avenue frontage and the remaining three buildings north of Merrill Avenue, along the Sultana Avenue frontage (west) and Campus Avenue (east).

The land use types proposed by the Project are summarized below in Table 1, Proposed Project Land Use.

**Table 1 – Proposed Project Land Use**

<b>Planning Area<sup>1</sup></b>	<b>Maximum Floor Area Ratio<sup>2</sup></b>	<b>Site Acreage</b>	<b>Maximum Building Square Footage</b>
<b>Phase 3</b>			
Planning Area 3: Business Park	0.45	11.63	227,951 SF
Planning Area 4: General Industrial	0.54	60.06	1,412,739 SF
<b>TOTAL</b>		<b>71.69</b>	<b>1,640,690 SF</b>
a. Phase 1 and 2 are a part of the Approved SP. b. Provided the GPA application submitted in conjunction with this Specific Plan to designate PAs 3 as Business Park and PAs 4 as General Industrial is approved. c. The Project EIR as proposed is reviewing square footages below the maximum TOP thresholds. The FAR may be increased to the TOP max levels of 0.60 and 0.55 for BP and IG respectively with a Specific Plan Amendment and appropriate CEQA analysis. d. PA 3 is rounded from 11.629 and PA 4 is rounded from 60.059			



**Figure 1 – Vicinity Map**



Figure 2 – Proposed Land Use Map

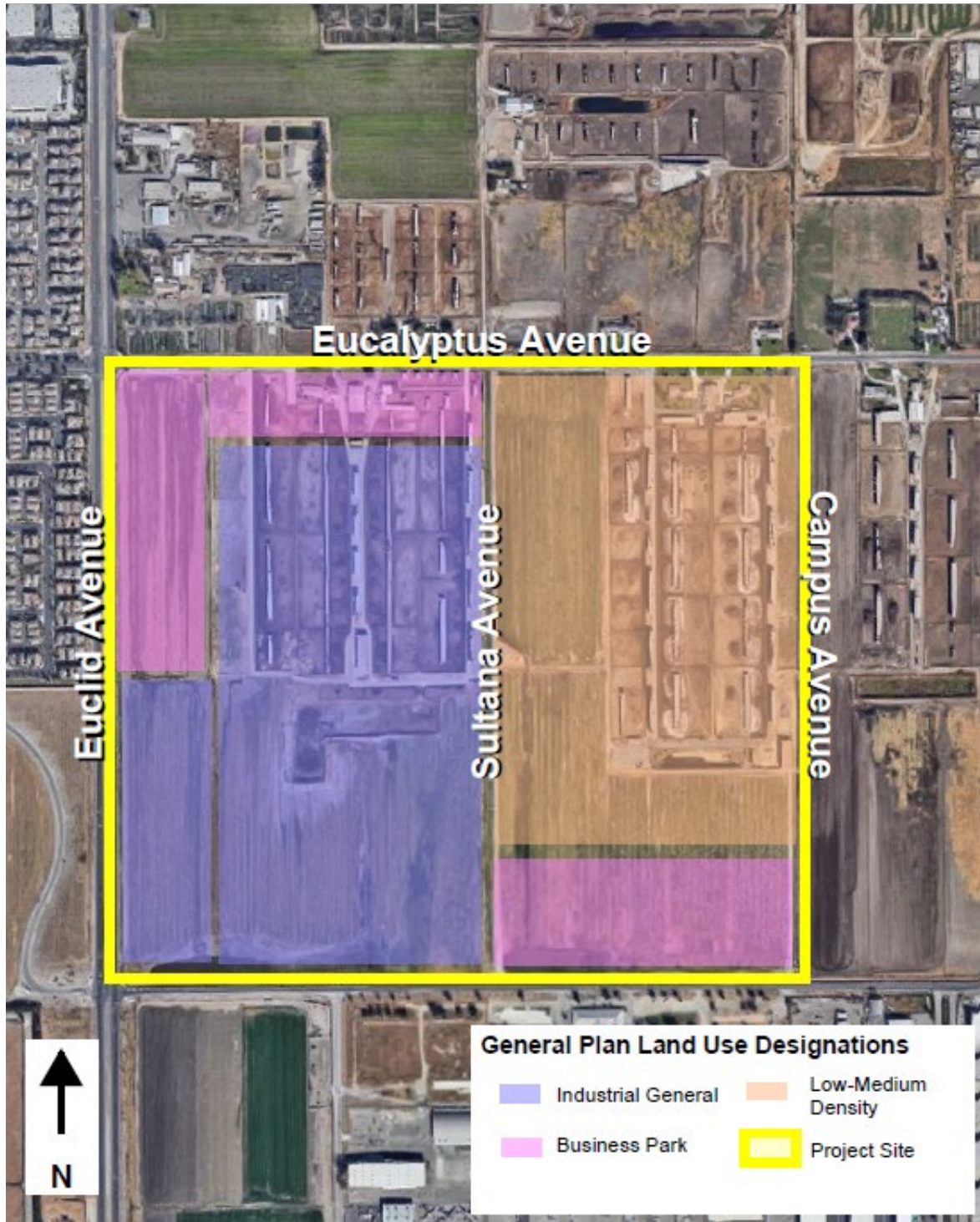
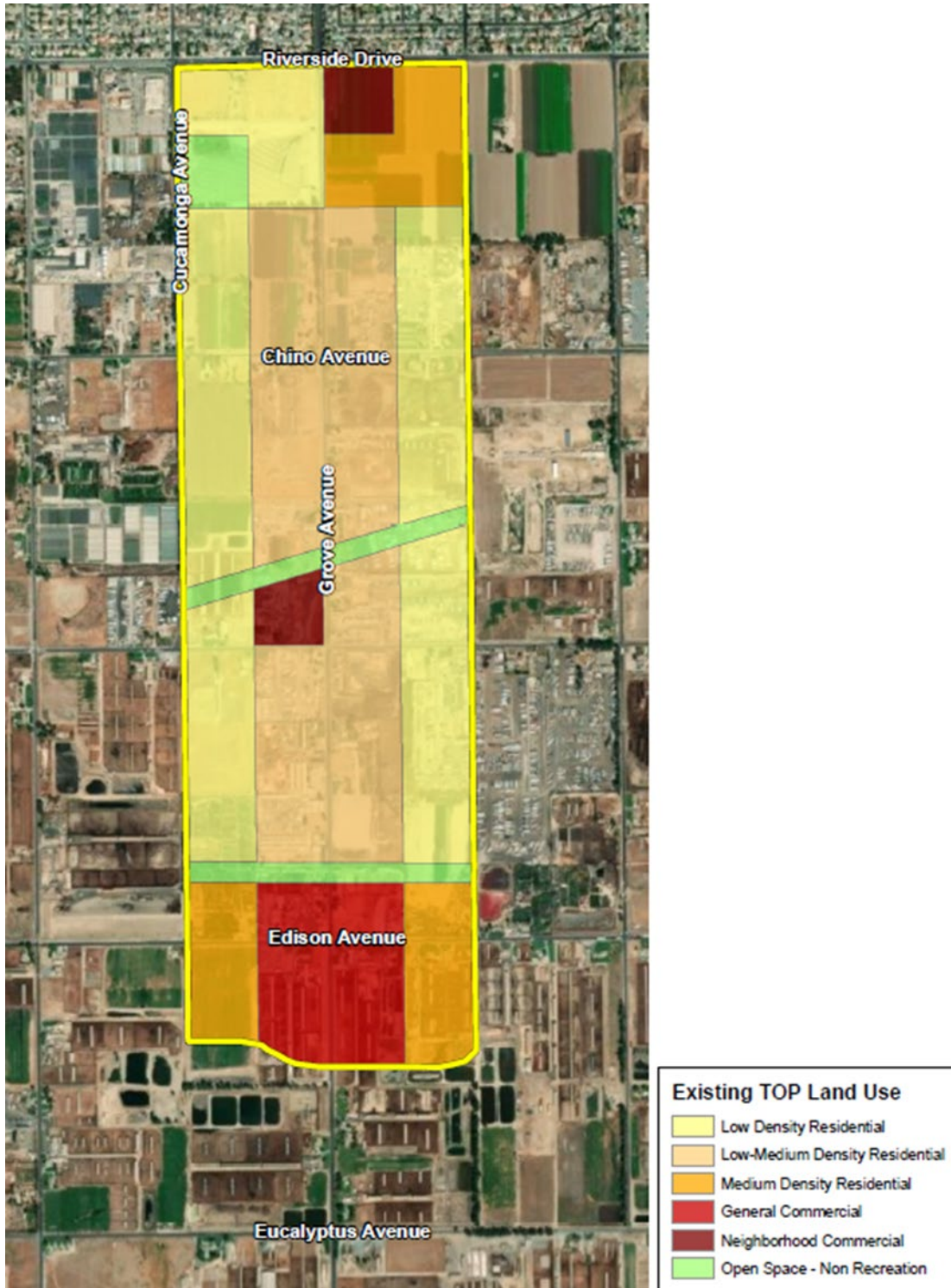




Figure 3 –SB 330 Site Replacement Site



## Water Supply Assessment

### Water Purveyor

The Ontario Municipal Utilities Company (OMUC) provides water service to residents, businesses, and other users in the City, including the Project site. Two small areas in the north central and northeastern sections of the City are served by the Cucamonga Valley Water District (CVWD). As of 2020, OMUC provided water to a population of approximately 178,409 people. The primary source of water is groundwater from Chino Groundwater Basin (Chino Basin). Other water supplies include treated groundwater from the Chino Basin Desalter Authority (CDA), recycled water from Inland Empire Utilities Agency (IEUA), imported water from the Water Facilities Authority (WFA), and purchased water from the San Antonio Water Company (SAWCo).

The City has already inactivated several wells (Well 3, 4, 9, 15, 31, 35, and 50) due to high nitrate and perchlorate concentrations detected above the maximum contaminant levels (MCL). Well 34 was removed from service due to (TCP) water quality issues. The operations of Wells 44 and 52 are limited due to the migration of the bacterial groundwater plume when these wells are used too frequently. Well 25 was taken out of service due to a Perfluorooctanoic acid (PFOA) detection, which was below the PFOA interim notification level. The impact on supply due to the closure of these wells is minimized by constructing replacement wells at other locations where contaminant levels are low and constructing wellhead treatment facilities.

Total potable and recycled water demand within the OMUC service area averaged 39,921 acre-feet per year (AFY) at year 2020.<sup>2</sup> Potable water demands averaged 32,109 AFY and recycled water demands averaged 7,812 AFY. Over the past ten years, the City's total water demands (including potable and recycled water demands) have ranged from 36,036 AFY to 45,196 AFY, with an average of 40,831 AFY. In addition, the City recently experienced a five-consecutive-year-drought within its service area from FY 2011-12 to FY 2015-16. Throughout this consecutive dry year period, the City's annual water production ranged from 42,603 AFY (2012) to 36,036 AFY (2016, with an average of approximately 41,558 AFY. In the City's Single-Dry year, annual water production was 43,346. In 2020, the City's total demand was 39,921 AFY. The total water supply (potable and non-potable) demands in the year 2045 are projected to be 73,668 AFY. Potable water demands are projected to be 57,609 AFY and recycled water demands are projected to be 16,059 AFY.

The passage of SB X7-7 (also known as the Water Conservation Act of 2009) resulted in increased efforts to reduce potable water usage by requiring all California urban water suppliers to achieve a 20% reduction in demands (from a historical baseline) by 2020. Using a 10-year base period of 1995 to 2004, the City's baseline water usage is 245 gallons per capita per day (GPCD). The City's actual water use rate during FY 2019-20 was 161 GPCD which is a decrease of up to 103 GPCD from the recent historical water use. The 2020 target was 196 GPCD.<sup>3</sup>

It is required that every urban water supplier assess the reliability to provide water service to its customers under normal, single dry, and multiple dry years. As discussed in the City's Urban Water Management Plan (UWMP), the City is capable of meeting the water demands of its customers in normal, single dry, and multiple dry years between 2020 and 2045.

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<sup>2</sup> City of Ontario. 2020 Urban Water Management Plan, page 8-22. (2021). Retrieved from:

<https://www.ontarioca.gov/sites/default/files/Ontario-Files/Municipal-Utilities-Company/FINAL%20City%20of%20Ontario%202020%20UWMP.pdf>. Accessed September 2021.

<sup>3</sup> City of Ontario, 2016. 2015 Urban Water Management Plan. Prepared by Ontario Municipal Utilities Company.

## Legal Requirements

SB 610 established the primary legal standards for assessing the sufficiency of water supplies for new development projects. Affected land developments are those that meet certain size thresholds. The proposed Project meets the threshold for a proposed industrial, manufacturing, processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 SF of floor area. The proposed Project also meets the threshold for a proposed commercial office building employing more than 1,000 persons or having more than 250,000 SF of floor space. Therefore, the proposed Project, as described in Section 1.2, meets the criteria for preparation of a WSA.

The basic requirement is that a WSA must “include a discussion with regard to whether the public water system’s total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed Project, in addition to the water system’s existing and planned future uses, including agricultural and manufacturing uses.” If the water demand for a proposed Project is accounted for in an adopted UWMP, as is the case here, the WSA preparer may incorporate that information into the WSA.

The WSA also requires additional analysis if any portion of the water purveyor's water supplies include groundwater. A description of any groundwater basin or basins from which the proposed Project will be supplied in addition to a detailed description and analysis of the amount and location of groundwater pumped by the public water system for the past five years should be provided. The WSA should also include an analysis of the sufficiency of the groundwater from the basin or basins from which the proposed Project will be supplied to meet the projected water demand associated with the proposed Project.

Upon adoption, the WSA is incorporated into the CEQA document being prepared for the Project, and the lead agency must determine, based on the entire record, whether projected water supplies will be sufficient to satisfy demands for the Project, in addition to existing and future uses.<sup>4</sup>

## Water Demand Analysis

This section evaluates whether the proposed Project was included in the projection of future water demands for the City, as described in the 2020 UWMP. As per Section 10910 (c) (2) of the California Water Code:

“if the projected water demand associated with the proposed Project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).”

### City of Ontario Water Demands

The primary source of water for the proposed Project would be existing water supplies used by the City to provide service to its customers. This section analyzes the water demands of existing and planned future City customers.

Current and projected potable and recycled water demands by customer class are presented in Tables 2 and 3. The City’s total 2020 demand was 39,921 AFY. Potable water demand was 32,109 AFY and recycled

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<sup>4</sup> California Water Code Section 10910 (b) and (c).

water demand was 7,812 AFY. The projected 2045 potable water demand is 57,609 AFY and recycled water demand is 16,059 AFY for a total of 73,668 AFY. Actual water supplies provided to the City for the fiscal year 2019-2020 are summarized in **Table 2**.

**Table 2: Water Supplies Summary (AF)**

Water Supplier	Water Source	Amount (AFY)
City of Ontario	Groundwater	18,395
Chino Basin Desalter Authority (CDA)	Purchased/ Imported Water	6,636
Water Facilities Authority (WFA)	Purchased/ Imported Water	6,513
San Antonio Water Company (SAWC)	Purchased/ Imported Water	565
<b>Subtotal</b>	-	<b>32,109</b>
Inland Empire Utilities Authority (IEUA) – Agriculture Deliveries	Recycled Water	7,812
<b>Total</b>		<b>39,921</b>

Source: City of Ontario, 2021. 2020 Urban Water Management Plan. Figure 2 – Historical Water Use by Source, page 6-3.  
<https://www.ontarioca.gov/sites/default/files/Ontario-Files/Municipal-Utilities-Company/FINAL%20City%20of%20Ontario%202020%20UWMP.pdf>  
 AFY = Acre-feet per year

**Table 3 – Current and Projected Potable Water Demands for the City of Ontario (AFY)**

Use Type	2020	2025	2030	2035	2040	2045
Single Family	12,502	15,723	17,540	19,109	22,431	22,431
Multi-Family	5,068	6,374	7,110	7,746	9,093	9,093
Commercial	5,359	6,740	7,519	8,191	9,615	9,615
Industrial	2,078	2,613	2,915	3,176	3,728	3,728
Institutional/ Governmental	538	677	755	822	965	965
Landscape	4,631	5,824	6,497	7,078	8,309	8,309
Losses	1,565	1,968	2,196	2,392	2,808	2,808
Other (Hydrant)	368	463	516	562	660	660
<b>Total</b>	<b>32,109</b>	<b>40,382</b>	<b>45,048</b>	<b>49,076</b>	<b>57,609</b>	<b>57,609</b>

AFY = Acre-feet/year  
 Note: Projected water use are equal for years 2040 and 2045 because the City anticipates buildout to occur in 2040. Source: City of Ontario 2020 UWMP, 2021.

**Table 4 – Current and Projected Recycled Water Demands for the City of Ontario (AFY)**

Use Type	2020	2025	2030	2035	2040	2045
Recycled Water Demand	7,812	12,168	13,465	14,762	16,059	16,059

AFY = Acre-feet/year  
 Source: City of Ontario 2020 UWMP, 2021.

## Proposed Project Water Demand

The proposed Project consists of an approximately 72-acre development within the boundaries of the proposed Project. The proposed Project plans for new business and industrial uses. Buildout of the Project

would generate a total of 1,640,690 SF of building space, which includes 227,951 SF of Business Park and 1,412,739 SF of industrial use. The proposed development would connect to the City’s water main for domestic water use. Recycled water would be used for landscape irrigation.

The Project site is currently agricultural land use, including dairy operations and field crops. The site is not connected to the City’s water supply and utilizes groundwater for irrigation of crops and other agricultural. To the north, east, and west of the proposed Project site exists mostly rural farmland, and to the south is the Chino Airport.

Water use for the proposed Project was calculated using domestic water demand rates and recycled water irrigation demand rates, as specified in the UWMP. **Table 5** shows the total water demand estimate for the proposed development.

**Table 5 – Water Demand Estimate for the Proposed Development**

Land Use	Acres	Domestic Water Demand Rate <sup>a</sup> (gpd/ac)	Total Domestic Water Usage (gal/day)	Recycled Water Demand Rate <sup>b</sup> (gpd/ac)	Total Recycled Water Usage (gal/day)
<b>Planning Area</b>					
PA 3: Business Park	11.629	1,800	20,932	1,200	13,955
PA 4: Industrial	60.059	1,400	84,083	1,700	102,100
<b>Total</b>	<b>71.688</b>	-	<b>105,015</b>	-	<b>116,055</b>
Source: City of Ontario 2020 UWMP, 2020.					
a. Table 4-8 of the Potable Water Master Plan Update (Appendix E of the 2020 UWMP) was used to establish the domestic water demand rate.					
b. Table 5-3 of the Recycled Water Irrigation Unit Demand Factors (Appendix K of the 2020 UWMP) was used to establish the recycled water demand rate.					

As shown in **Table 5**, the total domestic water demand within the Project area is estimated to be 105,015 gal/day (116.8 AFY). The total recycled water usage is estimated to be 116,055 gal/day (131.4 AFY). The total water demand would be **221,070 gal/day** or **248.2 AFY**.

### Proposed Project with Respect to 2020 Urban Water Management Plan

In order to evaluate water supply reliability, California statutes require the consideration of water supplies and demands in three types of water conditions: normal, single dry, and multiple dry water years.<sup>5</sup> The 2020 UWMP indicates that the City is capable of meeting the water demands of its customers in normal, single dry, and multiple dry years between 2020 and 2045.

The 2020 UWMP projected water demands are based on future land uses as specified in the City’s latest 2010 General Plan. Based on the projected future land use for the Project site in the UWMP, the water demand was estimated, as shown in **Table 6**.

<sup>5</sup> Department of Water Resources, 2005. *California Water Plan, Bulletin 160-05, Volume III* (“Each district has different assumptions and policies that guide their planning”).

**Table 6 – Water Demand Estimate for the current land uses based on Projected Future Land Use in 2020 UWMP**

Land Use	Acres	Domestic Water Demand Rate <sup>a</sup> (gpd/ac)	Total Domestic Water Usage (gal/day)	Recycled Water Demand Rate <sup>b</sup> (gpd/ac)	Total Recycled Water Usage (gal/day)
Business Park	18.10	1,800	32,580	1,200	21,720
Low Medium Density Residential	56.34	3,960	223,106	700	39,438
<b>Total</b>	<b>74.44</b>	-	<b>255,686</b>	-	<b>61,158</b>

Source: City of Ontario 2020 UWMP.  
a. Table 4-8 of the Potable Water Master Plan Update (Appendix E of the 2020 UWMP) was used to establish the domestic water demand rate.  
b. Table 5-3 of the Recycled Water Irrigation Unit Demand Factors (Appendix K of the 2020 UWMP) was used to establish the recycled water demand rate.

Comparing Project water demand in **Table 5** with water demand assumed in the 2020 UWMP as shown in **Table 6** shows that the total domestic water demand within the site area will decrease, compared to planned land use as depicted in the 2020 UWMP. Water usage of existing land uses per the 2020 UWMP is estimated to be 255,686 gal/day (286 AFY). The total recycled water demand is estimated to be 61,158 gal/day (68.6 AFY). Therefore, the total water demand for existing land uses per the 2020 UWMP would be **316,844 gal/day** or **354 AFY**, compared to a total water demand of the proposed Project (shown in **Table 5**) of **221,070 gal/day** or **248.2 AFY**.

Therefore, implementation of the proposed Project will not obstruct the City’s ability to meet water demands of its customers in normal, single dry, and multiple dry years, because the Project will not use any additional water that was not accounted for in the previous 2020 UWMP.

In addition to evaluating changes in water demand for the Project site in comparison to the 2020 UWMP (**Tables 4 and 5** above), this WSA also evaluates a related aspect of the Project, the change in water demand associated with increasing residential density within the designated SB 330 Replacement Site study area. Per SB 330, in order for the City to approve the Project, the City must also “rezone” an area in the City to offset the loss in residentially zoned land. The City has determined that the Project would displace 479 DU of residential capacity as part of the Project approval. Therefore, the City has identified an additional density of 479 DU within the designated replacement site area. As shown in **Table 6c**, for the SB 330 site, the difference in domestic water usage per day will be a net decrease of **212,787 gal/day**.

**Table 6a – Existing Water Demand of the SB 330 Site**

Land Use	Acres	Domestic Water Demand Rate (gpd/ac)	Total Domestic Water Usage (gal/day)	Recycled Water Demand Rate (gpd/ac)	Total Recycled Water Usage (gal/day)
Low-Medium Density Residential	56.34	3,960	223,106	625	35,212
<b>Total</b>	<b>56.34</b>	-	<b>223,106</b>	-	<b>35,212</b>



**Table 6b – Water Demand Estimate of the Proposed Development of the SB 330 Site**

Land Use	Units	Domestic Water Demand Rate (gpd/unit)	Total Domestic Water Usage (gal/day)	Recycled Water Demand Rate (gpd/unit)	Total Recycled Water Usage (gal/day)
Medium Density Residential	479	268	128,372	27	12,933
<b>Total</b>	<b>479</b>	<b>-</b>	<b>128,372</b>	<b>-</b>	<b>12,933</b>

**Table 6c – Water Demand Summary**

Land Use	Total Domestic Water Usage (gal/day)	Total Recycled Water Usage (gal/day)	Total Water Usage (gal/day)
<b>Existing Land Uses</b>			
Project Site	255,686	61,158	316,844
SB 330 Site	223,106	35,212	258,318
<b>Subtotal</b>	<b>478,792</b>	<b>96,370</b>	<b>575,162</b>
<b>Proposed Project</b>			
Project Site	105,015	116,055	221,070
SB 330 Site	128,372	12,933	141,305
<b>Subtotal</b>	<b>233,387</b>	<b>128,988</b>	<b>362,375</b>
<b>Net Difference</b>			
(gal/day)	<b>-245,405</b>	<b>32,618</b>	<b>-212,787</b>
(%)	<b>48.7%</b>	<b>133.8%</b>	<b>63.0%</b>

As shown in **Table 6b** and **Table 6c** above, the implementation of the Project, and the rezoning of lower-density land for the SB 330 site for the Project, will result in a net decrease in water demand, compared to the 2020 UWMP. Therefore, implementation of the Project would result in a net decrease in water demand. However, after implementation and build-out of the SB 330 Site, there is anticipated to be a net increase of water demand. As a result of no development being proposed for the SB 330 site at this time, no detrimental impact to the City’s water supply is currently expected.

## Water Supply Analysis

This section identifies the sources of water used by the City and evaluates the water supplies that could be used by the City and the proposed Project during normal, single-dry, and multiple-dry years through the year 2045.

Water sources used by the City include groundwater from Chino Groundwater Basin (Chino Basin), treated groundwater from the Chino Basin Desalter Authority (CDA), recycled water from Inland Empire Utilities Agency (IEUA), imported water from the Water Facilities Authority (WFA), and purchased water from the San Antonio Water Company (SAWCo).

The City has already inactivated several wells (Well 3, 4, 9, 15, 31, 35, and 50) due to detection above the maximum contaminant levels. Well 34 was removed from service due to water quality issues. The operations of Wells 44 and 52 are limited due to the migration of the bacterial groundwater plume when these wells are used too frequently. Well 25 was taken out of service due to a Perfluorooctanoic acid (PFOA) detection, which was below the PFOA interim notification level. The impact on supply due to the

closure of these wells is minimized by constructing replacement wells at other locations where contaminant levels are low and constructing wellhead treatment facilities.

Groundwater from the Chino Basin is used by the City either directly by pumping into its distribution system or by treating the groundwater (Wells 41, 44 and 52) at one of its two plants and then pumping the treated groundwater into the City's distribution system. The ultimate capacity of the City's existing and future wells is projected to be 105.8 million gallons per day (mgd) or 132,219 AFY.<sup>6</sup> Additional information on the City's groundwater resources and groundwater rights is provided in Section 2.5.

In addition to its well production, the City also purchases treated Chino Basin groundwater from the CDA. The CDA was formed in 2002 as a Joint Powers Authority consisting of Inland Empire Utilities Agency; Jurupa Community Services District; Cities of Chino, Chino Hills, Norco and Ontario, and Santa Ana River Water Company. Western Municipal Water District joined in 2010. The CDA currently owns and operates two desalters (Chino I and Chino II Desalters) that consist of groundwater extraction wells connected to pumps and pipelines that direct water to advanced treatment facilities. The final product is a high-quality drinking water, which is sold to member agencies through "take or pay" contracts. The Chino I Desalter is located in the City of Chino and commenced operation in 2001 and was expanded in 2005 to have a total capacity of 14.2 MGD. The Chino II Desalter is located in Jurupa Valley and began operation in 2006 and was expanded in 2011 and again in 2017 to have a total capacity of 33 MGD.

Recycled water is provided to the City by IEUA, which owns and operate four regional water recycling plants that produce disinfected and filtered tertiary treated recycled water in compliance with California Title 22 regulations. IEUA provides recycled water to Ontario and other local agencies through a distribution system consisting of pipelines, booster pump stations, pressure regulating station, and reservoirs.<sup>7</sup>

The City has been obtaining recycled water from IEUA since 1972. Currently, recycled water is used in the City for agricultural irrigation, landscape irrigation, golf course irrigation, and industrial uses. Based on the City's current Recycled Water Master Plan and the 2020 UWMP, the City has enough recycled water rights to meet future recycled water demands. Over the past five years, the City recycled water demands have ranged from 7,510 AFY to 9,653 AFY, with an average of 8,167 AFY. The City's actual use of recycled water in AFY 2019-20 was 7,812 acre-feet and the 2015 UWMP projected a recycled water use of 7,929 AFY for 2019-20.

The City also obtains treated imported water from the WFA, which is a wholesale water supplier to the cities of Chino, Chino Hills, Ontario, Upland, and the Monte Vista Water District.<sup>8</sup> The WFA purchases imported water from IEUA, which in turn purchases untreated water from the Metropolitan Water District (MWD). The MWD obtains its water from the State Water Project (SWP) and has projected 100% water supply reliability over the next 20 years, as per its 2020 UWMP.<sup>9</sup> The WFA obtains the raw water from a connection to MWD's Rialto Feeder Pipeline, which starts at MWD's Silverwood Lake Reservoir in the San Bernardino Mountains. Over the past five years, the City has purchased 2,327 AFY to 6,513 AFY, with an average of 4,109 AFY from WFA.

SAWCo leases groundwater rights to the Cities of Fontana, Ontario, Chino and Upland, and the Cucamonga Valley Water District, the Monte Vista Water District, the Jurupa Community Services Water District and Three Valleys Municipal Water District.<sup>10</sup> SAWCo's water supply sources include surface water obtained

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<sup>6</sup> City of Ontario, 2012. Water Master Plan. Prepared by AKM Consulting Engineers.

<sup>7</sup> Inland Empire Utilities Agency, 2021. 2020 Urban Water Management Plan. Prepared by Kennedy Jenks.

<sup>8</sup> Inland Empire Utilities Agency, 2021. 2020 Urban Water Management Plan. Prepared by Kennedy Jenks.

<sup>9</sup> Metropolitan Water District of Southern California, 2021. 2020 Urban Water Management Plan.

<sup>10</sup> Inland Empire Utilities Agency, 2021. 2020 Urban Water Management Plan. Prepared by Kennedy Jenks.

from the San Antonio Canyon, water from the San Antonio Tunnel, and groundwater sources from the Chino Basin, Six Basins, and Cucamonga Basin. The majority of SAWCo’s water supplies are obtained from groundwater produced from the Cucamonga Basin and surface water from San Antonio Creek. Over the past five years, the City has purchased 171 AFY to 565 AFY, with an average of 364 AFY from SAWCo. Actual water supplies provided to the City for the year 2020 are summarized in **Table 7**.

**Table 7 – Water Supply Sources for the City of Ontario in 2020**

<b>Water Supplier</b>	<b>Water Source</b>	<b>Amount (AFY)</b>
City of Ontario	Groundwater	18,395
Chino Basin Desalter Authority (CDA)	Purchased/Imported Water	6,636
Water Facilities Authority (WFA)	Purchased/Imported Water	6,513
San Antonio Water Company (SAWCo)	Purchased/Imported Water	565
Inland Empire Utilities Authority (IEUA)	Recycled Water	7,812
<b>Total</b>		<b>39,921</b>

Source: City of Ontario, Table 6-8 Water Supplies – Actual, 2020 UWMP

It is required that every urban water supplier assess the reliability to provide water service to its customers under normal, dry, and multiple dry water years. The City depends on a combination of imported and local supplies to meet its water demands and has taken numerous steps to ensure that it has adequate supplies. Water supplies available to the City are projected to meet full-service demands. The UWMP states that the City will be able to meet demand with projected supplies between 2025 and 2040 during normal years, single dry years, and multiple dry years (see **Table 8**).<sup>11</sup>

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<sup>11</sup> City of Ontario, 2021. 2020 Urban Water Management Plan. Prepared by Ontario Municipal Utilities Company.

**Table 8 – Normal, Single Dry, and Multiple Dry Year Supply and Demand (AFY)**

	2025	2030	2035	2040	2045	
<b>Normal Year:</b>						
Supply Totals	52,550	58,513	63,838	73,668	73,668	
Demand Totals	52,550	58,513	63,838	73,668	73,668	
Difference	0	0	0	0	0	
<b>Single Dry Year:</b>						
Supply Totals	57,058	63,534	68,847	79,989	79,989	
Demand Totals	57,058	63,534	68,847	79,989	79,989	
Difference	0	0	0	0	0	
<b>Multiple Dry Year:</b>						
First Year	Supply Totals	56,080	62,445	67,667	78,618	78,618
	Demand Totals	56,080	62,445	67,667	78,618	78,618
	Difference	0	0	0	0	0
Second Year	Supply Totals	56,248	62,632	67,870	78,853	78,853
	Demand Totals	56,248	62,632	67,870	78,853	78,853
	Difference	0	0	0	0	0
Third Year	Supply Totals	59,493	66,246	71,786	83,403	83,403
	Demand Totals	59,493	66,246	71,786	83,403	83,403
	Difference	0	0	0	0	0
Fourth Year	Supply Totals	54,268	60,428	65,481	76,078	76,078
	Demand Totals	54,268	60,428	65,481	76,078	76,078
	Difference	0	0	0	0	0
Fifth Year	Supply Totals	47,436	52,820	57,237	66,500	66,500
	Demand Totals	47,436	52,820	57,237	66,500	66,500
	Difference	0	0	0	0	0
Sixth Year (Optional)	Supply Totals					
	Demand Totals					
	Difference	0	0	0	0	0
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3 of the 2020 UWMP. Note: Supply and demand are equal for years 2040 and 2045 because the City anticipates buildout to occur in 2040.						
Source: City of Ontario 2020 UWMP, 2021						

The City will increase its total water supply from 39,921 AF from 2020 to 73,668 AF in 2045. The increased water supply will come from full utilization of the City’s groundwater rights in the Chino Basin allowed under the Judgment (including increased groundwater recharge of stormwater and recycled water), and continued expansion of recycled water use and expansion of desalter water. The increase in imported water is assumed to be available in wet and normal years. With the ability for the City to store water in the Chino Basin, in its local and supplemental storage accounts as well as the DYY Program storage account, the City has the capability and water supply available to reduce imported water deliveries in dry years and increase groundwater production to meet future demands.<sup>12</sup>

<sup>12</sup> City of Ontario, 2021. 2020 Urban Water Management Plan. Prepared by Ontario Municipal Utilities Company.

## Groundwater Analysis

Since most of the potable water supplied by the City comes from groundwater, SB610 requires a groundwater analysis to be included as part of the WSA. The Water Code requires that the WSA include:

- Groundwater information from the 2020 UWMP
- Groundwater basin description: Including the legal rights to pump
- Historic Use of Groundwater: from the 2020 UWMP
- Projected Use of Groundwater
- Sufficiency of Groundwater from Chino Basin: The City's legal right to pump water in an amount necessary to meet all of its demands has been adjudicated and will ensure the long-term reliability of the groundwater source as the safe yield of the aquifer has been determined. The construction of Wells 45, 46, and 47, as part of the DYY Storage Program, increases the City's groundwater pumping capacity to meet peak demands. The City also has stored water in the Chino Basin and participates in an ongoing groundwater recharge program, using stormwater, dry-weather runoff, and recycled water, that ensures the safe yield of the Chino Basin is not exceeded. The ongoing expansion of the groundwater desalter program and recycled water program will reduce the City's dependence on groundwater pumping. In addition, the City participates in water conservation efforts through the California Urban Water Conservation Council (CUWCC), adopts ordinances pertaining to water shortage contingency planning, conservation pricing, and various public outreach programs to encourage its customers to reduce their water consumption.

### Groundwater Information from the 2020 UWMP

The 2020 UWMP contains a description of the Chino Groundwater Basin, the City's current and projected water supplies and demands, the reliability of the water supply, water shortage plans, the Optimum Basin Management Plan, and the adjudication judgment administered by the Chino Basin Watermaster. In addition, Appendix E and Appendix K of the UWMP explains the methods and calculations by which the future water demand of the City was estimated, based on the land use designations in the General Plan.

### Groundwater Basin Description

The City obtains its groundwater from the Chino Groundwater Basin. The Chino Basin encompasses about 235 square miles of the upper Santa Ana River watershed and lies within portions of San Bernardino, Riverside, and Los Angeles counties. The surface area of the Chino Basin is approximately 154,000 acres (or 240 square miles). The San Antonio Creek and Cucamonga Creek drain the Chino Basin area southward and flow into the Santa Ana River. Over the past 20 years, total groundwater production from the Chino Basin has ranged from approximately 133,275 AFY to 188,910 AFY. The Chino Basin is divided into five management zones, based on similar hydrologic conditions, as shown in **Figure 4, Chino Groundwater Basin Management Zones**. The City is located approximately in the center of the Chino Basin.

Groundwater quality in Chino Basin is generally good with better quality in the northern portion of the basin where recharge occurs. Salinity (TDS) and nitrate-nitrogen concentrations are higher in the southern portion of the basin. The Chino Basin has been extensively studied by the Chino Basin Watermaster. Reports are available at this website: <http://www.cbwm.org/>.

The Chino Basin Watermaster began development of the Optimum Basin Management Program (OBMP) in 1998 and completed it in 2000. The purpose of the program is to address both water quality and water supply considerations. The southern portion of the Chino Basin requires brackish groundwater treatment to control the outflow of salts and nitrates into the Santa Ana River. As such, one of the main benefits of

the CDA is to remove salts and nitrates to clean up the Chino Basin. CDA operates 28 groundwater extraction wells that prevent brackish groundwater from flowing into the Santa Ana River.

As part of the Chino Basin Watermaster requirements in the OBMP, the CDA can produce up to 40,000 AF from the Chino Basin every year for the purpose of groundwater cleanup and control of contaminant migration. Member agencies have contract entitlements to receive a total of 35,200 AFY of treat water from CDA. The City's current contract entitlement is 8,553 AFY.

### ***Legal Right to Pump from the Chino Basin***

Water rights to the Chino Basin were adjudicated in 1978 by the Superior Court of the State of California for San Bernardino County. Since that time, the Chino Basin has been sustainably managed, as required by the Judgment, under the direction of the court appointed Watermaster. The original Watermaster was the Chino Basin Municipal Water District (now IEUA). Since 1998, the Watermaster has been the Chino Basin Watermaster.

Multiple cities and water purveyors pump groundwater from the Chino Basin for all or part of their municipal and industrial water supplies. Agricultural users also pump groundwater from the Basin. The safe yield of the Chino Basin is 131,000 AFY as of 2021. As of July, 2020 the Safe Yield is allocated at 82,800 AFY to the Overlying Agricultural Pool, 7,366 AFY to the Overlying Non-Agricultural Pool, and 40,834 AFY to the Appropriative Pool. Per the Judgment, the City has appropriative rights to 20.742 percent of the OSY. With an OSY of 40,834 AF, the City's current appropriative right is approximately 8,470 AFY as of July 2020. The City has purchased and has rights to 3,921 AF of Overlying Non-Agricultural Pool water.

The Judgment states that all Chino Basin users can pump a sufficient quantity of water from the Basin to meet their requirements. If pumping by a party exceeds its share of the safe yield, assessments are levied by the Chino Basin Watermaster to replace overproduction. The Judgment also recognizes that there is a substantial amount of available unused groundwater storage capacity in the Chino Basin that can be used for storage and the conjunctive use of supplemental and basin waters. The Chino Basin Watermaster has the authority to reallocate shares of unallocated safe yield water on an annual basis, as per the latest 2019 Watermaster Resolution No. 2019-03.<sup>13</sup> (add source – Watermaster Resolution 2019-03). The Watermaster publishes an annual report that summarizes the status and management of the Chino Basin. A copy of the Chino Basin Judgment and latest Watermaster Annual Report can be found at [www.cbwm.org](http://www.cbwm.org).

The City also participates in the Dry Year Yield Storage Program (DYY Program), which is a cooperative conjunctive use program involving Metropolitan Water District of Southern California (MWD), IEUA, Chino Basin Watermaster, Three Valleys Municipal Water District (TVMWD), and some of the Chino Basin groundwater producers. The DYYP can store up to 100,000 AF with maximum replenishment of 25,000 AFY and maximum extraction of 33,000 AFY. During FY 2019-20, there was 45,961 AF within the DYYP account, resulting in a total managed storage volume of 587,806 AF (541,845 AF + 45,961 AF). The agreement that authorized the DYYP will expire in 2028. The City authorized execution of an agreement with IEUA to participate in the DYY program in 2003. Participation obligates the City to reduce its use of imported water compared to the previous year by a fixed amount, known as the "shift obligation." The City's shift obligation is 8,076 AFY.

During years when MWD calls for extraction, the City's WFA purchases would be reduced by 8,076 AFY compared to the previous year. Since Jurupa Community Services District does not have an imported water connection, it has entered into an agreement with the City for meeting its shift obligation. Under

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<sup>13</sup> Chino Basin Water Master, 2019. Watermaster Resolution No. 2019-03.

this agreement, Jurupa Community Services District conveys groundwater to the City in an amount equal to its shift obligation. The City can use the DYY facilities to meet its normal water demands during other periods but is responsible for the cost of well operation and maintenance. The program allows the City to be less reliant upon imported water supplies. The additional groundwater capacity allows the City to increase the percentage of groundwater supply used to meet peak demands.

In addition to the appropriative pool and overlying non-agricultural pool water rights, as well as the contract obligations through the DYY Program, the following is a summary of other groundwater rights for Chino Basin:

### ***Land Use Conversions***

The City gains rights to additional Chino Basin groundwater as a result of land use conversions from agricultural to non-agricultural uses. This is expected to increase from development of Ontario Ranch; the total of which is adjusted annually by the Watermaster. As of FY 19/20, the City receives 4,254 AFY from land use conversions.

### ***Annual Early Transfers***

As stated above, the Chino Basin Watermaster reallocates the unused portion of the Chino Basin Safe Yield from the Overlying Agricultural Pool to the Appropriative Pool members as a supplement to the Appropriative Pool share of Operating Safe Yield rights in any year. These transfers are permanent if agricultural land has been converted to non-agricultural use, or temporary if agricultural pool extractions are less than their share of the Safe Yield. From FY 2000-01 to FY 2019-20, the annual quantity of the Agricultural Pool's share available for reallocation to Appropriative Pool members ranged from 40,822 AF to 61,014 AF, with an annual average of approximately 50,457 AF. As Agricultural Pool production declines within the Chino Basin, the reallocation of water to the Appropriative Pool will increase.

### ***Increased Groundwater Recharge***

The City is entitled to water rights due to increased groundwater recharge with stormwater and recycled in the Chino Basin. The credited amount is based on the volume recharged and therefore varies annually but is projected to increase over time. Stormwater recharge credit is assigned based on OSY percentage. Recycled water recharge credit is assigned based on wastewater contribution percentage. In FY 2018/2019, 2,544 AF of recycled water was recharged for the City. In FY 19/20, no recharge credits were purchased by the City due to limitations on groundwater storage capacity.

### ***Fontana Recycled Water Rights***

The City has a long-term contract to purchase up to 3,000 AFY of recharged recycled water rights from the City of Fontana. The City of Fontana does not operate a water system. The amount purchased by OMUC each year will vary. In FY 2018/2019, the City purchased 2,157 AF of Fontana's recycled water entitlement. In FY 19/20, no recharged water rights were purchased due to limitations on groundwater storage capacity.

### ***City Groundwater Storage***

The City has rights to store water in the Chino Basin (Appropriative and Overlying Non-Agricultural) and has been increasing its various storage accounts in recent years. The City holds water in both local storage accounts and supplemental accounts. Local storage accounts hold unpumped OSY groundwater rights and stormwater that has been recharged into the Chino Basin. Supplemental accounts hold both imported water and recycled water that has been recharged into the Chino Basin. As of June 30, 2020, the City has

96,544 AF in storage pursuant to Appropriative rights and 3,461 AF in storage pursuant to Overlying Non-Agricultural rights. The various groundwater rights held by the City are summarized in **Table 9**.

**Table 9 – City of Ontario Groundwater Rights Summary**

	<b>Current (AFY)</b>	<b>Future Groundwater Produced (AFY)</b>
Dry Year Storage Program	8,076	8,076
Appropriative Pool	8,470	8,470
Overlying Non-Agricultural Pool	3,920	At least 3,920
Land Use Conversions	4,254	16,602
Annual Early Transfer	5,177	20.742 % of Ag Early Transfer
Groundwater Recharge Credits	Unknown	9,600 (in 2035)
Fontana Recycled Water Rights	Max. 3,000	At least 3,000
SAWC Groundwater	600	At least 600
Groundwater Storage Accounts	Excess Carry Over Account: 39,261 Supplemental Account: 57,283	33,500 to 40,500 38,700 to 60,700
Source: Chino Basin Watermaster Assessment Year 2020-2021 (Production Year 2019-2020)		



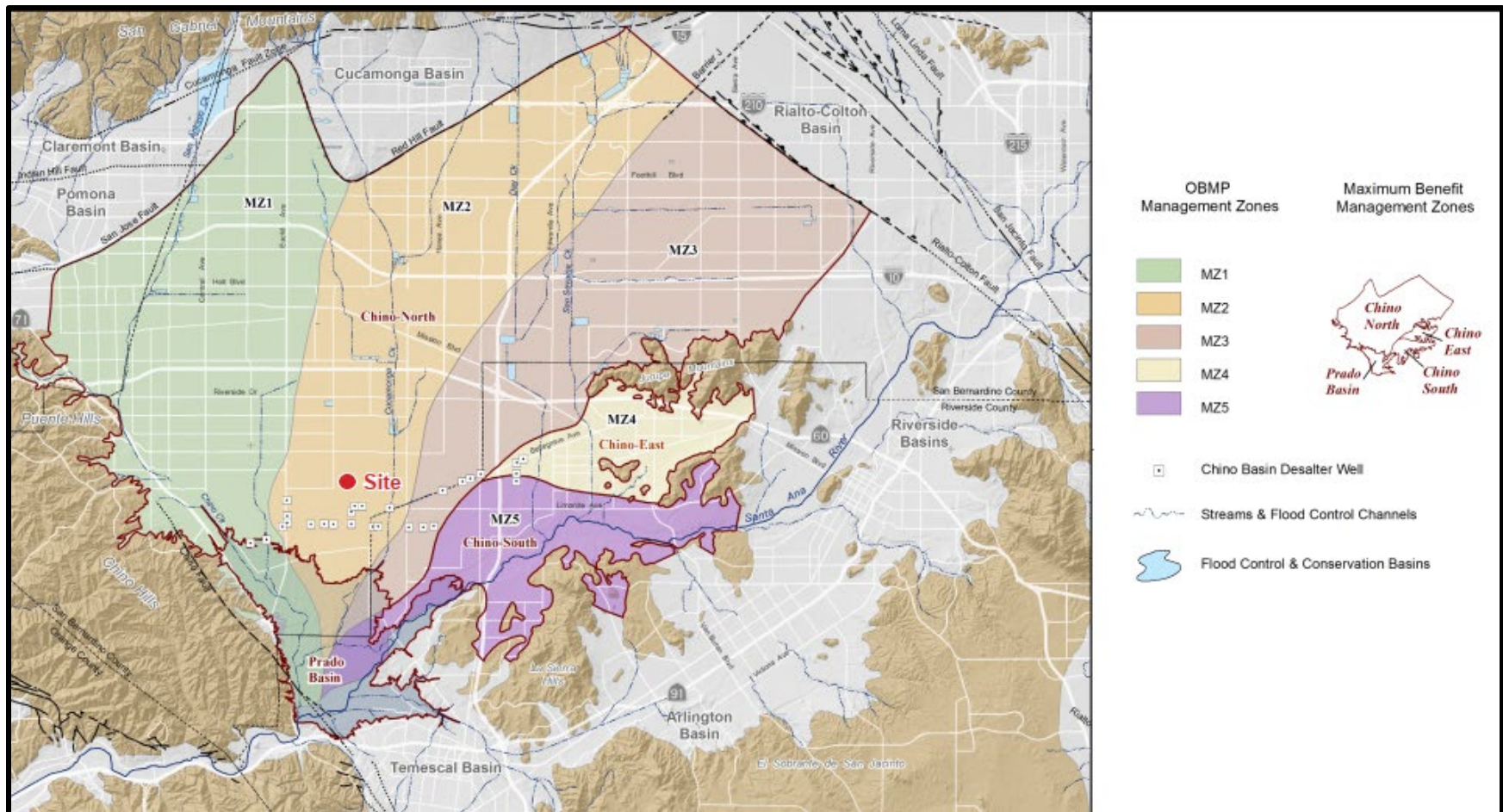


Figure 4 – Chino Groundwater Basin Management Zone

## Historic Use of Groundwater

As stated above, the City primarily obtains its water supplies from groundwater wells located in the Chino basin. The proposed Project will receive water from the City, using groundwater extracted from the Chino Basin, treated groundwater from the CDA, recycled water from the IEUA, and imported water from the WFA. The amount of groundwater pumped by the City from the Chino Basin since 2010 is listed below in Table 10. A map of the location of the groundwater wells and pressure zones is shown on **Figure 5, Ontario Ultimate Water System**.

**Table 10 – Historic Groundwater Production**

Calendar Year	Groundwater produced (AF)
2010-11	18,938
2011-12	19,164
2012-13	20,801
2013-14	21,724
2014-15	17,425
2015-16	22,751
2016-17	24,672
2017-18	26,109
2018-19	19,604
2019-20	18,395

Source: City of Ontario 2020 UWMP

## Projected Use of Groundwater

Groundwater from the Chino Basin will be directly pumped by the City into its distribution system or by treating the groundwater extracted at Wells 41, 44 and 52 through ion-exchange facilities before pumping it into the distribution system. The City's current well capacity is 39,638 gallons per minute (gpm). When the nine future wells come online, the capacity of the City's groundwater system will be greater than 72,315 gpm, this includes the nine future wells.

## Sufficiency of Groundwater from Chino Basin

According to the 2020 UWMP, the City's water supply (including conservation measures) will be sufficient to supply all of its needs to residential, commercial, and industrial customers through the year 2045 during normal, single dry, and multiple dry years. The City's legal right to pump water in an amount necessary to meet all of its demands has been adjudicated and will ensure the long-term reliability of the groundwater source as the safe yield of the aquifer has been determined.

Approximately two-thirds of the City's water supply is groundwater pumped through its own wells located in the Chino Basin. The construction of Wells 45, 46, and 47, as part of the DYY Storage Program, increases the City's groundwater pumping capacity to meet peak demands. The City also has 96,544 AF of stored water in the Chino Basin as of 2020 and participates in an ongoing groundwater recharge program, using stormwater, dry-weather runoff, and recycled water, that ensures the safe yield of the Chino Basin is not exceeded. The ongoing expansion of the groundwater desalter program and recycled water program will reduce the City's dependence on groundwater pumping. In addition, the City participates in water conservation efforts through the CUWCC, adopts ordinances pertaining to water shortage contingency

planning, conservation pricing, and various public outreach programs to encourage its customers to reduce their water consumption.

The Cities of Chino, Chino Hills, Ontario, Upland, and the Monte Vista Water District submitted the Water Supply Reliability Certification and supporting documentation to the State Water Resources Control Board in June 2016. This was submitted under the requirements of the State Water Resources Control Board's (SWRCB's) May 18, 2016 Emergency Regulation. The results are summarized in Tables 10 and 11.

**Table 11 – Water Supplies Available to the City of Ontario for Water Years 2017-2019**

	WY 2017 (AF)	WY 2018 (AF)	WY 2019 (AF)
Water Facilities Authority	13,044	13,448	11,840
Chino Desalter Authority	8,533	8,533	8,533
San Antonio Water Company	545	545	545
Groundwater Rights (Appropriative Pool)	30,137	17,726	17,726
Groundwater Rights (Non-Agricultural Pool)	4,656	2,328	2,328
Recycled Groundwater Recharge	2,684	2,792	2,357

Source: Monte Vista Water District, 2016. Documentation to Support Water Supply Reliability Certification and Data Submission.  
 AF = Acre Feet  
<sup>1</sup>Does not include agreement with the City of Fontana to purchase up to 3,00 AFY of Fontana's recycled water groundwater recharge rights.

**Table 12 – Chino Basin Carryover Water Supplies for City of Ontario WY 2019**

	WY 2019 (AF)
Annual Share of Safe Yield	12,664
Projected Annual Demands	35,809
Projected WY 2018 Supplies	58,036
WY 2018 Excess Supplies	22,227
WY 2019 Carryover Supplies	12,664

Source: Monte Vista Water District, 2016. Documentation to Support Water Supply Reliability Certification and Data Submission.  
 AF = Acre Feet

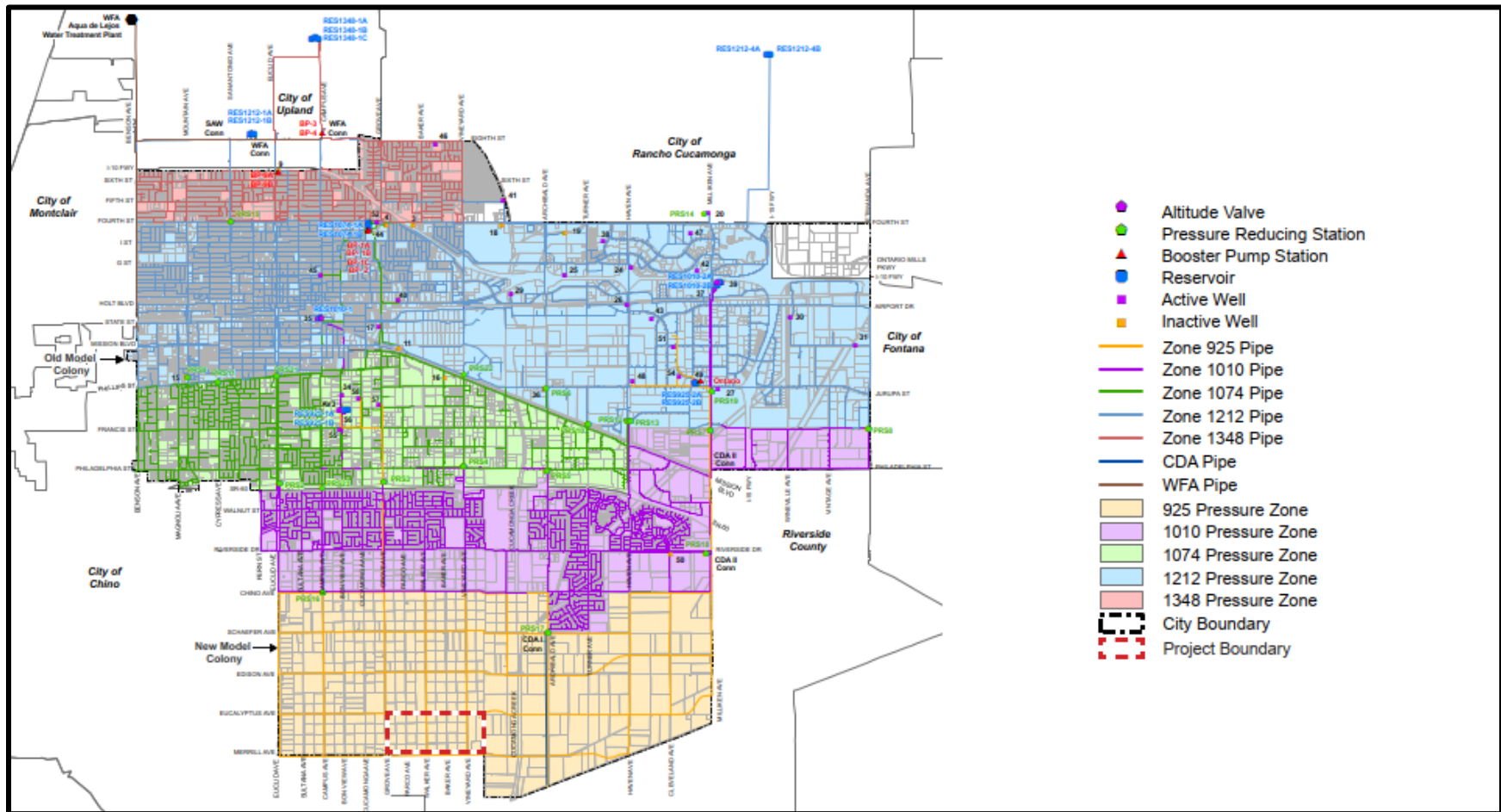


Figure 5 – Ontario Ultimate Water System

In summary, there are sufficient groundwater supplies available to the City, based on the analysis provided above as well as the programs overseen by the Chino Basin Watermaster. The ongoing efforts by the City to implement water conservation programs and the use of recycled water will further reduce its reliance on groundwater resources.

## Water Shortage Contingency Planning

The 2015 Water Shortage Contingency Plan was updated in as part of the 2020 UWMP, in response to the Emergency Conservation Regulations mandated by the State Water Resources Control Board. Under this ordinance, the Water Conservation Plan was updated with more stringent prohibitions and penalties. The Water Shortage Contingency Plan is a detailed approach which presents how the City intends to act, or respond, in the case of an actual water shortage contingency.

In its 2015 Plan, the City's WSCP was designed to provide a minimum of 50 percent of normal supply during a severe or extended water shortage. For its 2020 Plan, the City's WSCP is designed to provide water supplies in the event there is less than 50 percent of normal supply during a severe or extended water shortage. Water shortage trigger mechanisms have been established to ensure that this policy is implemented. This includes six structured stages of action referred to as water supply shortage planning levels. Stage 1 addresses a water supply shortage of up to 10 percent; Stage 2 addresses a water supply shortage of up to 20 percent; Stage 3 addresses a water supply shortage of anywhere between 20 percent to 50 percent; and Stage 4 addresses a water supply shortage of more than 50 percent. For its 2020 Plan, the City has prepared a draft Water Conservation Plan (see Appendix N of the 2020 UWMP) that will address the six standard stages of action in accordance with DWR. Under this draft Water Conservation Plan, the City will continue to incorporate Ordinance No. 3027's voluntary stage during normal water supply conditions as well as the existing Stage 1 and Stage 2 water supply shortage levels as is. However, the City has amended Stage 3 to address a water supply shortage of up to 30 percent. In addition, the City has included a Stage 4 and Stage 5 that will be used to address a water supply shortage of up to 40 percent, and 50 percent, respectively. The City's existing Stage 4 has been amended to a Stage 6 level which addresses a water supply shortage of more than 50 percent.

## Water Efficiency Strategies

The City does not plan to add a new source of water supply to address customer demands, but instead will consider increased supplies from existing sources. Beginning July 1, 2022, the City will prepare and submit an Annual Assessment which will include a review of water supplies available to meet water demands for the current and upcoming years. In the event the City is currently in, or considers entering into, one of the standard water shortage levels identified above, the City will consider some of the following water supply augmentation and operational actions (refer to Sections 8.4.2 and 8.4.3 of the 2020 UWMP for more information):

- Improved monitoring, analysis, and tracking of customer water usage to enforce demand reduction measures
- Optimized production from existing available water supply sources
- Potential use of emergency supply sources, including emergency interconnections
- Potential blending of water supply resources
- Improved monitoring, maintenance, and repairs to reduce water distribution system losses

## Summary

A Water Supply Assessment (WSA) was prepared to assess the water demand and supply conditions with implementation of the proposed Project. The Project proposes to revise current General Plan land use designations from Business Park and Low Medium Density Residential (as shown in Table 5) to Industrial and Business Park. In addition, the Project requires upzoning land within the Grove Corridor SB330 Replacement Site to offset the “loss” of 479 DU of residential zoning within the Project area. As shown in **Table 5**, is estimated to be 105,015 gal/day (116.8 AFY). The total recycled water usage is estimated to be 116,055 gal/day (131.4 AFY). Therefore, the total water demand would be **221,070 gal/day** or **248.2 AFY**. The Project (including upzoning within the SB 330 Replacement Site area) would result in a decrease in domestic water demand, an increase in recycled water demand, and an overall decrease in total water demand of 1.4% or 95,774 gallons/day. This increase in recycled water demand will not affect the City’s ability to supply recycled water to the Project or to the City.

According to the City’s UWMP, the City has adequate supplies to serve 100 percent of its customers during normal, dry year, and multiple dry year demand through 2045 accounting for projected population increases and corresponding increases in water demand. This WSA concludes that the City will have sufficient water supplies available during normal, single dry, and multiple dry years through the year 2045 to meet all projected water demands associated with its existing and future customers, including the proposed project. In the unlikely event of a water shortage, implementation of the City’s Water Conservation Plan and water efficiency strategies would ensure that sufficient water supplies were available to serve its customers, including the project and existing and future users.

**Projected Future Land Use in 2020 UWMP**

APN	Acres	Land Use
1054 041-01	9.00	Low-Medium Density Residential
1054 041-02	9.14	Low-Medium Density Residential
1054-061-01	9.60	Low-Medium Density Residential
1054-061-02	9.50	Low-Medium Density Residential
1054-251-01	9.60	Low-Medium Density Residential
1054-251-02	9.50	Low-Medium Density Residential
1054-301-01	9.10	Business Park
1054-301-02	9.00	Business Park